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INTERNATIONAL & INDUSTRY LIAISON UNIT

TRADE BEAT

THE INTERNET OF THINGS

As broadband internet becomes more widely available, more and more devices are being created with the potential for internet connectivity. Almost every new device has built in sensors and wi-fi capabilities and are able to facilitate connection to the internet, thus creating a plethora of smart devices that can communicate with people, as well as other devices.

The "Internet of things" (IoT) has become another buzzword that has entered global discussions around technology and policy matters, in both the private and public sectors. According to the World Customs Organization (WCO), the Internet of Things (IoT) provides a great opportunity for Customs to access information to facilitate efficient control measures relating to the trade in goods, while enforcing respective regulations. The agenda for the future of Customs, therefore rests on its ability to leverage data from all emerging technologies, including the exploration of disruptive technologies such as Artificial Intelligence (AI) and Machine Learning, Biometrics, Robotics, Blockchains, Virtual Reality and the Internet of Things (IoT).

What is the Internet of Things (IoT)?

The Internet of Things or IoT encompasses any device equipped with internet connectivity, that is able to collect and share data. In other words, any physical object can become an IoT device, if it can be connected to the internet, and is able to share such data. This adds a level of digital intelligence to the object, as IoT devices are able to communicate via the internet, without the involvement of human beings, creating a merger between the digital and the physical realms.

Generally, an IoT device does not incorporate devices that are normally connected to the internet such a personal computer (PC) or a smart phone. However, devices such as a washing machine that can be operated by a smart phone app, a motion sensor lighting device or a self-driven truck are all examples of IoT devices. IoT devices, such as smart lights, can make it seem like we are home when we are not, and home security systems can monitor both inside and outside the home in our absence.

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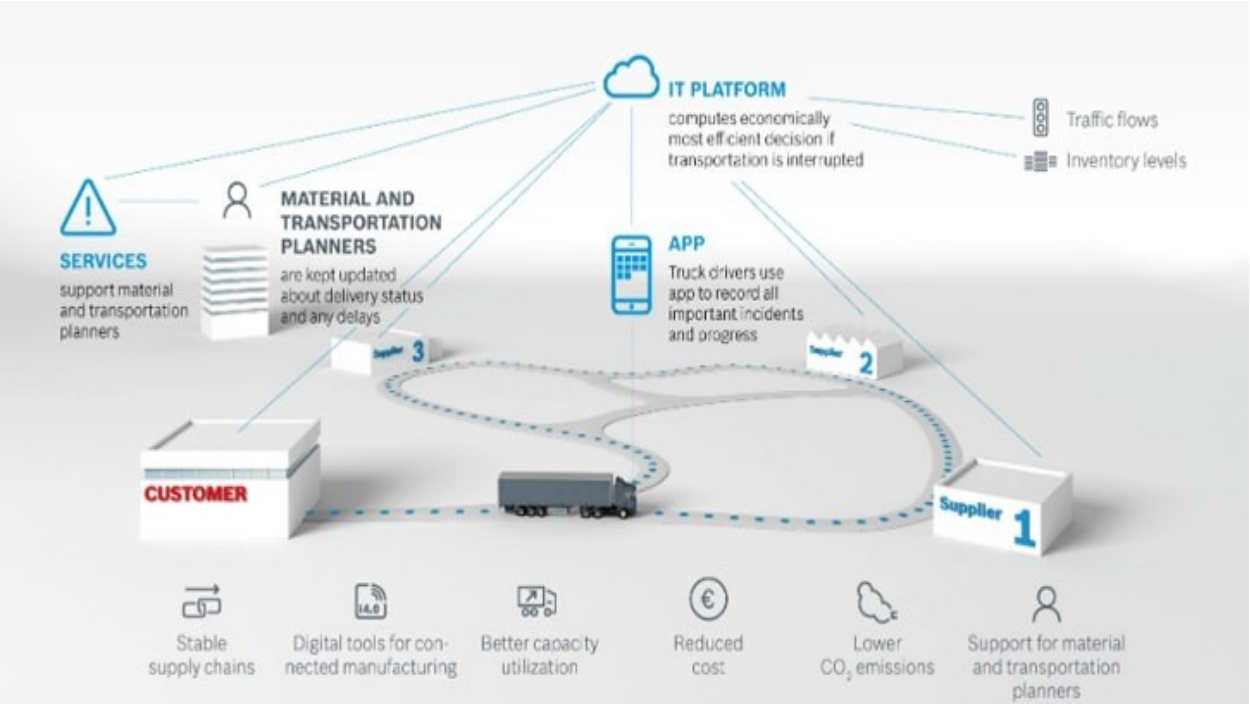
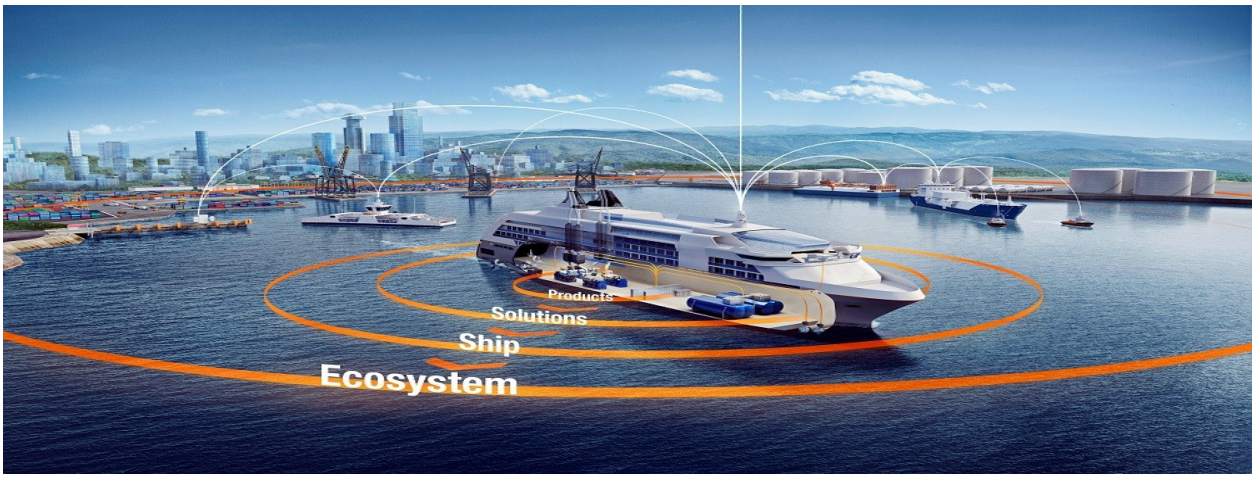
THE INTERNET OF THINGS (IoT)



Digital technologies and the supply chain

New digital technologies are currently being embraced by various actors along the entire supply chain, in order to increase their competitiveness. Importers, exporters, customs brokers, carriers and even border control agents like Customs, are either utilizing or researching the potential use of such technologies. In order to increase efficiency and reduce the cost and time taken for goods and services to move along the supply chain, the implementation of these disruptive technologies becomes imperative. The shift towards the provision of more digital technologies is being implemented across the entire supply chain and has been endorsed by several Customs administrations and the wider trading community. As innovation in digital technologies increase at a rapid rate, the need to provide more engaging user experiences is also on the rise. More and more tailored solutions to consumer needs are being embraced and the emerging technologies are being designed to address each sector's needs.

Customs, like many other actors along the supply chain, is being called upon to embrace and support new and emerging technologies. A common digital platform is recommended for customs supply chain networks, which would be accessible by the entire trade ecosystem, as well as their third party service providers. Well-defined architectures, good governance and services, and new digital platforms will be essential to promoting a smarter customs, capable of leveraging all relevant data. Data generated from new technologies, such as wearables and IoTs, have contributed to a further shift from traditional customs control measures, to a more targeted approach based on risk management through the use of data analytics. Wearable technology refers to electronics that can be worn on the body, either as an accessory or as part of material used in clothing, such as smart watches or activity trackers. Through the use of risk management and other technology based measures of combating fraud, Customs will encourage greater compliance among the trading community, and increase the facilitation of legitimate trade, which is supported by consumer friendly experiences.



Smart Shipping

Smart Shipping is categorized by either unmanned ships or autonomous ships. An unmanned ship is controlled by a central operator located at an onshore center, whilst an autonomous ship is always connected to the onshore center by its onboard computer. This onboard computer allows the ship to be autonomous, in that the vessel is able to make decisions about the ideal shipping route, the most appropriate speed, the required fuel consumption, its necessary maintenance and even its mooring at the destination harbour.

Although autonomous vessels will result in a significant reduction of the usual shipping crew required, the vessel's cargo allotment will increase as more usable space will be created. As a consequent, the vessel's capacity will increase allowing for a greater cargo volume, which will create greater efficiency regarding international trade flows. With a decrease in shipping crew, the vessel's safety rates are set to increase, as smart vessels will eliminate the high incidents of marine accidents occurring at sea due to human error. Additionally, maritime traffic is set to become more efficient, as more waterways will be created due to the precision of autonomous ships creating a better traffic flow.

Mikael Mäkinen

President of Marine at Rolls Royce

"Autonomous shipping is the future of the maritime industry. As disruptive as the smartphone, the smart ship will revolutionise the landscape of ship design and operations"

As international trade becomes more digitized and autonomous, transport and logistics (T&L) companies will need to coordinate their activities to take advantage of the latest available technologies. T&L companies have always cultivated widely distributed networks in order to create and maintain efficient operations. Logistics providers that move goods by land, air, sea, rail and ground have to depend on information received and quickly processed throughout their wide and diverse networks in order to remain competitive. Now that T&L operations are becoming more and more digitized, it is crucial to be abreast of the latest technological advancements available to meet consumer needs. The Internet of Things (IoT) enhances these processes and makes it easier for T&L companies to keep track of everything in a cost effective and efficient manner. Coupled with advanced digital technologies such as cloud computing and advanced telecommunications, IoT simplifies the task of data collection and processing from the numerous sources that it may be derived from.

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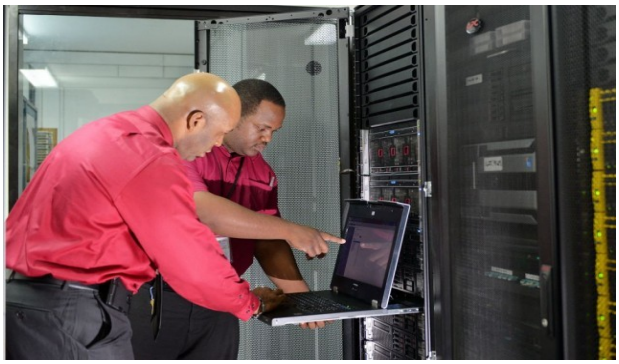

JCA Modernization Thrust

Approximately 98% of world trade is collectively processed by the WCO through the 182 Customs administrations that it represents. In order to efficiently process the rise in cross border trade and effectively manage tax evasion, Customs administrations across the globe will need to utilize more modern and disruptive technologies, like AI and IoT to conduct their operations, over a solid risk management platform.

The Jamaica Customs Agency (JCA) is committed to operating a modern customs administration and has already implemented several modernization initiatives aimed at increasing efficiencies especially in the areas of trade facilitation and border security. The JCA has implemented the Automated System for Customs Data (ASYCUDA) World, in a move to develop a more paperless environment for processing customs declarations. This initiative is supported by an ever evolving risk management platform, where appropriate technologies are incorporated to mitigate all threats to security and revenue loss. In order to foster greater compliance amongst all trade related stakeholders, the JCA has an established AEO programme which enhances supply chain security through shared responsibility between customs and relevant private sector entities. A solid legal basis is also required to implement and validate the use of burgeoning technologies such as blockchain, AI and IoT, as well as other electronic processes. Consequently, the JCA's Customs Act is currently being repealed and replaced to reflect a more modern approach to customs operations. This ensures that customs legislation is aligned with modernization efforts, while emphasizing trade facilitation needs and the incorporation of more electronic processes. As a complement to its modernization thrust, the JCA has also embarked on a Single Window Project which is aimed at promoting interoperability among its stakeholders, which should see marked improvements in customs operation efficiencies, particularly in relation to border clearance processes. With the revolution of disruptive technologies, and the modernization initiatives undertaken, the JCA will be poised to derive the appropriate information necessary to operate in an ever-changing world.

The use of modern technologies such as blockchain, AI and IoT is being promoted and implemented throughout customs administrations worldwide, as essential tools to conduct non-intrusive inspections and to enhance detection techniques within all Customs areas. Several customs administrations are both exploring and harnessing the power of social media, data analytics and cloud computing to empower their officials in striking the appropriate balance between trade facilitation and customs enforcement measures. The use of disruptive technologies along with the single window is being implemented by several customs administrations which have yielded greater connectivity and improved communication within their supply chain networks. Key among them is the Indian Revenue Service (IRS), who's Chairman, S. Ramesh acknowledges that, "there is no alternative than to adopt technology for the objective of facilitating trade and checking revenue loss."

"What we now require is to remove the bottlenecks in trade to have a faster release time and lower cost, and to enhance competitiveness and business opportunities. There is a need to enable every customs administration to coordinate in a timely manner not only with other border agencies, but also with international partners. It is a fact that inter-state coordination in trade matters can increase compliance and reduce potential errors,…" **- S. Ramesh**

Chairman & SPL Secretary, Central Board of Indirect Taxes and Customs (CBIC), Indian Revenue Service (IRS)

Vice-chair of the Asia Pacific Region, WCO.

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The International and Industry Liaison Unit is committed to raising the level of awareness on topics relating to the Caribbean Community, as well as issues concerning the wider topic of international trade, to both our internal and external stakeholders. Our monthly newsletter seeks to highlight global trade topics and their importance to Customs Administrations worldwide and specifically how they affect the Jamaica Customs Agency. As we realize our vision of becoming a modern Customs administration delivering excellent service, we recognize the importance of knowledge transfer in delivering our objectives and use this forum as our way of contributing to the vision of the JCA. The International Liaison Unit is located at the Myers Wharf head office and our officers are available to respond to your queries and clarify any points of concern.

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