World Customs Organization
Organisation mondiale des douanes

Speakers: Microsoft / Webb Fontaine / Belgium Customs

WCO TECHNOLOGY CONFERENCE

SESSION B2 TRUSTING NEW TECHNOLOGIES: ARTIFICIAL INTELLIGENCE

Wednesday Oct 19, 2022, 14:45 – 15:30

Moderator: Mr. Chris Thibedeau

Your Panel

Chris Thibedeau, Moderator

TTEK

Erica Chavez Castillo, Microsoft

Microsoft

Jad Rizk, Webb Fontaine

WEBB FONTAINE

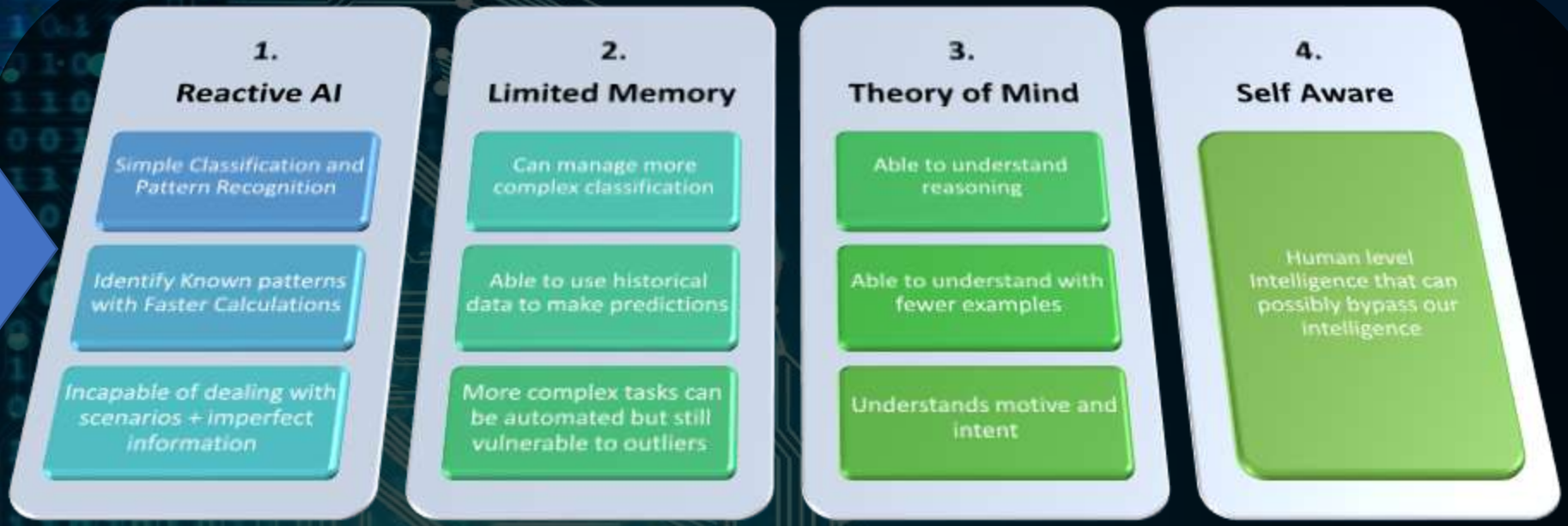
Mathieu Labare, Belgium Customs

DOUANE

Session B2 Trusting New Technologies: Artificial intelligence

Introduction: What is Ai?

Types of Ai



Examples in the Customs Context

- Deductive (watchlists) & Inductive (risk indicators) Analysis using BRMS and Risk Scoring
- Risk Assessment Rules (e.g. WCO RM Compendium)
- Link analysis

*Does not include scenario Based targeting and predictive modelling

- Data quality issues become problematic and affect accuracy
- Latency issues create “static” point in time analysis.

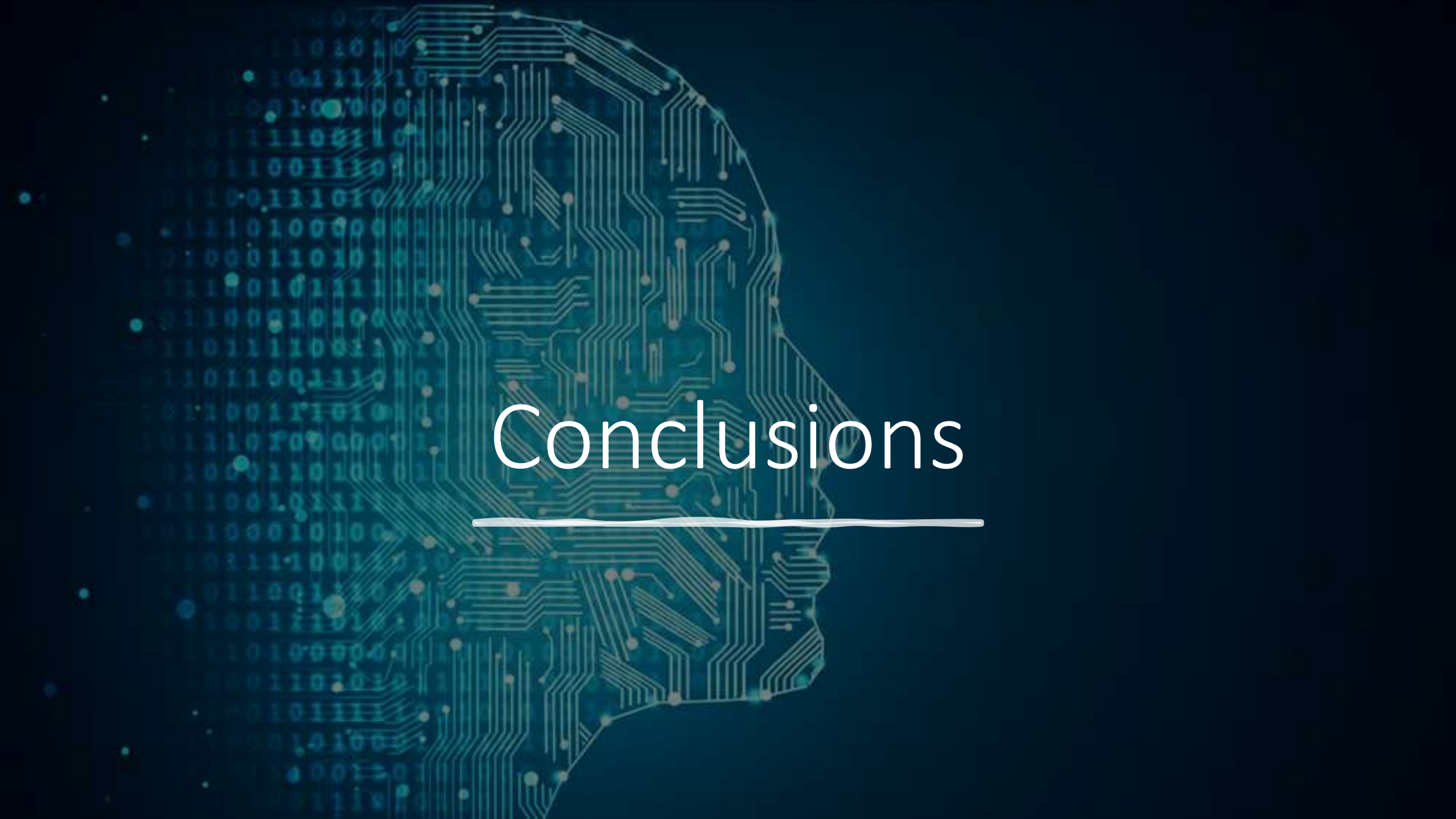
- NLP for Commodity Classification
- Predictive Modelling using historical cargo or Import data to identify trends and patterns
- Scenario based targets
- Anomaly detection
- Shipment Tracking
- Identifying Norms

+ Anomalies and Outliers

- Includes data cleansing and standardization
- Entity Resolution (who is who)
- Automated Triage of data for decision support
- Multilingual

- “Closing the Loop” on an Ai cycle or risk assessment cycle by collecting field/inspection results
- Using the outcome data to automatically configure the algorithms / analysis framework.
- Fully automate the Ai cycle to ensure Customs is always pulsing to identify the latest smuggling threats and trends.
- Fully dynamic analysis

- Fully automating Customs decisions at the border with a dynamic Ai cycle that can collect and ingest the right data and process it with layers of
- Data standardization
- Data cleansing
- Entity Resolution
- Commodity resolution
- Predictive modelling algorithms driving deductive and inductive analysis to identify threats and take action (human intervention)
- Collection of results (by a human) to dynamically feed the Ai cycle in real time
- Increase accuracy with each pass of the cycle to eliminate bias and vulnerabilities – improving decision support.



Conclusions

An Example Ai Framework

Measuring Trust – evaluation of credibility and integrity of source data

Transparency	**Character**	**Logic**
Evaluation of ability to see participants, locations, commodities and activities	Evaluation of information provided based on prior evaluations of risk and known indicators	Evaluation based on known models, norms and practices
Can you see it?	*How do you feel about it?*	*Does it make sense?*

	Deductive	**Inductive**	**Predictive**
	01	**02**	**03**
	Watch-list and lookout vetting	Risk indicators / scenario-based profiles	Predictive modelling & machine learning
ANALYSIS	▪ Flags or targets based on information already known	▪ Eliminates low risks ▪ Outcome not entirely known	▪ Historical trend analysis and quantitative analytics ▪ Transfers learnings to inbound data
USE CASES	▪ Commodity HS code flag ▪ Entity (consignor/consignee) of interest ▪ Previous enforcement action ▪ Watchlist on delivery address	▪ High risk cover load, one-to-one relationship between shipper and consignee ▪ Commodity is inconsistent with container type. ▪ Narcotics transshipment	▪ Data fusion with global trade data ▪ Probability % for undervaluation ▪ Trade network analysis ▪ Knowledge graph

Questions From the Audience

Chris Thibedeau, Moderator

Erica Chavez Castillo, Microsoft

Jad Rizk, Webb Fontaine

Mathieu Labare, Belgium Customs

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Thank You!

Chris Thibedeau, Moderator

Erica Chavez Castillo, Microsoft

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