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JOINT WCO-WTO WEBINAR ON THE ROLE OF ADVANCED TECHNOLOGIES IN CROSS-BORDER TRADE: A CUSTOMS PERSPECTIVE

KEY FINDINGS



Introduction

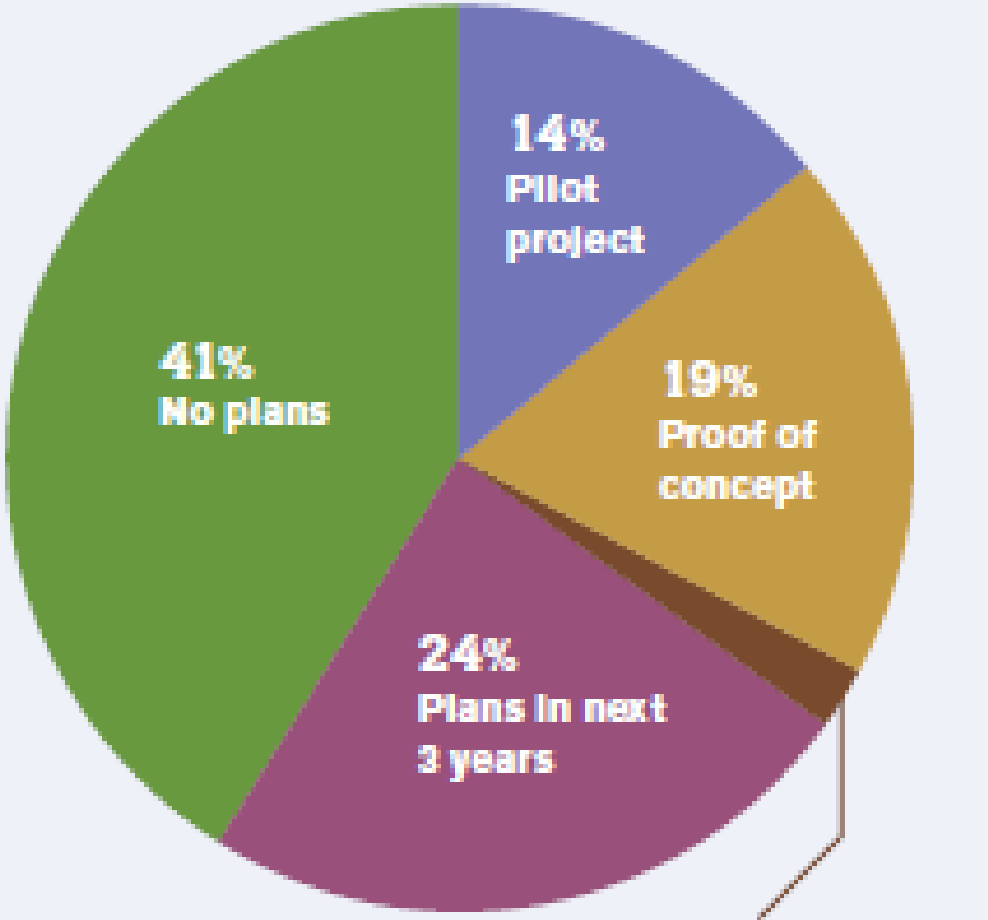
- Objectives of the paper:
  - Better understanding of how Customs, as a key stakeholder in international trade, can further contribute to trade facilitation, among other, through the use of latest technologies
  - State of play of implementation of 3 groups of technologies (blockchain/DLT; IoT; and DA, AI, ML)
  - Stage of adoption (global/regional level), benefits and challenges, use cases
- Source of information: results of WCO's 2021 Annual Consolidated Survey (ACS), new Chapter 4 on disruptive technologies – 18 questions prepared by WCO and WTO

Overview of survey results

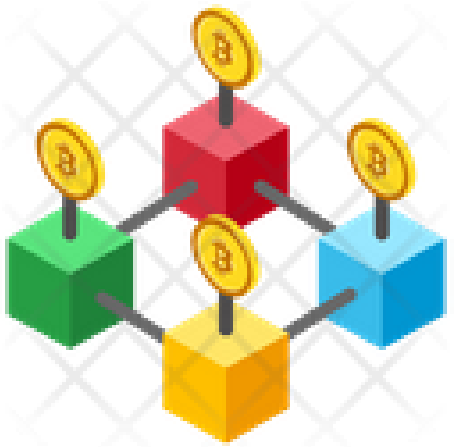
124 out of 183 Customs administrations (68%) responded to at least one, and in general to more than half, of the questions in Chapter 4 of the ACS.

Highest level of response (77%) in the European region.

Stage of Adoption of Blockchain



Note: Total respondents numbered 110.



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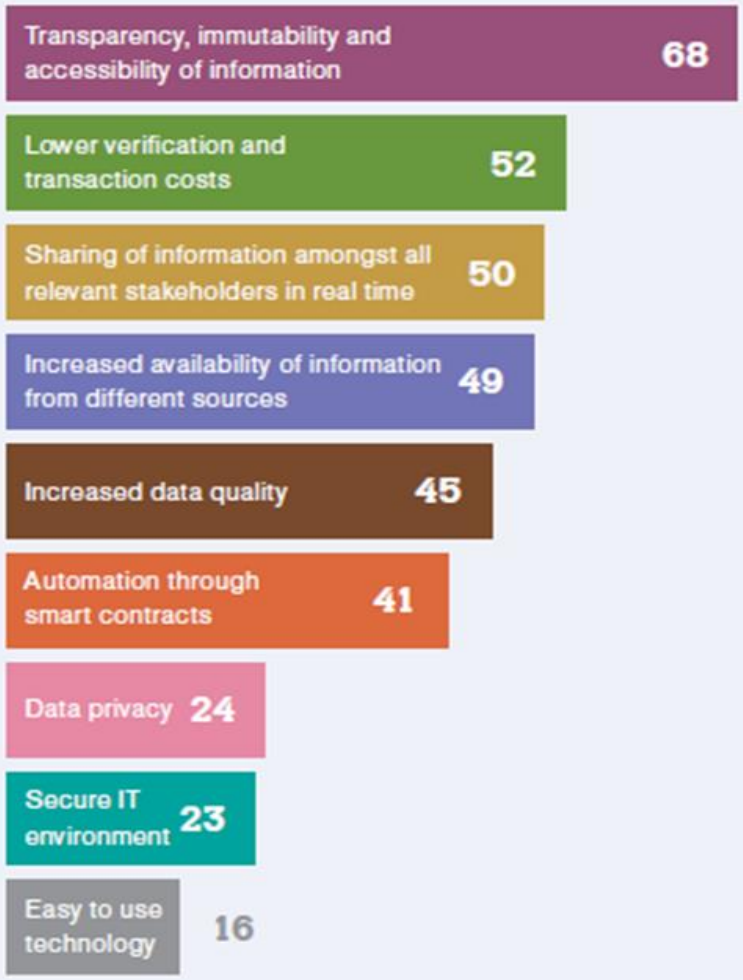
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Blockchain Benefits & Challenges



Main benefits of introducing blockchain



Note: Total respondents numbered 87.

Main obstacles to adopting blockchain



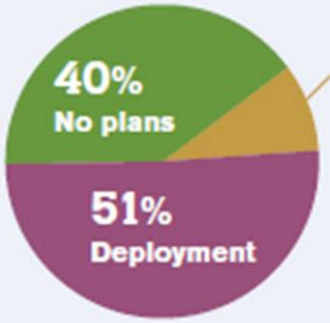
Note: Total respondents numbered 95.

Blockchain – use cases

Sharing VAT info (Customs and Tax)	Sharing logistics-related information	Sharing AEO information	Single Window interoperability	Certificates of Origin
• European Union: **SEED-on-Blockchain**	TRADELENS • Azerbaijan • Canada • China • Indonesia • Jordan • Malaysia • The Netherlands • Russia • Saudi Arabia • Singapore • Thailand • Ukraine	• Mercosur members (Argentina, Bolivia, Brazil, Paraguay and Uruguay): **bConnect** • Latin American countries (Bolivia, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Mexico and Peru) CADENA • Malaysia	• China and Singapore	• Australia and Singapore, under the **TradeTrust** framework • Georgia and Azerbaijan
Port Community System	**E-Commerce platforms**		**Certification of high-quality products**	**Free Trade Agreements**
• Guatemala	• Morocco • UAE (Dubai)		• Italy	• United States: NAFTA/CAFTA PoC

The Internet of Things

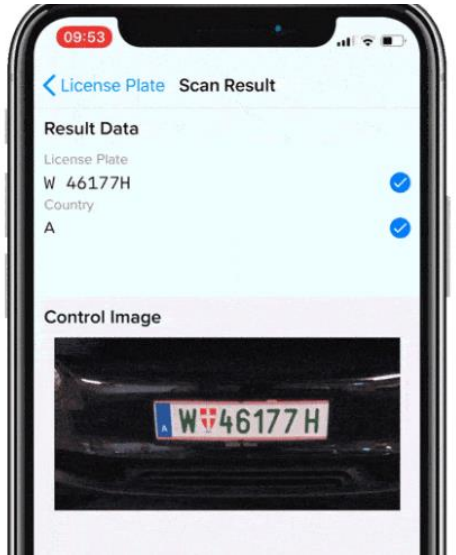
Stage of adoption of the internet of things



X-ray and CT scanners	54
QR code and barcode readers	32
Automated licence plate readers and cameras	28
e-Seals	26
5 Others	

Note: Total respondents numbered 94.





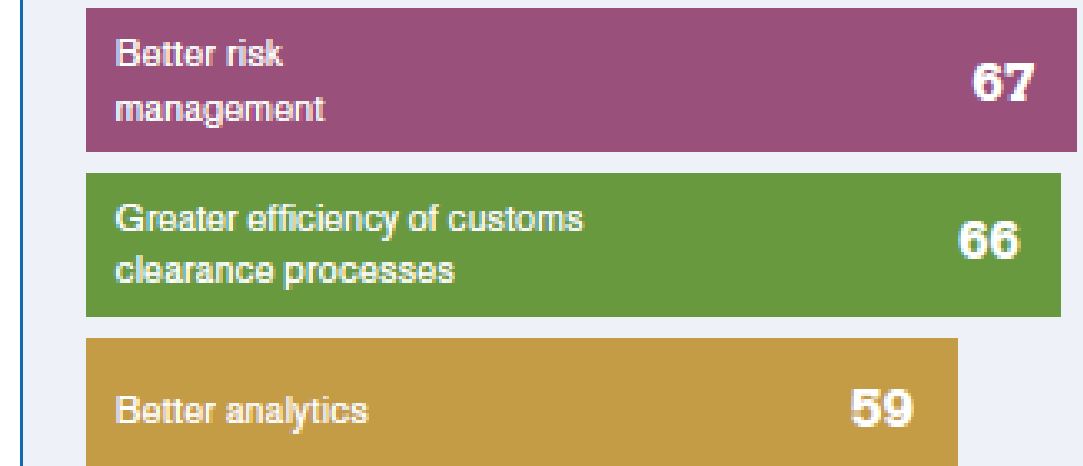
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Main benefits of introducing the internet of things



Note: Total respondents numbered 83.



Main obstacles to adopting the internet of things



Internet of Things – use cases



Green lanes

- Hong Kong, China - Single E-lock Scheme (SELS)

Exchange of x-ray images

- Baltic countries (Estonia, Latvia and Lithuania) – BAXE (Baltic X-ray Images Exchange)

Automating border crossings

- Baltic States and Poland – CaaS pilot project to experiment with fully automating border crossings
- United States

Cargo tracking in transit

- Argentina
- Democratic Republic of Congo
- Guatemala
- United Arab Emirates









Passenger e-gates at airports

- Jordan

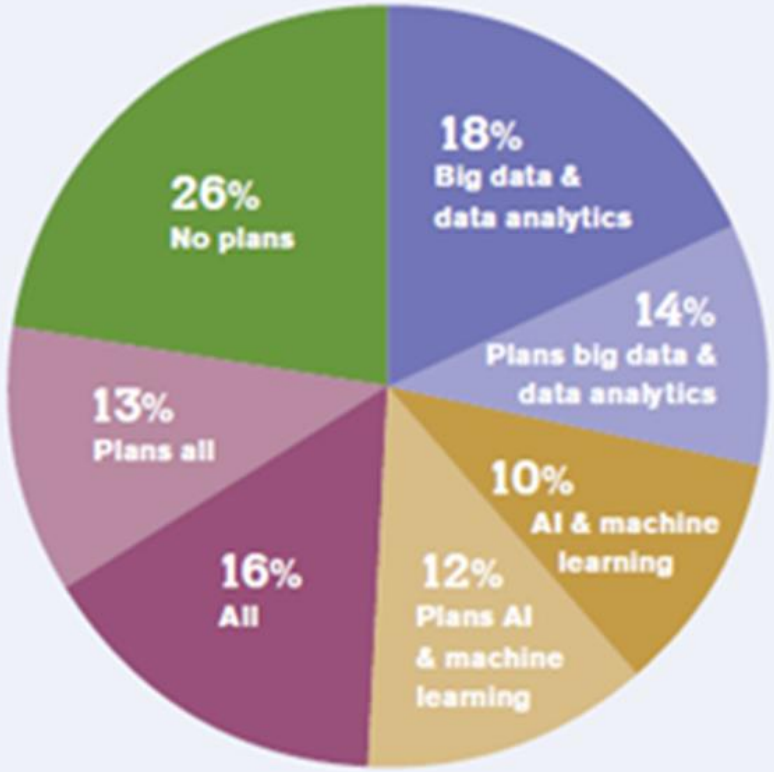
Automatic tracking and facilitating/securing goods in/out of ports

- Chile
- Indonesia
- Italy
- Singapore

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Stage of adoption of big data, data analytics, artificial intelligence and machine learning



Note: Total respondents numbered 94.



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Main benefits of introducing big data, data analytics, artificial intelligence and machine learning



Note: Total respondents numbered 100.



Main obstacles to adopting big data, data analytics, artificial intelligence and machine learning



Big data analytics, AI and ML – use cases

Example uses of big data, data analytics, artificial intelligence and machine learning

- Post-clearance audits and controls
- Automated targeting systems
- Tariff misclassification and non-compliance with tariff advice
- Misuse of concessions (including tariff concession orders, by-laws, free trade agreements and origin masking)
- Detection of anomalies in high revenue areas (including excise equivalent goods i.e. alcohol, tobacco, petroleum)
- Detection of dumping and countervailing anomalies
- Detection of undervaluation and overvaluation anomalies
- Refunds and drawbacks non-compliance
- Detection of prohibited goods
- Monitoring service delivery performance in real time
- Providing historical insights into customs statistical information for future planning and forecasting
- Compliance risk scoring in commercial and trade activities
- Identifying low value courier and postal shipments to improve risk assessment
- Identifying low risk individuals at borders
- Developing advanced analytics for AEOs

Conclusions

- Blockchain/DLT brings many benefits: better transparency, immutability and accessibility of information, data quality and sharing information
- Lack of expertise, good practices and the associated costs, as well as lack of standardized datasets impede broader implementation
- IoT sees more positive developments in implementation, but integrating data collected through smart devices into Customs clearance processes is still a challenge
- Customs have embraced advanced analytical technologies that contribute to enhanced risk management and profiling; however, improved data governance and data quality are required

Study Report on Disruptive Technologies

- Three years since the first version of the Study Report (2019) - an update to reflect latest developments (blockchain, AI/ML, IoT, biometrics, drones, virtual reality, 3D printing)
- Joint WCO-WTO endeavor
- Updates:
  - Stage of adoption by Customs in 2021
  - WCO and WTO initiatives, projects and programmes
  - Chapter on holistic use of technologies for Smart Customs of the future
  - Recommendations and lessons learnt
  - Cooperation between Customs and other stakeholders
  - 40 use cases from Customs, private sector, academia
- To be published in July 2022





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29 March 2022 – 15:00 – 16:30 CET (Geneva/Brussels time)