

# Understanding Harmonized System (HS) codes



# Disclaimer

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While we hope you'll find this discussion helpful, this session is for informational purposes only and is not legal or tax advice.



# Avalara

## Safe harbor statement

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Meet your presenter



## Colin Haynes

Business Development  
Manager – Cross Border

Avalara

- Joined 3CE by Avalara in 2009
- Consults customers and clients on their HS Classification software tool needs and works with them from implementation to GoLive
- Based in Ontario, Canada

# Agenda

- 1 > HS Codes 101
- 2 > Trends
- 3 > Things for businesses to consider
- 4 > Recap and takeaways
- 5 > Q&A

# HS Codes 101

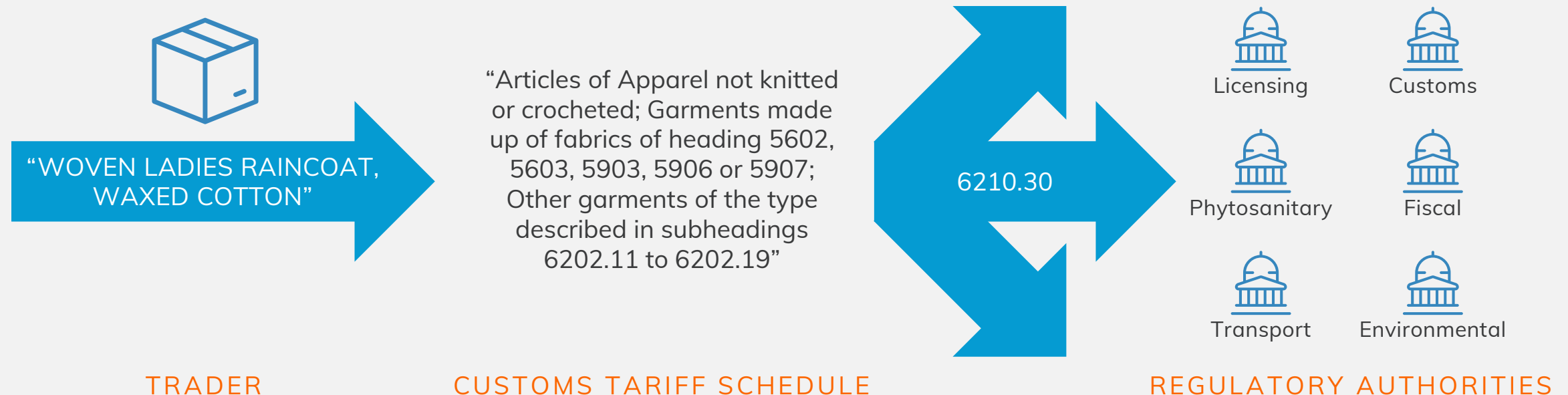


# The harmonized commodity description & coding system (HS)

AKA: "The Harmonized System" or simply "The HS"

HS Codes identify "what" is being imported and exported. HS codes are used by countries that account for 98% of world trade.

HS Classification is "Step 1" in determining landed cost, identifying opportunities abroad, and meeting Government trade compliance requirements.

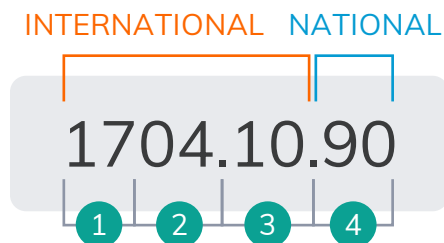




# The harmonized commodity description & coding system (HS)

## Anatomy of an HS Code

- 1 HS Chapter  
Sugars and Sugar confectionary
- 2 HS Heading  
Sugar confectionary (including white chocolate), not containing cocoa
- 3 HS Subheading  
Chewing gum, whether or not sugar-coated
- 4 National Subheading  
Containing 60% or more by weight of sucrose (including invert sugar expressed as sucrose)



- > The HS is organized in 21 Sections and 96 Chapters.
- > The HS structure is hierarchical.
- > The international HS is amended every 5 years (latest update 01/01/2022).
- > National tariff schedules are updated more frequently.

CN code	Description	Conventional rate of duty (%)	Supplementary unit
1	2	3	4
1702 60	Other fructose and fructose syrup, containing in the dry state more than 50 % by weight of fructose, excluding invert sugar:		
1702 60 10	-- Isoglucose	50,7 €/100 kg/net mas	—
1702 60 80	-- Inulin syrup	0,4 €/100 kg/net <sup>(1)</sup>	—
1702 60 95	-- Other	0,4 €/100 kg/net <sup>(1)</sup>	—
1702 90	Other, including invert sugar and other sugar and sugar syrup blends containing in the dry state 50 % by weight of fructose:		
1702 90 10	-- Chemically pure maltose	12,8	—
1702 90 30	-- Isoglucose	50,7 €/100 kg/net mas	—
1702 90 50	-- Maltodextrine and maltodextrine syrup	20 €/100 kg/net	—
	-- Caramel:		
1702 90 71	--- Containing 50 % or more by weight of sucrose in the dry matter	0,4 €/100 kg/net <sup>(1)</sup>	—
	--- Other:		
1702 90 75	---- In the form of powder, whether or not agglomerated	27,7 €/100 kg/net	—
1702 90 79	---- Other	19,2 €/100 kg/net	—
1702 90 80	-- Inulin syrup	0,4 €/100 kg/net <sup>(1)</sup>	—
1702 90 95	-- Other	0,4 €/100 kg/net <sup>(1)</sup>	—
1703	Molasses resulting from the extraction or refining of sugar:		
1703 10 00	-- Cane molasses	0,35 €/100 kg/net	—
1703 90 00	-- Other	0,35 €/100 kg/net	—
1704	Sugar confectionery (including white chocolate), not containing cocoa:		
1704 10	-- Chewing gum, whether or not sugar-coated:		
1704 10 10	-- Containing less than 60 % by weight of sucrose (including invert sugar expressed as sucrose)	6,2 + 27,1 €/100 kg/net MAX 17,9 <sup>(1)</sup>	—
1704 10 90	-- Containing 60 % or more by weight of sucrose (including invert sugar expressed as sucrose)	6,3 + 30,9 €/100 kg/net MAX 18,2 <sup>(1)</sup>	—
1704 90	-- Other:		
1704 90 10	-- Liquorice extract containing more than 10 % by weight of sucrose but not containing other added substances	13,4 <sup>(1)</sup>	—

<sup>(1)</sup> Per 1 % of sucrose by weight, including other sugars expressed as sucrose (see additional note 4 (CN)).  
<sup>(2)</sup> WTO tariff quota.



*“91 percent of respondents report having a challenge with product classification.”*

.....  
THOMSON REUTERS & KPMG, 2016

*“Through its compliance verifications on specific goods, the Agency established that importers misclassified about 20 percent of those goods coming into Canada.”*

.....  
AUDITOR GENERAL OF CANADA, 2017

# Business challenge

HS Classification is difficult and error-prone



COMMERCIAL  
DESCRIPTIONS VS.  
HS TERMINOLOGY

“Baby food” =  
“Homogenized  
composite food  
preparations”



GIR'S, LEGAL  
(SECTION, CHAPTER  
NOTES)

“Fabric, 50%  
cotton, 50% flax”  
(GRI 3(c))

“Tomato Juice”  
(Chapter 20,  
Note 4)



COMPLEX ITEMS

Sets/Kits, Parts,  
Composite Goods



KNOWLEDGE  
MANAGEMENT

Scarcity of  
specialized domain  
expertise

Costs associated  
with Turnover &  
Training



RELIANCE ON  
INEFFECTIVE/  
INAPPROPRIATE  
TOOLS

# Business challenge

Declarants need to have explicit knowledge of where a particular commodity is located (structure) and/or how it is described (meaning) in the HS nomenclature to easily and accurately classify it.



## Structural challenges

Juices are not considered beverages (Chapter 22), but as “preparations of vegetables, fruit, nuts or other parts of plants” (Chapter 20);

Car seats are not parts of a cars (Chapter 87), but articles of furniture (Chapter 94)

Electric toothbrushes are not actually toothbrushes (Chapter 96), but “Electro-mechanical domestic appliances, with self-contained electric motor, other than vacuum cleaners of heading 85.08. (Chapter 85).



## Semantic challenges

COMPUTER	Automatic data processing machine
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BABY FOOD	Homogenized composite food preparations
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WHEELCHAIR	Carriage for disabled persons
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BLOW DRYER	Electrothermic hair dressing apparatus
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GPS DEVICE	Radio navigational aid apparatus
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# Business challenge

## HMRC classification resources



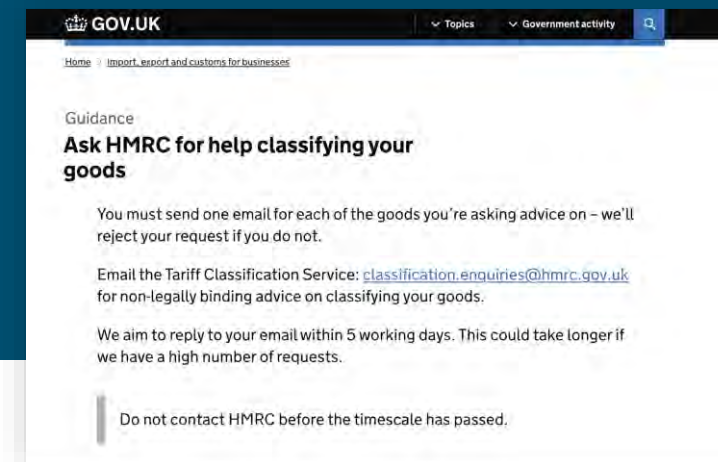
### Look-up Tool

- Keyword matches only
- Either zero matches at all or dozens/hundreds of “potentials”



### Guidebooks

- Encyclopedic materials
- Covers only 19 “difficult to classify” commodities



### Ask a Gov't Expert

- 5+ working day response time
- Not legally binding

Important resources, but how helpful are they really,  
when accurate answers and information are needed immediately?

# Avalara tariff code classification

Compare our products

	TYPE	AVATAX CALCULATION	INPUT NEEDED	OUTPUT DATA
Self-Serve Tariff Code Classification	Auto-Classification (Interactive user experience+ Expert based, AI-assisted)	Conversational API	<ul style="list-style-type: none"><li>&gt; Product Description</li><li>&gt; Destination Country</li><li>&gt; Country of Origin</li></ul>	6-digit universal tariff code or 10-digit HS code (country specific)
Managed Tariff Code Classification	Pre & Post Classification (AI/Machine Learning + Human Expertise)	Bulk File Upload & API	<ul style="list-style-type: none"><li>&gt; Item Name</li><li>&gt; Summary</li><li>&gt; Item Group</li><li>&gt; URL</li><li>&gt; Destination Country</li></ul>	10-digit tariff code (country specific)
Premium Tariff Code Classification	Premium Classification (AI/Machine Learning + Human Expertise)	Bulk File Upload	<ul style="list-style-type: none"><li>&gt; Item Name</li><li>&gt; Summary</li><li>&gt; Item Group</li><li>&gt; URL</li><li>&gt; Destination Country</li></ul>	10-digit HS code (country specific) including: Case Studies & Rulings

# Avalara Self Serve Tariff Code Classification

- Artificial intelligence-based decision support system.
- Reads and interprets everyday commercial goods descriptions.
- Reasons its way through the HS classification process.
- Allows shippers to describe products in their own words and doesn't require users to have deep HS knowledge.
- Makes expertise available to decision makers and technicians who need to get answers instantly, consistently, and accurately.

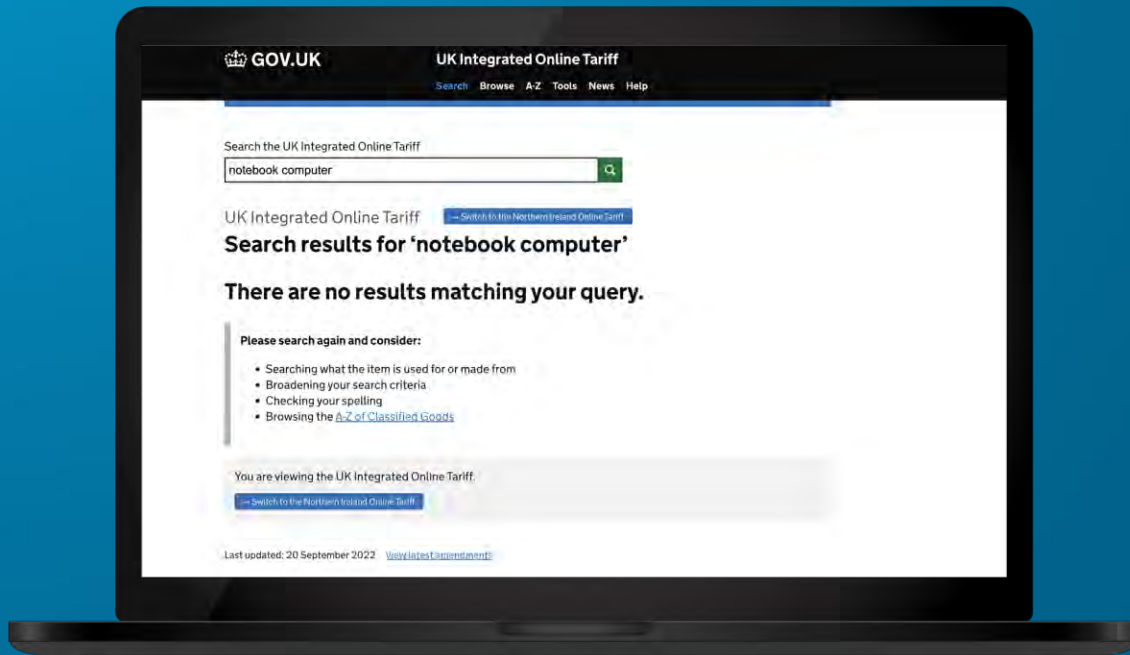


# Avalara Self Serve Tariff Code Classification

- Generates a Customs-ready audit trail citing GIRs and HS Legal Notes.
- Broad-based user community contributes to continual improvement.
- Named Best Content Search and Discovery Solution by the U.S. Software & Information Industry Association.

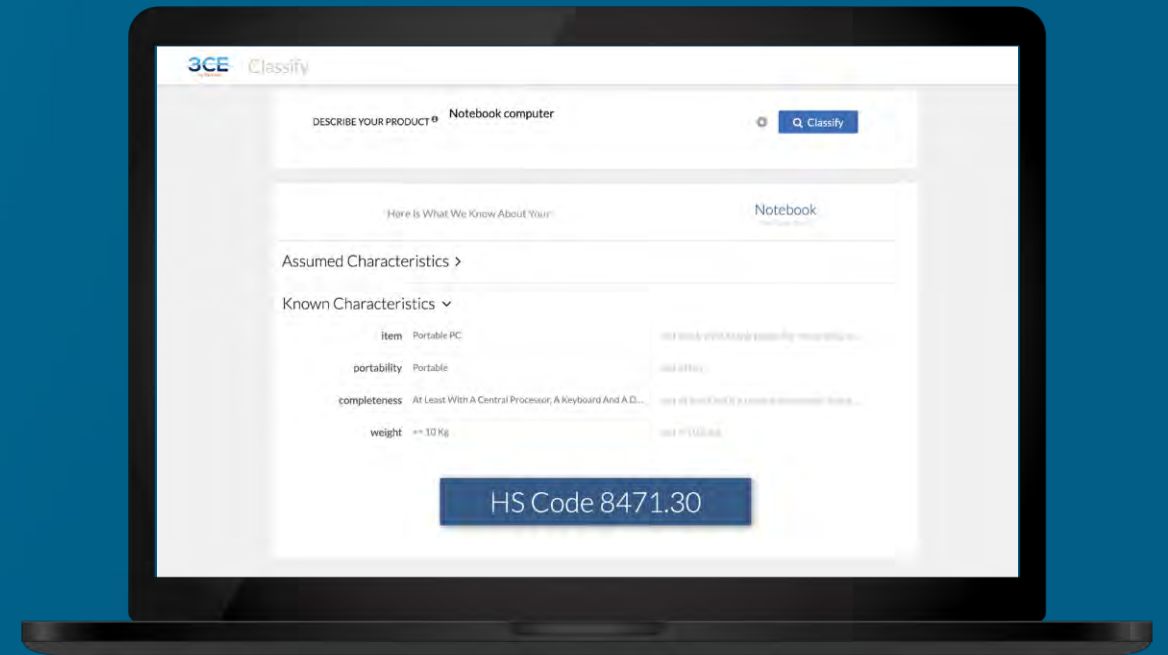
# “Notebook computer”

<https://www.trade-tariff.service.gov.uk>



- Searches indiscriminately for keywords.
- Requires users to arbitrate through long list of mostly irrelevant “potential matches”.
- Not interactive. No intelligence.

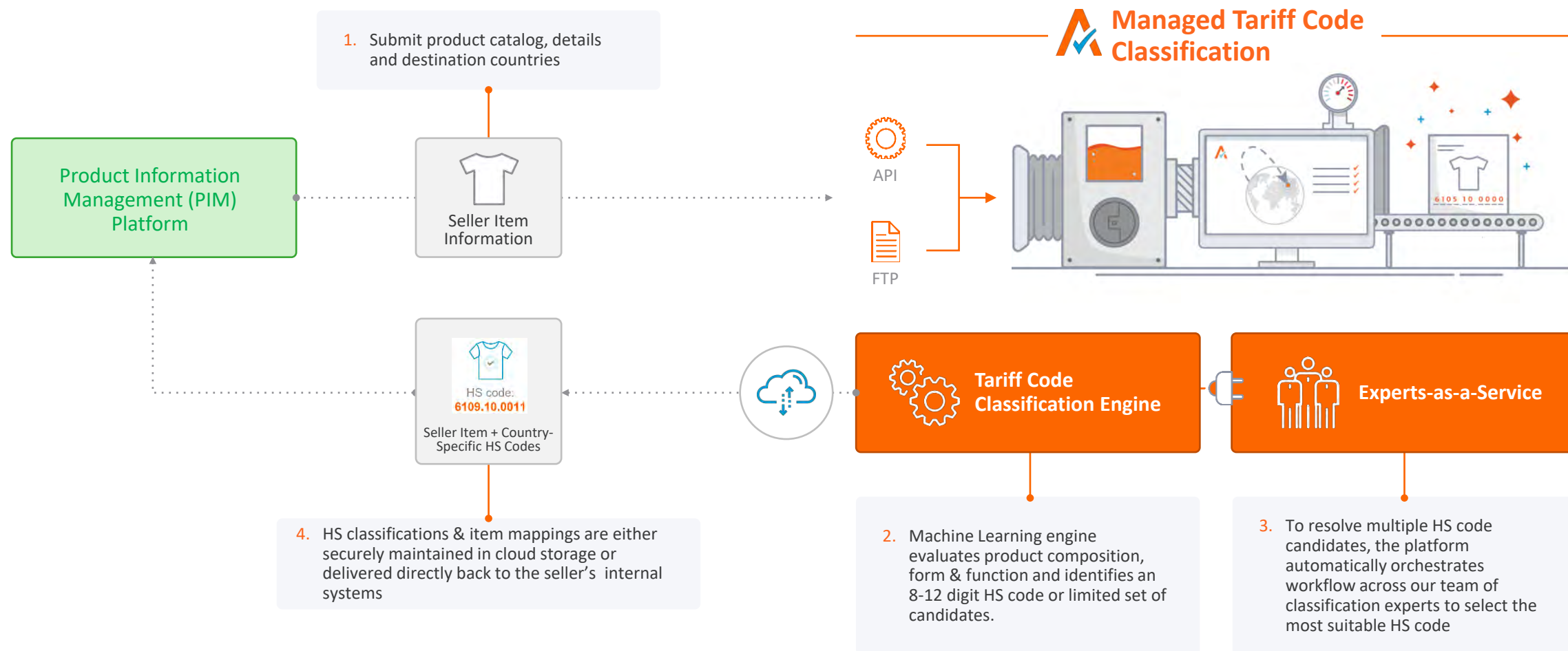
<https://classify.prod.3ceonline.com>



- Understands everyday commercial goods descriptions.
- Considers and applies GIR's and HS Legal Notes.
- Intelligent, intuitive Q&A drives the classification process to a single, correct code.

# Avalara managed tariff code classification – how we do it

Automate assignment of Harmonized System codes, providing a scalable foundation for customs duty calculation and compliant paperwork anywhere in the world



Trends

# Trends



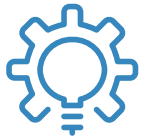
Governments making it easier to self-file. Facilitated by software that includes advance classification assistance tools (e.g. Deloitte's CustomsClear).

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WCO strategic review of the HS - initiative to modernize the HS, reducing complexity and errors, and enabling more frequent updates.

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Increased used of AI and ML to increase the number of declarations that can be monitored and the likelihood of catching compliance errors.

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Prevalence of Electronic Single Windows, placing added importance on proper HS classification for PGA regulatory compliance.

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Increasing adoption of Blockchain. Immutability of classification renders HS accuracy critical.

Things for businesses  
to consider



“As the importer or exporter of record, you are legally responsible for correctly classifying your goods. This applies even if you employ an agent to handle your customs entries on your behalf.”

UK Customs Code  
Implementing Regulation,  
2454/93 Article 199

# Things to consider

You can outsource process, but you cannot outsource responsibility

## Red Flags for Government Auditors\*

- ⚠ The company has insufficiently documented, poorly defined, or no internal control for accurately reporting classifications to Customs.
- ⚠ The company does not monitor or interact with the broker on classification issues.
- ⚠ The company relies on one employee to handle classification issues, and there are poor or no management checks or balances over this employee.
- ⚠ Company import staff lacks knowledge of classification requirements.
- ⚠ The company has a high turnover of people in key positions.

\* Source: USCB – Focused Assessment Guidelines. Classification Pre-Assessment Survey



# Technology differentiators

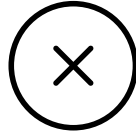
AI-BASED EXPERT SYSTEMS	KEYWORD SEARCH ENGINES	MACHINE/DEEP LEARNING SYSTEMS
Emulates the HS Classification expert's approach. Reasons its way through the classification process.	Searches indiscriminately. Enhanced engines used Boolean operators. Easy to make mistakes.	Probability-based approach ("educated guess"). Critically reliant on reliable training data for accuracy.
Understands everyday commercial goods descriptions. Including complex items.	No linguistic processing capabilities	Understands everyday commercial goods descriptions.
Interacts intelligently and intuitively to resolve HS-critical under specification / ambiguity. Logic is explicitly shown. Gives user control.	Not interactive. Not intelligent.	"Black Box".
Delivers one correct answer.	Presents user with numerous irrelevant / incorrect "potential" matches.	Delivers a list of ranked "potential" matches with confidence factors.
Considers and applies HS General Interpretive Rules (GIRs) and HS Legal (Section, Chapter) Notes.	No HS classification logic applied. No consideration of HS GIRs or HS Legal Notes.	No HS classification logic applied. No consideration of HS GIRs or HS Legal Notes.
Automatically generates a Customs-ready audit trail. Demonstrates diligence	No meaningful details kept.	No meaningful details kept.
Examples include: 3CE by Avalara (EU CN Search Engine, US Schedule B Search Engine, Canada Tariff Finder)	Examples include: ASYCUDA, World Bank Trade Information Toolkit, UK Trade Tariff Tool, ITC Global Trade Helpdesk & Many others	Examples include: WebbFontaine ENJAZ

Recap and takeaways

# Recap & takeaways



HS classification  
is complex



Poor descriptions,  
lack of product detail,  
or even incorrect  
specifications will likely  
lead to an incorrect  
HS code



Not all Classification  
assistance tools are  
created equal



You can outsource  
process, but you  
cannot outsource  
responsibility

Q&A

# Upcoming events

[avalara.com/webinars](https://avalara.com/webinars)

## Events Calendar

- > 12/8 Managing international compliance changes
- > 12/13 Sales & use tax master class
- > 12/15 The evolution of tax in the digital age



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Tax compliance done right