

ICCAT IOMS PROJECT: CURRENT STATUS AND PLANNED TASKS
(ICCAT Secretariat)

1. Introduction

The ICCAT Integrated Online Management System (IOMS) is a long-term project that aims to manage online (compile, validate, store, publish, etc.) and in a centralised way, all the structured information (for compliance and scientific purposes) reported by ICCAT CPCs to accomplish the data requirements behind the ICCAT regulatory measures, including the Article IX of the Convention.

The IOMS implementation started in June 2019 with Phase 1, a 12 months development period. It is now under Phase 2 development, a 24 months period, planned to be finished in May 2022. The IOMS was planned to be developed by the ICCAT Secretariat (two Senior Software Engineers were hired) primarily to take advantage of the existing expertise in database development which will streamline the migration of the current ICCAT database system (ICCAT-DB) to the new IOMS database models. Since Phase 1, the most up-to-date version of IOMS system was deployed in the ICCAT Cloud infrastructure (<https://ioms.iccat.int>) and has been used as a “working prototype” for testing and demonstration purposes.

By adopting in 2019 the *Recommendation by ICCAT to continue the development of an Integrated Online Reporting System* [Rec.19-12+, which supplements the Rec. 16-19 (*Recommendation by ICCAT for the Development of an Online Reporting System*)], the Commission approved the continuity of the IOMS project, which will be governed by the Online Reporting Technology Working Group (WG-TOR).

2. IOMS current development status

The IOMS Phase 1 is considered completed and is waiting the revision by the WG-TOR for a final approval by the Commission. Phase 1 covered the creation and development of the IOMS database, the IOMS core application and the IOMS annual report Part II/Section 3. In addition, the IOMS development team has already started the first stages of Phase 2 which will involve four main web applications/modules: a) ICCAT Vessel manager; b) Port manager; c) Bluefin tuna weekly and monthly reports manager; d) Statistical document programs (SDP) manager (BET, SWO).

The IOMS core application consists of common components such as, the Security manager (user authentication, user profiles/roles, etc.), the Requirements manager, the Message handler, the Notification manager, the Auditing tool and the master database tables administration. The components that take part of the IOMS Annual report module are the data storage model, the version control manager, and the import/export tools to handle standard Part II/Section 3 templates.

The Secretariat aims to use the 2019 and 2020 Annual Report Part II/Section 3 submissions as input to extensively test the IOMS system. This task will require a complex and time-consuming work on data transformation, collation, and finally, data integration and it is expected to last two months. This is a very important step to further improve and optimize the IOMS system. This effort will also contribute to the ICCAT CPCs learning phase, by using their own 2019 and 2020 data to interact with the IOMS on actions like editing, updating, filtering and download/upload Annual Report.

3. Working environment and versioning

Two working environments have been deployed for the IOMS implementation: the development environment, and the production environment. The first one has a local server in the ICCAT intranet and is mainly used for development and testing new functionalities. The second one has two servers in the ICCAT Cloud infrastructure (@rackspace data centre) one for the database and webservices and the other one for the frontend. This production environment is where final users connect and as noted before is currently working and ready for testing.

All the IOMS source code is managed with GitLab (<https://gitlab.com>) as a private repository that could be opened to some users in the future if required. It uses a rolling release development with continuous integration/continuous deployment model and takes advantage of git functionality. Periodically, when some versions achieve a reasonable level of improved functionality, a new version will be released in the production environment.

The IOMS versions released for production will be tagged with a sequential version number. The versioning nomenclature adopted has three hierarchical levels (format "9.9.9") sequentially numbered (0.1.0, ..., 0.6.0, 0.7.0, 0.8.0, ..., 1.0.0, 1.0.1, ..., 1.1.0, ...). The first hierarchy is reserved for major versions. The second hierarchy will contain new functionality. The third hierarchy is reserved for bug corrections and minor improvements only. The adopted versioning system aims to capture the progressive evolution of IOMS in time, and at the same time to be used as a reference for any user feedback. The current IOMS version released in the production environment is "IOMS 0.8.38".

4. Future actions

The Secretariat has already started the IOMS Phase 2 with the design of the Vessel manager (11 authorisation lists, chartering arrangements, transshipment authorisations, data exchange with other systems). These first design stages, includes the migration and modification of the ICCAT vessels database, the definition of the webservices and the design of the user interface for the frontend that will manage this module.

Planned for all the IOMS development phases, is the availability to the registered users of testing facilities. In each Phase, the system will have a probation time period in which the user's testing and the resulting feedback will allow the development team to solve (fix, redesign, etc.) some issues that remain uncovered. The testing period will require the engagement of the ICCAT CPC officers to test and evaluate the IOMS functionality and efficiency. Any IOMS modification will be reviewed by the WG-TOR and presented to the Commission for final approval.

Table 1. Preliminary schedule of IOMS Phase 1 and Phase 2.

<i>IOMS version</i>	<i>Phase</i>	<i>Date</i>	<i>Meeting ref.</i>	<i>Remarks</i>
0.8 (alfa)	2	Up to Nov/2020	(Ongoing Secretariat work)	First stages for Phase 2 development. Module 1 - ICCAT Vessel Manager. This module will manage all current ICCAT vessels registered and their authorizations, chartering arrangements, transshipment authorizations, and synchronization with external services such the e-BCD system and the CLAV vessel list.
0.9 (beta)	1	Dec/2020 - Feb/2021	(intersessional work)	The WG-TOR members will be invited to test and provide feedback on the use of the IOMS Phase 1. The 2019 Annual Report, Part II, Section 3 will be preloaded to facilitate the user interaction.
0.9 (beta)	1, 2	Mar/2021	WG-TOR meeting	Detailed revision of IOMS Phase 1, including the decisions based on the feedback received. Comments, corrections, and enhancements to IOMS Phase 2 schedule*.
1.0 (release)	1	Jun/2021	(intersessional work)	Stable version ("production ready" version to work with 2021 submissions of Part II/Section 3 data). The IOMS system will start with a "cleaned" database, but preloaded with initial data on at least, the authorised CPC users, and the 2019 and 2020 Part II/Section last submission.
1.0 (release)	1,2	Commission 2021	Commission 2021	The WG-TOR will present to the Commission the 2021 IOMS status report.

* Document STF-216 (https://www.iccat.int/com2019/ENG/STF_216_ENG.pdf) contains the table with Phase 2 work plan (projects, tasks).