UNECE
UN / CEFACT

Executive Guide

Smart Containers

Introduction

About ninety percent of non-bulk cargo transported by sea worldwide is moved in standardized container boxes. As the volume of trade by containers increases annually, so does the need to more closely track the location and conditions of each container. With continuous technological advancements, it has been possible to connect these containers electronically with the rest of the supply chain using tracking devices that can monitor, process and communicate a large array of parameters.

Efficient trade logistics is a critical tool in effective trade facilitation. Boosting the supply chain performance can only be realized by enhancing procedures through the adoption of technology and by building smarter solutions to enhance the level of interconnectivity.

Applications

Smart container applications can be used to enhance operational performance, improve security awareness, improve compliance, enable green maintenance, contribute to product quality controls and to provide visibility on infrastructure usage. The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) has identified over twenty use cases for Smart Containers and had provided a detailed Business Requirement Specification describing each of these processes. The information has been harmonized with the other processes in multi-modal transport and supply chains, allowing a seamless exchange of information between supply chain actors.

An estimated 793.26 million TEUs were handled in container ports worldwide in 2018
(UNCTAD Review of Maritime Transport 2019)

Benefits

More and more shipping lines and container operators propose such integrated smart container solutions, which help to provide full digitalization of the supply chain, door-to-door visibility of the logistics chain and trustworthy data. Furthermore, Transport Operators will have better control of their operations and resources; Logistics Service Providers will have faster knowledge of hazards or unanticipated events; Consignors/Consignees will have end-to-end visibility of the movement of the cargo, allowing them to take a more active role in the process; and Regulatory Authorities will have access to timely, accurate data and thus potentially reduce the number of required inspections. Container operators, banks, port authorities, depot operators and many others can also find major benefits in increased visibility and data sharing through Smart Containers.

Given the number of potential stakeholders, the standardization of this information through the UN/CEFACT Smart Container project is very important to ensure harmonization of the processes proposed and interoperability of the resulting data.

International maritime containerized trade is estimated to increase by 4.5% from 2019-2024 (UNCTAD Review of Maritime Transport 2019)

More information

UN/CEFACT Smart Container e-business standard:

https://www.unece.org/uncefact/mainstandards.html#ui-accordion-jfmulticontent_c66199-panel-1

What is UN/CEFACT?

UN/CEFACT, the United Nations Centre for Trade Facilitation and Electronic Business, supports activities dedicated to improving the ability of business, trade and administrative organizations, from developed, developing and transition economies, to **exchange products and relevant services effectively**. Its principal focus is on facilitating national and international transactions, through **the simplification and harmonization of processes, procedures and information flows**, and so contributing to the growth of global commerce.

UN/CEFACT has a global mandate. Participation in the UN/CEFACT Forum is open to all. There are 1000 experts from every region in the world.

Within the framework of the United Nations Economic and Social Council, the United Nations Economic Commission for Europe (UNECE) serves as the focal point for **trade facilitation recommendations and electronic business standards**, covering both commercial and government business processes that can foster growth in international trade and related services. In this context UN/CEFACT was established, as a subsidiary, intergovernmental body of the UNECE.

For more information:
http://www.unece.org/cefact
See also: http://tfig.unece.org/

UNECE secretariat:
+41 22 917 1298
Lance Thompson, Secretary UN/CEFACT
lance.thompson@un.org

Participation in the development of UN/CEFACT standards and recommendations is free of charge.

If you are interested in joining us, you should register at https://uncefact.unece.org/display/uncefactpublic/UNCEFACT+Expert+Registration

All resulting deliverables are available online free of charge at http://www.unece.org/cefact