ICCAT INTEGRATED ONLINE MANAGEMENT SYSTEM (IOMS): PHASE 1 (IOMS MAIN MODULE PLUS MODULE 1 – ANNUAL REPORT PART II, SECTION 3)

ICCAT Secretariat

1. Introduction

During the Online Reporting Technology Working Group (WG) intersessional meeting held in Madrid on 26-27 March 2018 (see report) the WG requested that the Secretariat develop a completed model (specifications of the main web-app platform, the core database and its content) of the Integrated Online Management System (IOMS[1]) and design the specifications of the Annual Report part II, section III as a module within the IOMS. The WG also tasked the Secretariat with developing a budget associated with the IOMS and first module. This document outlines a model for the ICCAT IOMS with a phased approach for implementation as well as a corresponding budget.

During the intersessional meeting, the WG discussed the two main ICCAT projects related to "online reporting". The FORS (Fisheries Online Reporting System) financed by ABNJ, and, the project "ICCAT forms" (SCRS statistical online reporting system) which is being developed by the Secretariat (For more details see COC-306). The WG agreed that the Secretariat should merge both projects, and that this be the foundation (architecture and design approach) for the construction of the IOMS, one overarching online system that would house all reporting requirements over time.

2. ICCAT IOMS Specifications

The WG agreed that, the IOMS be developed as a modular architecture and have a main web application manager (the IOMS web application platform). Different dependent web application modules (each one made of several specialised components) will fall within and be managed by the IOMS application platform, which will centralise the administration of core services such as security settings, management of data reporting requirements, message-based communication, and system auditing. One of these modules will incorporate all reporting currently required under the Annual Report part II, section 3. A dashboard will allow for all the information to be managed, such as providing status updates on reporting requirements, compliance of these requirements, automated reminders, activity statistics, pending actions, and other pertinent queries. The technical specifications that will be included in developing the IOMS are described under Item 6 of the intersessional meeting report.

The IOMS will be a multi-lingual (the three ICCAT official languages) system that will allow registered CPC users to check and fulfil their data reporting requirements in an efficient, streamlined, and interactive way. Each module developed will manage one or more reporting requirements. For example, the six web application modules currently under development by the ICCAT Secretariat to report Task I and Task II requirements (forms ST01 to ST06) let the user validate, store, analyse, and edit if required, the information previously uploaded in the respective form.

2.1 ICCAT IOMS Modules and Specifications for "Phase 1"

A multi-phase approach is proposed for developing ICCAT's IOMS: the first phase in development will include the following components and specifications described below. **Diagram 1** provides a schematic of the relationships developed within phase 1 and **Annex 1** technical specifications.

1) *ICCAT IOMS main web application platform. This is composed of:*

   a) Security Manager

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[1] Acronym adopted by the Online Reporting and Technology WG, at March 2018 intersessional meeting.

This component is responsible for managing the IOMS security. It will verify the user permissions under each web application and define what actions the user can perform. Initially there will be two main user types: administrators and non-administrators. The administrator will be able to register and give permissions to users, granting them specific privileges within the IOMS system.

b) Reporting Requirements Manager.

The reporting requirements manager component will be responsible for managing and updating ICCAT reporting requirements within the system linked to the recommendations and or resolutions and their different reporting requirements. These Reporting Requirements will be added or deactivated on a recurring basis. Communications sent to CPCs to accomplish each reporting requirement, will be explicit (one at a time) or generic (through circulars). The information handled by this component will be managed by the ICCAT Secretariat. CPC users will have a dashboard to view reporting requirement status summaries, activity usage, pending actions, submission status, and notes.

c) Message Manager.

This component is responsible for registering and managing messages between CPCs and the Secretariat. This will allow for direct communication and questions via email protocols. A dashboard will allow users to submit and review messages.

d) Notifications Manager.

This component will manage the notifications of the IOMS system. Notifications will be created by the system or by ICCAT administrators. This component will provide users with notifications such as deadline reminders, pending issues, and other generic information associated with the web-application operation status.

e) Auditing Manager.

Every event within IOMS related to core features will be recorded in a specific structure that ICCAT administrators can review. This component stores information, such as user login events (sign in/out), dataset submissions, and any event that requires auditing following current rules and specifications of ICCAT communications.

f) ICCAT IOMS database.

A database will be created (core IOMS database) to manage all the information required and produced by the IOMS main application platform.

2) Module - Annual Report Part II Section III

This module will manage Annual Report requirements in Part II Section III. The template that will be used to develop this module is described in the "Revised Guidelines for the preparation of Annual Reports" (Ref. 12-13). This module will allow non-administrators to incorporate annual updates to ICCAT reporting requirements. Registered users with the appropriate permissions will complete an online version of the Table in Part II Section III or download a template to fill-out "offline" that can be later uploaded into the system. A version control manager will be developed as part of this module. This module will show all requirements under the annual report, initially created from the Reporting Requirements Manager component (section 2.1, item 1b) of the IOMS main module.
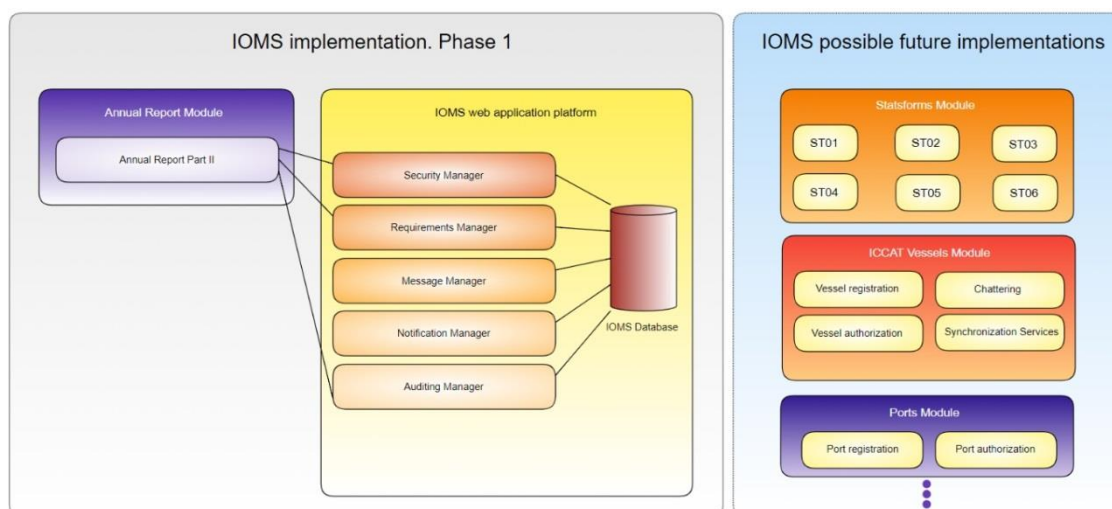
Figure 1. Diagram showing the relationships among the IOMS modules implemented in Phase 1. The box on the right (light blue) shows some examples of web application modules that could be implemented during the IOMS development process (Phase 2, 3, etc.).

2.1 Proposed Budget – ONLY FOR Phase 1

The WG requested the Secretariat to develop a thorough budget for the IOMS and Module - *Annual Report Part II Section III*. The WG agreed that the IOMS development will be supervised by the ICCAT Secretariat. This proposal presents the budget estimated for Phase 1 only that will be implemented by a technical group, which will include the following personnel and resources:

- 1 Senior Web Developer. This requires a fixed term contract based at the Secretariat.
- 1 Senior "back-end" developer. This requires a fixed term contract based at the Secretariat.
- Hardware and software for Web applications development and cloud hosting services and applications.

The estimated overall budget for Phase 1 of the IOMS implementation is presented in the **Table 1**.

Table 1. Overall costs and timeline for implementing IOMS Phase 1 (EUR).

Item	Module	Components	Development time (weeks)	Estimated cost (€)
1	IOMS web-app platform	IOMS database	4	8,280
2	IOMS web-app platform	Security manager	5	20,700
3	IOMS web-app platform	Requirements manager	5	20,700
4	IOMS web-app platform	Message manager	4	16,560
5	IOMS web-app platform	Notification manager	4	16,560
6	IOMS web-app platform	Auditing manager	4	16,560
7	GEN_001 Part II web-app	Annual Report Part II Section III module	8	33,120
8		Testing and Integration	4	16,560
9		Infrastructure		13,000
10		Training and support		35,000
		TOTAL	**38**	**197,040**

3. Proposed Long Term Implementation - Phase 2

Based on the proposed multi-phase approach for developing the ICCAT IOMS, the following outlines Phase 2, with a two year implementation goal for 2020-2021. The Secretariat has identified a number of reporting requirements as the next possible *modules* for development within the IOMS, pending WG deliberations in 2019. These include, but are not limited to:

- ICCAT Vessel Manager: To manage all current and adopted ICCAT vessel registry and authorisations. It will include registering chartering arrangements, transhipment authorizations, and the synchronization services to provide vessel related information to external consumers such the e-BCD system and the CLAV vessel list.

- Port Manager: For registering and authorising CPC ports for various fishing activities such landings, transfers and transhipments.

- Bluefin tuna (BFT) weekly and monthly reports Manager: To handle BFT weekly and monthly reports requirements.

- SDP programs (SWO, BET): to manage the bi-annual statistical document program submissions.

Phase 2 will include a yearly work plan and the corresponding budget.