



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.

Question	Response	Guidance
Is there a strategy on adoption of IT tools and information management in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Tick the appropriate answer.
Is your administration testing or using blockchain and distributed ledger technology?	<input type="checkbox"/> Yes, pilot project <input type="checkbox"/> Yes, proof of concept <input type="checkbox"/> Yes, full deployment <input type="checkbox"/> No, but it is planned in the next three years <input type="checkbox"/> There is no plan	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.
If yes, do you use a permissioned (private), permissionless (public), or hybrid (combination of private and public) blockchain?	<input type="checkbox"/> Permissioned (private) <input type="checkbox"/> Permissionless (public) <input type="checkbox"/> Hybrid	Tick the appropriate answer.
Please provide a short summary of the blockchain and distributed ledger technology project(s) and planned activities (up to 250 words per project).		Additional documents and links are welcomed.
What is the area of the project?	<input type="checkbox"/> Automated customs declaration (e.g. import, export, manifest reporting, etc.) <input type="checkbox"/> Single window environment <input type="checkbox"/> Electronic certifications, permits or licensing <input type="checkbox"/> e-Commerce <input type="checkbox"/> Intergovernmental exchange of information at international level (e.g. transit interconnectivity, AEO MRA, advance electronic information, etc.) <input type="checkbox"/> End-to-end supply chain interconnectivity <input type="checkbox"/> Risk management/targeting <input type="checkbox"/> Other. Please indicate: Please elaborate:	Tick all applicable answers. You may elaborate on any of the points selected above.

Question	Response	Guidance
<p>What is/could, for your administration, be the main benefits of introducing blockchain and distributed ledger technology?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Transparency, immutability and accessibility of information <input type="checkbox"/> Increased availability of information from different sources <input type="checkbox"/> Increased data quality <input type="checkbox"/> Sharing of information amongst all relevant stakeholders in real time <input type="checkbox"/> Data privacy <input type="checkbox"/> Easy to use technology <input type="checkbox"/> Secure IT environment <input type="checkbox"/> Automation through smart contracts <input type="checkbox"/> Lower verification and transaction costs <input type="checkbox"/> Other. Please indicate: <hr/> <p>Please elaborate:</p>	<p>Tick all applicable answers.</p> <hr/> <p>You may elaborate on any of the points selected above.</p>
<p>What is/could, for your administration, be the biggest obstacles in implementing blockchain and distributed ledger technology?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Costs <input type="checkbox"/> Lack of legal framework (please elaborate) <input type="checkbox"/> Lack of expertise <input type="checkbox"/> Lack of government strategy <input type="checkbox"/> Lack of traction on the use of the technology by other stakeholders <input type="checkbox"/> Existing legacy systems <input type="checkbox"/> Lack of good practices <input type="checkbox"/> Lack of trust in using data-sharing platforms <input type="checkbox"/> Lack of a standardized dataset used by economic operators within the supply chain <input type="checkbox"/> Other. Please indicate: <hr/> <p>Please elaborate:</p>	<p>Tick all applicable answers.</p> <hr/> <p>Please elaborate on the legal framework and on any other points selected above.</p>

Question	Response	Guidance
<p>What could be the challenges for a blockchain system to function efficiently?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Lack of standardized dataset used by government agencies <input type="checkbox"/> Lack of a standardized dataset used by economic operators within the supply chain <input type="checkbox"/> The use of different types of blockchain technology and the lack of interoperability between them <input type="checkbox"/> The proliferation of different blockchain solutions that are not interconnected one to another <input type="checkbox"/> The complexity in establishing an inclusive but efficient governance mechanism <input type="checkbox"/> Incompatible legal requirements in different countries <input type="checkbox"/> Lack of harmonized regulatory procedures in different countries <input type="checkbox"/> Other. Please indicate: <hr/> <p>Please elaborate:</p>	<p>Tick all applicable answers.</p> <hr/> <p>You may elaborate on any of the points selected above.</p>
<p>Is your administration using IoT? If yes or planned, please provide a short summary of IoT uses (up to 250 words per project).</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Planned <hr/> <p>Summary of the project:</p>	<p>Additional documents and links are welcomed.</p>
<p>If yes, what smart devices and other equipment is your administration using to collect information on the goods moving across borders?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> X-ray or CT scanners <input type="checkbox"/> Electronic seals <input type="checkbox"/> QR code and barcode readers <input type="checkbox"/> Automated licence plate readers or cameras <input type="checkbox"/> Other. Please indicate: <hr/> <p>Please elaborate:</p>	<p>Tick all applicable answers.</p>

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Is this information shared with other stakeholders?	<input type="checkbox"/> Yes, with other customs authorities <input type="checkbox"/> Yes, with other government agencies <input type="checkbox"/> Yes, with the private sector <input type="checkbox"/> Yes, through a data-sharing platform <input type="checkbox"/> No <input type="checkbox"/> Other. Please indicate: <hr/> Please elaborate:	Tick all applicable answers. <hr/> You may elaborate on any of the points selected above.
What is/could, for your administration, be the main benefits of IoT?	<input type="checkbox"/> Lower labour costs <input type="checkbox"/> Greater efficiency of customs clearance processes <input type="checkbox"/> Enables better analytics <input type="checkbox"/> Better risk management <input type="checkbox"/> Help prioritize customs clearance <input type="checkbox"/> Other. Please indicate: <hr/> Please elaborate:	Tick all applicable answers. <hr/> You may elaborate on any of the points selected above.
Are there specific difficulties associated with the use of IoT?	<input type="checkbox"/> Cost <input type="checkbox"/> Legal issues (please elaborate) <input type="checkbox"/> Lack of expertise <input type="checkbox"/> Lack of government strategy <input type="checkbox"/> Lack of traction on the use of the technology by other stakeholders <input type="checkbox"/> Existing legacy systems <input type="checkbox"/> Lack of good practices <input type="checkbox"/> Compatibility and interoperability of different IoT systems <input type="checkbox"/> Integration of IoT solutions with customs processes <input type="checkbox"/> 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 <input type="checkbox"/> Data security and privacy issues <input type="checkbox"/> Other. Please indicate: <hr/> Please elaborate:	Tick all applicable answers. <hr/> You may elaborate on any of the points selected above.

Question	Response	Guidance
<p>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).</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Big data analytics <input type="checkbox"/> Artificial intelligence and machine learning <input type="checkbox"/> Both <input type="checkbox"/> None <input type="checkbox"/> Planned for big data analytics <input type="checkbox"/> Planned for artificial intelligence and machine learning <input type="checkbox"/> Planned for both <hr/> <p>Summary of the project:</p>	<p>Additional documents and links are welcomed.</p>
<p>What is/could be for your administration the main benefits of big data analytics, artificial intelligence and machine learning?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Better risk management and profiling, fraud detection, greater compliance <input type="checkbox"/> Improve revenue collection <input type="checkbox"/> Facilitates customs audits and identification of anomalies <input type="checkbox"/> Improve facilitation <input type="checkbox"/> Improve imaging (e.g. container images) and visual search <input type="checkbox"/> Predict future trends <input type="checkbox"/> Other. Please indicate: <hr/> <p>Please elaborate:</p>	<p>Tick all applicable answers.</p> <hr/> <p>You may elaborate on any of the points selected above.</p>
<p>What is/could be for your administration the biggest obstacles in implementing big data analytics, artificial intelligence and machine learning technology?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Costs <input type="checkbox"/> Legal issues (please elaborate) <input type="checkbox"/> Lack of expertise <input type="checkbox"/> Lack of government strategy <input type="checkbox"/> Lack of traction on the use of the technology by other stakeholders <input type="checkbox"/> Existing legacy systems <input type="checkbox"/> Lack of good practices <input type="checkbox"/> Other. Please indicate: <hr/> <p>Please elaborate:</p>	<p>Tick all applicable answers.</p> <hr/> <p>You may elaborate on any of the points selected above.</p>

Question	Response	Guidance
<p>What is/could be for your administration the biggest obstacles in implementing big data analytics, artificial intelligence and machine learning technology?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Costs <input type="checkbox"/> Legal issues (please elaborate) <input type="checkbox"/> Lack of expertise <input type="checkbox"/> Lack of government strategy <input type="checkbox"/> Lack of traction on the use of the technology by other stakeholders <input type="checkbox"/> Existing legacy systems <input type="checkbox"/> Lack of good practices <input type="checkbox"/> Other. Please indicate: <p>Please elaborate:</p>	<p>Tick all applicable answers.</p> <p>You may elaborate on any of the points selected above.</p>
<p>What do you think the impact of these technologies will have on customs operations (0 is very low impact, 10 is very high impact)?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Blockchain and distributed ledger technology <input type="checkbox"/> IoT <input type="checkbox"/> Big data analytics, artificial intelligence and machine learning 	<p>Rate each one from 0 to 10; 0 is very low impact, 10 is very high impact.</p>
<p>How easy/difficult will it be to adopt and implement these technologies in your administration (0 is very easy, 10 is very hard)?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Blockchain and distributed ledger technology <input type="checkbox"/> IoT <input type="checkbox"/> Big data analytics, artificial intelligence and machine learning 	<p>Rate each one from 0 to 10; 0 is very easy, 10 is very hard.</p>