EUROPLANET N2 Workshop
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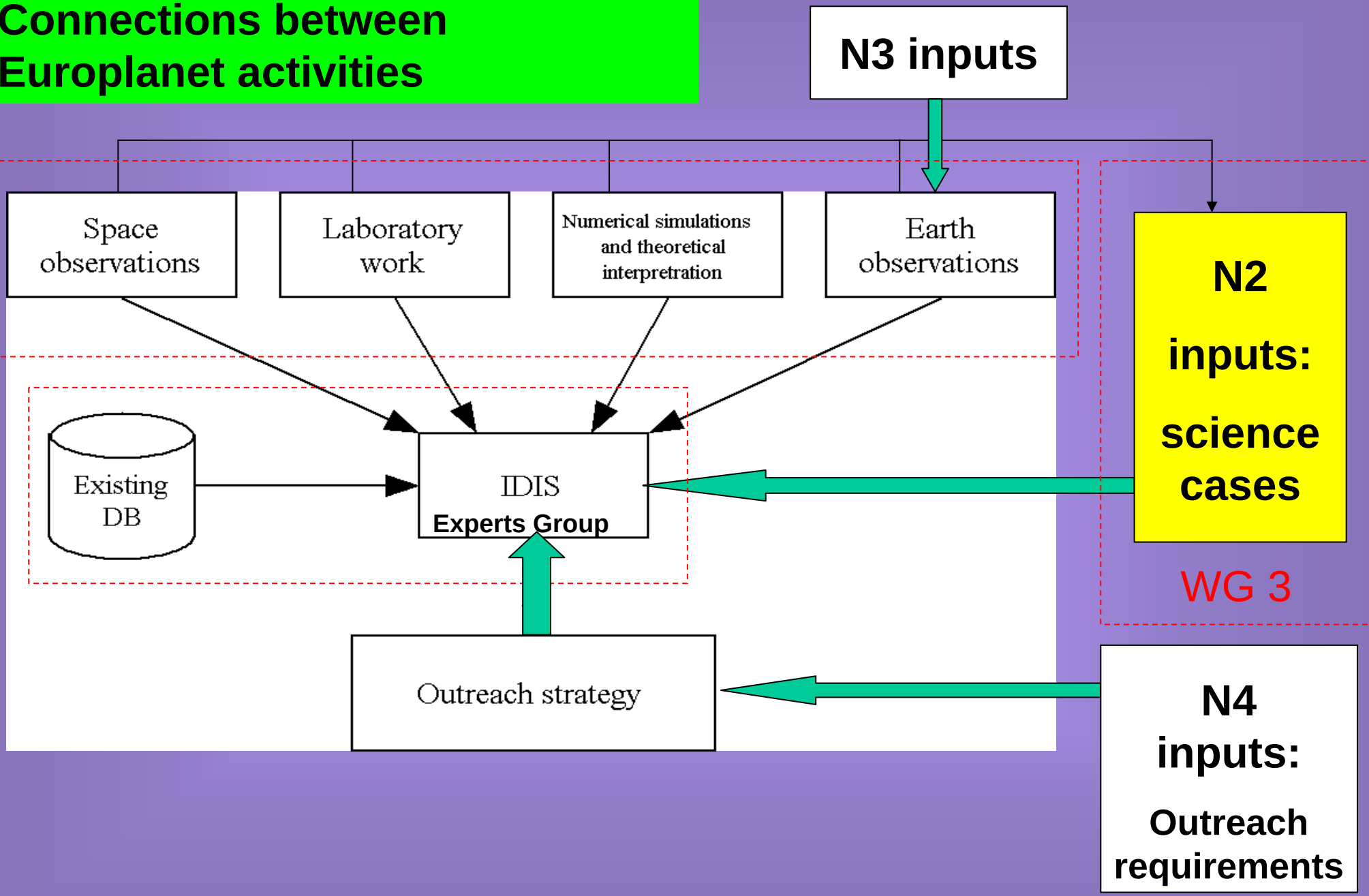
Science Case definition efforts in N2-N7 collaboration

Ari-Matti Harri, FMI

Connections between Europlanet activities



N2 Working Groups

DWG 1	atmospheres, ionospheres, exospheres
DWG 2	planetary magnetospheres and plasmas
DWG 3	surface science
DWG 5	planetary moons
DWG 4	small bodies and dust
DWG 9	solar system formation
DWG 6	exo/astrobiology
DWG 7	exoplanets
DWG 8	planetary interior and composition

N2 activity on Science Cases

- Build-up of working groups with various scientific disciplines (DWGs)
- Operations of the WGs in preparation of the N2 -meetings (Northeim in 21.-23 Nov, 2005, ESAC May-06).
- Generation of the set of science goals for the Europlanet activity. The results of that task are being refined and worked on.
- Web-site with science case descriptions: http://www.mps.mpg.de/en/projekte/europlanet/
- Definition of a few science cases for IDIS is going on. To that end we have identified some 20 cases, which have been analyzed to be utilized in the specification of the IDIS database.
- Arranging the EPSC in Berlin (Sept-06) with a SC-session.
- Themes for ISSI workshops in 2007 and 2008
- Preparations for FP7-proposal have been started

Overview of SC output to IDIS: 1) Database generic SC info

- SC description
- Description how this SC has been tackled earlier
- Contact addresses of persons and groups that work on that topic
- Basic reference papers (bib data)
- Available data sets (access info + instructions)
- Existing methods and tools (addresses, access)
- Plus additional generic info applicable to all SCs

Science cases in May 2006

- Understanding super-rotation (Grieger)
- Ion-neutral chemistry at Titan (Leblanc)
- Solar wind interaction at Jupiter and Saturn including aurorae (Krupp)
- What is the origin of the planetary modulated (quasi-periodic) signatures at Saturn? (Krupp)
- Investigation of the interaction of magnetospheric plasma with icy moons in the Saturnian system an other giant planet systems (Krupp)
- Definition and archiving of ground-based observations in support of space missions (Coustenis)
- Catalogue of IR and Raman spectra of gas CH4 coefficients, organics (Coustenis)
- Dating planetary surfaces from cratering processes: formation of the solar system (Coustenis)
- Quantifying the Martian geochemical reservoirs (Toplis)
- Exchange processes between surface and interior of icy moons (Grasset)
- What are the relative contributions of asteroidal dust, cometary dust, meteor streams, interstellar dust and circumplanetary dust to the structure of zodiacal cloud as a function of heliocentric distance, latitude and time (Graps)
- What is the dynamical and morphological structure of the Kuiper belt (Graps)
- How can we best optimize from observations, numerical experiments, lab simulations, further analysis of past mission data, the science return of Rosetta
- Solar wind-comet surface interaction (Schmidt)
- Surface material composition (Schmidt)
- Distant activity, outbursts, splitting and disruption of cometary nuclei (Makinen)
- Planets under extreme stellar conditions (Lammer)

Science Case definition Template

1. Objective or science goal
2. Needed data sets
3. Problem description
4. Current solution: the way scientist presently work to select data of interest, to access these data and to process it.
5. What services users expect from an IDIS to work more efficiently
6. Other comments
7. Key references on science and methodology for this science case

Overview of SC output to IDIS: 2) Database specific SC info

- Identification of new data processing tools that could be shared by the whole community
- Need for access to some specific data storages that are not publicly available (e.g. community licence)
- Provision of data from various missions/instruments in an integrated form, e.g. P (surface), W,T -fields of a planetary atmosphere.
- This type of topics may be part of our FP7 proposal

3) Use of existing data sources

- PSA, PDS, ground based observations data sources etc
- Access info and usage examples to promote utilization
- Special queries