



Brussels, 28 January 2019.

DATA ANALYTICS FOR CUSTOMS

(Item XII on the Agenda)

Background

1. Data science first emerged as a powerful tool for governments and international organizations in the early 2000s, and immediately revealed its potential as a means of identifying problems, developing policies, countermeasures and guidelines, and measuring their effects.
2. Customs administrations collect a huge amount of data on trading goods, stakeholders, logistics, Customs revenue, and financial transactions governing trade on a daily basis. However, only small parts of the big realms of data generated are utilized, mainly in order to produce world trade statistics. Only a few, if any, Customs administrations have incorporated data mining tools into their daily practices or risk management techniques.
3. Acknowledging the potential of data analytics supported by the development of open-source information technology, the Secretariat is making efforts to promote the use of 'big data' analytics within Customs administrations.

Progress

4. The Secretariat organized two data analytics workshops in Brussels in January and July 2018 with the participation of Customs data experts. Furthermore, the topic was highlighted in the Agenda of the PICARD Conferences in 2017 and 2018, respectively, and presentations during the Conferences on the topic were well received. These events served as a valuable opportunity for the Secretariat to identify Customs data experts among Members, academia and international organizations, and helped it to secure anonymized data relating to Customs declarations to form the basis of its data-led research.

5. The Secretariat is preparing a series of six papers - the result of the workshops, Conferences and collaboration with the identified experts - that will outline different data analytics methods that have been or are currently being used by Customs administrations.
6. Machine learning is a data analytics technique that involves making predictions or decisions by identifying patterns or attributes of given data. Owing to the development of the computing capacity of machines and the extensive availability of big data, machine learning is currently employed for a variety of tasks, principal among which is fraud detection. To cite but one example: the financial industry has employed machine learning to detect fraudulent credit card transactions and medical insurance claims. By exploring representative practices of machine learning for fraud detection, the Secretariat is attempting to distil the best practices of industry into a Customs environment.
7. The Secretariat encourages all interested Administrations to participate in the testing of the data analytics methods/algorithms presented in paragraphs 5 and 6, and welcomes any proposals to collaborate with Members' data experts for future research and case studies.

Regional seminar on Customs data analytics for Members

8. The Secretariat plans to host regional seminars on Customs data analytics for Members. The main objectives are: to present and exchange experiences of data analytics through the presentation of tangible cases, including the associated benefits and challenges; to raise awareness among Customs leaders by advocating for data and data science in Customs; and to reach out to Customs officials with concrete experience and expertise in data analytics and engage them in the future research projects of the Secretariat.
9. The Secretariat hosted the first regional seminar on Customs data analytics in the MENA region in Qatar in December 2018, and the second seminar was held in the Asia Pacific region in Korea in February 2019. The expectation is to host seminars for other regions throughout 2019.

Action required from the PTC

10. The PTC is invited to:
 - share practical experiences of data analytics;
 - take note of the progress of the Secretariat in the area of data analytics; and
 - provide feedback and suggestions for future work on data analytics.
