Deliverable D10.1
General requirement specifications and management guidelines
1st April 2010, rev. 1.0

Grant Agreement n° 228344

Acronym : EUROFLEETS

Title : Towards an alliance of European research fleets

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	Name	Organisation	Date	Visa
Coordinator	Marc Nokin	Ifremer	01/04/2010	
Activity Coordinator				
WP Leaders		CNR GéoEcomar CSIC OGS MARIS RBINS-MUMM IOPAS MPIMM		

History

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1.0	01/04/2010	First release	

Diffusion list

WP10 Partners				
JRA coordinator				
Eurofleets Coordinator				

Contents

1. Introduction

This document is the technical contribution of Delivrable D 10.1 "General requirement specifications and management guidelines" of WP10 " Up to date software to facilitate TNA".

The other part of D10.1 is the organisation process detailed in the WP10 Work Management Plan and given in a separated document.

Except of 10.1, object of this document, the WP10 is organised in six different tasks explained hereafter.

SEADATANET : SCIENTIFIC DATA COLLECTION ON LAND

Reporting (OGS)	Standardization (CSIC)	Acquisition Import/Export (CNR)
Calibration (CNR)	Processing tool (IFREMER)	Genome data base (MPIMM)

EUROFLEETS WP10 : SCIENTIFIC DATA COLLECTED AT SEA
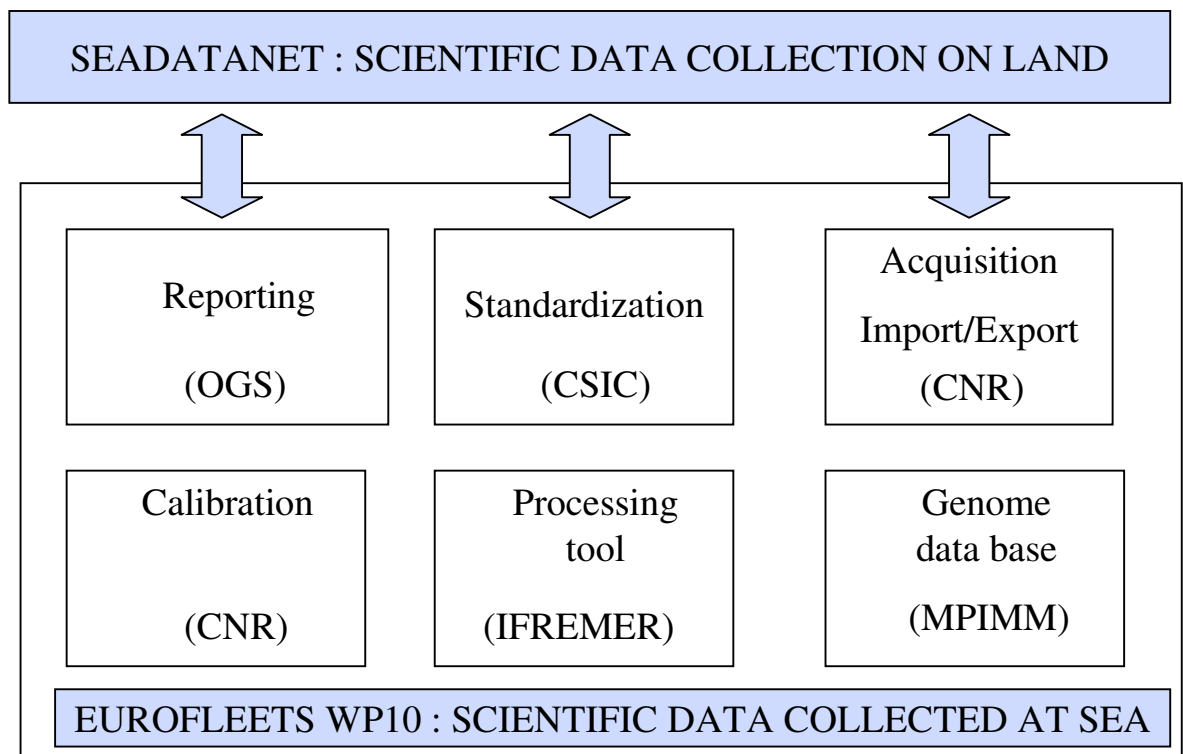
2.   WP 10.2 : Development of the software/calibration tools (CNR)

2.1. Objective of task

The aim is to offer and provide to the scientific community basic tools to calibrate sensors used in multi-parametric probes. It is essential not only for data logging but also for the delivery of raw data to the scientific community.

2.2. Task description

Suitable and regular sensor calibration together with maintenance of calibration history of each sensor are essential requirements to assure a high data quality. For this reason a crucial point is to identify the status of sensor calibration and procedures applied by each group to be more confident on quality of acquired data and to define actions to assure the same high standard in every vessel. Furthermore, the increasing tendency toward the use of instrumentation installed on moving autonomous/towed vehicles makes the dynamic effects of primary relevance.

The planned work will be developed moving from one side to examine the present situation for what concerns protocols of common use and from the other side verify if there is the possibility to better consider dynamic effects to improve the data quality.

2.3. Task overview

The following sub-tasks can be considered:

- ♦ Sub-task 10.2.1: inventory of the present situation concerning sensors and platform of common use
- ♦ Sub-task 10.2.2: definition of procedures/tools for each parameter/ probe/ vehicle able to assure the same data quality control inside Eurofleets community
- ♦ Sub-task 10.2.3: feasibility study for a sensor dynamic calibration
- ♦ Sub-task 10.2.4: links and exchanges with other tasks

Contacts will be established with the other tasks especially during the first phase when the sensor and probe inventory will be implemented. Common tools will be provided harmonizing inputs coming from all participants to the project. Successively, specific format will be identified, flexible enough to accommodate all existing applications and potential expansion in near future.

- ♦ T10.3 Calibration tools will be provided for the available sensors (multiparametric probes)
- ♦ T10.4 Information on sensor calibration will be provided to be described in each survey reporting tool
- ♦ T10.5 Sensor calibration protocols will be part of standard products concerning data and metadata
- ♦ T10.7 The use of the same standards and protocols will permit an easy availability of calibration tools.

3. WP 10.3 : Development of the software/processing (IFREMER)

3.1. Introduction

For the last ten years, the European vessels has been equipped by huge and complex equipments such as Autonomous Underwater Vehicle (AUV), Remote Operated Vehicle (ROV), Multibeam-echo sounders, …Each institute has developed or/and used several systems of post-processing regarding sensors (navigation, bathymetry, velocity, video, mosaics, …). In parallel, several European data management networks have been elaborated by the scientific community and data centres such as SeaDataNet. At the moment, obviously there is a lack in homogeneity and interoperability among all available data formats being used by scientists hosted by scientific cruises. In the same way, these data cannot be directly ingested or directly used within GIS systems nor can they be seamlessly integrated within current major EU projects as Hermes or ECORD.

3.2. EUROFLEETS opportunity

Regarding the panels of existing tools (CARAIBES, ADELIE, …), there is a new opportunity for EUROFLEETS partners to tackle the trouble of heterogeneity, export/import interfaces and data formats. The aim is to develop a new toolset with design "data oriented". By this way, it would be rather easy to provide to end-users the tools/functions with a common vision. For instance, the process of navigation from the vessels and/or vehicles shall be identical. This toolset has to provide several essential functionalities:

- ◆ A common interface for data selection and processing associated. By this way, several key points have to be decided by the partners such as the Operating System (Windows, Linux, MacOS, …), the GUI (Graphical User Interface, one single application/process or multi-applications/multi-processes), the communication protocol (standalone, client-server, …).

- ◆ The data management is another key point. We have to decide between several data-management options (integrated SQL database, personal database, NetCDF files, raw data files, …). These choices are linked also by the current data formats used (NetCDF and XML by SeaDataNet, NetCDF by CARAIBES, …).

- ◆ A GIS interface to provide main functions for data displaying. The interface is necessary and will be use by the cartographic algorithms most of time in case of 2D/3D viewers. This interface will be based on existing API (Application Programming Interface) coming from OpenSource community or commercial providers. In all cases, this API is strongly connected to the Operating System.

3.3. Task overview

Regarding the current context and according to several technical aspects, this is the list of sub-tasks:

Sub-task 10.3.1: Inventory of the present situation concerning software and platforms associated.
Sub-task 10.3.2: Definition of tools needed for the development of the toolset : Selection of the Operating system(s), definition of the data management tools, selection of the GIS Interface.
Sub-task 10.3.3: Prototyping aiming to validate the choices done in the previous task.
Sub-task 10.2.4: Extension of the prototype by insertion of one or more sensors with post-processing modules associated.

4. WP10.4 : Development of the software/reporting tools (OGS)

4.1. Introduction

Processing and interpretation of marine geophysics data are often conditioned by unanticipated events or anomalies. It is useless to recall here how important is it, during the phases of processing and interpretation, to have the possibility to understand how much anomalies could have biased the data. It is also in the experience of every processor or interpreter to be faced with incomprehensible descriptions of unanticipated events, or even that they were not recorded at all. In the perspective of an integrated European fleet where researchers and technicians should find familiar tools and procedures, it is important to develop on one side a common software that could record store and export these events to data centers and international data dissemination initiatives and on the other side to analyze, create categories and assign codes to these events in the view of a standardized and multi-lingual approach.

4.2. Coding events

Although many anomalies can be absolutely new, most of them are quite common and repeatedly found during any survey. These can be coded in order that a standardized description of them can be available for recording. This approach, moreover, offers the possibility to introduce a multilingual perspective where to the same code different descriptions in different languages can be linked. To systematically create this coding of events, it will be necessary to acquire and gather a critical mass of survey reports from many partners and cross correlate them in order to find categories of events and prepare the needed record fields.

4.3. Tagging

Events should be tagged in order to be linked with the acquisition process that they bias. These tags then should record information as: research Project, Survey, Device used and an identifier for that specific recording taken. At the same time it is very important to tag also the time and geographic position of the event. The tag member fields should be instanced upon the their granularity, then the tag field which records for example the Project identification should be defined once for all during the recordings and then used for all events, so that each of them automatically "inherit" the project value.

4.4. Output

Once in the database, events can be queried in multiple ways depending on the aim of reporting. In this, for the use of processing or interpretation, extensive reporting can be produced to monitor the survey, tools can be prepared for "off-line" querying for example on a geographic position or time or device. Simple queries can be set up in order to retrieve basic informations that could be sent to international initiatives as CSR/ROSCOP or similar, to provide a low level inventory for tracking oceanographic data collected on Research Vessels It will be very important to produce standardized reports, that will follow the outcomes of WP10.5 and that will be seamlessly ingested by initiatives as the SeaDataNet/GeoSeas.

4.5. Perspectives

CASINO+ software developed by Ifremer should be a good basis for development of 10.4. This will be studied and improvements will be proposed to achieve the needs of WP10 task 10.4 partners.

5.   WP10.5 : Development of the software/Standardisation (CSIC)

5.1. General functions of the sub-development that will be produced: inputs and outputs

According to WP10.5 definition : "It is very important to go further and provide essential tools to improve the management and the standardization of data for the cruises. It is needed by most of final users: data centres, scientific community, huge European project such HERMES and PANGAEA. Following the INSPIRE European directive, data and metadata produced with public funding must be, in a near future, available, under certain conditions, across a network of data centres connected to Internet. For these reasons it is important to consider research ships as the first step of a large chain of distributed marine data centres. There is a need to improve the management and standardisation of metadata, in agreement with SeaDataNet, ISO and other international initiatives like the Open Spatial Consortium; this could facilitate the integration of acquired data sets in a network of distributed Geospatial Information Data servers".

In order to follow up with the WP10.5 definition and with the general objective of Up to Date Software to Facilitate Trans National Access, this document outlines the functional specifications in form of standardisation objectives to be covered as sub-functions of the WP10.5.

The standardisation tasks should be extended to all steps of the data acquisition and data dissemination procedures, where is necessary to answer the following questions :

How we will achieve the interoperability between instruments and systems?. It is necessary to standardize formats, protocols and procedures to allow data interchange between acquisition systems. At least we must provide a common way to provide reference data (time, position, depth, ship attitude, underwater positioning, etc) to instrumentation susceptible to be moved from one ship to another.

How users will access to live acquired data or to historical data sets?. It is mandatory to provide common and standardized user interfaces, metadata formats, data catalogues, data access protocols and data formats. Final users should access to acquired data in same way independently on which platform/ship work.

General sub-functions of the WP10.5 should attend to the establishment of standards not only on data common formats and structures but also on communication protocols, nomenclatures, data dictionaries and communication protocols as a part of the strategy for interoperability and data sharing.

WP10.5 *inputs* should be "use cases" of the data acquisition and dissemination process while WP10.5 outputs must be standards to be applicable on them.

The roadmap to completion WP10.5 tasks should consider sub-functions over the next three scenarios :

- ♦ Real Time/Live Data Processes,
- ♦ Metadata Management,
- ♦ Datasets Services.

5.2. Interfaces with the other sub-developments

It seems clear that this sub-developments interact with other sub WP10, specially WP10.2, 10.3, WP10.4, WP10.6&7 in order to be consistent in the process of building a software infrastructure to facilitate trans-national access to infrastructures.

6. WP 10.6 : Acquisition, integration and visualization of oceanographic and molecular data (MPI)

The definition of this work package is :

"An innovative multi-resolution database for the acquisition, management and combined analysis of large scale genomic and contextual oceanographic data needs to be developed. The aim is to integrate European on site and remote sensing oceanographic data layers with molecular information on diversity and function of micro-organisms. On top of the multi-resolution database, new web based graphical tools for effective data-exploitation will be developed. These tools will allow the end user to explore and analyse the distribution and genomic markup of marine microbial communities with respect to their genetic potential.

To ensure high quality of data, standards and best practice guides for contextual data handling and genomic data will be specified. The developed software will have a clear focus on interoperability towards existing databases (SeaDataNet, PANGEA) based on standards such as Geographic Markup Language (GML), Web Feature Service (WFS), Web Map Service (WMS), and Web Coverage Service (WCS) to allow seamless exploitation of data."

The following additional background knowledge:

- The "innovative multi-resolution database for the acquisition, management and combined analysis of large scale genomic and contextual oceanographic data" is named MegDB.
- The "new web based graphical tools for effective data-exploitation " will be developed and made available under http://www.megx.net short name megx.net.
- For high level status of the current megx.net please see http://nar.oxfordjournals.org/cgi/content/abstract/gkp918v1.

In order to describe the current and future functionality envisioned for megx.net some use cases are described.

6.1. Use case 1: Sample information retrieval

The purpose is to know where in the world oceans samples for molecular sequence data were collected. In more detail for every sample, it is to know : the geographic location and time, during which cruise the sample was collected, what was the sampling device, which material was sampled (e.g. water, sediment), what environmental measurements were performed at the time molecular sequence samples were collected.

The Interface to other WPs are : Close communication with 10.3, 10.4, 10.5, 10.7.

6.2. Use case 2: *Ex-situ* processing of molecular sequence samples and data management

The purpose is to collect samples on a cruise for molecular sequence analysis. All current approaches to determine the genetic content of samples need to be performed in 'on shore' labs. The final results can come up months or years after the cruise. During the whole processing time, until publication of the molecular data, the purpose is to be able to access and manage all related metadata.

The Interface to other WPs are : Close communication with 10.4,10.5, 10.7

7.   WP10.7 : Acquisition/import/export to and from on shore data centres (CNR)

7.1. Introduction

The first objective is to implement data collection systems on board research ships with automated and continuous data acquisition (e.g. blue box). Moreover, a methodology and software will be developed for operational data transmission, quality control and data access from ship to shore data centres linked with SeaDataNet (e.g. WDC MARE, PANGAEA and others) and existing operational systems working in JCOMM and vice-versa.

Task 10.7 will provide the information on best practices for 'real time' – 'near real time' data handling to be used on board. There are two preliminary actions to be done in this task: overview of instrumentation normally used on board the Eurofleets ships and overview of possible integration and implementation of common 'packet' of instruments.

This will allow to define the best practices to be suggested. The actions to be done to reach the objective are to provide the information on the existing protocols for QA/QC and to define a strategy for data flow from ship to shore to data archival systems.

Task 10.7 will have contacts with other WPs in order to provide to EuroFleet a coherent approach on data dissemination, following the INSPIRE principles and the SeaDataNet practices.

Inputs required for 10.7 are: MIKADO software from SeaDataNet, 10.2.1 inventory of the today situation, 10.4, 10.5 reporting tools and standards.

Output of the task are : Proposal for homogeneous acquisition of data in EuroFleets, transmission in near real time of metadata useful to 10.4, and catalogues.

7.2. Task 10.7 description

Four different subtasks can be extracted from the 10.7 general objectives :

- ◆ SubTask 10.7.1: implement data collection systems on board research ships with automated and continuous data <u>acquisition</u> (e.g. blue box). In particular the following three instrumentation packages can have a high priority : Meteorological station, Acoustic current profilers, Multiparametric blue boxes, CO_2 measurements,
- ◆ SubTask 10.7.2: methodology and a software prototype for operational data transmission,
- ◆ SubTask 10.7.3: best practices quality control and <u>data access</u> from ship to shore data centres,SubTask 10.7.4: links with other EU infrastructures (e.g. SeaDataNet) and with international programmes (e.g. JCOMM).

Eurofleets-JRA1-WP10

Up to date software to facilitate TransNational Access

WP10 Management Plan

09/04/2010, V2.0

Grant Agreement n° 228344

Acronym : EUROFLEETS

Title : Towards an alliance of European research fleets

Activity type: JRA **WP N°: 10** **Task N°:** **Deliverable/Milestone N°: /**

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	Name	Organisation	Date	Visa
Coordinator	Marc Nokin	Ifremer	March, 30rd 2010	
Activity Coordinator				
WP Leaders		CNR GéoEcomar CSIC OGS MARIS RBINS-MUMM IOPAS MPIMM		

History

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1.0	October 26th, 2009	First release	Marc Nokin
1.1	January 15th, 2010	According to Quality Assurance Plan	Marc Nokin
2.0	April 09th 2010	According to Quality Assurance Plan V.4	Marc Nokin

Diffusion list

WP10 Partners				
JRA coordinator				

Contents

8. Introduction

8.1. Objectives of the document

This document is the Work Package Management Plan for the Work Package 10 of the EUROFLEETS project, called Up to date softwares to facilitate TransNational Access.

Part of information and guidelines has been already defined in the Applicable documents given in paragraph 2. On these aspects, the objective is therefore to identify and to summarize the most relevant ones.

8.2. EUROFLEETS Project

EUROFLEETS aims in accordance with the recommendations of the Marine Board of the European Science Foundation (ESF, 2007) and in the frame of MarinERA and the OFEG (Ocean Facilities Exchange Group) to bring together the existing European Research Fleet owners and to enhance their coordination and cost-effective use of their facilities in order to support the efficient provision of essential research services for monitoring and sustainable management of the Regional Seas and Oceans. This would in turn, give support to protect environment and biodiversity, understand climate change and better predict related impacts, facilitate the sustainable exploitation of marine resources and increase employment through education and training and technological innovation.

8.3. Work Package 10 "Up to date softwares to facilitate TNA"

Inside the Joint Research Activity, Work Package 10 (Up to date software to facilitate trans national access) proposes the joint development of an innovative and generic softwares portfolio combining all necessary functionalities for cruise preparation, for collection, processing and display of scientific data acquired during sea cruises, and for export of data and information to the main marine data centres and networks.

9. Applicable documents

- [1] Toward an alliance of European research fleet proposal

- [2] Description of Work

- [3] Financial aspects

- [4] Consortium agreement for combination of collaborative project and coordination and support action – Toward an alliance of European research fleets EUROFLEETS

- [5] Quality Assurance Plan (Rev 4)

- [6] Functional specifications – Rev.2 - 9th February 2010

10. Attachments

- Appendix 1 : Contact list – leaders and contributors
- Appendix 2 : Man month per task and partner
- Appendix 3 : Budget per task and partner (extracted from [3])
- Appendix 4 : Contributors work

11. Work Package 10 description

11.1. Tasks overview [2] – [6]

The main challenge is to develop a new generation of evolutive softwares (based on existing tools when possible) which are widely used on Europe's fleets and its marine institutions and can be shared by all users to facilitate the flow of data to the marine data centres and networks. It will be a first step toward standardisation.

Task 10.1 General requirements

This task consists in defining in partners close cooperation the general requirement of the software to develop, with special attention to interfaces. This foundation task must define in particular general and specific functionalities, technical requirement to ensure compatibility and coherence of sub-developments, timing and dissemination process and also to avoid redundancies.

At the end of this cooperative phase, each task leader will define :

- The detailed functional specifications of each sub-development. These specifications anticipate and prepare Deliverables D10.2 (Technical specifications of each sub-development)
- The Task Management Plan for each task with at least results of (1), deliverables of each contributor involved in the task and planning. WP10 Management Plan can be used as a template.
- Up-dated version of WP10 Project Management Plan

Deliverables of this task will be the starting point for task 10.2 to 10.8. This deliverable is not requested by EC but considered as "contractual" between partners of WP10.

It is underlined that the WP10 has to be considered as a whole and not (when possible) a juxtaposition of individual sub-developments. Therefore, functions and technical coherence are of prior importance.

Task 10.2 Development of the software/Calibration tools

The aim here is to offer and provide to the community basic tools to calibrate sensors. It is essential not only for data logging but also for the delivery of raw data to the scientific community with meta-data.

Task 10.3 Development of the software/Processing tool

Scientific data can come from a wide variety of sensors and scientific equipment installed on ships and underwater systems (ROV, AUV,..). All data will be geo-referenced and the system will be based on a multi-resolution, multi layers approach to allow integration and presentation of all the sensors panoply. Quality control and data interpretation functionalities will be important aspects to assist the operator in the data treatment. A special attention will be paid to the development of geo-referencing and storage of photos and films from cruises,

especially those with submersibles. With regard to public outreach, it is also important that products of cruises (photos, films, animations) are made available as learning materials and for public outreach.

Task 10.4 Development of the software/Survey reporting tool

Additional information on events occurred during a survey (from sea conditions, swell, tides, source position, streamer feathering or anomalies to any problem during recording), and scientific/technical observation (both quantitative and qualitative) can be recorded, geo-referenced, linked to the data acquired and seamlessly ingested by data centres.

Task 10.5 Development of the software/Standardisation

It is important to go further and to provide essential tools to improve the management and the standardization of data for the cruises. It is needed by most of final users: data centres, scientific community, huge European project such HERMES, and PANGEA. Following the INSPIRE European directive, data and Metadata produced with public founding must be, in a near future, available, under certain conditions across a network of data centres connected to Internet. It is thus important to consider research ships as the first step of a large chain of distributed marine data centres. There is a need to improve the management and standardisation of metadata, in agreement with SeaDataNet, ISO and other international initiatives as those like the Open Spatial Consortium. This could facilitate the integration of acquired data sets in a network of distributed Geospatial Information Data servers.

Task 10.6 Acquisition, integration and visualisation of oceanographic & molecular data

An innovative multi-resolution database for the acquisition, management and combined analysis of large scale genomic and contextual oceanographic data needs to be developed. The aim is to integrate European on site and remote sensing oceanographic data layers with molecular information on diversity and function of micro-organisms. On top of the multi-resolution database, new web based graphical tools for effective data-exploitation will be developed. These tools will allow the end user to explore and analyse the distribution and genomic markup of marine microbial communities with respect to their genetic potential. To ensure high quality of data, standards and best practice guides for contextual data handling and genomic data will be specified. The developed software will have a clear focus on interoperability towards existing databases (SeaDataNet, PANGEA) based on standards such as Geographic Markup Language (GML), Web Feature Service (WFS), Web Map Service (WMS), and Web Coverage Service (WCS) to allow seamless exploitation of data.

Task 10.7 Acquisition/import/export to and from on shore data centres

The first objective is to implement data collection systems on board research ships with automated and continuous data acquisition (e.g. blue box). Moreover, a methodology and software will be developed for operational data transmission, quality control and data access from ship to shore data centres linked with SeaDataNet (e.g. WDC MARE, PANGAEA and others) and existing operational systems working in JCOMM and vice-versa.

Task 10.8 Evaluation/qualification

The objective is to carry out evaluation tests on land and at sea and on different platforms (ships, vehicles...).

11.2. Leaders and contributors

Task	Leader		Contributors	
	Institute	Name	Institute	Name
WP 10 coordination	IFREMER	Marc Nokin		
Task 10.1 General requirement	IFREMER	Marc Nokin	IFREMER CNR LOPAS MPI Habitat MPI MGG RBINS-MUMM CSIC OGS GEOECOMAR MARIS	Ref appendix 1
Task 10.2 Calibration tool	CNR	Gian Pietro Gasparini	CSIC CNR	Ref appendix 1
Task 10.3 Processing QC/QA tool	IFREMER	Jean Marc Sinquin	IFREMER MPI Habitat CSIC MARIS RBINS-MUMM OGS IOPAS CNR	Ref appendix 1
Task 10.4 Survey reporting tool	OGS	Paolo Diviacco	OGS CNR IOPAS MPI MGG RBINS-MUMM MARIS IFREMER CSIC	Ref appendix 1
Task 10.5 Standardisation tool	CSIC	Jordi Sorribas	CSIC MARIS MPI MGG MPI Habitat IOPAS OGS RBINS-MUMM CNR	Ref appendix 1
Task 10.6 Oceanographic molecular data tool	MPIMM	Frank Oliver Glökner	MPI MGG MARIS	Ref appendix 1
Task 10. 7 Acquisition/import/export to/from data centres tool	CNR	Giuseppe Manzella	CNR OGS RBINS-MUMM CSIC IOPAS MPI Habitat[1] MARIS	Ref appendix 1
Task 10. 8 Evaluation/qualification	CNR	Anna Vetrano	CNR IFREMER MPIMM RBINS-MUMM CSIC MARIS OGS GEOECOMAR	Ref appendix 1

[1] WDC MARE, PANGAEA and MARUM will contribute under MPIMM

11.3. Partner contribution per task

Task 10.1 aims to ensure compatibility and coherence of the different sub-development.

♦ Contribution expected by each task contributors (see appendix 4)
♦ Millestones and deliverables (see § 8)

12. Responsibilities

12.1. WP10 Coordination level [4]

▪ Marc Nokin (IFREMER)   : Leader
▪ Jean Marc Sinquin (IFREMER)   : WP Technical correspondant
▪ Marie Claire Juzeau (IFREMER)   : Secretary

The Work Package leaders (WPL) are responsible for the animation of each WP.

The WPL are involved in defining how to achieve the objectives. Therefore, the EUROFLEETS Coordinator will rely on them for the technical follow up of the Project. WPL are nominated for each WP and committed to :

♦ Control the progress of the scheduled work within the WP in terms of technical achievement, planned Deliverables and expenses, in order to ensure the accomplishment of the technical objectives of the WP,
♦ Assess the Quality of the outputs from their WP including the level of Quality of their own Deliverables,
♦ Initiate and participate actively in the technical meetings necessary for work progress, and report minutes of meetings,
♦ Refer to the AC in case of major issue that affects the completion of the work foreseen.

12.2. Role of the Task leaders [4]

Task Leaders are responsible for the work to be carried out in its tasks. The role of the Task leaders comprises the following :

♦ Planning of work & Deliverables,
♦ Reporting of work progress to the WPL.

13. Man month and cost per partner and task [2]

Contractual man month for the whole work package and for the 4 years is the following :

IFREMER	GeoEcoMar	CSIC	CNR	OGS	MARIS	RBINS-MUMM	IOPAS	MPIMM
35	3	36	38	18	8	27	10	15

Contractual budget for the work package and for the 4 years is given in [3] and appendix 3.

14. Work Package 10 - external interfaces [4]

Significant aspects are given below.

14.1. Activity coordinator

The Activity coordinator (AC) is responsible for the animation of its Activity (i.e. NA, TNA and JRA).

He is responsible for :

- ♦ Coordinating the Activity and managing interactions between WP (see diagram of Annex XI),
- ♦ Continuously monitoring the progress of WP and global Quality Indicators,
- ♦ Reporting about Activity to the whole consortium,
- ♦ Submitting progress reports on the state of the Activity
- ♦ Ensuring that Milestones and Deliverables of the Activity are fulfilled on time,
- ♦ Organising focused meetings in order to determine suitable measures to be taken.

14.2. Industrial Property Committee (IPC)

The Industrial Property Committee (IPC) is composed of specialists from interested JRA beneficiary organisations. The IPC is expected to brainstorm on the emerging results in the Project. It will also keep the Consortium updated on existing protocols, applications and patent databases which will reveal if and where patents can be submitted, and more importantly, potential methods and customers to generate incomes. The IPC proposes the exploitation plan (including standardisation aspects) and its updates to the ExComm. All proposals by the IPC shall be made in a consensual way, taking into account all beneficiaries interests. Meetings will especially be dedicated to JRA and supported by the own costs of the beneficiaries.

15. Deliverables and milestones [2]

This concerns : Technical deliverables (&8.1 and &8.2) and Progress reports (& 8.3).

15.1. Technical deliverables and approval process

	Deliverable	Month	Dead line	Contributors	Lead beneficiary
	Start of the project	M0	Sept. 1st 2009		
NC	General requirement specifications and management guidelines	M6	March 1st 2010	Task 10.1 leader	IFREMER
D10.2	Technical specifications for each task and interfaces review (includes preliminary reports of Tasks 10.2, 10.5 and 10.7)	M12	Sept. 1st 2010	All task leaders	IFREMER
D10.3	Prototypes delivery (when needed) for evaluation and adjustment process (includes final reports of Tasks 10.2, 10.5 and 10.7)	M24	Sept. 1st 2011	All task leaders	IFREMER
D10.4	Prototypes evaluation report and guidelines production	M30	March 1st 2012	All task leaders	IFREMER
D10.5	Delivery of an integrated software	M38	Nov. 1st 2012	All task leaders	IFREMER
D10.6	Testing and evaluation	M44	May 1st 2013	Task 10.8 leader	CNR
D10.7	Delivery of final documentation including User manual	M48	Sept. 1st 2013	All task leaders	IFREMER

The lead benificiary is in charge of compiling sub-deliverables that have to be produced by task leaders. He applies and follows the procedure of approval and transmission. As for an example D10.2 will be a collection of Technical specifications of each sub-developments and/or reports.

Technical deliverable report shall be accompanied with a summary report (2 pages max.) shortly describing technical and financial aspects of the Deliverable i.e. objectives, main results and conclusions, and also timetable and deployed resources. The template is available on the management website (category Communication/All templates).

Prototypes shall be accompanied with a summary report following the template for technical Deliverables and a user manual with schema of the prototype design.

A specific approval process has been set up (fully detailed in [5]) to ensure a proper delivery of the technical Deliverables and Milestones at the Due Date. Dedicated folders in the FTP site for document storage at each step of the process have to be respected.

♦ Step 1 : the PMT confirms the Lead beneficiary(ies)[2] (copy to the WPL, AC and substitutes) about the deadline of the Deliverable/Milestone to be provided

♦ Step 2 : the lead beneficiary(ies) prepares the Deliverable/Milestone

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[2] The Lead beneficiary of each Deliverable/Milestone is named in the Deliverable/Milestone tables of the DoW.

- Step 3 : the WPL approves the Deliverable/Milestone, emails to the Coordinator, the AC (and substitute), the WP7 leader (when applicable) and to PMT, and informs of the Deliverable/Milestone availability via the management website (publication of an article in the WP category)

- Step 4 : the PMT updates the Deliverables/Milestones follow-up available on the management website and stores the Deliverable/Milestone on the FTP site

- Step 5 : when Public, the WP7 leader publishes the Deliverable/Milestone on the EUROFLEETS Internet website

- Step 6 : the PMT sends electronic copies of contractual Deliverables/Milestones to EC every 6 months.

Dead lines (DD) to respect are as follows:

- 30 days before DD : Information from PMT

- 30 days before DD - 15 days before DD : Submission to WPL for approval

- 15 days before DD - 5 days before DD : Approved deliverable by WPL sent for storage

- 5 days before DD - DD : Storage by PMT in follow-up directory and publication on internet

15.2. Technical Milestones

Milestone	Month	Deadline
Start of the project	M0	September 1st 2009
Requirement specifications and guidelines review	M6	March 1st 2010
Technical specifications and interfaces review	M12	September 1st 2010
Completion of prototypes for evaluation and adjustment process	M24	September 1st 2011
Prototypes evaluation and guidelines review	M30	March 1st 2012
Integrated product delivery	M38	November 1st 2012
Testing and evaluation review	M44	May 1st 2013
Documentation delivery	M48	September 1st 2013

Assessment shall be formalized in the Milestone assessment report (following the template for technical Deliverables) providing: the purpose of the Milestone, the status, the assessment criteria and the consequences of the Milestone result.

Approval process for milestones is identical to Deliverable process

15.3. Progress reports

Eighteen months Work Package formal and official progress reports are to be addressed to European Commission, starting from the project birth date :

- M18 : 27/02/2011
- M36 : 31/08/2012
- M48 : 31/08/2013

Nine months interim report is an additional deliverable to facilitate eighteen month official progress report and should present work on progress and financial follow-up

- M9 : 01/06/2010
- M27 : 30/11/2011

Eighteen months reporting approval process is as follows (fully detailed in [5]) :

- Step 1: the PMT confirms to all WPL that the first draft of the periodic report is available on the FTP site

- Step 2: each WPL reports on the progress of her/his WP and, when completed, informs the AC about its contribution availability on the FTP site

- Step 3: AC compiles the contribution from all Activity WP, provides her/his contribution and upload the report on the FTP site

- Step 4: the PMT compiles the contributions from the AC and uploads the second draft of the periodic report on the FTP site

- Step 5: the Coordinator contributes to the report, including financial aspects resulting from the process run in parallel with administrative representatives

- Step 6: based on financial follow-up provided by PMT, the AC could adjust their contributions

- Step 7: the ExComm validates the final version of the periodic report

- Step 8: the PMT informs of the periodic report availability via the management website, stores the report in read only version on the FTP site and transmits it to the EC.

During this process, it is mandatory to use the FTP site

The dead lines (DD) to respect are as follows:

- 30 days before DD : First draft of the periodic report

- 30 days before DD - 15 days before DD : Description of the work progress in Section 3 by WPL

- 15 days before DD - 5 days before DD : Compilation in Section 3 of all WPL contributions, AC contributions expected in Section 2

- 8 days before DD – DD : Second draft of the periodic report by PMT

- DD – 60 days after DD : Finalisation of the periodic report with contributions in Sections 1 and 5 by PMT coordinator

Approval Interim reporting process (M9 and M27) is similar to the technical process set up for periodic reports except that: financial aspects included in the report at step n°5 are based on estimated figures and that there is no submission to EC.

16.   General In-door rules

16.1.   Communication and reporting

An annual "face to face" meeting will be organised to analyse deliverables progress and to prepare the WP progress report. The first year being very important, two meetings will be organised.

A six month basis appointment will be organised to have a formal status of the progress and to prepare the Executive committee. No formal "face to face" meeting will be organised, except on request. Exchanges will be by e-mail, video conference or other.

Annual meeting locations and dates will be defined, as possible, at the beginning of the project. Meetings will be organised by the WP 10 leader and the hoist institute. The agenda will cover all the tasks progress on technical, calendar and financial aspects. The chairperson will give notice to each member as soon as possible and within 45 days preceding the meeting.

Minutes on meeting will be produced by the WP Leader. A draft version will be transmitted to all parties for approval. Without response in a delay ten days, the document will be considered as approved.

	Meeting points	Objectives	How
M0	Start of the project : September 1st 2009		
M1	22-23-24/09/2009	Preparation of D10.1 - Organisation	KOM in Paris (France)
M5	Beginning of February 2010	Finalisation of D10.1 (delivery M6)	Face to face meeting
M7	Beginning of May 2010	Preparation of interim progress report (delivery M9)	E-mails or others
M10	End of June 2010	Finalisation of D10.2 (delivery M12)	E-mails or others
M13	September 2010	General progress	Face to face meeting Athena
M16	Beginning of January 2011	WP official progress report preparation (delivery M18)	E-mails or others
M22	End of June 2011	Finalisation of D10.3 (delivery M24)	Face to face meeting
M26	Beginning of November 2011	Preparation of interim progress report (M27)	E-mails or others
M29	Beginning of February 2012	Preparation of D10.4 (delivery M30)	E-mails or others Meeting on request
M34	End of June 2012	Official WP progress report preparation (delivery M36) D10.5 progress	Face to face meeting
M36	Beginning of October 2012	Preparation of D10.5 (delivery M38)	To be defined
M42	Beginning of March 2013	Preparation of D10.6 (delivery M44)	Meeting on request
M46	End of June 2013	Final official WP progress report preparation (delivery M48) Preparation of D10.7 (delivery M48)	Face to face meeting

16.2.   Management of the documentation [5]

EUROFLEETS Web site will be used for documentation storage and partners exchanges. Rules are detailed in [5]

16.3.   Joint owner-ship [4]

In case of joint ownership of Foreground, the co-owners shall define and sign before the end of the project at the latest a joint ownership agreement embodying the rules to be adopted among them and the Access Rights resulting from the Project. The co-owners propose to the IPC the draft of joint ownership agreement for checking.

16.4.   Distribution of the Financial Contribution [4]

The financial contribution of the European Commission to the Project shall be distributed by the Coordinator. In accordance with its own usual accounting and management principles and practices, each Signatory Party shall be solely responsible for justifying its costs as well as the costs of the Third Party Linked to a Beneficiary it may represent according to Special Clause 10 of the Grant Agreement, with respect to the Project towards the European Commission. Neither the Coordinator nor any of the other Parties shall be in any way liable or responsible for such justification of costs towards the European Commission.

16.5.   Dissemination and access rights [4]

Dissemination and access rights are important aspects to consider and are fully detailed in [5].

Appendix 1 : Contact list – leaders and contributors

Coordination level - Eurofleets project - JRA1 - WP10 - Contact list

Task	Participant		Contact		
			Name	**Mail**	**Phone**
WP10 Coordination	**IFREMER**	WP10-Leader	Marc Nokin	Marc.Nokin@ifremer.fr	33 298 22 41 92
		Copy	Jean-Marc Sinquin	Jean.Marc.Sinquin@ifremer.fr	33 298 22 49 79
		Copy	Marie-Claire Juzeau	Marie.Claire.Juzeau@ifremer.fr	33 298 22 41 83
10.1 **General Requirement**	**IFREMER**	Task Leader	Marc Nokin	Marc.Nokin@ifremer.fr	33 298 22 41 92
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10.2 **Development of the Software : Calibration tools**	**CNR**	Task Leader	Gian Pietro Gasparini	gasparini@sp.ismar.cnr.it	39 0187 978309
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10.3 Development of the software : Processing tool	**IFREMER**	Task Leader	Sinquin Jean-Marc	Jean.Marc.Sinquin@ifremer.fr	33 298 22 49 79
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10.4 Development of the software : Survey reporting tool	**OGS**	Task Leader	Paolo Diviacco	pdiviacco@ogs.trieste.it	390 402 140 380
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10.5 Development of the software : Standardisation	**CSIC**	Task Leader	Jordi Sorribas	sorribas@utm.csic.es	
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		Copy			
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10.6 Acquisition, integration and visualisation of oceanographic and molecular data - the Genomes Mapserver application	**MPIMM**	Task Leader	Frank Oliver Glöckner	fog@mpi-bremen.de	49 421 2028 970
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10.7 Acquisition/ import/export to and from on shore data centres	**CNR**	Task Leader	Giuseppe Manzella	giuseppe.manzella@enea.it	
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10.8 Evaluation/ Qualification	**CNR**	Task Leader	Anna Vetrano	anna.vetrano@sp.ismar.cnr.it	39 0187 978317
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Eurofleets

Appendix 2 : Man month per task and partner

EUROFLEET WP10 Man month rev 2.0 - 09/04/2010

	Task 10.1	Task 10.2	Task 10.3	Task 10.4	Task 10.5	Task 10.6	Task 10.7	Task 10.8	Total mm	Comments
	General requirement	Calibration tool	Processing tool	Survey reporting tool	Standardisation tool	Molecular data tool	Acquistion/Import/Export tool	Validation/Test		
IFREMER	4		26	2				3	35	
CNR	3	7	5	4	5		8	6	38	To confirm
CSIC	2	7	4	4	10		5	4	36	
MPI Habitat	2		2				1	1	6	
MPI MGG	2			0,5	1	5		0,5	9	
MUMM	4		1	7	6		4	5	27	
MARIS	1		1	0,5	2	1	2	0,5	8	
OGS	2		?	10	2		2	2	18	To confirm
IOPAS	2		1	3	1		2	1	10	
GEOECOMAR								3	3	
Man month									190	

EUROFLEETS WP10 Budget - 2009-09-24th

Work package	Particip. number	Participant short name	Person-months	Personnel costs (1)	Durable equipment (1)	Consu-mables (1)	Travel & subsist. (1)	Other costs (1)	Total direct costs excluding...(1)	IC method	Indirect costs	TA costs	Subcontrac-ting costs	Third parties costs (2)	Total costs	Maximum EC contribution	Requested EC contribution
WP10	1	IFREMER	35	67260			16755,00	1862,00	85877	actual	42373,80		93000		221250,8	165938,10	165938,10
	2	AWI							0	sfr_20	0,00				0	0,00	0,00
	3	OGS	18	80340			16701,00	1856,00	98897	actual	64272,00				163169	122376,75	122376,75
	4	IEO							0	stfr_60	0,00				0	0,00	0,00
	5	HCMR							0	actual	0,00				0	0,00	0,00
	6	NERC							0	actual	0,00				0	0,00	0,00
	7	FCT							0	stfr_60	0,00				0	0,00	0,00
	8	MPIMM	15	56835			7844,00	872,00	65551	simplif.	58420,70		50000		173971,6965	130478,77	130478,77
	9	CNR	38	118000			19958,00	2218,00	140176	simplif.	102306,00		18000		260482	195361,50	195361,50
	10	IMS-METU							0	stfr_60	0,00				0	0,00	0,00
	11	GeoEcoMar	3	7269			1913,00		9182	sfr_20	1836,40				11018,4	8263,80	8263,80
	12	MI							0	actual	0,00				0	0,00	0,00
	13	Imares							0	actual	0,00				0	0,00	0,00
	14	CSIC	36	57500			11412,00	1268,00	70180	actual	90850,00		13000		174030	130522,50	130522,50
	15	RBINS-MUMM	27	91652			11464,00	1274,00	104390	stfr_60	62634,00				167024	125268,00	125268,00
	16	IOPAS	10	16984			8042,00	894,00	25920	stfr_60	15552,00				41472	31104,00	31104,00
	17	IPEV							0	sfr_20	0,00				0	0,00	0,00
	18	IO-BAS							0	sfr_20	0,00				0	0,00	0,00
	19	MARUM							0	stfr_60	0,00				0	0,00	0,00
	20	MARIS	8	59300			11485,00	1276,00	72061	actual	20755,00				92816	69612,00	69612,00
	21	EurOcean							0	sfr_20	0,00				0	0,00	0,00
	22	TUT							0	stfr_60	0,00				0	0,00	0,00
	23	VLIZ							0	sfr_20	0,00				0	0,00	0,00
	24	IMR							0	actual	0,00				0	0,00	0,00
	Total		199	555140	0	0	105574	11520	672234		458999,8965	0	174000	0	1305233,897	978925,42	978925,42
(third parties)	1_TP	(TP name)							0				0	no	0		
	1_TP								0					no	0		
	12_TP								0					no	0		
	22_TP								0					no	0		

Appendix 4 : Contributor work per task

EUROFLEET WP10 Contributors Work - V2.0 - 9/04/2010

	Task 10.1	Task 10.2	Task 10.3	Task 10.4	Task 10.5	Task 10.6	Task 10.7	Task 10.8
	General requirement	Calibration tool	Processing tool	Survey reporting tool	Standardisation tool	Molecular data tool	Acquistion/Import/Export tool	Validation/Test
IFREMER	General requirement - Leader	Inventory of the present situation (sensors and protocol)	Processing tool - Leader	Summary reports supply Event codes definition Supervision of modifications or more	Use cases Standard suggestions and loops on 10.3 requirement		Data collection-use case Quality control-review	
CNR	Contribution to WP10 MP Contribution to Functional specification	Calibration tool - Leader	In discussion	Summary reports supply Event codes definition **Rest in discussion**	Use cases Standard suggestions and loops on 10.2 and 10.7 requirement **Rest in discussion**		Acquistion/Import/Export tool	Validation - Leader
CSIC	Contribution to WP10 MP Contribution to Functional specification	Inventory of the present situation (sensors and protocol) **Rest in discussion**	In discussion	Summary reports supply Event codes definition **Rest in discussion**	Standardisation tool		Data collection-use case **Rest in discussion**	
MPI Habitat	Contribution to WP10 MP Contribution to Functional specification	Inventory of the present situation (sensors and protocol)	In discussion		Use cases Standard suggestions and loops on 10.6 requirement **Rest in discussion**		Data collection-use case **Rest in discussion**	
MPI MGG	Contribution to WP10 MP Contribution to Functional specification			Summary reports supply Event codes definition **Rest in discussion**		Molecular data tool		
MUMM	Contribution to WP10 MP Contribution to Functional specification	Inventory of the present situation (sensors and protocol)	In discussion	Summary reports supply Event codes definition **Rest in discussion**	In discussion		Implementation of data collection	
MARIS	Contribution to WP10 MP Contribution to Functional specification		In discussion	In discussion	In discussion	In discussion	In discussion	
OGS	Contribution to WP10 MP Contribution to Functional specification	Inventory of the present situation (sensors and protocol) - **To confirm**	In discussion	Reporting tool - Leader	Use cases Standard suggestions and loops on 10.4 requirement Rest in discussion		Data collection-use case Metadata management tool	
IOPAS	Contribution to WP10 MP Contribution to Functional specification	Inventory of the present situation (sensors and protocol) - **To confirm**	In discussion	Summary reports supply Event codes definition **Rest in discussion**	In discussion		In discussion	
GEOECOMAR	Contribution to WP10 MP Contribution to Functional specification	Inventory of the present situation (sensors and protocol) - **To confirm**		Summary reports supply - **To confirm**				