United Nations

ECE/TRADE/C/CEFACT/2020/15

Economic and Social Council

Distr.: General
12 February 2020

Original: English

Economic Commission for Europe

Executive Committee

Centre for Trade Facilitation and Electronic Business

Twenty-sixth session
Geneva, 4-5 May 2020
Item 7 (d) of the provisional agenda
Recommendations and standards:
Implementation support material
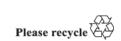
Executive Guide on Smart Containers

Summary

Traditionally, information is being generated and shared by humans; today, there is a growing possibility to have objects that can also contribute to the information chain of data. One such example is Smart Containers, a container with a device attached to it or directly integrated into it allowing to capture key events which can be shared with the rest of the supply chain. This Internet of Things (IoT) application allows to enhance the timeliness and quality of data and provide possibilities to automate actions based on events like doors opening or temperature fluctuations. This document describes the base principles as developed in the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) deliverables on the topic.

Document ECE/TRADE/C/CEFACT/2020/15 is submitted by the UN/CEFACT Bureau to the twenty-sixth session of the Plenary for noting.

Please recycle

I. Introduction

1.   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.

2.   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.

II. Applications

3.   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.

III. Benefits

4.   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.

5.   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.

IV. More information

6.   UN/CEFACT Smart Container e-business standard:
https://www.unece.org/uncefact/mainstandards.html#ui-accordion-jfmulticontent_c66199-panel-1