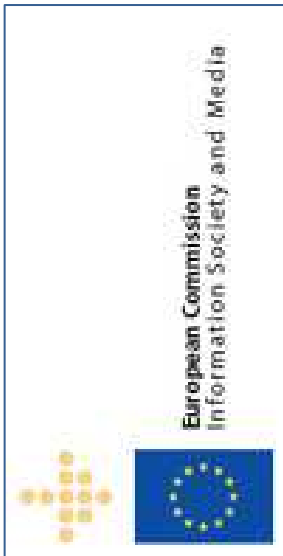|	
Project Acronym	***iMarine***
Project Title	***Data e-Infrastructure Initiative for Fisheries Management and Conservation of Marine Living Resources***
Project Number	***283644***
Deliverable Title	**iMarine Data Infrastructure Resource Model**
Deliverable No.	**D8.4**
Delivery Date	**June 2012**
Author	**Fabio Simeoni (FAO), Manuele Simi (CNR)**

Abstract: The document defines the Second Generation of the model that governs the descriptions of resources available to and managed by the Infrastructure. In particular, the document illustrates the design rationale of the model, the primitives that it defines, the XML binding of those primitives, and the requirements that it raises against implementations.

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DISCLAIMER

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The goal of iMarine, *Data e-Infrastructure Initiative for Fisheries Management and Conservation of Marine Living Resources*, is to establish and operate a data infrastructure supporting the principles of the Ecosystem Approach to Fisheries Management and Conservation of Marine Living Resources and to facilitate the emergence of a unified Ecosystem Approach Community of Practice (EA-CoP).

This document contains information on iMarine core activities, findings and outcomes and it may also contain contributions from distinguished experts who contribute as iMarine Board members. Any reference to content in this document should clearly indicate the authors, source, organisation and publication date.

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DELIVERABLE SUMMARY

The definition of a model that governs the description of resources available and managed within the Data e-Infrastructure is the main concern and output of Task 8.4 – "iMarine Data Infrastructure Resource Model". Deliverable D8.4 iMarine Data Infrastructure Resource Model reports the definition of such model as the 2nd Generation of the Resource Model of the gCube software system, which provides the core resource management functionality within the e-Infrastructure. In particular, the deliverable illustrates the design rationale of the model, the primitives that it defines, the XML binding of those primitives, and the requirements that it raises against implementations.

Such deliverable is hosted in the gCube wiki server and consists of several pages grouped under gCube Integration and Interoperability Facilities Development:

https://gcube.wiki.gcube-system.org/gcube/index.php/Resource_Model_(2nd_generation)

This document is intented for reporting purposes only. The actual deliverable is realised via the wiki pages that are organised as follows:

- *The 'Introduction' Section discusses the role of the resource model within the gCube system, hence the Data e-Infrastructure;*

- *The "First Generation" Section summarises the design principles that govern the 1st Generation of the gCube Resource Model, and its shortcomings in accommodating the evolution of the system which is required by its use in the iMarine Data e-Infrastructure;*

- *The "Second Generation" Section overviews the design principle that govern the 2nd Generation of the gCube Resource Model, and how these address the shortcomings reported in the previous Section. The Section then introduces the new modelling primitives defined by the new resource model, and how they are intended to be used within the system.*

- *The "Resource Properties" gives a formal definition of the primitives overviewed in the previous Section.*

- *The "XML Binding" gives a formal definition of the XML binding of resource descriptions governed by the resource model, by means of a XML Schema. The use of the schema for validation purposes within the workflows of the system is also discussed.*

- *The "Implementation Requirements" Section discusses the relationship between the definition of the model and its implementations in programming languages, the design of local and remote APIs for discovery and publication of resource descriptions, and the architecture of system components that produce resource description. In particular, the Section specifies general and non-normative requirements on those implementations, design, and architectures.*