







Coordination & policy development in preparation for a European Open Biodiversity Knowledge Management System, addressing Acquisition, Curation, Synthesis, Interoperability & Dissemination



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Author: pro-iBiosphere consortium (soraya.sierra@naturalis.nl)











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### **Executive summary**

The present document is a deliverable of the pro-iBiosphere project, funded by the European Commission's Directorate-General Information Society and Media (DG INFSO), under its 7th EU Framework Programme for Research and Technological Development (FP7).

The pro-iBiosphere project is divided into Work Packages (WP), each of them being sub-divided into Tasks (T). One of the objectives of T1.2. "Quality management, assessment and reporting" is to provide a transparent financial management and control of the project.

Within this task Quarterly Management Progress Reports will be prepared and submitted to the EU. The present deliverable (D1.2.2 – Management report (month 3 to 6), prepared by Naturalis (Project Task Leader), is the second report related to this activity. The purpose of the document is to describe the major achievements and difficulties per task, the work performed per each partner, and to provide an indication of the resources spent and justifications, a.o.

### Workpackage 1: Management and coordination

### T1.1 Administrative and financial management (Lead: Naturalis. Start: M1, End: M24)

An internal transfer of budget has been agreed among the consortium members. This transfer concerns four person months from Plazi. A total of six person months were assigned to Plazi for the wiki activities (i.e. T1.3. Internal Communication and T5.1. Development of the project image, documentation and external communication and web platform) but only two person months will be required to perform these tasks.

The consortium has agreed that these person months will be used to provide support on the four tasks led by Naturalis (at present performed by one person) and dissemination activities of the project related to posting news on the social media tools and managing the contents of the website. The recruitment process for a project officer to assist with these tasks at Naturalis has been initiated in order to fill the post by the end of March 2013. In case this person cannot be hired within the next weeks, available resources and work will be distributed among the consortium members.

An overview of the budget and person months consumed by the consortium is available on Annex 2.

### T1.2 Quality management, assessment and reporting (Lead: Naturalis. Start: M1, End: M24)

**Deliverables**. All three deliverables due in the period December 2012 - February 2013 have been produced according to the original planning (see Ref. 9).

Deliverables can be downloaded from the pro-iBiosphere website:

D5.1.2. Electronic newsletter 1 (see Ref. 22)

D1.2.2. Management report (see Ref. 20)

D6.3.1. Report on diversity and strengths of existing business plans & discussion of sustainability (see Ref. 20).

**Milestones**. All six milestones due in the period December 2012 - February 2013 were achieved according to the original planning (see Ref. 11).

MS15. First set of promotional materials (see Ref. 21)

MS4. Initial contact meetings and requirements gathering (see Ref. 34)

MS18. Office meetings to clarify relationships between tasks 6.3 and 6.4 (see Ref. 3)

MS5. Workshop on development and use of e-tools (see Ref. 17)

MS10. Workshop on data curation and acquisition of Floras and Faunas (see Ref. 17)

MS11. Workshop on semantic mark-up generation, data quality and user-participation infrastructure (see Ref. 17).









Presentations of workshops can be downloaded from the pro-iBiosphere website (see Ref. 21). For report of the second pro-iBiosphere meeting (i.e. milestones 5, 10 and 11), please see Ref. 5.

Online questionnaire for evaluation of workshops. In order to evaluate all workshops organised by pro-iBiosphere and assess satisfaction by participants (cf. T1.2), an online questionnaire was designed in Google Drive and linked to the website, see Ref. 24 respectively. The link of the questionnaire was distributed among all participants of the pro-iBiosphere meeting nr. 2 (11-14 of February 2013, Leiden). The results and analysis of the questionnaire are available on Annex 1.

Online progress meetings. In order to discuss progress of activities with the consortium and the 3 monthly work plan, several meetings took place with the various WPs and Task leaders. These online meetings concerned the organization of the: WP3 & WP4 pilot and training activities (January 2013 – Leiden, see Ref. 7); and (ii) pro-iBiosphere meetings number 2 (February 2012 – Leiden, see Ref. 17) and 3 (May 2013 – Berlin, see Ref. 15).

### T1.3 Internal Communication (Lead: Plazi; participants: PENSOFT. Start: M1, End: M24)

In order to facilitate the internal communication between partners, the following platforms/tools/libraries have been created: the Internal Communication Platform (ICP), the internal document library (IDL), and the pro-iBiosphere wiki.

The ICP is primarily being used for sending emails to all partners or to pre-defined groups of people. The IDL is the place to sort out, index and host all files related to the project activities, from the branding products and templates to presentations from meetings and reports. The Wiki is being used as a platform for collaborative online working among partners (e.g. for drafting agendas and outcomes of workshops, pilots, etc.). and for communicating with the stakeholders (see T5.1).

# T1.4 Consortium and review meetings (Lead: SIGMA; participants: all partners. Start: M1, End: M24)

The second Consortium Meeting took place on the 15th of February 2013 in Leiden (for agenda see Ref. 25). During this meeting partners discussed the (i) latest results and achievements of the different work packages; (ii) outcome of the WP2 and WP3 workshops organized on 11-14 of February 2013 (in Leiden) and (iii) the organisation of the upcoming workshops on 21-24 May 2013 (in Berlin); a.o. The various points raised during the meeting and corresponding decisions taken by the Consortium are available on Ref. 26.

### Workpackage 2: European and international policy coordination

# T2.1 Coordination and routes for cooperation across organizations, projects and e-infrastructures (Lead: Plazi; participants: Naturalis, NBGB, FUB-BGBM, PENSOFT, RBGK. Start: M6, End: M13)

A workshop on "Coordination and Routes for Cooperation" will take place on the 23 of May 2013, in Berlin. The agenda of the workshop is available on Ref. 27.

The aim of the workshop is to document the status quo of data providers and drafting a cooperation Memorandum of Understanding which will facilitate the sharing of resources among biodiversity organizations, projects, and initiatives.

The objectives of the workshop are to:

- 1) Identify who is interested in contributing to a collaborative "Knowledge Management System"
- 2) Document their visions, goals, strategies, interests, activities and needs
- 3) Analyse the way they presently cooperate, generate and exchange data









- 4) Identify gaps in the present infrastructure
- 5) Identify who are potential users of the Knowledge Management System infrastructure
- 6) Report the necessary software interfaces for these users
- 7) Gain a better understanding of how biodiversity data can be linked
- 8) The workshop is about defining criteria for cooperation, not implementation of technologies

#### Main outcomes of the workshop are, a:

- 1) Draft of a memorandum of understanding between the main biodiversity institutions in point 1) above which facilitates the sharing of resources among biodiversity organizations, projects, and initiatives. A final version will be available in September 2013 ((Deliverable D2.1.2, due: September 2013)). The MoU will be submitted for signature to the representatives of the interested parties at the final meeting of the project.
- 2) "Report on ongoing biodiversity related projects, current e-infrastructures and standards" (Deliverable D2.1.1, due: June 2013)

Preliminary announcements of the workshop have been made at the Leiden workshops in February 2013, and the organization of the flow of the workshop has been finalized. The invited speakers will be selected in the first week of March. They should be a member of the community, leading specialist in the particular topic for which he/she will be chosen, and a good speaker. Presenters will also be asked to cover topics of special importance during the workshop.

Prior to the workshop, a questionnaire will be disseminated to the participants as well as outsiders to understand the data, its structure, exchange protocol and interfaces used. Based on the return of the questionnaire, a preliminary analysis will be prepared and used as basis for the workshop.

A list of potential participants for the meeting has been identified, invitations will be sent in the first week of March 2013.

# T2.2 Stakeholder requirements (Lead: RBGK; participants: Naturalis, NBGB. Start: M2, End: M12)

A list of stakeholders (the information-users) has been drawn up in preparation for the Stakeholder Workshop at project meeting 3 in Berlin, May 2013 (see MS4 Report, available on Ref. 34). This list is currently based largely on contacts through the activities of RBGK - e.g. records of the provision of floristic data to known collaborators (via the TRY project), and the analysis of registered users of online floras and scratchpads. The intention is that this list will be developed further by consortium members (i.e. to further broadens the listing of the user base and refine the classification). Representative use cases will then be developed by sampling across the strata in conjunction with 1:1 follow-up visits.

The "Stakeholder" workshop will take place on the 21st of May 2013, and participants of the meeting will be drawn from the list above, invitations will be sent on the first week of March 2013. The agenda of the workshop is available on Ref. 27. The aim of the workshop is to hear a range of presentations by users of flora, fauna and mycota information (particularly those working outside of the taxonomic disciplines), exploring how they currently work with the information, and how they would like to able to do so in future. The discussion will be broadened out to take views from the audience and a pre-workshop questionnaire will be distributed to all participants. The objectives of the workshop are, to: identify and document who the users of flora fauna and mycota information are and what are the types of information that they particularly value. This will inform how to prioritise routes to digitisation based on understanding user information needs.

Main outcomes of the workshop will be to further develop the information-user list. Following the workshop, a number of usecases sampled across the broad spectrum of user and uses types will be developed by follow-up visits (i.e. in situ, the user workplace).









# T2.3 State-of-the-art tools to facilitate acquisition of core biodiversity data (Lead: NBGB; participants: Naturalis, Plazi, RBGK, FUB-BGBM. Start: M1, End: M12)

Digital tools are increasingly being used for data acquisition, curation and distribution of taxonomic information. Some of these tools are mature products while others are more experimental. Task 2.3 aims to assess the state-of-the-art of these tools and their adoption by the taxonomic community.

A workshop on "e-platforms & e-tools for taxonomy" took place on the 11<sup>th</sup> and 12<sup>th</sup> of February 2013, in Leiden (for agenda please see Ref. 17). The first day was devoted to presentations from the developers of taxonomic tools and to people actively using them in their work. The second day was dedicated to giving hands-on training on a sample of the available tools. We ran four parallel training rooms in three sessions which allowed the trainees to experience as many tools as possible in only a short time. Verbal feedback from the participants was unanimously positive; several participants that adopted these tools as a result of the training have been asked to write a contribution on the second pro-iBiosphere newsletter.

Organization of the second pro-iBiosphere meeting (including this and other two workshops coordinated by Plazi and Naturalis) took a significant proportion of the time related to this task. Activities included inviting speakers and managing the agenda; inviting representatives from Africa and Asia and organizing their travel arrangements, documents for visa applications and accommodation; organizing venue arrangements and the timetable for trainers; and answering questions of attendees.

As part of Tasks 2.3 & 3.1 activities, the NBGB, RBGK and Naturalis developed a questionnaire on the use of digital taxonomic tools. This poll aims to reveal the opinion on digital taxonomy of taxonomists and related research staff. It covers the core focus of task 2.3 but also related subjects. For example, there are basic questions on their knowledge of and use of digital tools, but also on their attitude towards intellectual property rights; data standards and their collaborators. So far we have collected about 100 responses; about 50% of from pure taxonomists and editors of taxonomic publications, while the others are mainly ecologists, conservationists and IT developers. The respondents are largely from Europe, but we do have contributions from 23 different countries including several from Asia and Africa. The questionnaire has been distributed among the consortium institution staff and will run for two months. The questionnaire can be seen on Ref. 33. The results of the questionnaire will be used to elaborate the report on task 2.3, and to provide information useful for many other work packages.

Main outcomes of this workshop are available in the "pro-iBiosphere meeting number 2" document. (see Ref. 5). The report (deliverable) for this task is due August 2013.

# T2.4 Legal issues of data acquisition, curation and dissemination (Lead: Plazi; participants: all partners. Start: M9, End: M23)

This task is scheduled to commence in M9 (i.e. March 2013). Networking activities with OpenAIRE and EU-BON have started by participating at the OpenAIRE Conference (21-22 November 2012, in Göttingen) and at the EU-BON meeting (February 11-14 2013, in Berlin).

### Workpackage 3: Scientific content and workflow coordination

# T3.1 Data acquisition and curation (Lead: Naturalis; participants: NBGB, FUB-BGBM, RBGK. Start: M3, End: M9)

A workshop on "Prospective Literature – Toward Best Practices for data acquisition and curation using e-tools for taxonomy" took place on the 14th of February 2013, at the Hilton Garden Inn in Leiden. The workshop included c.80 participants and was organised with the purpose of identifying and promoting good practices for entering new field data and collaboratively writing of taxonomic treatments. A detailed agenda (containing objectives, expected outcomes, target audience, a.o.) is available on Ref. 17.









The lectures covered topics from the very basic, whether Floras and Faunas are the way to communicate, to advance journal production workflows to technologies to link data, such as linking data to ontologies, references or names and how to create semantically marked-up publications that allow direct and efficient harvesting and dissemination of the content or parts of. Data mining was covered as an additional aspect. The demonstration of the production workflows by Pensoft and the European Journal of Taxonomy proved very helpful as a real example to discuss not just an idea but work in progress. It eased understanding for many of the participants the advanced technologies, concepts and thoughts involved, and at the same time gave valuable feedback to the builder of the tools. Though some people voiced satisfaction by being able to retrieve a PDF copy of a work, the overwhelming majority preferred open access advanced publications to immediate access via as many possible means to the content and the ability to reuse data in the future.

In order to gain more understanding on the present practices for data acquisition and curation, a questionnaire was designed (by NBGB, RBGK and Naturalis). The questionnaire has been distributed among the consortium institution staff and will run for two months. The results of the questionnaire will be used to elaborate the reports on Task 2.3 and 3.1, and to provide information useful for many other work packages. The questionnaire can be seen on Ref. 33.

For additional notes of this and the other two workshops that took place in February 2013 please see Ref. 5. A report of the meeting will be published by May 2013 (Deliverable D3.1).

# T3.2 Semantic mark-up generation, data quality, and user-participation infrastructure (Lead: Plazi; participants: FUB-BGBM, PENSOFT, Naturalis, RBGK. Start: M3, End: M12)

A workshop on "Legacy literature – Semantic mark-up generation, data quality and user-participation infrastructure" took place on the 13th of February 2013, at the Hilton Garden Inn in Leiden (see Ref. 17). The workshop included c.80 participants, 15 invited lectures (to cover the subjects of the meeting), one free unsolicited talk and time for discussion.

The topics spun from an introductory talk to explain the subject (beginning with the scientific question to the format in which the publications might be published in the future), to various technical issues on how to extract information, how the community might be involved?, and how to measure the quality?

During the discussion the following topics were addressed: why we publish?, do we publish in the right format? (given the changes of the underlying digital resources), how to extract content from the legacy material?, and how all the content can be linked up?. The final discussion focused on two issues: (i) how to get the content out with limited resources, and thus, how the crowd could be used?. Several models have been introduced in this regards. (ii) How the data can be linked and what unique identifiers might be used to achieve this goal?.

The participation of experts on the field helped to make this meeting very successful and fruitful. These experts administer large important databases and have been involved in their development, both from an IT and content point of view. They also have a deep understanding of how to get people involved and the costs involved to make projects sustained. The combination of European, developing countries and US participants was useful to assure that everybody got aware of developments and to think about how resources could be shared: i.e. names do not know geographic boundaries and thus one global system is enough. A major lesson learned is that a triage system is needed to focus on content that is needed, with other words content that is wanted by the users of the system, rather than is projected to be used.

Two series of hands-on sessions of mark-up at treatment (GoldenGATE tool) and character level (Charapars tool) was taught twice to the participants of the workshop.

As the dialogue on identifiers became an important topic during this "legacy workshop", it will thus be further addressed during the workshop on "Coordination and routes for cooperation across organisations, projects and e-infrastructures that will be organised by Plazi in the framework of T2.1 activities.









For additional notes of this and the other two workshops that took place in February 2013 please see Ref. 5. A report of the meeting will be published by May 2013 (Deliverable D3.2.1).

# T3.3 Semantic integration of biodiversity literature (Lead: MFN; participants: FUB-BGBM, PENSOFT, Plazi. Start: M1, End: M24)

One of the goals of pro-iBiosphere is to achieve semantic and technical interoperability. Hence, the semantic integration activities of this task are very important for achieving these project goals. Preliminary activities that need to be undertaken by the MfN deal with identifying steps to achieve the semantic integration of biodiversity literature.

In December 2012 the MfN wrote the first draft for D3.3.1 - Report on state-of the art and research horizons of semantic integration of biodiversity literature. At present, the document currently describes the data enrichment processes used by BHL, following the three patches described in the Description of Work: i.e. (i) fully automated natural language processing, (ii) base mark-up complemented by automated processing and (iii) specialist correction, social crowd-sourcing models. The document was sent in December 2012 to the BHL-US directors for feedback and more input. The document will be further developed in 2013 by the MfN, and other institutions involved in the task (i.e. Pensoft, Plazi and the FUB-BGBM).

As mentioned in the First Management report, Henning Scholz, leader of Task 3.3 (MfN) left pro-iBiosphere by end of December 2012. Following Henning's departure, Jana Hoffmann was assigned by the MfN to take over responsibility for the MfN involvement in the project activities. Jana mentioned during the Consortium Meeting that took place on the 15th of February 2013 that she will be involved in the pro-iBiosphere project until the end of February 2013. In March 2013 the general directorate of MfN will decide on the responsible person regarding the pro-iBiosphere project. As soon as this decision is made by the MfN, the project coordinator will be informed.

In order to prepare the "Workshop on mark-up of biodiversity literature" (MS12) a meeting was held together with Pensoft and BGBM on Thursday the 14th of February (in Leiden). During this meeting outcomes of the meeting and potential participants were discussed. This information will be used as a basis for updating the agenda of the workshop.

### **Workpackage 4: Technical and infrastructure coordination**

# T4.1 Improve technical cooperation and interoperability at the e-infrastructure level (Lead: FUB-BGBM; participants: Naturalis, PENSOFT, RBGK. Start: M4, End M24)

At present there is ongoing discussion and intensive consultations with various platforms, to (i) analyse the accumulated experience in use of identifiers (DOIs and LSIDs) and (ii) propose a model that will make these universally usable within the biodiversity domain.

Ongoing Specification of PLAZI to CDM pipeline and interfaces. PLAZI has implemented a web-service for delivering the list of documents that have been marked-up and stored by Plazi. This service gives the possibility to retrieve marked-up data one by one, based on the document name.

**Ongoing assessment and discussion of Plazi/GoldenGate export formats.** The native format of GoldenGate is not XML-valid. The mark-up level of TaxonX will be investigated.

**Ongoing trial imports into EDIT Platform for Cybertaxonomy.** The debug of the ABCD import might be used for the specimen data linked to treatments. The TaxonX import has to be implemented.









**Testing a workflow of automated publisher-registry pipeline.** During the reporting period, the first tests of XML query/response workflow to register new taxon names and other nomenclatural acts (e.g., new combinations) have been tested by the pro-iBiosphere partners PENSOFT and IPNI (RBKG). These tests were successful. The next step will be to provide a semi-automated workflow for registering new names and acts.

# T4.2 Promote and monitor the development and adoption of common mark-up standards and interoperability between schemas (Lead: Plazi; participants: Naturalis, FUB-BGBM, PENSOFT, RBGK. Start: M4, End M24)

At present there is an ongoing testing of the preliminary XML schemas underpinning the common XMI-based automated publisher-registry pipeline. Two presentations on the topics were presented by Pensoft and discussed during the 2nd pro-iBiosphere meeting in Leiden and at the BioSyst 2013 conference in Vienna. Registration was tested in real time with IPNI and is about to start with Zoobank. Index Fungorum and Fungal Names will follow the IPNI model. The same exchange protocol will also be used during the markup-process workflow in GoldenGATE.

Though the discussion of identifiers has a long history in taxonomy, the current developments in online publishing (e.g. Pensoft or European Journal of Taxonomy) moves it into a new light and requires innovative solutions. Historically, the design of unique identifiers has been a top down approach led by TDWG and GBIF. With the new players and much more data to connect (e.g. Zoobank, GNUB, BHL content and references), the Leiden meeting has been very important to have some of the main actors in a room and in the corridors, which brought forwards an understanding, that the issue of identifiers will not only be reviewed, but implemented. The goal is to have at the forthcoming Berlin meeting a draft for discussion that includes (i) the specification and suggestion of what kind of identifiers (DOI, handle, LSID) to use, and (ii) the mechanism to resolve. The consortium plans to involve "CrossRef" in the discussions, as a professional resolution mechanism used by the publishing industry, and "DOI" as issuer of a very widely used identifier.

**Workshop on Golden Gate**. On January the 14th and 15<sup>th</sup> 2013, a workshop was organized in Leiden. The purpose of the workshop was to teach the participants of the pilot studies on how to mark-up their legacy documents using the GoldenGATE tool. A customized manual and version of GoldenGATE has been prepared using the feedback received by 18 participants that attended the training. Plazi is providing help to improve the mark-up of publications causing problems during the process.

Mark-up pilots. Pilot projects including plant, fungi, millipede, ant and spider and taxa have been discussed with the respective specialists and the processing of the files will commence in March 2013. The goal of the pilots is to demonstrate the power of linking. One of the test groups that has been chosen will include as many as possible digital resources available (e.g., for the ant pilot all the resources are digital, from the cited publications to DNA to imaged and GPS-ed specimen). All the citations will be linked, if possible via identifiers to the cited publications and from the included references to the next publication and so forth. A second set of publications will demonstrate the power of marked up morphological characters. For that purpose, the treatment will be extracted. And then with the help of Charapars the characters will be extracted, and when possible an ontology will be built. The characters and their state will then be used to explore the feasibility to derive identification tools. A third approach will be to collect all the treatments of a few well known pest species from within Chenopodiaceae and then extract all the distribution data to assess the feasibility to derive distribution patterns, and the history of their distribution.

### Workpackage 5: Dissemination, communication and public awareness

T5.1 Development of the project image, documentation and external communication web platform (Lead: PENSOFT; participants: SIGMA, Plazi. Start: M1, End M24)









#### **DEVELOPMENT OF TOOLS & DOCUMENTATION:**

The tools developed by Pensoft and Plazi (i.e. website, social networks and wiki) were produced with the purpose of increasing the dissemination of the project results through outreach activities coordinated by SIGMA (see T5.2).

**Website**. The website allows to increase the online visibility of the pro-iBiosphere project. Project presentations, articles, and news, are being shared on the website.

**Social networks**. The social networks of the project (i.e. Twitter, LinkedIn, Google + and Facebook) are linked with the project website and help to reach different groups of stakeholders. Twitter is being used to communicate the news posted through the website and for following the discussions and opinions of the participants of the pro-iBiopsphere events. For the second pro-iBiopsphere meeting that took place in Leiden, the hashtag "#piblei" was created and used by the participants of the meeting for sharing comments, remarks, expectations, feedback, etc.

**Wiki.** The wiki is being used by the consortium to (i) facilitate sharing of documents that can be edited and modified by partners; (ii) prepare project events; (iii) share lists of partners' contribution to events and publications, other initiatives, pilots; (iv) promote ongoing activities and outcomes of the project, a.o.

**Documentation.** The various dissemination materials produced by Pensoft are available on the website. Examples of these materials are the project poster, flyers and the eNewsletter (see Ref. 22).

**Dissemination and Communication Implementation Plan (DCIP).** The project DCIP was released in M4 and placed on the project website (see ref. 28). The DCIP provides information on the dissemination strategy of the project, the aim of the dissemination actions, the communication and dissemination tools to be used, and the awareness activities and mechanisms for information exchange with various stakeholders. Hence, it is meant to be consulted and used by all partners as the dissemination activities guidelines for the project.

**Excel tables.** SIGMA has created various excel tables to (i) keep track of all relevant social networks/projects/initiatives that are important for the project, and (ii) keep record of all the dissemination activities that are performed by the consortium (see ref. 29 and 30).

# T5.2 Dissemination of the project results through outreach activities (Lead: SIGMA; participants: all partners. Start: M3, End M24)

In order to facilitate partners' contributions to events and articles, a specific form has been added by SIGMA to the project website. This form enables partners to detail their contribution and to add their presentation or article so that a corresponding news is directly created on the project website. The list of partners' contribution to events & articles, and the list of other dissemination activities (see ref. 31 and 32) are being regularly updated by partners. As of today the project has already been involved in four other events and partners published two articles of the project. The final list of partners' contribution to events and articles will be included in the deliverable D5.2.1 in August 2013.

#### Dissemination of the project results through outreach activities:

**eNewsletter and e-flyers.** The pro-iBiosphere eNewsletter and e-flyers were disseminated by Pensoft through the various contact networks. Hardcopy flyers were distributed among the 100 participants of the second pro-iBiosphere meeting. In order to promote the project activities during international events, various pro-iBiosphere posters were printed by Naturalis and distributed among consortium members.

**Wiki**. At present, he wiki is being used for sharing results of the project, workshops agendas, lists of participants, minutes of meetings, etc. The wiki is being regularly updated by all partners.









Website and social media tools. Plazi, Pensoft, Naturalis and NBGB have been actively involved in the dissemination of the results of the project by coordinating the production of the newsletter, and posting results/news of the project on the website & social media tools. In order to ensure that news/results of the project are posted on a frequent basis using the existing online tools available, it is important that an institution/person coordinates the production of the newsletter (i.e. contact people, reviews the content), and posts on the website and social media tools, of course, with input from all the consortium (for more information on this please see Task 1.1).

The project has been involved in outreach, dissemination and cooperation activities outside the EU. A series of visits were conducted by Plazi in December with the purpose of disseminating the goals, objectives, expected outcomes and ongoing activities of the project:

Dec 3 2013, Missouri Botanical Garden. Meeting with Chuck Miller and William Ulate (coordinator and manager of BHL project) Dec 5 2013, University of Kansas, Lawrence. USA, Lecture at the biodiversity group

Dec 3 2013, 5 inversity of Ransas, Lawrence, 65, 1, Lecture at the bloatersity gi

Dec 6 2013, 7 Participation at Charapars workshop, Tucson, Arizona, USA

Dec 8 2013, Meeting at CAS to discuss ant Pilot (Task 4.2)

# T5.3 Stakeholder engagement and communication (lead: SIGMA, participants: all partners. Start: M18, End M22)

No activities to be reported within the present reporting period.

## Workpackage 6: Sustainability planning

# T6.1 Measuring and Constraining the costs of delivering services (lead: Naturalis; participants: FUB-BGBM, PENSOFT, RBGK, Plazi. Start: M6, End M21)

A workshop on "Measuring and constraining the costs of delivering services" will take place on the 22nd of May 2013, in Berlin. The aim of the workshop is to develop strategies towards increased automation, cost-sharing and increased interoperability which shall lead to reducing maintenance costs in the future (e.g. for writing software, for sustainable delivery of content, etc.). The objectives of the workshop are, to: (i) document what are important services that are or need to be provided within the taxonomic community, and (ii) gain a better understanding of how these services can contribute to the reduction of costs (e.g. for mark-up and delivery of legacy biodiversity information, the provision of identification tools, and the production of the "New" floras and faunas, a.o.).

Main outcomes of the workshop are to provide recommendations on (i) how the services being provided within the taxonomic community can be sustained on the long term (e.g. by sharing of resources for computing, storage, etc.) and (ii) how to sustain useful workflows and pipelines that are needed for a future implementation of the Open Biodiversity Knowledge System (pro-iBiosphere). The agenda of the workshop is available on Ref. 27.

A list of potential participants to the meeting has been identified, invitations will be sent during the first week of March 2013. In order to facilitate generating these outcomes a questionnaire has been designed (see Ref. 23). The questionnaire will be distributed among the participants of the workshop.









# T6.2 Identifying and measuring the benefits of delivering services (Lead: RBGK; participants: Naturalis, FUB-BGBM, PENSOFT, NBGB, Plazi. Start: M7, End: M18)

Although timetabled to start in M7, parallel activities in T2.2 have already begun to identify who are the users of the Open Knowledge System for Biodiversity?. This information provides the base from which to begin to explore and cost the benefits to the users. The recruitment process for a project officer to assist with this task at RBGK has been initiated in order to fill the post by July 2013.

# T6.3 Evaluating business models currently in use by partners (Lead: SIGMA; participants: all partners. Start: M2, End M21)

In December 2012, an office meeting (MS18) between Sigma Orionis and the Royal Botanic Gardens Kew (RBGK) took place at RBGK premises in London. The aim of this meeting was to establish the foundations for WP6 activities and to clarify relationships between tasks 6.3 and 6.4. During this meeting the involvement and contribution of project partners in WP6 activities was discussed. As a result of this meeting, the final draft of the questionnaire on "existing business plans currently in use by partners" was designed. A report (MS18) detailing the main conclusions of this meeting along with the methodology and milestones is available on Ref. 3.

The questionnaire details the key concepts and includes three parts: "exploitation plans at the level of your organization"; "business models currently in use in your organization"; and "towards the sustainability of our joint initiative". In order to gather inputs, the questionnaire was sent to all partners in M4. The results have been consolidated into a matrix and analysed. To complement the findings of the questionnaire, a desktop research with information on the different biodiversity platforms has been initiated.

The questionnaire results have been presented to project partners during the 2<sup>nd</sup> Consortium Meeting. The last consolidated version of the questionnaires results, analysis and desktop research will be included in the deliverable D6.3.1 on "diversity and strengths of existing business plans and discussion of sustainability" (due February 2013).

# T6.4 Towards Sustainability for Services (Lead: RBGK, participants: Naturalis. Start: M15, End M24)

No activities to be reported.









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- 3. <a href="http://wiki.pro-ibiosphere.eu/w/media/2/24/Pro-iBiosphere">http://wiki.pro-ibiosphere.eu/w/media/2/24/Pro-iBiosphere</a> WP6 SIG R MS18 V1.2 20122012.pdf
- 4. <a href="http://wiki.pro-ibiosphere.eu/wiki/February">http://wiki.pro-ibiosphere.eu/wiki/February</a> Workshops Participant list
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  - <u>ibiosphere.eu/wiki/Workshop Berlin 1: Requirements of users of Flora, Fauna or Mycota publications or services</u>
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# Annex 1. Results of Evaluation Questionnaire for pro-iBiosphere meeting 2 (consisting of 3 workshops organised by NBGB, Plazi and Naturalis)

After the pro-iBiosphere workshops in Leiden (11<sup>th</sup>-14<sup>th</sup> February) the 101 participants were asked to fill in an online questionnaire to evaluate their opinion of the workshops. 40% of the participants responded and this summary is based on their responses.

88% of the participants rated the content of the event either "excellent" or "very good" (Fig 1.). Other positive indicators of a successful event were that only one person would not recommend our events to others and only one person had no intension to attend another pro-iBiosphere event.

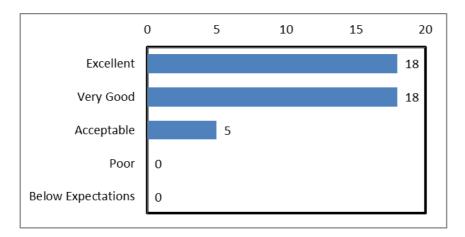


Figure 1. How the participants rated the content of the workshops

The event was a good opportunity for people to network. Only two people who answered the questionnaire felt they had not made any useful contacts, while almost three-quarters felt they had made five or more contacts (Fig. 2). We also received a positive evaluation for the level of interest in the event. More than three-quarters rated it "very interesting" and only two persons rated it "not so interesting".

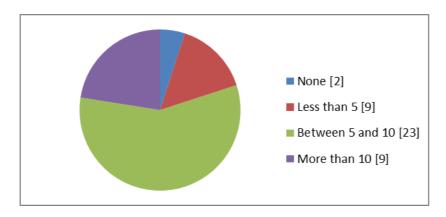


Figure 2. The number of useful contacts people had established or strengthened during the event.









# Annex 2. Overview of budget and person months consumed

Table 1: Description of consumed costs per partner (period: 01 December 2012 to 28 February 2013)

### Partner nr. 1: Naturalis

Partner 1. Naturalis				
Work Package	Item description	Amount (€)	Explanations	
WP1-WP6	Personnel costs	14.576,88		
	Indirect costs	1.020,38	7% reimbursement rate x personnel costs.	
WP2/WP3	Other direct costs	47,50	Meeting 2. February meeting (11/2 – 15/2), Leiden - the Netherlands (accommodation). (€ 5.600 claimed in the previous cost statement)	
WP2/WP3	Other direct costs	3.639,76	Meeting 2. February meeting (3 workshops), Leiden - the Netherlands (tickets for 4 participants)	
WP1	Other direct costs	211,91	Meeting 2. February meeting (11/2 – 15/2). Leiden - the Netherlands (venue and catering costs)	
WP2/WP3	Other direct costs	-15.000,00	Meeting 2. February meeting (11/2 – 15/2), Leiden - the Netherlands (venue and catering). (€ 15.000 claimed in the previous cost statement)	
WP1, WP5		595,68	Successful Planning and Management of EU funded projects. Dissemination Discussion of Dissemination Plan for pro-iBiosphere project (subsistence costs: 595,68)	
WP???	Other direct costs	275,00	Travel and subsistence 6/3-7/3 Brussels, Belgium	
WP???	Other direct costs	281,00	Travel and subsistence 19/3-20/3 Brussels, Belgium	
	Indirect costs	-696,44	7% reimbursement rate x total direct costs.	
Total used during period: 01 December 2012 – 28 February 2013		4.951,67		
Percentage of contribution used during period: 01 December 2012 – 28 February 2013		2,3%		









Total used during period: 01 Sept. 2012 – 30 Nov. 2013	56.582,51	
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013	25,9%	
Subtotal used during periods one and two	61.534,18	
Percentage of contribution used during periods one and two	28,2%	
Requested EU contribution	218,048.00	

Partner 2. NBGB				
Work Package	Item description	Amount (€)	Explanations	
WP1-WP6	Personnel costs	7.721,73€	Salary Groom Q: 50% December (incl. year end bonus), 50% January, 50% estimation February.	
	Indirect costs	540,52€	7% reimbursement rate x total direct costs.	
WP1	Other direct costs			
WP2	Other direct costs	3.393,29€	Mission Groom Q. Leiden January 2013, Cost Groom Q. Survey IT requirements, Travel Cost workshop Leiden February 2013 (Groom Q., Van de Velde I., Ensermu Kelbessa Worati, Mohan Prasad Devkota, Ross Mounce and James Macklin)	
WP3	Other direct costs			
WP4	Other direct costs			
WP5	Other direct costs			
WP6	Other direct costs			









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	Indirect costs	237,53€	7% reimbursement rate x total direct costs.
Total used during period: 01 December 2012 – 28 February 2013		11.893,07€	
Percentage of contribution used during period: 01 December 2012 – 28 February 2013		19,48%	
Total used during period: 01 Sept. 2012 – 30 Nov. 2013		7.182,54€	
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013		11.76%	
Subtotal used during periods one and two		19.075,61€	
Percentage of contribution used during periods one and two		31,24%	
Requested EU contribution		61.067.00	







	Partner 3. FUB-BGBM				
Work Package	Item description	Amount (€)	Explanations		
WP 1	Personnel costs	72.00	0.05 PM		
WP 2	Personnel costs	920.00	0.17 PM		
WP 3	Personnel costs	2,616.00	0.80 PM		
WP 4	Personnel costs	7,232.00	2.07 PM		
WP 5	Personnel costs	267.00	0.09 PM		
	Indirect costs	777.49	7% reimbursement rate x total direct costs.		
WP2	Other direct costs	1,200.00	Estimated travel and accommodation costs for 2 Scientist, PiB Management Meeting in Leiden, 10. – 15.02.2013		
WP3	Other direct costs	746.00	Travel and accommodation costs for one Scientist, Software training 13. – 16.01.2013 in Leiden and Workshop 10. – 14.02.2013 in Leiden (estimated)		
WP4	Other direct costs	750.00	Travel and accommodation costs for one Scientist, Software training 13. – 16.01.2013 in Leiden and Workshop 10. – 14.02.2013 in Leiden (estimated)		
	Indirect costs	188.72	7% reimbursement rate x total direct costs.		
Total used during period: 01 December 2012 – 28 February 2013		14,769.21			
Percentage of contribution used during period: 01 December 2012 – 28 February 2013		7.72%			
Total used during period: 01 Sept. 2012 – 30 Nov. 2013		12,470.25			
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013		6.51%			









Subtotal used during periods one and two	27,239.46	
Percentage of contribution used during periods one and two	14.24%	
Requested EU contribution	191,314.00	

	Partner 4. PENSOFT				
Work Package	Item description	Amount (€)	Explanations		
WP1-WP6	Personnel costs	16 193.63 €	3.67PMs for 2 researchers, 2 developers, 1 mark-up expert, 1 project manager and 1 designer		
	Indirect costs	1133.55€	7% reimbursement rate x total direct costs.		
WP1	Other direct costs				
WP2	Other direct costs				
WP3	Other direct costs				
WP4	Other direct costs	2 522.75 €	Travel and subsistence expenses related to the participation of PENSOFT in the Leiden meeting 11-15 February 2013 (3 participants).		
WP5	Other direct costs				
WP6	Other direct costs				
	Indirect costs	176.59 €	7% reimbursement rate x total direct costs.		
Total used during period: 01 December 2012 – 28 February 2013		20 026.52€			









Percentage of contribution used during period: 01 December 2012 – 28 February 2013	15.76%	
Total used during period: 01 Sept. 2012 – 30 Nov. 2013	23 113.45	
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013	18.18%	
Subtotal used during periods one and two	43 139.97€	
Percentage of contribution used during periods one and two	33.94%	
Requested EU contribution	118,768.00	

Partner 5. SIGMA				
Work Package	Item description	Amount (€)	Explanations	
WP1 / WP5 / WP6	Personnel costs	15620	Resources in line with activities detailed in the progress report	
	Indirect costs	1093	7% reimbursement rate x total direct costs.	
WP1 / WP5 / WP6	Subcontracting	30	Expenses linked to dissemination materials print.	
WP1 / WP5 / WP6	Other direct costs	1835	Travel and subsistence expenses related to the participation of SIGMA in the meeting with RBGK held at M4 in London (2 staff members) and to the Management meeting held at M6 in Leiden (2 staff members)	
Indirect costs		128,45	7% reimbursement rate x total direct costs.	
Total used during period: 01 December 2012 – 28 February 2013		18706,45€		









Percentage of contribution used during period: 01 December 2012 – 28 February 2013	11,77%	
Total used during period: 01 Sept. 2012 – 30 Nov. 2013	16510,39	A revision has been made on the total budget used for the first 3 months as the figures given for the first Management report were only draft
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013	10,39%	
Subtotal used during periods one and two	35216,94€	
Percentage of contribution used during periods one and two	22,16%	
Requested EC contribution	158851	

		Partner 6. F	RBGK
Work Package	Item description	Amount (€)	Explanations
WP1-WP6	Personnel costs	11400	2.5 person months
	Indirect costs	798	7% reimbursement rate x total direct costs.
WP1/WP2/WP3	Other direct costs	2.000	Second pro-iBiosphere meeting (Feb 2013) - 4 persons x10 person nights
WP4	Other direct costs	800	Plazi training (Jan 2013) - 2 persons
	Indirect costs	196	7% reimbursement rate x total direct costs.
Total used during period: 01 December 2012 – 28 February 2013		13,196	
Percentage of contribution used during period: 01 December 2012 – 28		8.5%	









February 2013		
Total used during period: 01 Sept. 2012 – 30 Nov. 2013	8,602.80	
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013	5,51%	
Subtotal used during periods one and two	21,798.80	
Percentage of contribution used during periods one and two	14.0%	
Requested EU contribution	156.008.00	

		Partner 7.	Plazi
Work Package	Item description	Amount (€)	Explanations
WP1	Personnel costs	2762	0.46 PM
WP2	Personnel costs	2373	0.39 PM
WP3	Personnel costs	8284	1.37 PM
WP4	Personnel costs	3797	0.63 PM
WP5	Personnel costs	906	0.15 PM
WP6	Personnel costs	777	0.13 PM
	Indirect costs	1323	7% reimbursement rate x total direct costs.
WP2	Other direct costs	1200	Estimated travel and accommodation costs for 2 scientist, PiB Management Meeting in Leiden, 10. – 15.02.2013
WP3	Other direct costs	2600	Travel and accommodation costs for 2 scientists, Workshop 10. – 14.02.2013 in Leiden (estimated)









WP4	Other direct costs	2400	Travel and accommodation costs for two scientists, software training 13. – 16.01.2013 in Leiden and Workshop 10. – 14.02.2013 in Leiden (estimated)
	Indirect costs	434	7% reimbursement rate x total direct costs.
Total used during period: 01 December 2012 – 28 February 2013		26856	
Percentage of contribution used during period: 01 December 2012 – 28 February 2013		12.8%	
Total used during period: 01 Sept. 2012 – 30 Nov. 2013		16,853.00	
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013		8%	
Subtotal used during periods one and two		43709	
Percentage of contribution used during periods one and two		20.8%	
Requested EU contribution		209,860.00	

	Partner 8. MfN												
Work Package	Item description	Amount (€)	Explanations										
WP1-WP6	Personnel costs	2,221.95											
	Indirect costs	155.54	7% reimbursement rate x total direct costs.										
WP1	Other direct costs	0,00											
WP2	Other direct costs	0,00											









WP3	Other direct costs	0,00	
WP4	Other direct costs	0,00	
WP5	Other direct costs	0,00	
WP6	Other direct costs	0,00	
	Indirect costs	0,00	7% reimbursement rate x total direct costs.
Total used during period: 01 December 2012 – 28 February 2013		2,377,49	
Percentage of contribution used during period: 01 December 2012 – 28 February 2013		3,61%	
Total used during period: 01 Sept. 2012 – 30 Nov. 2013		4,417.71	
Percentage of contribution used during period 01 Sept. 2012 – 30 Nov. 2013		6.69%	
Subtotal used during periods one and two		6.795,20	
Percentage of contribution used during periods one and two		10,30%	
Requested EU contribution		65,996	

Table 2. pro-iBiosphere person month consumption

Partner nr. 1: Naturalis









Work Package		W	P1	WP2			W	WP3		WP4		WP5		WP6				
Task	T1.1	T1.2	T1.4	T2.1	T2.2	T2.3	T2.4	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T5.3	T6.1	T6.2	T6.3	T6.4
Contractual PM																		
(whole project	2.75	2.75	0.5	1.0	0.5	0.5	0.25	4.0	1.0	1.5	1.5	0.2	0.25	0.5	6	1	1	1
period)																		
Used PM																		
period: 01	0.26	0.05	0.08	0.05				0.68	0.37	0.035	0.035	0.16	0.16		0.21	0.1	0.06	
December 2012 –	0.20	0.05	0.08	0.05	0.04	0.54		0.08	0.57	0.055	0.055	0.10	0.16		0.21	0.1	0.06	
28 February 2013																		
Used PM	1.5	0.5	0.02			0.12		0.40	0.10	0.065	0.065	0.2	0.2		0.12			
period: 01 Sept.																		
2012 – 30 Nov.																		
2013																		
Total used in the	1.76	0.55	0.1	1.05	0.54	0.66		1.08	0.47	0.1	0.1	0.36	0.36		0.33	0.1	0.06	
two reporting																		
periods																		

#### Partner nr. 2: NBGB

Work Package	WP1		W	P2		WP3	V	/P5	WP6
Task	T1.4	T2.1	T2.2	T2.3	T2.4	T3.1	T5.2	T5.3	T6.3
Contractual PM (whole project period)	0.5	0.5	0.5	4	0.25	0.5	0.25	0.5	1.0
Used PM period: 01 December 2012 – 28 February 2013	0.075			1.35				0.075	
Used PM period: 01 Sept. 2012 – 30 Nov. 2013				1.5					
Total used in the two reporting periods	0.075			2.85				0.075	

#### Partner nr. 3: FUB-BGBM

Work Package	WP1	W	/P2		WP3		WP4		WP5		WP6		
Task	T1.4	T2.1	T2.4	T3.1	T3.2	T3.3	T4.1	T4.2	T5.2	T5.3	T6.1	T6.2	T6.3
Contractual PM (whole project period)	0.5	0.5	0.25	4	4	3	6	2	0.25	0.5	1	1	1









Used PM period: 01 December 2012 – 28 February 2013	0.05	0.17	0.80	2.07	0.09	
Used PM period: 01 Sept. 2012 – 30 Nov. 2013	0.21		1.44	1.15		
Total used in the two reporting periods	0.26	0.17	2.24	3.22	0.09	

#### Partner nr. 4: Pensoft

Work Package		/P1	W	/P2	W	Р3	W	/P4		WP5			WP6	
Task	T1.3	T1.4	T2.1	T2.4	T3.2	T3.3	T4.1	T4.2	T5.1	T5.2	T5.3	T6.1	T6.2	T6.3
Contractual PM (whole project period)	1	0.5	2.5	0.25	0.5	2.5	4	3	5	0.25	0.5	1	1	1
Used PM period: 01 December 2012 – 28 February 2013	0.44		0.56		0.05	0.46	0.67	0.43	0.89	0.02	0.05			0.10
Used PM period: 01 Sept. 2012 – 30 Nov. 2013	0.4	0.19	0.20				0.06	0.22	3.5	0.14	0.10			
Total used in the two reporting periods	0.84	0.19	0.76		0.05	0.46	0.73	0.65	4.39	0,16	0.15			0.10

### Partner nr. 5: Sigma Orionis

Work Package	WP1		WP6		
Task	T1.4	T5.1	T5.2	T5.3	T6.3
Contractual PM (whole project period)	1.5	2	2	4	3.5
Used PM period: 01 December 2012 – 28 February 2013	0.1	0.6	0.2	0	1,3









Used PM period: 01 Sept. 2012 – 30 Nov. 2013	0,5	1	0,3	0	0,2
Total used in the two reporting periods	0,6	1,6	0,5	0	1,5

#### Partner nr. 6: RBGK

Work Package WP1 WP2 WP3 WP4 WP5 WP6															
Work Package	WP1	WP2		W	WP3 WP		4 WP5		VVPG						
Task	T1.4	T2.1	T2.2	T2.3	T2.4	T3.1	T3.2	T4.1	T4.2	T5.2	T5.3	T6.1	T6.2	T6.3	T6.4
Contractual PM (whole project period)	0.5	0.25	3.0	0.25	0.25	0.5	0.5	1.0	1.0	0.25	0.5	1.0	6.0	1.0	6.0
Used PM period: 01 December 2012 – 28 February 2013	0.1	1.6				0.6		0.2				0.9			
Used PM period: 01 Sept. 2012 – 30 Nov. 2013	0.25	0.03	0.54	0.06			0.06								0.75
Total used in the two reporting periods	0.35	1.63	0.54	0.06		0.6	0.06	0.2				0.9			0.75

#### Partner nr. 7: Plazi

Work Package	WP1		WP2		WP3		WP4	WP5			WP6		
Task	T1.3	T1.4	T2.1	T2.4	T3.2	T3.3	T4.2	T5.1	T5.2	T5.3	T6.1	T6.2	T6.3
Contractual PM (whole project period)	3	0.5	2,5	2	3	1	3	3	0.3	0.5	1	1	1
Used PM period: 01 December 2012 – 28 February 2013	0.3	0.1	0.4	0	1.1	0.3	0.6	0.1	0.1	0	0	0	0
Used PM period: 01 Sept. 2012 – 30 Nov. 2013	0.1	0.6	0.2	0.3	0.5		0.1	0.1					









Total used in the two reporting	0.4	0.7	0.6	0.3	1.6	0.3	0.7	0.2	0.1	0	0	0	0
periods													

#### Partner nr. 8: MfN

Work Package	WP1	W	P2	WP	WP5		WP6
Task	T1.4	T2.1	T2.4	T3.3	T5.2	T5.3	T6.3
Contractual PM (whole project period)	0.5	0.5	0.25	5.0	0.25	0.5	1.0
Used PM period: 01 December 2012 – 28 February 2013				0			
Used PM period: 01 Sept. 2012 – 30 Nov. 2013				0.36			
Total used in the two reporting periods				0.36			