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COORDINATING WORKING PARTY ON FISHERY STATISTICS

Intersessional Fishery Subject Group Meeting

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Report of CWP Participating Organizations

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Subject: Global standard for operational fisheries data exchange

The Directorate General for Maritime Affairs and Fisheries of the European Commission embarked in 2010 on the Integrated Fisheries Data Management Programme (IFDM). One core objective of this programme is to build a highly performing, cost effective and agile global data exchange system for fisheries control and management.

Technically, the approach combines several measures:

Standardisation: Parties involved in fisheries control and management are exchanging massive amounts of data on vessel positions, electronic logbooks, sales notes, vessel and licence data, scientific data etc. This has historically grown, leading to a patchwork of different terminologies, codes, and data elements exchanged using different formats such as NAF, CSV, and XML.

IFDM seeks to standardise within the UN/CEFACT group of the United Nations, all data exchange messages related to fisheries operations. The final outputs of UN/CEFACT standardisation are XML Schema Definitions (XSD) compatible with modern standards for data exchange over the internet.

Moving towards one terminology and one format brings huge benefits. The potential is that one unique, complete and independent library is created covering all data elements used for fisheries management. This drastically simplifies the composition of new messages for new data exchange needs, and ensures that data is well understood, without any need for translation, by all actors involved.

To keep it manageable, the development of standards has been split into logical domains. For some domains, such as VMS (vessel monitoring system) and aggregated catch reporting the standard has already been published by UN/CEFACT.

A special case is the FLEET standard, developed by a joint EU-FAO working group ensuring that the standard will be compatible with both the requirements of the Global Record of Fishing Vessels, refrigerated Transport Vessels and Supply Vessels (Global Record) and the EU Fleet Register.

Standards are in the making for electronic logbooks and licence requests. Working groups are studying other topics such as data exchanges for bluefin and tropical tuna.

When developing standards, there is not only attention for the data elements, but also for identifying correct code lists, and for defining the business rules to which data and data exchanges have to correspond.

System development: To facilitate the introduction of the data exchange standards, a start was made with an open source software suite. The first development focused on creating configurable and secure software for exchanging any data. This software, called transportation layer (TL) can be installed by each party, thus creating a secure and configurable network between parties' IT systems.

Of course, being able to send and receive data is only one aspect. There is also a huge need for storing, analysing and visualising incoming data. New modules are being added

to the TL for e.g. viewing and analysing VMS messages and electronic logbooks, handling licence requests or managing vessel data.

The long term ambition is to let this grow towards becoming an open source community that supports fisheries management by supplying a coherent set of interoperable IT solutions.

Central services: A network with one language for data exchange, allows for the creation of central services, or IT systems, and avoid that each party has to build such IT system for its own purposes.

Typical examples are a master data register as single source of all code lists, and the context in which these need to be used, and a Fleet Register giving access to vessel data to the whole network.

Considering that the Transportation layer software is fully configurable, parties such as RFMOs, could bring central services on-line configured for their own needs without creating confusion with similar services of other parties.

For instance:

- The Global Record, managed by FAO and updated by the individual countries, could become the central source for disseminating vessel data publicly for any stakeholder. This would not prevent an RFMO from receiving vessel data from its contracting parties.

- A global organisation such as FAO could have a central role for the provision of master data services to facilitate harmonisation among code lists.

Business community: The combination of standards, software and central services could provide a flexible (and complete) solution for fisheries data exchange, and data use. However, this can only be the case if all the above is used in practice.

The standardisation process would benefit from the active involvement of other countries or parties such as RFMO. **FAO, RFMO, individual countries and expert groups are invited to participate in the standardisation work.**

For efficient and effective data exchange, as cornerstone for fisheries control and management, this community should also define an optimal business architecture excluding double reporting, assess individual data needs, provide input for software development, and decide on a roadmap for implementation. All parties are invited to participate in this effort.

Annex: Logical domain breakdown

In UN/CEFACT Terminology, this standardisation effort is known as project P-1000. It contains several sub-domains which interact to each other by using elements defined in other sub-domains. The coherence between those domains is ensured by the "harmonisation phase", which is an essential step of the standardisation process.

The following sub-domains have already been identified:

- Vessel: The vessel domain contains all information related to the identification and the description of the vessel itself.
- Licences: Includes national as well as international licences and authorisations
- Inspection: the inspection domain contains all data related to inspections.
- Vessel Position: Contains all data exchanges related to the position of the vessel.
- Fishing trip: Contains all data related to a fishing trip.
- Landing: The landing domain includes all data concerning landings of fish. A transshipment is considered as a special "landing" involving a second vessel and is also included in this domain.
- Sales: The sales domain includes all data concerning first sales of fish.
- Transport: The transport domain includes all data concerning transportation of fish between landing and first sale
- Aggregated Catch Data Report: This domain describes the catch data, which was originally gathered from vessels by Flag States, which is aggregated and exchanged with International parties.

The general approach for each one of these domains is very similar (and as far as possible identical). The biggest difference between domains is the actual business content.

The various domains will be detailed in separate documents such as:

P1000 – 1; General principles (this document)
P1000 – 2; Vessel domain
P1000 – 3; Fishing trip domain
P1000 – 4; Landing domain
P1000 – 5; Sales note domain
P1000 – 6; Transport domain
P1000 – 7; Vessel Position domain
P1000 – 8; Inspection domain
P1000 – 9; Licence domain
P1000 – 10; Master data register domain
P1000 – 11; System domain
P1000 – 12; Aggregated Catch Data Report domain

Note: This list is not exhaustive.

Annex: State of play UN/CEFACT standards

General Principles (GP) *	Basics entities & behaviour of all FLUX standards	JUN-2014 (v1)
Vessel Position *	VMS messages.	JUN-2014 (v1)
ACDR *	Aggregated Catch Data Report domain.	JUN-2014 (v1)
Vessel **	Information for fleet register.	DEC-2014 (v1)
MDM *	Master Data Management For retrieving Codes Lists from a Master Data Register	DEC-2014 (v1)
Sales **	Sales note; Take-over note & Transport document.	JUN-2015 (v1)
FLAP **	Fishing Licenses; Authorisations & Permits	JUN-2015 (v1)
Fishing Activity **	Fishing Vessel Logbook	DEC-2015 (v1) ?
Inspection Report	Electronic inspection reports	DEC-2015 (v1) ?

* Operational in the EU.

** Expected to be operational in 2015 – 2016 time span