ULISSE & CIRCE
Presentation
Motivation for ULISSE

Space data peculiarity:

- Large range of scientific domains;
- Long preparation time of space experiments;
- Large costs of space missions;
- Repetition of successful space experiments requires long time and is expensive as well;
- Rigorous peer review experiment selection

- Space data is precious and has very relevant scientific value
- Need for Preservation and Exploitation
ESA has engaged the European USOC to support experiment operations on ISS:

BIOTESC (Switzerland)
Biotechnology

B-USOC (Belgium)
Biotechnology & Solar Monitoring

CADMOS- CNES (France)
Human and Material Science

DAMEC (Denmark)
Space Medicine and Physiology

Erasmus – Estec (Netherland)
Technology

Telespazio - MARS (Italy)
Fluid Science and Physical Science

MUSC- DLR (Germany)
Biology and Material Science

N-USOC (Norway)
Plant Physiology
Space: stakeholders need to be stimulated for preserving data
   - Showing data re-use promotes data preservation

User community: to be enlarged, but
   - New use cases may (and should be) very different from the original
   - Services are needed (e.g. data visibility, integration, elaboration, etc)

Metadata:
   - To be enhanced/maximised, to describe:
     - platform, mission, environment, instrument, procedures…
     - Data sets Info (contents, parameters, format, access, …)
   - To be standardised for the interoperability of distributed repositories
ULISSE

- Users might be involved to identify and implement data use cases
  - Reliable technology
    - to protect IP
    - to convince stakeholders
- Policies not consolidated yet
  - Data use has to be authorised by data owners (space agencies)
  - User accounting is required
ULISSE architecture: a modular expandable platform

ULISSE FRONT END
- ULISSE HOME
  - Promotional Web Portal
  - Metadata - Geonetwork
  - ScienceCast
  - Data Integration
  - Planning & Validation
  - Augmented & Virtual Reality Tool

Information Retrieval
- Searching
- Browsing
- Practical Explanation
ULISSE Questionnaire
ULISSE user account request
Change user password
ULISSE Administration

ULISSE PLATFORM
- Guard
- Filter
- Integration Client Resource

HTTP
- Promotional Portal
- Check user credentials
- User LDAP DB

Planning & Validation
- Augmented & Virtual Reality Tool (Client Side Tool to be downloaded through the ULISSE Front End)

ScienceCast
- HTTP Ret API to Invoke ScienceCast

Geonetwork
- Geonetwork DB

Ontopla Topic Maps

Knowledge Base
- Data Integration
- MARS FileSystem
- UPM FileSystem
- B-USOC FileSystem
- MUSC FileSystem
- SRC FileSystem
### Scientific metadata

**19_20080411_Data - WordPad**

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*Per ottenere la Guida, premere F1.*
ULISSE data access: compliance with data policies

- ULISSE, as a tool, implements user accounting, authenticating and authorizing

**Main Features:**
- Speed-up of the data access
- Data distribution controlled by the space agencies
- Support of possible new cooperations between scientific teams
ULISSE: step forward

- Evolution from demonstrator to service platform embedding long term preservation

- Key aspects:
  - Metadata: enrichment and standardization
  - Reliability: open source vs COTS
  - Improved services: semantic technologies
  - Costs: negligible w.r.t space mission costs

- CIRCE coordination action driven by EU:
  - Collection of experiences and recommendations on:
    - Standard implementation and workflows
    - Technologies
Thank you