Consultancy to develop a detailed report on Artificial intelligence and machine learning

Project Reference:

WCO Smart Customs Project

Deadline: 11 June 2024
To submit by email to: smartcustoms@wcoomd.org
# Table of Contents

1. BACKGROUND ................................................................................................................. 2  
   i. Relevant Background ................................................................................................. 2  
   ii. Contracting Authority ............................................................................................. 3  
   iii. Beneficiaries ........................................................................................................... 3  
2. DESCRIPTION OF THE ASSIGNMENT ........................................................................... 4  
   i. Global Objective ....................................................................................................... 4  
   ii. Specific Objectives .................................................................................................. 4  
   iii. Requested Services ................................................................................................. 4  
3. EXPERTS PROFILE ....................................................................................................... 4  
   i. Number of Experts ..................................................................................................... 4  
   ii. Profile required ......................................................................................................... 5  
4. LOCATION, DURATION, PAYMENT, AND CONTRACT MODALITIES ......................... 5  
   i. Commencement date and duration of assignment ..................................................... 5  
   ii. Location ..................................................................................................................... 6  
   iii. Payment .................................................................................................................... 6  
   iv. Contract modalities ................................................................................................. 6  
5. REPORTING ................................................................................................................... 6  
   i. Content ....................................................................................................................... 6  
   ii. Language ................................................................................................................... 6  
   iii. Report Due Date ...................................................................................................... 6  
   iv. Number of copies for the report .............................................................................. 6  
6. FACILITIES .................................................................................................................... 6  
7. APPLICATION PROCESS ............................................................................................... 7
1. BACKGROUND

i. Relevant Background

The World Customs Organization (WCO) is an independent intergovernmental body, established in 1952 as the Customs Co-operation Council (CCC), whose mission is to enhance the effectiveness and efficiency of Customs services across the globe. The WCO represents 186 Customs administrations that collectively process approximately 98% of world trade. As the global centre of Customs expertise, the WCO is the only international organization with competence in Customs matters.

As a forum for dialogue and exchange of experiences between its Members, the WCO offers a range of Conventions and other international instruments and tools, as well as technical assistance and training services provided either directly by the Secretariat, or with its participation. The Secretariat also actively supports WCO Members in their endeavours to modernize and build capacity.

Customs administrations perform a range of important functions on behalf of their governments including revenue collection, trade facilitation, protection of society, and national security. Customs authorities are key actors in international supply chains and make global supply chains of the future more efficient. "Smart" Customs have to minimize Customs clearance time and costs. In this sense, the use of disruptive technologies is a possible way how to achieve this goal.

The extent to which Customs leverage disruptive technologies to improve Customs processes can, as a result, have an important impact on cross-border trade processes and supply chain operations. The key understanding must be how Customs reacts not only to the use of technology by its stakeholders but also how it utilizes the emergence of new technologies which itself changes the manner of conducting business.

The WCO and its Members identified “Technology and Innovation” as one of the three focus areas of the WCO Strategic Plan 2022-2025 to promote Customs digitalization and modernization.

In 2022, the WCO and the WTO jointly launched the Study Report on Disruptive Technologies. The Study Report on Disruptive Technologies intends to raise awareness and knowledge of the use of disruptive technologies in international trade and particularly in the border management environment, including the benefits and opportunities, and the challenges and gaps identified. It is an important source of information and a basis for policy actions that will ensure Customs' contribution towards modernization. Technologies like blockchain, artificial intelligence, biometrics and others are being subjected to a rapid evolution therefore, there is a need for updated knowledge and information in order to support WCO Members to implement the latest technologies.

As highlighted in the WCO/WTO Study Report on Disruptive Technologies, the holistic use of technologies is extremely critical for the ‘Smart’ Customs of the future. Currently, Customs administrations are embracing technologies in a largely independent way, which is creating gaps in their level of technological development. If the gaps in technological advancement among Customs administrations are not addressed strategically and holistically, then the very vision of the global Customs community: “Borders divide, Customs connects” cannot be attained. Such gaps are also associated with disparities in technical know-how, capacity and availability of resources within the global Customs community.

To bridge these gaps and overcome challenges, Members should be supported to identify and develop pragmatic and inclusive solutions, first through up-to-date and holistic knowledge of
technologies, research and knowledge on appropriation challenges, exchange of experience and capacity building.

The WCO launched, in December 2023, the Smart Customs Project funded by China Customs.

The WCO Smart Customs Project aims to identify Members’ current status of technology adoption and needs, foster the application of technological and innovative solutions in Customs, reduce the digital gaps among Members and help them better understand the technologies available to them to tackle global challenges.

The project focuses on the following domains:

a. Updating the WCO/WTO Study Report on Disruptive Technologies (June 2022). This update could include the evolution of technologies already mentioned in the report, the inclusion of new emerging technologies in the report as well as inclusion of a few new chapters on some specific technologies that will be identified during the project;

b. Developing detailed information about the business processes, policy arrangements, legal requirements, minimum technical specifications (for the implementation / integration), costs, and trends associated with identified specific technologies;

c. Publishing a research paper on the challenges related to innovation and appropriation of technologies by Customs;

d. Launching a community portal to share and push knowledge on technologies and innovative solutions applied to Customs; and,

e. Conducting an analysis/survey of Members’ needs, in order to be able to provide them in the future with appropriate technical assistance and capacity building in this field.

The Project will provide comprehensive information on the utilization of selected disruptive technologies in Customs, including blockchain, data analytics, artificial intelligence and machine learning, the internet of things, drones, biometrics, virtual, augmented and mixed reality, etc.

Key aspects of technology implementation, such as business processes, legal requirements, policy arrangements, technical specifications, costs, and trends, will be addressed and included in the Study Report.

The technologies in focus will be identified through regional consultations with Members and a survey, aimed at assessing Members needs and status of technological adoption.

ii. Contracting Authority

The WCO.

iii. Beneficiaries

All WCO Members.
2. DESCRIPTION OF THE ASSIGNMENT

i. Global Objective
This consultancy responds to the increasing need for technological advancement in Customs operations and is aligned with and contributes to the objectives outlined in the WCO Strategic Plan 2022-2025, particularly within the focus area dedicated to “Technology and Innovation” in the WCO Strategic Plan 2022-2025:
• Develop, maintain, and implement instruments; and
• Build capacity.

ii. Specific Objectives
The specific objective or outcome of the consultancy is to develop a list of diagnostic questions and a detailed report about Artificial intelligence and machine learning, in order to reduce the digital gaps among Members and help them better understand the technologies available to them to tackle global challenges.

The report should include information about the minimum technical specifications (for the implementation/integration), costs, and trends associated with Artificial intelligence and machine learning, as well as the use cases, business processes, policy arrangements, and legal requirements for the technology adoption.

The list of diagnostic questions could be used for self-assessment or for study missions that will be conducted by the WCO.

iii. Requested Services
Under this assignment, the Consultant is requested to undertake the following:

a. Draft a list of diagnostic questions to assess key aspects of Customs’ implementation of Artificial intelligence and machine learning, including use cases, business processes, legal requirements, policy arrangements, technical specifications, costs, and trends.

b. Develop a detailed report about the minimum technical specifications (for the implementation/integration), costs, and trends associated with Artificial intelligence and machine learning, as well as the use cases, business processes, policy arrangements, and legal requirements for the technology adoption.

All deliverables must be in English and in editable format (MS Word).

The material developed under this assignment will fall under the copyright of the WCO.

3. EXPERTS PROFILE

i. Number of Experts
One (1) consultant is required to carry out this assignment in close cooperation with the Project Manager and the WCO lead official responsible for the disruptive technologies portfolio in the Procedures and Facilitation Sub-Directorate.
ii. Profile required

**Minimum Qualifications, Skills and Competencies**

- Masters’ level qualification in Computer Science, Information Technology, Mathematics, Engineering, or a related field, or an equivalent combination of education, skills and experience;
- Strong analytical and synthesis skills;
- Ability to work on a team in a multi-cultural environment;
- Ability to write technical reports;
- Fluency in English; and
- Fluency in French will be an asset.

**General Professional Experience**

- At least 5 years of relevant experience in *Artificial intelligence and machine learning*;
- Strong experience in drafting analytical reports; and
- Academic research or similar reports published in the field will be an asset.

4. LOCATION, DURATION, PAYMENT, AND CONTRACT MODALITIES

i. Commencement date and duration of assignment

The tentative commencement date is **8 July 2024** and the period of execution of the contract will be five (5) calendar months from the date of signature of the contract. The information on the milestones and related timing is summarized in the table below.

Suggested Milestones and Submission Dates

<table>
<thead>
<tr>
<th>Milestones/Deliverables</th>
<th>Submission Date</th>
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<tbody>
<tr>
<td>a. Delivery of the diagnostic questions to assess key aspects of Customs’ implementation of <em>Artificial intelligence and machine learning</em> including use cases, business processes, legal requirements, policy arrangements, technical specifications, costs, and trends.</td>
<td>Within 3 calendar weeks after signature of the contract (by 29 July 2024)</td>
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<tr>
<td>b. Delivery a draft of the detailed report about the use cases, business processes, policy arrangements, legal requirements, minimum technical specifications (for the implementation/integration), costs, and trends associated with <em>Artificial intelligence and machine learning</em></td>
<td>Within 3 months after signature of the contract (by 08 October 2024)</td>
</tr>
<tr>
<td>c. Delivery of the Final Report, with finalized deliverables</td>
<td>Within 5 months after signature of the contract (by 09 December 2024)</td>
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ii. **Location**
The consultant will perform the work remotely from their home place.

iii. **Payment**
The Consultant shall be paid a global, all-inclusive, and non-revisable lump sum which should be invoiced to the WCO as per the payment schedule below. The consultant should submit the total cost of services in Euro when applying for this consultancy, **not exceeding EUR 50,000**. The Consultant will be paid only after the WCO has confirmed the successful completion of each deliverable as stipulated hereunder.

<table>
<thead>
<tr>
<th>Milestones/Deliverables</th>
<th>Submission Date</th>
<th>Payment Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Delivery of the diagnostic questions to assess key aspects of Customs’ implementation of the <em>Artificial intelligence and machine learning</em></td>
<td>Within 3 calendar weeks after signature of the contract (by 29 July 2024)</td>
<td>25%</td>
</tr>
<tr>
<td>b. Delivery of the Draft of the detailed report</td>
<td>Within 3 months after signature of the contract (by 08 October 2024)</td>
<td>25%</td>
</tr>
<tr>
<td>c. Delivery of the Final Report</td>
<td>Within 5 months after signature of the contract (by 09 December 2024)</td>
<td>50%</td>
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iv. **Contract modalities**
The successful applicant will be an independent contractor. They will not acquire the subsequent right to occupy a permanent post within the WCO and will not be affiliated to any WCO retirement fund or pension scheme.

5. **REPORTING**

i. **Content**
A final report should be submitted to the WCO when the materials are completed.

ii. **Language**
The report shall be written in English.

iii. **Report Due Date**
The report is due by **9 December 2024**.

iv. **Number of copies for the report**
One electronic copy in editable format (Word) must be submitted to the WCO team.

6. **FACILITIES**
The contractor shall ensure that they are adequately supported and equipped (laptop, software, etc.).
7. APPLICATION PROCESS

Interested candidates must submit their technical and financial proposal to smartcustoms@wcoomd.org by 11 June 2024 at 18:00 hours (Brussels time) indicating clearly in the email subject line the reference of this consultancy.

The proposal should include:

- A curriculum vitae and a cover letter;
- A financial proposal for the consultancy work;
- One sample of an analytical report developed or co-developed by the applicant.

Proposals will be evaluated based on technical and financial feasibility.

The submission to the WCO, by any supplier, of a quotation for the provision of goods and/or service entails the supplier’s acceptance, without reservation, of the WCO’s standard terms and conditions and of WCO Decision No. 331 on settlement of disputes which are fully accessible for consultation on the WCO website https://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/wco-standard-terms-and-conditions/standard-terms-for-the-provisions-of-goods-and-services.pdf?db=web and shall supersede any contrary clause in any other contractual document provided (or not) to the WCO, including the supplier’s own terms and conditions.

The evaluation of applicants will be conducted on the basis of the information submitted in the application according to criteria of the position and the WCO applicable rules.