

Commercial Customs Operations Advisory Committee (COAC) Government Issue Paper: Emerging Technologies

July 2020



U.S. Customs and
Border Protection



Office of Trade/Trade Transformation Office
Business Transformation & Innovation Division
July 2020

Action Required: Informational

Background:

- CBP is working closely with the private sector and the Department of Homeland Security (DHS) to research and develop new technologies to advance trade facilitation, security, and enforcement objectives through a new age of exciting innovative products.
- Technologies being explored by CBP include blockchain, augmented reality, artificial intelligence (AI), machine learning, and mobile technologies to aid in finding efficiencies for the supply chain.

Blockchain Technology

- Blockchain is a digital ledger that provides a secure, tamperproof and permanent record of transactions. CBP believes this technology has the potential to become a major component in the supply chain for the movement of goods and facilitation of entry into the United States.
- As projects are developed to assess the application of blockchain technologies, CBP focuses on the following business goals:
 - Develop a transparent supply chain from beginning to end
 - Identify legitimate actors
 - Reengineer and rethink outdated business processes
 - Adopt a team mentality to collect data directly from the source
 - Replace paper processes with digitized data
- CBP's end goals for every blockchain project are to:
 - Obtain data earlier in the process
 - Enhance safety and facilitation
 - Improve reporting/targeting/predictive analysis
- To this point, CBP has demonstrated promising results, including accelerating cargo processing, expediting communications, and supporting enhanced enforcement activity.

AI/Machine Learning

- CBP is also using emerging technologies to support the implementation of the United States-Mexico-Canada Agreement (USMCA).

Issue:

- CBP and DHS are seeking opportunities to implement blockchain in production to streamline and enhance import processing of commodities such as pipeline, steel and timber.
- In addition to blockchain, CBP is researching other technologies that could become useful to the trade community in the near future. These technologies include Artificial Intelligence (AI), machine learning, and augmented reality.

Current Status:

Blockchain Technology

- Together with the DHS Science and Technology Directorate, CBP is working to test and deploy production-level programs utilizing Blockchain technology.
 - Under the program heading of the Silicon Valley Initiative Program (SVIP), CBP is pursuing pre-arrival/pre-release data for Steel and Pipeline commodity imports.
 - Through these commodity-focused projects, CBP seeks to achieve the following objectives using blockchain technology:
 - Automation of paper processes, while introducing interoperable standards
 - Data receipt earlier in the process
 - Increased supply chain transparency as well as security and facilitation
 - Enhanced entity identification
 - Increased security and facilitation
 - Following successful interoperability demonstrations on May 6 and 7, Phase 2 of the steel and petroleum project will move forward, featuring a steel and petroleum “Teams” under the Emerging Technologies Working Group in order to get feedback.

AI/Machine Learning

- CBP launched its first chatbot on June 8 in support of the implementation of USMCA.
- The chatbot answers general inquiries about the USMCA, and has been averaging around 50 conversations each day.

Next Steps:

Blockchain

- Together with the DHS Science and Technology Directorate, CBP is currently working to test and deploy production-level programs utilizing blockchain technology.
- The use cases, which are part of DHS and CBP’s Silicon Valley Initiative Program (SVIP), are as follows:
 - Food safety: A food safety blockchain has the potential to enhance the visibility of food supply chains (from farm to point of purchase), enable the application of appropriate duties and expedite inspection times.
 - Natural gas imports: With the implementation of the United States-Mexico-Canada agreement, CBP is identifying opportunities to enhance facilitation and enforcement missions through additional data exchange and modernization of processes.
 - E-Commerce: The application of technology could potentially enhance CBP’s capabilities to enable importers, websites and sellers to classify merchandise, build in automated Duty payments and improve targeting on illicit goods and identify emerging risks.

Submitted by: Vincent Annunziato

Date: July 2020