



## Deliverable D7.2

Project Title:	Developing an efficient e-infrastructure, standards and data-flow for metabolomics and its interface to biomedical and life science e-infrastructures in Europe and world-wide	
Project Acronym:	COSMOS	
Grant agreement no.:	312941	
	FP7-INFRASTRUCTURES-2012-1	
Deliverable title:	Report on the COSMOS consortium website	
WP No.	WP7	
Lead Beneficiary:	1:EMBL-EBI	
WP Title	Outreach and Training	
Contractual delivery date:	01 10 2012	
Actual delivery date:	30 11 2012	
WP leader:	Ulrich Günther	UBHam
Contributing partner(s):	EBML-EBI	

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## 1 Executive summary

The aim of this deliverable is to:

1. Report on the COSMOS consortium website
2. Report on implementation of content management system, mailing lists, meeting minutes archive and fine-grained access control

## 2 Project objectives

With this deliverable, the project has reached or the deliverable has contributed to the following objectives:

No.	Objective	Yes	No
1	To create and maintain the consortium website in an open source content management system	X	
2	The website has an EU domain i.e www.cosmos-fp7.eu	X	
3	This website has a specific COSMOS branding with a professionally designed COSMOS logo	X	
4	The COSMOS website allows content management by the WP partners	X	
5	Additional component (intranet, calendar, web site search), advanced analytics and functional testing have been implemented	X	
6	Communication via group mailing lists.	X	
7	COSMOS has established links with major metabolomics groups in Canada (HMDB, Wishart) and the US.	X	



## 3 Detailed report on the deliverable

### 3.1 Background and abstract

The COSMOS website has been setup with the following details:

- The registered domain address: <http://cosmos-fp7.eu>
- ISP: GoDaddy.co.uk
- Duration: 3 years initially, to be extended past the current project

We have chosen Drupal for the content management (see 3.2.1) to be accessed by the project partners. Additional component and functionalities were added as plugin modules. So far we have included modules for:

- Fine grained security access control
- Blogging
- Voting / Poll
- Discussion Forum
- Page level statistics

New modules will be added when we recognise new requirements.

As a means for general communication, we have chosen Google groups, to host consortium partner mailing lists via the “Metabolomics EU Coordination Action group” for group communications and “nmrML-COSMOS-FP7” user group for sub groups interested in development of nmrML file format.

A series of professional logos to represent COSMOS were designed and suggested by the senior communications officer at EMBL-EBI, which after voting among partners and WP leader, the current logo was chosen (see website- Figure 1).

COSMOS will also build close links between the consortium partners and the European and International metabolomics community, and the wider biomedical community. So far this has been focused on nmrML and mzML file format



collaboration, creating a dedicated website at source forge for mzML (<http://sourceforge.net/projects/cosmos-fp7/>) and an nmrML user group website at (<http://cosmos-fp7.eu/nmrML/>).

## 3.2 Description of Work

### 3.2.1 Content Management System

We have chosen a Content Management System (CMS) called Drupal. Drupal is open source software maintained and developed by a community of 630,000+ users and developers. It's distributed under the terms of the [GNU General Public License](#) (or "GPL"), which means anyone is free to download it and share it with others. It fits well with the open, free access model we have chosen for the COSMOS project.



The screenshot shows the COSMOS website. At the top, there is a navigation bar with links for Home, Partners, Work Packages, News, Contact, and About. The Home link is highlighted with a teal box. Below the navigation is the COSMOS logo, which consists of a stylized bar chart inside a circle followed by the word 'cosmos' in a bold, lowercase sans-serif font. A horizontal line separates the header from the main content area. The main content area has a light gray background. The title 'COSMOS - COordination Of Standards In MetabOloMics' is centered in a bold, black font. Below the title is a section titled 'Recent Blog Posts' with a single item: 'EMBO Practical Course on Metabolomics Bioinformatics for Life Scientists'. To the right of this item is a 'More' link. Below the blog post is a section titled 'Welcome to COSMOS' with a paragraph of text. The text discusses the launch of the project on October 8, 2012, and its goal of enabling free and open sharing of metabolomics data. It mentions the coordination by Dr. Christoph Steinbeck and the involvement of the EMBL-European Bioinformatics Institute. The text also highlights the use of metabolomics in environmental science, toxicology, food, and medicine, and its role in characterizing disease states and assessing renewable energy production. The paragraph ends with a note about the project's timing relative to other initiatives like MetaboLights and ELIXIR. At the bottom of the main content area, there is a small 'RSS' icon, a 'SEVENTH FRAMEWORK PROGRAMME' logo, and a note stating 'This project is funded through European Commission COSMOS Grant EC312941'.

**Figure 1** General layout of the COMSO website

### 3.2.2 Public information

To access no login is required: The main page contains the general information regarding the COSMOS project, an information link about partners involved, detailed information about Work Packages, News and Announcements, Contact information (see Figure 1).

### 3.2.3 Private information

Only COSMOS partners: WP leaders and consortium members/partners can create an account and subsequently different levels of privileges will be give (under internal) so they can modify the relevant page for their respective organization or WP group. Standards development website content may enter



several stages of private or public status during the lifecycle of this project, but ultimately all work will be publicly available.

### 3.2.4 Meeting and presentation

We are committed to maintaining and presenting all meeting minutes and consortium presentations on the COSMOS website. To date we have all meeting minutes, in Google document format kept in “Internal Pages” of the COSMOS website, under “Meeting Minutes”. The consortium presentations are also available to all registered COSMOS partners under “Presentations”. Subsequently all presentations and relevant project deliverables will be publicly available in due time.

### 3.2.5 Media Materials

COSMOS logos, published papers, posters and presentation templates will be soon available for access and downloadable for all partners.

### 3.2.6 nmrML website

nmrML is one of the new standards that are being developed/adopted within the COSMOS project. This work would be in collaboration with partners outside the consortium, including the wider NMR and metabolomics community. Our goal is to get an agreement on a new defacto standard NMR file format, which would be proprietary independent, which can be implemented into any software used for NMR data exchange. So far we have established a collaborative effort within nmrML work-frame with David Wishart’s metabolomics groups in Canada.

Under COSMOS subgroups of nmrML, we have a separate website based on the MediaWiki platform to host and share information related to development of the nmrML file format, please see: <http://cosmos-fp7.eu/nmrML/>

We have chosen this medium since it provides the best means for a collaborative project. WikiMedia is the collective name for a group of inter-related projects, including [Wikipedia](#), [Wiktionary](#), [Wikisource](#), [Wikibooks](#), and others, which aim to use the collaborative power of the Internet, and the wiki concept, to create and



share free knowledge of all kinds. The user base would be open to public for anyone interested in the nmrML file format to participate and to contribute to the documentation. Implementing the Wikimedia service fulfills the requirements of making available the results of the collaborative nature of COSMOS with the wider metabolomics and NMR community.

### 3.3 Next steps

1. Adding a user friendly editor module within Drupal to make editing content easier for users
2. Internal pages will be populated with relevant documents and reports for users to access and download.
3. nmrML Wikimedia currently is a backbone and requires relevant content, work description and information to be filled in. This would be a gradual process as more users join in and contribute to the content of the WikiPages.

## 4 Publications

N/A

## 5 Delivery and schedule

The delivery is delayed:  Yes  No

## 6 Adjustments made

No adjustments done



## 7 Efforts for this deliverable

Institute	Person-months (PM)		Period
	actual	estimated	
1:EMBL-EBI	1	3	Q2
2:LU/NMC	0	0	Q2
7:UB	0	0	Q2
13:UBHAM	0	1	Q2
Total	1		

## Appendices of website

1. <http://cosmos-fp7.eu>
2. <http://cosmos-fp7.eu/nmrML/>
3. <http://sourceforge.net/projects/cosmos-fp7/>



## Background information

This deliverable relates to WP7; background information on this WP as originally indicated in the description of work (DoW) is included below.

**WP7 Title:** Outreach and Training  
**Lead:** Ulrich Günther, UBHam  
**Participants:** Ulrich Günther

This work package will provide a close link between the COSMOS consortium and the wider metabolomics and the biomedical community. We will raise community awareness for the services provided by the COSMOS consortium, from data submission support to different views on metabolomics data, but also for the increasingly stringent requirements for data availability as part of the metabolomics publication process. Through the existing framework of the Metabolomics Society, we will ensure broad community input into the services developed by the COSMOS consortium and the standards for Metabolomics data representation developed in this proposal. This deliverable relates to WP7; background information on this WP as originally indicated in the description of work (DoW) is included below.

<b>Work package number</b>	WP7	<b>Start date or starting event:</b>	Month 1
<b>Work package title</b>	Outreach and Training		
<b>Activity Type</b>	COORD		
<b>Participant number</b>	1: EMBL-EBI	2: LU/NC	7: UB
<b>Person-months per participant</b>	8	2	4
			13UBHam
			—
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### Objectives

1. Provide link between the COSMOS consortium and the wider metabolomics and the biomedical community
2. Raise community awareness for the services provided by the COSMOS consortium
3. Collect broad community input into services developed by the COSMOS consortium

### Description of work and role of participants

We will initially employ the usual channels for the disseminations of COSMOS



standards, including scientific publications, and workshops and presentations at metabolomics conferences to reach the wider metabolomics community.

The project will plan activities adequately resourced devoted to dissemination for specialised constituencies and general public, in particular for awareness and educational purposes. The dissemination plan deliverable will consider adequate messages about the objectives of the project and its societal and economic impact. The tools we will use will include web-based communication, press releases, brochures, booklets, multimedia material, etc. The 'dissemination material' will be regularly updated to provide the latest version of the project status and objectives. Electronic and/or paper versions of this 'dissemination material' will be made available to the Project Officer beforehand for consultation and upon its final release. In all material produced in all dissemination activities we will properly acknowledge the source of funding by prominently placing the FP7 logo and the European Commission logo.

We will create and maintain the consortium website in an open source content management system. The website will have an EU domain such as [www.cosmos-fp7.eu](http://www.cosmos-fp7.eu). This website will have a specific COSMOS branding with a professionally designed COSMOS logo to reflect the collaborative and international nature of the consortium. The COSMOS website will allow for content management by the partners, additional component (intranet, calendar, web site search), advanced analytics, functional testing, and communication via mailing lists. COSMOS will also build close links between the COSMOS consortium and the European and International metabolomics community, and the wider biomedical community. For this COSMOS will build on existing links with other EU and International initiatives (e.g. EU projects including the ESFRI infrastructures ELIXIR, BioMedBridges, EU Openscreen, and the IRSES Word Wide NMR to build links international stakeholders in China, specifically the Wuhan metabolomics center, India, and South America). Moreover, COSMOS will build links metabolomics groups in Canada (HMDB, Wishart) and the US (BMRB; see letters of support), both running major metabolomics WEB portals. COSMOS will also build an intensive dialog between mass spectrometry and NMR instrument vendors, search engine providers, experimentalists, data resources, and journal offices. This will require travel funds for all COSMOS stakeholders. Stakeholders are key members and opinion makers of the wider metabolomics community worldwide, in particular the USA, Canada and Japan. These will be invited to workshops and the annual stakeholder meetings where COSMOS standards are disseminated. COSMOS will react dynamically to requests from participants and outside advisors. The stakeholder meetings will preferably be held attached to the annual Metabolomics society meeting or the MetaboMeeting, where the majority of the metabolomics community is present.

Two ELearning WEB tutorials on "Metabolomics Data Deposition" through COSMOS will be made available through partner websites, links from conferences, and announcements on the project web site. The tutorials will be step-by-step 20-30 minutes guides to "Metabolomics Data Deposition and Dissemination through COSMOS". These tutorials need to be carefully scripted, rehearsed and produced in the Media Production room of the Wellcome Trust Genome Campus. We expect that COSMOS standards will be adapted quickly considering this wide-spread array of dissemination channels involved.

Task 1: Development of outreach material (Website, flyer, brochures, etc)

Task 2: Publication of results in scientific journals

Task 3: Presentation of work of the consortium at conferences, in particular the



MetaboMeeting and the annual meeting of Metabolomics Society.

Task 4: Development and dissemination of a web tutorial about the workflows and standards developed in this consortium.

Task 5: Provide training workshops on Metabolomics data deposition, dissemination and access through the general EBI outreach department. (EMBL-EBI)

### Deliverables

No.	Name	Due month
D7.1.1	Outreach activity plan (including publications)	2
D7.1.2	Updated Outreach activity plan (including publications)	12
D7.1.3	Updated Outreach activity plan (including publications)	24
D7.2	Report on the COSMOS consortium website	2
D7.3.1	Report on annual stakeholder meetings	12
D7.3.2	Report on annual stakeholder meetings	24
D7.4.1	Web-based tutorial	18
D7.4.2	Updated web-based tutorial	24
D7.5.1	Report about training workshops	24
D7.5.2	Report about training workshops	36