

IDIS Resource Definition

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1. SCOPE OF THE DOCUMENT

Scope of this document is the definition, classification and handling of resources in the framework of the Europlanet-RI / IDIS Service Activity and the general policy that must be followed towards any kind of resources. The document also describes the association of an incoming resource with one of the Nodes, which then will become responsible for its management. The community in the scope of this document is the international community of planetary scientists.

There is an on-going effort by the IDIS team to define standards and to provide an architecture which will enable planetary scientists to share data and services in the framework of what is commonly called now a Virtual Observatory (VO). Data Resources must be described with more details, in order to become searchable and accessible on-line, using a standard data access protocol. These details will be described in an extra document after they are defined by the related JRA4-IDIS activities.

2. DEFINITION OF RESOURCE

A **resource** in the context of this document is any kind of information, tool or data that can be reached through IDIS websites. The resources will be categorized according to the following scheme:

2.1 Contact information

These resources contain information necessary to get in contact with persons, institutes, laboratories or other facilities. Such information includes the related field of research they are engaged in or the services that might be offered to the community. Before new contact information is added as resource, some experts in the field are asked for confirmation that this is indeed valid information related to planetary research to reduce irrelevant or misleading information as much as possible.

There are three categories included in this resource type:

2.1.1 *Persons*

Any person working in the field of planetary research can be proposed for addition to the resource list. Required information:

- Name, address / phone / e-mail and possibly related Web-site
- Association with a research institute (optional)
- Function inside Europlanet-RI (optional)
- Field of (planetary science-related) research including related keywords like targets, missions, area of research

Any person can suggest herself / himself or anyone else for registering with the Europlanet-RI person register via the form presented on page <http://www.europlanet-ri.eu/register>. After filling in at least the mandatory fields and selecting the "CREATE" button at the end of the form, the request is sent to an Europlanet-RI internal advisory board. If any of the board members vouches for the person described in the registration request as existing and related in some way to planetary research, the person is added to the persons register, accessible via web-page <http://www.europlanet-ri.eu/contacts/people>

The main purpose of the referee process is to ensure that the register will not contain references to persons not related in anyway to the Europlanet-RI fields of research like advertisement etc.

2.1.2 *Institutes*

Research institutes or university departments working in any field related to planetary physics can be proposed for addition to the resource list. Institutes associated with Europlanet-RI are automatically included. Required information:

- Institute name, contact address and Web-site
- Research field(s)
- Position inside Europlanet-RI (optional)

Requests for registering should be sent to the Europlanet-RI project assistant. For details see the Coordinator information page at <http://www.europlanet-ri.eu/contacts/eprncontacts>

2.1.3 *Facilities*

Any laboratory or test site offering services useful for planetary research or the development of related instrumentation can be entered here. Required information:

- Contact address, contact person with e-mail and phone number, Web-site
- Association with Europlanet-RI (optional)
- Type of service provided: short description and selection of one or more of the following categories:

Laboratory, Instrument Test Facility, Field Analog Site, Modeling Service

Related resources should describe services or capabilities useful for the community and may be offered by already registered institutes or other institutions / laboratories / companies in the public or private sector.

For details about how to add such resource to the resource database see the description of the resource update form in the appendix to this document. Resource database type: "CONTACT/Facility".

2.2 Space Mission Support Information

Collections of documents may be referenced by IDIS as resources, if they provide essential information for planetary research or the preparation of related instruments, projects or missions, and if this information is difficult to locate via standard bibliographic services.

Minimum information about the resource to be referenced in IDIS:

- Resource name
- URL
- Short description of the document archive
- Name and contact address / phone / e-mail and possibly related Web-site of the person responsible for the contents
- List of keywords from the IDIS-maintained keyword list telling to which field of planetary sciences, targets or missions the document is related. Resource database type: "SUPPORT INFORMATION on space mission"

2.3 Analysis or Access Tools

These resources are services to the community to be used in the context of planetary sciences. These services might be software packages to be downloaded and installed by users or independent web-accessible services.

Minimum information about the resource to be referenced in IDIS:

- Resource name
- Resource description
- Name and contact address / phone / e-mail and possibly related Web-site of a responsible person for the tool
- Access URL of on-line documentation to use the tool
- Information about possible costs or other restrictions associated with using the tool
- List of keywords from the IDIS-maintained keyword list telling to which field of planetary sciences, targets or missions the tool is related
- In case of software: access URL of the package with installation description including the platforms for which the installation was successfully tested (source code is not required).
- In case of services: access URL of the service.

Resource database type: "TOOLS for Analysis or Access"

2.4 Data

Data resources describe individual data products or data product sets. Data products can be images, observational values or catalogs. Included in the Data resource category are the resources used to describe individual files (data products). Data might have been generated by ground- or space- based observations, laboratory measurements, modeling or

simulations or might be made available with a reasonably delay on request like on-demand simulations. Infrastructure resources like data repositories are also in this category.

IDIS in its final form of implementation will expect data resources in a format consistent with usage in a VO context. The aim of the VO is to connect data resources and services so as to make them available and interoperable through a standard web interface. This requires standard description of the data, existence of a data access layer (see below), and declaration in a so-called registry system. IDIS is developing such a registry system in coordination with the International Planetary Data Alliance (IPDA).

Information describing the resource in the registry will be collected and formatted using a tool which will be provided by IDIS. This description will be defined in agreement with the IPDA. At minimum, it should include general resource descriptors contained in the so-called Dublin core (see <http://dublincore.org/documents/dces/>)

Additionally to the data and the information mentioned above, the resource provider has to make available an on-line service which makes the resource accessible through a standard data protocol accepting data search enquiries and returning answers according to the contents of the available data sets ("data access layer" to the data archive). Several standard protocols may be used in IDIS for this information exchange, including the Planetary Data Access Protocol (PDAP) as defined by the IPDA, with possible extensions.

For details of PDAP see the web page http://planetarydata.org/projects/data-access/documents/pdap-versions/IPDA_PDAP_v0.4_25_Jun_2009.pdf/view

Details of the information collection tool and the implemented data access protocols will be given in a separate document.

In preparation of the IDIS VO-services the data repositories are initially collected as resources with additional information if they are already used in connection with an existing VO, and if so what is the URL of the VO access site. Data not currently included in an existing VO can still be registered here.

Minimum information about the data resource to be referenced in IDIS:

- Name
- Access URL
- Description
- Name and contact address / phone / e-mail and possibly related Web-site of the person responsible for the resource
- List of keywords from the IDIS-maintained keyword list telling to which field of planetary sciences, targets or missions the data are related.

In case of isolated data products, the data providers are encouraged to submit their products for inclusion into a larger data repository accessible through IDIS, such as data centers associated with major research institutes.

	IDIS Resource Definition	Version 2.0 September 2010
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There are four categories included in this resource type:

2.4.1 *Observational Data*

These data originate from space-borne or ground based instrument. Required information:

- Mission / facility
- Target
- URL to access the data or data repository
- Time interval covered
- Data type
- Contact name and address of responsible person
- URL to background information, description, calibration etc

Resource database type: "DATA/Observational"

2.4.2 *Laboratory Data*

These data originate from ground facilities able to simulate conditions relevant for planetary research and to provide information for calibration or comparison with observation data.

Required information:

- URL to access the data or data repository
- Area of research connected to the provided data
- Data type
- Contact name and address of responsible person
- URL to background information, description, calibration etc

Resource database type: "DATA/Laboratory"

2.4.3 *Modeling and Simulation Data*

These data originate from computing facilities of research institutes, simulate conditions relevant for planetary research and provide information for calibration or comparison with observation data. Required information:

- URL to access the data or data repository
- Area of research connected to the provided data
- Data type
- Contact name and address of responsible person
- URL to background information, description, model type etc

Resource database type: "DATA/Modeling & Simulation"

2.4.4 *Ephemeris and Attitude*

These data describe location parameters of Solar System objects like planets, moons, comets, asteroids, spacecrafts etc. Data may be organized in table form or as tools for direct calculation of the orbital / positional parameters of an object at a given moment in time. Required information:

- URL to access the data or data repository
- Area of research connected to the provided data
- Data type
- Contact name and address of responsible person
- URL to background information, description etc

Resource database type: "DATA/Ephemeris & Attitude"

3. POLICY TOWARDS THE INCOMING RESOURCES

IDIS will provide tools to declare new data resources in the IDIS/IPDA registry system. These tools will allow checking that the resource can be integrated into the planetary VO.

In other cases, a potential resource provider should contact the scientific staff of the IDIS node most likely thematically related to the offered resource. Alternatively he/she might be contacted by a member of a node staff directly. If the association of the resource with one of the nodes is not self-evident or if the resource might be related to the thematic fields of several nodes, one of the nodes will be appointed as associated node by mutual agreement of the IDIS team.

The associated node will have the responsibility of deciding if the proposed resource

- can be accepted as it is
- requires some work from the proposer in order to be acceptable (e.g., an appropriate documentation is missing)

Acceptance or preliminary refusal of resources is only related to the form in which they are offered and maintained, not to their contents, as long as they are related to the science themes of IDIS. The experts co-operating with the IDIS nodes do not have the possibility or mandate to uphold a referee process on the quality of these resources.

The associated node will provide the contact point to the resource provider for any question, possible update or withdrawal information.

The responsibility for the accessibility and quality of the resource remains with the resource provider.

4. INCLUSION OF RESOURCES INTO IDIS

In general, data or other resources are not physically stored at the facilities of one of the IDIS nodes but are expected to be maintained in archiving facilities related to the resource provider.

Once a resource is accepted it will be referenced in IDIS by either representatives of the associated node or by a representative of the resource provider using an on-line tool available for registered IDIS users. Currently these resources will be added to the IDIS inventory, using the Resource Submission Form, which is accessible via the “Resources” menu entry of the Europlanet-RI IDIS page <http://www.europlanet-ri.eu/idis> after login.

Additionally related information and direct links might be added to the web-site of the associated node. On the discretion of this node’s staff other nodes might be informed about the possibility to add similar information or a web-site link also to their node.

VO-compatible data: Once the necessary tools are implemented in IDIS, its data registry is updated with the new information.

5. REMOVAL OF RESOURCES FROM IDIS

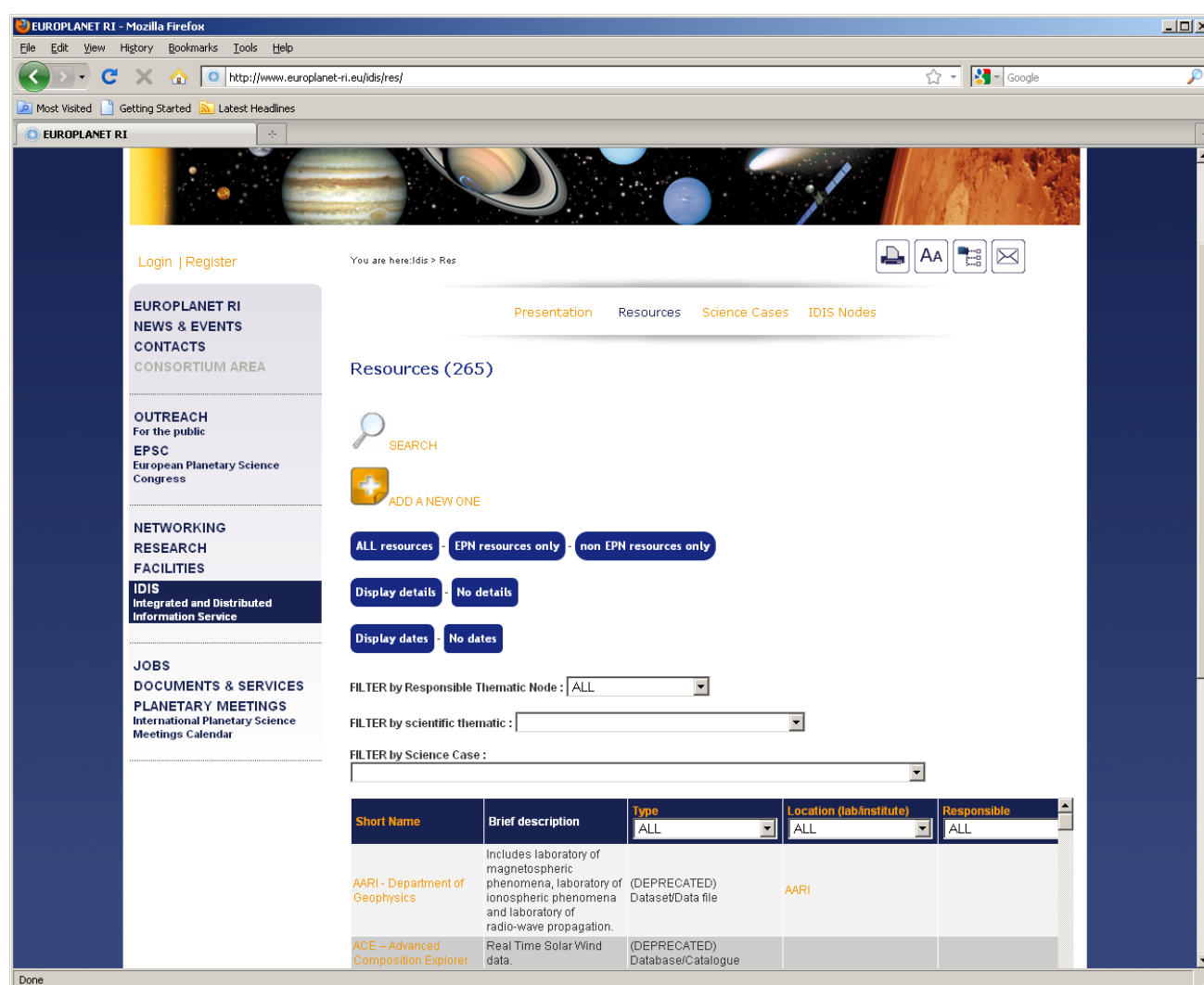
On request of the resource provider or the science advisors of the associated node, a resource may be removed from the IDIS system.

6. APPENDIX: RESOURCE UPDATE FORM

New resources can be added to the IDIS resource database via the Web-based form.

Address: <http://www.europlanet-ri.eu/idis/res/>

Using one's login and password one can add new resources or modify or remove existing ones.



The screenshot shows the 'Resources (265)' page of the Europlanet RI IDIS system. The interface includes a search bar, buttons for 'ADD A NEW ONE', and filters for 'ALL resources', 'EPN resources only', and 'non EPN resources only'. There are also buttons for 'Display details' and 'No details', and 'Display dates' and 'No dates'. The filters section includes 'FILTER by Responsible Thematic Node' (set to ALL), 'FILTER by scientific thematic', and 'FILTER by Science Case'. Below the filters is a table of resources.

Short Name	Brief description	Type	Location (lab/institute)	Responsible
AARI - Department of Geophysics	Includes laboratory of magnetospheric phenomena, laboratory of ionospheric phenomena and laboratory of radio-wave propagation.	(DEPRECATED) Dataset/Data file	AARI	
ACE - Advanced Composition Explorer	Real Time Solar Wind data.	(DEPRECATED) Database/Catalogue		

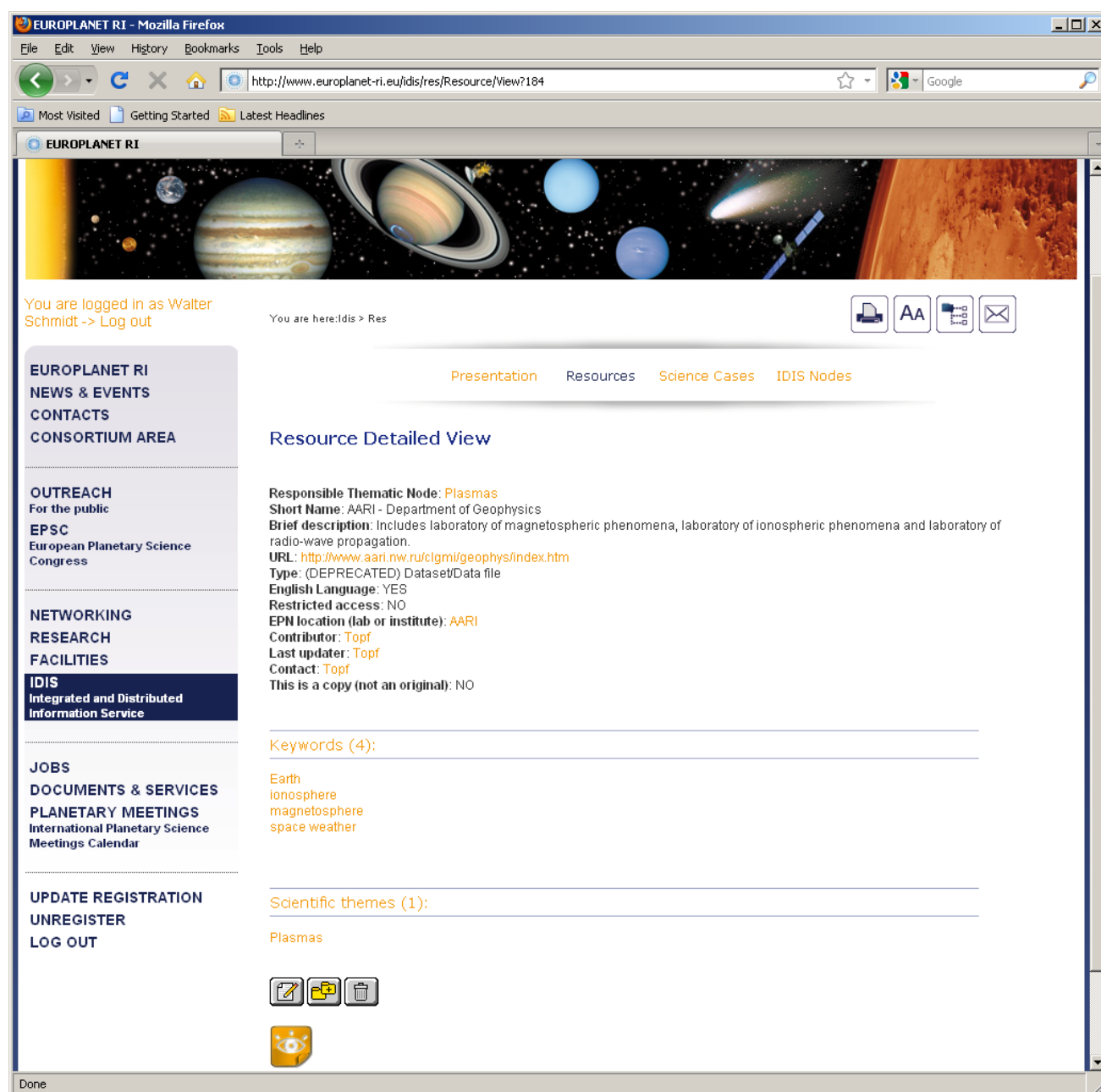
Filter options for narrowing the selection:

FILTER by Responsible Thematic Nodes: Either all files without discrimination according to IDIS node responsibilities are shown (Default: ALL), or only resources with a selected node as responsible contact point are presented.

FILTER by scientific thematic: the selection options are as before, but as more than one IDIS node might be associated with a resource such resources will be included in the displayed list..

FILTER by Science Cases

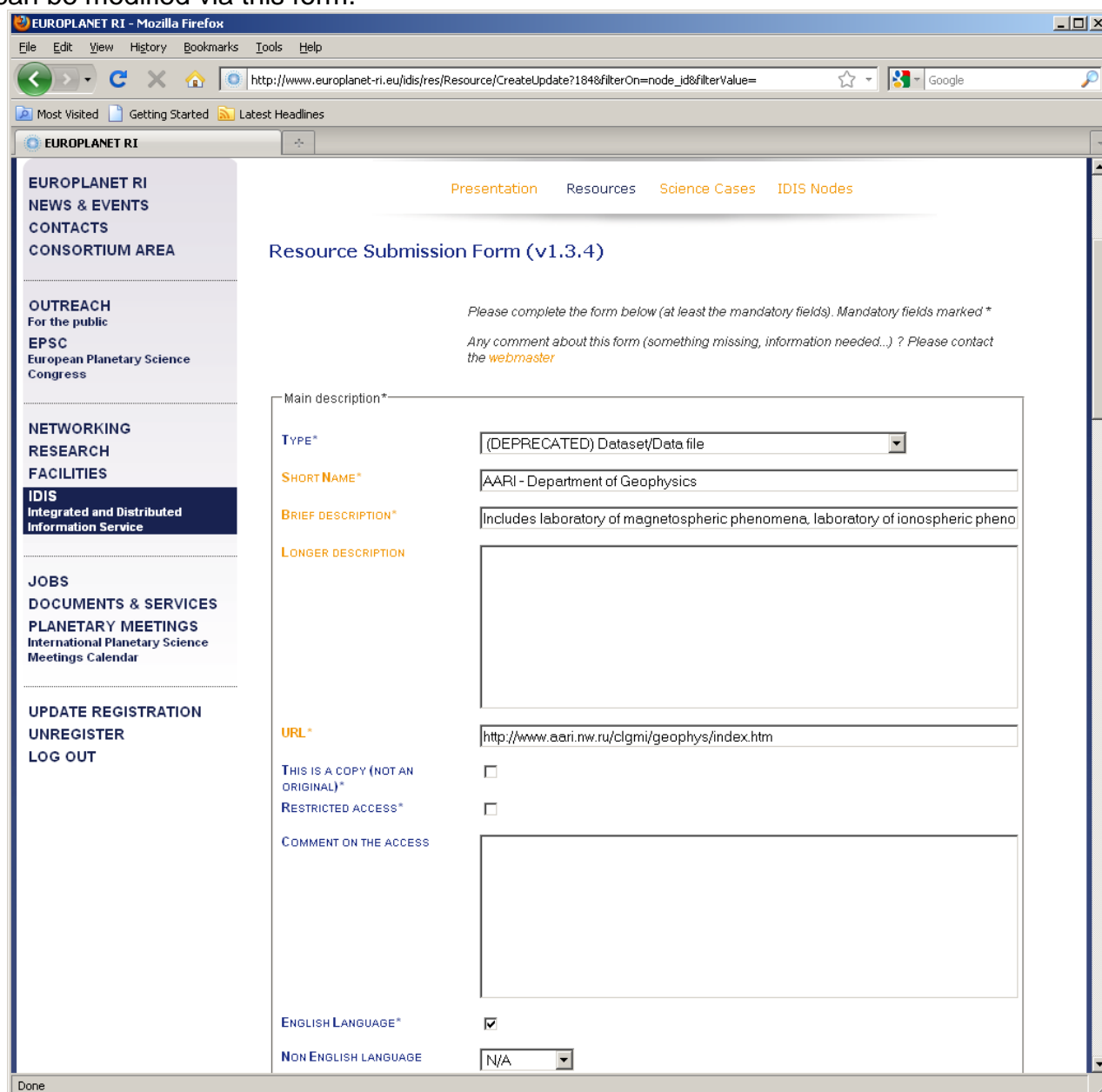
After selecting the resource to be edited by selecting the left-hand column entry, a detailed resource view is displayed. At its bottom a row of 3 editing icons is displayed if the user is logged in and authorized by the resource database maintainer.



The screenshot shows a Mozilla Firefox browser window displaying the EUROPLANET RI website. The address bar shows the URL: <http://www.europlanet-ri.eu/idis/res/Resource/View?184>. The page features a header with a space-themed banner and navigation links: Presentation, Resources, Science Cases, and IDIS Nodes. A left sidebar contains various menu items including NEWS & EVENTS, CONTACTS, CONSORTIUM AREA, OUTREACH, EPSC, NETWORKING, RESEARCH, FACILITIES, IDIS, JOBS, DOCUMENTS & SERVICES, PLANETARY MEETINGS, and UPDATE REGISTRATION. The main content area displays the 'Resource Detailed View' for a resource titled 'Plasmas'. The details include: Responsible Thematic Node: Plasmas; Short Name: AARI - Department of Geophysics; Brief description: Includes laboratory of magnetospheric phenomena, laboratory of ionospheric phenomena and laboratory of radio-wave propagation; URL: <http://www.aari.nw.ru/clgmi/geophys/index.htm>; Type: (DEPRECATED) Dataset/Data file; English Language: YES; Restricted access: NO; EPN location (lab or institute): AARI; Contributor: Topf; Last updater: Topf; Contact: Topf; This is a copy (not an original): NO. Below the details, there are sections for Keywords (4): Earth, ionosphere, magnetosphere, space weather; and Scientific themes (1): Plasmas. At the bottom of the main content area, there are three editing icons: a pencil, a folder, and a trash can.

The left icon opens the resource entry form with the currently available contents filled in for editing. The right icon allows to delete this resource after additional confirmation. The center icon copies the current resource details as template for a new resource to be added to the resource database, thereby possibly saving the need to add the same information several times in case related resources are to be added. The bottom “eye”-icon, also available for users without database editing authority, returns to the resource list display with the previously selected filter selections still active.

Selecting the Edit icon from the Resource Detailed View window opens the Resource Submission form with all currently available information for the selected resource. Any entry can be modified via this form.



EUROPLANET RI
NEWS & EVENTS
CONTACTS
CONSORTIUM AREA

OUTREACH
For the public
EPSC
European Planetary Science Congress

NETWORKING
RESEARCH
FACILITIES
IDIS
Integrated and Distributed Information Service

JOBS
DOCUMENTS & SERVICES
PLANETARY MEETINGS
International Planetary Science Meetings Calendar

UPDATE REGISTRATION
UNREGISTER
LOG OUT

Presentation Resources Science Cases IDIS Nodes

Resource Submission Form (v1.3.4)

Please complete the form below (at least the mandatory fields). Mandatory fields marked *

Any comment about this form (something missing, information needed...) ? Please contact the [webmaster](#)

Main description*

TYPE* (DEPRECATED) Dataset/Data file

SHORT NAME* AARI - Department of Geophysics

BRIEF DESCRIPTION* Includes laboratory of magnetospheric phenomena, laboratory of ionospheric pheno

LONGER DESCRIPTION

URL* http://www.aari.nw.ru/clgmi/geophys/index.htm

THIS IS A COPY (NOT AN ORIGINAL)* ☐

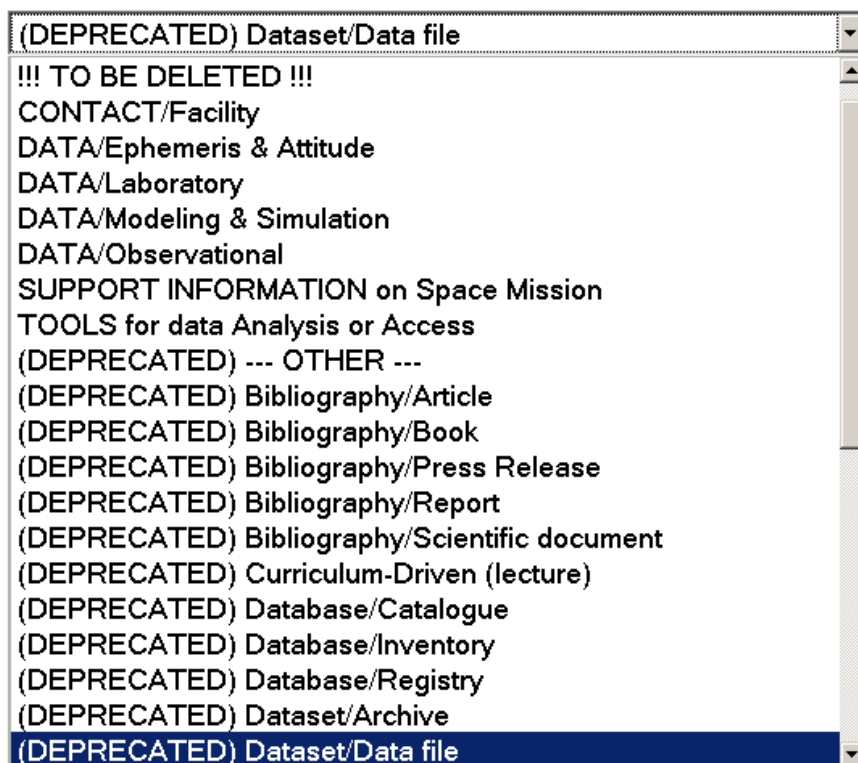
RESTRICTED ACCESS* ☐

COMMENT ON THE ACCESS

ENGLISH LANGUAGE* ☒

NON ENGLISH LANGUAGE N/A

The first entry classifies the resource according to the categories explained in detail in the main part of this document. Entries can only be selected from the displayed list:



The first possible entry “!!! TO BE DELETED !!!” is a suggestion by the editing person to other database maintainers to remove the resource in case more than one IDIS node might be affected.

Entries presceded by (DEPRECATED) are types used during FP6 and should be replaced by one of the new types in line with this document, listed as first 7 entries. If in doubt, please refer to the explanation given in this document.

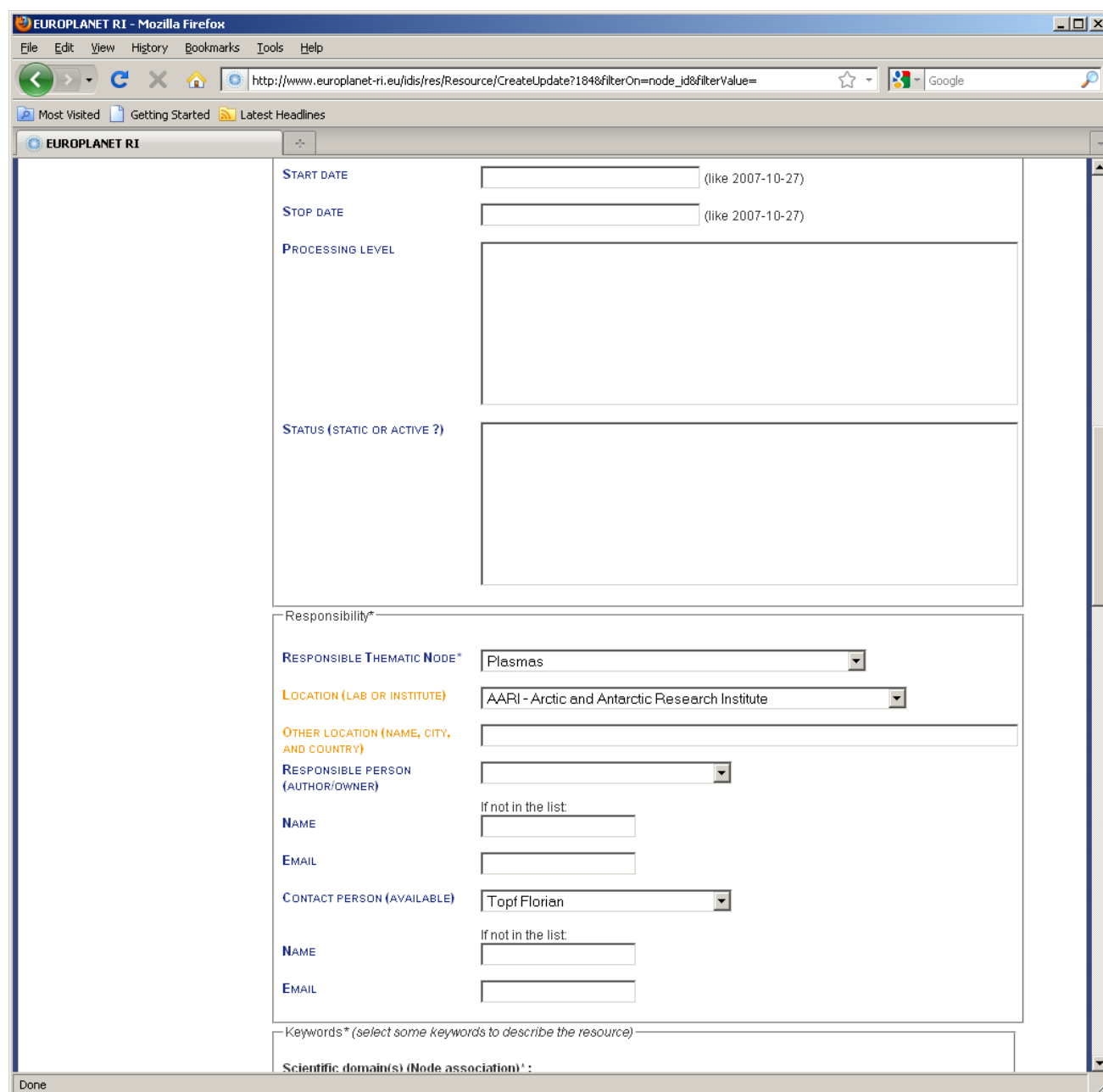
The following three entries define the resource, where the short name has to be unique inside the database. As default database entries will be listed in alphabetical order according to this short name.

The URL (Web-address of the top level entry to this resource) is mandatory, as without it no user can directly utilize this resource on-line.

If the resource, usually data, is a copy from aonther database, which might be updated at independent time intervals, this should be marked in the following check-box. If the same resource is available also as original, that one will be normally given as a result of an automatic search. A copy could be useful in case the original is temporarily not available.

If the access to the resource is not open but needs special access authorization, this should be marked via the next check-box, followed with an explanation of the procedure how to get this authorization or to which user group the access is restricted.

The standard language of the database resources is supposed to be English. This should be stated by selecting the next check-box. Otherwise one of the given alternative languages should be selected from the following pull-down menu.



The screenshot shows the 'EUROPLANET RI - Mozilla Firefox' browser window. The address bar displays the URL: http://www.europlanet-ri.eu/idis/res/Resource/CreateUpdate?184&filterOn=node_id&filterValue=. The browser's 'Most Visited' bar shows 'Getting Started' and 'Latest Headlines'. The main content area is titled 'EUROPLANET RI' and contains a form for defining a resource. The form includes the following fields and sections:

- START DATE**: A text input field with a placeholder '(like 2007-10-27)'.
- STOP DATE**: A text input field with a placeholder '(like 2007-10-27)'.
- PROCESSING LEVEL**: A large empty text area.
- STATUS (STATIC OR ACTIVE ?)**: A large empty text area.
- Responsibility***: A section containing several fields:
 - RESPONSIBLE THEMATIC NODE***: A dropdown menu with 'Plasmas' selected.
 - LOCATION (LAB OR INSTITUTE)**: A dropdown menu with 'AARI - Arctic and Antarctic Research Institute' selected.
 - OTHER LOCATION (NAME, CITY, AND COUNTRY)**: An empty text input field.
 - RESPONSIBLE PERSON (AUTHOR/OWNER)**: A dropdown menu.
 - NAME**: A text input field with the label 'If not in the list:' above it.
 - EMAIL**: A text input field.
 - CONTACT PERSON (AVAILABLE)**: A dropdown menu with 'Topf Florian' selected.
 - NAME**: A text input field with the label 'If not in the list:' above it.
 - EMAIL**: A text input field.
- Keywords* (select some keywords to describe the resource)**: A large empty text area.
- Scientific domain(s) (Node association)*:**: A large empty text area.

The browser's status bar at the bottom shows 'Done'.

The following 4 entries are for data archives: start und possible stop date for the archived observations, comments to the processing level(s) available and a field to verbally specify if the archive is completed or still being updated.

The next area specifies the contact details for the resource:

- Which of the IDIS nodes is responsible for maintaining the contact to the resource provider
- Which of the institutes associated with Europlanet-RI is responsible for maintaining the resource itself. If the institute is not associated with Europlanet-RI:
- Enter the contact details of the institute / laboratory
- Which natural person is responsible for the resource contents: chose from the list of persons already registered with Europlanet-RI. If not (yet) registered:
- Enter name and e-mail address manually
- Who is acting as contact person for the resource in casew of questions: chose from the list of persons already registered with Europlanet-RI. If not (yet) registered:
- Enter name and e-mail address manually

The following section specifies details of the resource:

- To which domain of planetary sciences is the resource related (select any number of fields = IDIS nodes by checking the related check-box
- Which targets are related to the resource. Up to 3 different targets can be selected. A list of possible targets is given via a pull-down menu, but can be extened on request
- Which space missionis are reltated to the resource. Up to 3 different missions can be selected. A list of possible missions is given via a pull-down menu, but can be extened by entering new mission name(s) into the provided field
- Which keywords best describe the resource. If the keyword(s) are not already presented via the pull-down menu, new keywords can be suggested via the provided field at the end of the list.
- To which of the science cases defined earlier in the project could the resource contribute? Selecting one or more check-marks allows the resource to be listed in the general resource list if the corresponding science-case filter is set. This might help to locate the resource faster in case the user is especially interested in one of the pre-selected topics.

EUROPLANET RI - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.europlanet-ri.eu/ids/res/Resource/CreateUpdate?184&filterOn=node_id&filterValue=

Most Visited Getting Started Latest Headlines

EUROPLANET RI

Keywords* (select some keywords to describe the resource)

Scientific domain(s) (Node association)* :

☐ Technical

☒ Plasmas

☐ Small Bodies, Dust, and TNOs

☐ Atmospheres

☐ Interiors & Surfaces

☐ Planetary Dynamics and Extraterrestrial matter

(Other)

Target(s) :

Earth (Target 1)

(Target 2)

(Target 3)

If you need a new keyword in this list, please send an email to the [webmaster](#)

Mission(s) :

(Mission 1)

(Mission 2)

(Mission 3)

If you wish, enter new 'Mission' names (each separated with a semicolon)

(Other)

Other(s) Miscellaneous (select as many as necessary):

ionosphere (Other 1)

magnetosphere (Other 2)

space weather (Other 3)

(Other 4)

(Other 5)

(Other 6)

(Other 7)

(Other 8)

(Other 9)

(Other 10)

If you wish, enter new 'Other' keywords (each separated with a semicolon)

(Other)

Related Science case(s) (select only if relevant)

☐ SC0.1 - Definition and archiving of ground-based observations in support of space missions

☐ SC1.1 - Dating planetary surfaces

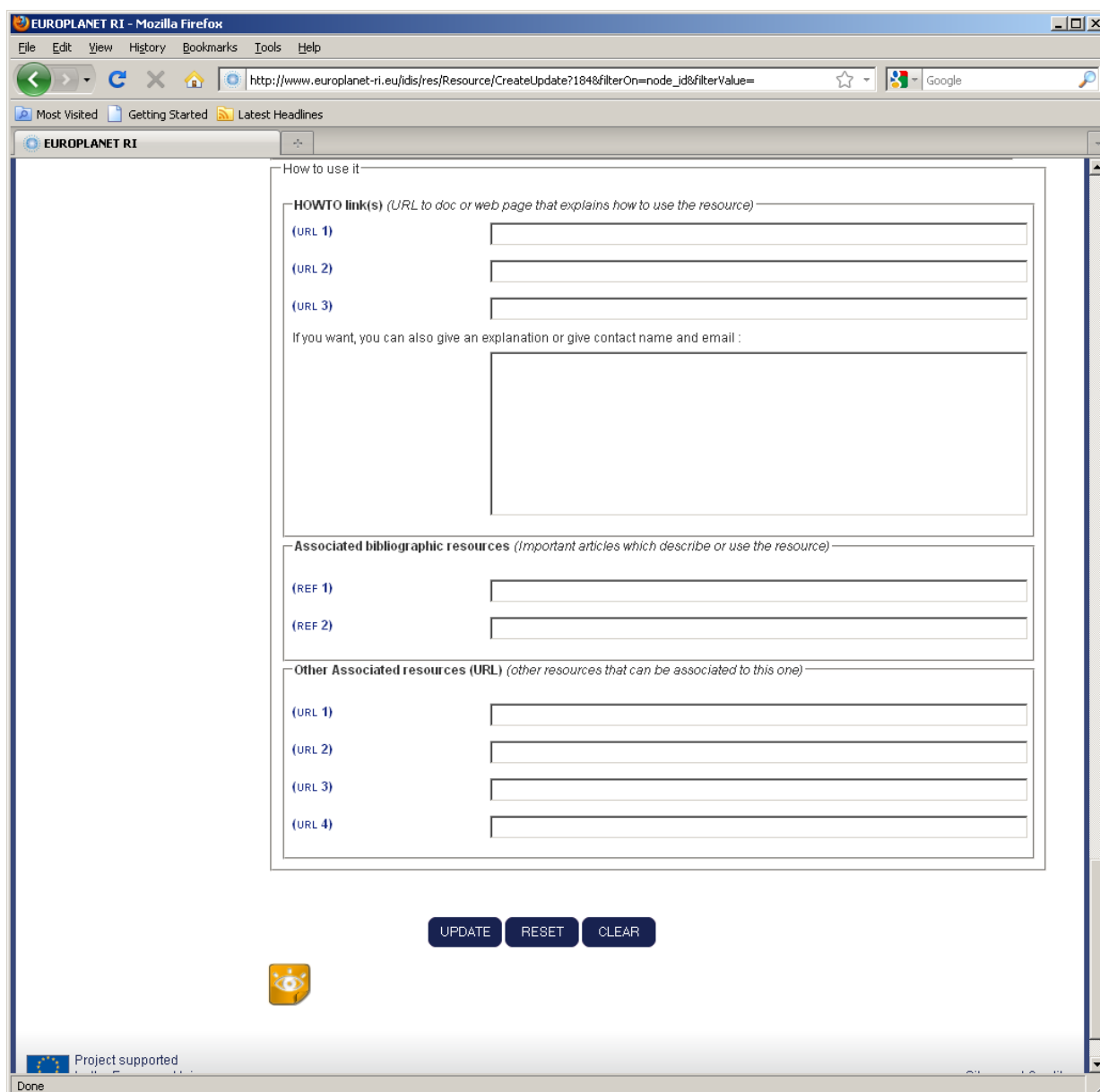
☐ SC1.2 - Quantifying the Martian geochemical reservoirs

☐ SC1.3 - Exchange processes between surface and interior of icy moons

Done

The final part of the form allows the description of auxiliary information related to this resource:

- On-line documentation about the usage of the resource
- Information about published articles related to this resource like description of the instrument performing the observation or background of the model used etc. The references should be given in the standard publication reference style: LastName, FirstNameInitial.,year: Title, Name_Of_Journal, Issue, page-range (abbreviate if necessary)
- Web link address of other resources useful in connection with this resource. The resource might or might not be registered with IDIS already.



EUROPLANET RI - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.europlanet-ri.eu/idis/res/Resource/CreateUpdate?184&filterOn=node_id&filterValue=

Most Visited Getting Started Latest Headlines

EUROPLANET RI

How to use it

HOWTO link(s) (URL to doc or web page that explains how to use the resource)

(URL 1)

(URL 2)

(URL 3)

If you want, you can also give an explanation or give contact name and email :

Associated bibliographic resources (important articles which describe or use the resource)

(REF 1)

(REF 2)

Other Associated resources (URL) (other resources that can be associated to this one)


(URL 1)

(URL 2)

(URL 3)

(URL 4)

UPDATE RESET CLEAR



Project supported

Done

The buttons underneath the form send the form contents to the consistency checker utility ("UPDATE"), reset the form to its original contents ("RESET") or clears the form from any contents ("CLEAR"). Selecting the "Eye"-icon instead dismisses all changes and displays the full resource list again, utilizing possibly earlier selected filter options again.

If the consistency check discovers an error in at least one of the mandatory form entries, the kind of error is displayed and the form with its recently entered contents re-displayed for editing. Typical mistakes are caused by empty mandatory fields or entered URLs which cannot be reached at the moment the check is performed. If no formal error is found the resource is entered into the resource database with its new contents superseding possibly earlier existing information of a resource with the same short name.