



November 22, 2022

Executive Assistant Commissioner AnnMarie Highsmith
Executive Director Felicia Pullam
U.S. Customs and Border Protection
Department of Homeland Security
1300 Pennsylvania Avenue, NW
Washington, DC 20229

Re: Reasonable Care Standard: Harmonized Schedule Derivation Technologies (HSDT)

Dear EAC Highsmith,

The American Association of Exporters and Importers (AAEI) has been a national voice for the international trade community in the United States since 1921. AAEI represents the entire spectrum of the international trade community across all industry sectors. Our members include manufacturers, importers, exporters, wholesalers, retailers, and service providers to the industry, which is comprised of customs brokers, freight forwarders, trade advisors, insurers, security providers, transportation interests and ports. Many of these enterprises are small businesses seeking to export to foreign markets. AAEI promotes fair and open trade policy. We advocate for companies engaged in international trade, supply chain security, export controls, non-tariff barriers, import safety and other movement of good's issues.

The current state of trade, with new regulations and continuous modifications to trade policy, is driving a level of overall operational inefficiencies within the trade industry. Specifically, businesses seek to offset these inefficiencies through automation. Doing so allows a company to balance resources while maintaining regulatory requirements.

One such mature process many companies are targeting is Harmonized Schedule (HS) assignment. In this space, we find the adaptation of technologies are having great success in progressing the process. These technologies help reduce complexities, increase accuracy, and better allocate Subject Matter Expert (SME) labor to the greatest area of need. We herein refer to these technologies as "HS Derivation Technologies" or "HSDT." What cannot be ignored is the ability of HSDT's to ultimately increase consistency and compliance while reducing the total HS program cost for a business.

As we pursue these HSDTs to aid HS classification processes, solutions can be built with a clear intent to meet government regulations and guidance. However, the posted guidance does not contemplate use of such technologies, leaving importers and exporters to interpret and establish their own requirements accordingly. The



members of AAEI are interested in working with CBP to refine the posted guidance and establish greater certainty in meeting reasonable care standards when leveraging HSDT in the HS environment. This document provides suggestions and is intended to serve as a discussion document.

Harmonized Schedule Derivation Technologies

Artificial Intelligence

Benefits of Using Artificial Intelligence (AI) in HTS Classification Determination

- AI learns from historical product classification data, builds algorithms to generate a list of most plausible classification suggestions and, where high confidence is achieved, enable future classification of similar products.
- AI classifies the product, taking into account the intended level of confidence and accuracy.
 - Algorithms developed by AI will consistently apply the same logic and decision-making mechanisms to new products, meaning that consistency in classification will substantially increase when compared to manual decision making in determining classifications.
- AI can cope with industry/company specific vocabulary, product descriptions and volumes. Especially the latter can be challenging for companies with large product portfolio's, high product turnover and (near) global presence.
- AI can deal with minor deviations in data such as typing errors, while remaining sensitive for changes in key indicators (e.g. a letter indicating the materials such as C for copper and S for stainless steel)
- Classification resources shift their focus from repetitive classification activities to reviewing and classifying strategically selected products (i.e. new products and/or products with low confidence). Confirmed classifications for these products support continuous learning cycle by feeding results back into the AI solution which in turn, enhances the AI algorithm.
- Prior to building a customized algorithm, AI can detect issues in the historical product classification data, such as expired codes or inconsistencies in how similar products are classified.
 - AI and more specifically Machine learning is based on pattern recognition and as a consequence very strong in identifying outliers that do not fit in the model.
 - These types of mechanisms can be used to audit the data on a go-forward basis and increase the accuracy and sample size of internal periodic classification audits. Manual audits typically only cover a representative sample of products, as opposed to an entire database of products.
 - AI can compare the entire database against the latest HTS, as changes are published, and identify product classifications that need to be revisited in light of HTS updates.
- AI maintains "experience" even when human classifiers are changing.
- Although errors cannot be fully excluded, AI applied in various domains has demonstrated that – especially in combination with human experts – the overall quality and accuracy drastically increases.



Considerations when Using AI in HTS Classification Determination

- AI algorithms based on historical classification data can only be developed to be as accurate as the historical data used to support training of the AI. In other words, it is important for companies to review accuracy and quality of historical data and perform necessary database cleansing prior to using a technology solution for HTS classification or build up the data directly in the AI based solution.
- Training of AI based solution should be handled with representative data. Lack of proper training can lead to over- or underfitting.
- ML based algorithm in general need to same type of information to classify a product as a human classifier would need. Feeding insufficient information or overdelivering will impact the performance and hinder automation.
- AI technologies are not meant to replace the need for human classifiers but instead is meant to shift “a day in the life” of these classifiers, allowing them to focus on more strategic activities such as classifying lower confidence/complex/new products, conducting audits on high confidence classifications and AI maintenance activities (i.e. updates to the tariff, new rulings published, etc.).
- Similar to manual classification procedures, it is important to perform regular audits of classification assignments. Trained professionals familiar with AI should also review the solution on a regular basis to verify that product classifications align with expectations. As needed, manual intervention may be required in correcting classification codes and adjusting the AI algorithm.
- AI should be paired with reliable HTS content to verify if any classification codes have changed or expired.
- Ideally, product nomenclature should be consistent on a go-forward basis, as the AI algorithm will be built around the nomenclature used in the historical product classification data and changes in the nomenclature lead to retraining / updating of the algorithm.

Current State of Regulation and Guidance

Currently, the informed compliance publications do not provide guidance on the use of machine learning and AI in reasonable care standards.

Discussion Points

Informed Compliance Publication on [Reasonable Care](#), September 2017

- Recommendation 1: Question number six (6) for Merchandise Description and Tariff Classification to states, “Have you consulted with a customs “expert” (e.g., an attorney, licensed customs broker, or a customs consultant) to assist in the description and/or classification of the merchandise?” We recommend the question be modified to state, “Have you consulted with a customs “expert” (e.g., an attorney, licensed customs broker, or a customs consultant) to assist in the description and/or classification of the merchandise and/or leveraged HS Derivation Technologies to prompt “expert” review when an appropriate HTSUS



assignment cannot be determined?

- Recommendation 2: Add a new question to the Merchandise Description and Tariff Classification that states, "Does your HS program leverage HS Derivation Technologies to a) understand the merchandise; b) understand how that merchandise relates to the HTSUS; c) includes a feature to prompt "expert" review when an appropriate HTSUS assignment cannot be determined; and/or d) serve as a resource when responding to CBP inquiries?"

Informed Compliance Publication on [Tariff Classification](#), September 2017

- Recommendation 3: Insert a section on "HS Derivation Technologies," as described within this document, to ensure the reader of their availability and applicable use. We further recommend the document support such technologies as a way to meet the reasonable care requirement.

We look forward to working with the Customs and Border Protection to discuss this matter in more detail.

Sincerely,

Eugene C. Laney
American Association of Exporters and Importers
President and CEO