INTERNATIONAL COFFEE ORGANIZATION

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Terms of Reference (ToRs) for the procurement of services to upgrade and migrate the ICO statistical database to a cloud-based database

The Executive Director presents his compliments and, for the information of Members, attaches the Terms of Reference (ToRs) for the procurement of services to upgrade and migrate the ICO statistical database to a cloud-based database.

Terms of reference (ToRs) for the procurement of services

**To upgrade and migrate ICO statistical database to a
cloud-based database**

1.   Background

The International Coffee Organization (ICO) is the main intergovernmental organization for coffee, bringing together exporting and importing Governments to tackle the challenges facing the world coffee sector through international cooperation. Its 50 Members (including the 28 members of the European Union) represent 98% of world coffee production and 70% of world consumption. One of the main strategic goals of the Organization is to deliver world-class data, analysis and information on the global coffee sector to inform both policy makers and the industry.

2.   Objective

As part of its strategic goal to deliver world-class data and analysis, the Secretariat of the ICO is currently looking to procure services to upgrade its existing statistical database to a low-cost and more efficient structured query language (SQL) database that is hosted in the cloud, such as on Amazon Web Services (AWS) or Microsoft Azure.

The current data management system is a custom-built legacy SQL database consisting of 97 tables (excluding system tables), around 460 columns, 170 foreign keys and over 1,000 stored procedures. Users of the database interact through a custom-made application.

The ICO 2018/19 Programme of Activities includes the initiation of the process of modernization of the existing ICO legacy database to better suit the current needs of the Organization, which includes providing information to both internal and external users. The database is used to process and store statistical data on the global coffee sector and to provide information to users for further analysis.

3.   Scope of Work

The consultant/consultancy will be contracted to:

(i)   **Analyse the current database**, including discussions with the users of the database and examining its outputs to determine whether the current data model needs to be updated. This could include adding new fields to existing tables or potentially creating new tables. The data model should allow for future expansion of adding attributes or relations to the

existing database. The analysis should also include finding the most effective way to upgrade, both technically and functionally, including identifying hardware, software, and other technical requirements, such as licensing, which are not implemented in the current system. The new system must be fully compatible with current Windows applications.

(ii) **Prepare a proposal/feasibility study for software and hardware upgrading the database, user interface and reporting, including a detailed implementation plan and costing to be submitted to ICO management for formal approval.**

(iii) **Prepare the data and migrate to the new Relational Database Management System (RDBMS)**. The ICO carried out an initial data quality assessment of its database in the spring of 2018 and part of the preparation would be to implement some of the suggestions made, such as simplifying reference tables and deleting unused tables or fields. Different users will need to have access to specific data based on their credentials.

(iv) **Update or redesign the current proprietary user interface to work with the new system**. Three users of the ICO statistical team are currently authorized to insert, update and delete data in the database. Additional external and internal users would have access to reports only. One user will be authorized as the database manager who must be able to enable or disable user rights for the accounts as required. The revision would also take into account any changes in the underlying schema and fields generated in the initial phase. The new user interface should have flexibility in creating reports and the redefinition of reports parameters is a critical component to the success of the database design. This includes exporting data into MS Office products as well as other formats ("R" statistical program, comma separated file (.csv)) for data analysis and reporting as well as making reports available online.

(v) **Validate the finalized database after migration and decommission the old database**. After migration has occurred, testing should be done to ensure that the new system works as designed. Testing should occur both just after migration as well as a set period of time after using the new database system. The completed database should provide for an automated periodic backup system.

4. **Deliverables**

This is a single contract with deliverables for 4 phases detailed below.

Phase 1- Analysis and planning

- A **detailed implementation plan** for remodelling the data and migrating to the new system with clear timeline, milestones, and responsibilities, including partners. This includes a list of the sources of the data to be migrated as well as a map of the old data fields to the new data fields.

- **A list of the** pre-**requisites** (e.g. hardware, software, licenses that the ICO should have in-house to run the upgraded web-based database and estimated costing).

- A **new or revised data model** as well as **an updated data dictionary** based on the changes.

Phase 2- Data Preparation

- An **assessment of the quality of the data** in the current system, using the previous data profile as a guideline.

- **Identification of** any **data anomalies** and a **list of defined rules** to apply during migration to address these anomalies where needed.

- A defined **technical architecture and design for the migration process**, including testing procedures and transitioning them to the production system.

Phase 3- Migration and User Interface Update

- Execution of the planned migration process outside of normal business hours.

- Report(s) on the testing and migration of the data to the new database.

- Updated/new user interface that reflects any changes in the data model.

- Testing of the database through the new interface by the Secretariat's internal users.

Phase 4- Completion of implementation

- A complete walk-through or demonstration of all mutually agreed-to deliverables and database system with the users of the current database to ensure a smooth transition and ongoing supportability.

- An electronic user-friendly manual on how to use the new web-based database, generate all of its reports and any troubleshooting guidelines.

- Retirement of the old system.

5.   Schedule

The deadline to submit proposals is 23 August 2019. A selection process will be concluded in three weeks and work should begin in late September 2019.

6.   Evaluation criteria

For the assignment, the Secretariat is looking for an individual or organization with a background in SQL database design and migration, as well as user interface development.

The successful candidate(s) shall have proven skills in the following areas:

- Updating and migrating MS SQL databases.

- Knowledge of database theory, queries and design concepts.

- Presenting information verbally and in writing to people of various levels of technical knowledge.

- In-depth knowledge of SQL and RDBMS, particularly Microsoft SQL Server.

- Proven experience with deployments to the cloud (e.g. AWS), preferably in Platform as a Service (PaaS) or Database as a Service (DbaaS) modes.

- Strong understanding of routine maintenance, recovery and handling failover of a database.

- Experience working with international organizations or non-profit organisations, or in an international context, is an asset.

7.   Submission requirements

The submission package must include two separate proposals in two sealed envelopes addressed to Mr José Sette, Executive Director, 222 Gray's Inn Road, London WC1X 8HB:

(a)   **Technical proposal** not exceeding 20 pages in length with the proposed approach and activities to be taken for the implementation and management of the consultancy, including an operational work plan with a timeline for each of the four phases including:

(i)   No less than three references and full Curriculum Vitae of each person who will form part of the team responsible for delivering the approved strategy.

(ii)   Proof **of** experience from similar assignments

(iii)   Other **supporting** material deemed to be relevant to the proposal may be attached as an annex.

(b)   **Financial Proposal** with **breakdown** of costs for each Phase, with work days for each team member (if a team approach is utilized) and estimated cost of software/cloud services. Any travel associated with this project, if required, must also be integrated into the submitted budget as line item Travel.

Please provide complete contact details of the persons to whom any further correspondence must be sent, including name, position, email address and phone number.