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HUMBOLDT

Harmonisierung von Geodaten für Grenzüberschreitende Nutzung

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Spatial Data Infrastructures

Expectation towards SDIs

- Exchange of geo-information (GI)
- Improving quality and/or efficiency of current GI-based processes
- Broadening the usage of GI

Separation of SDIs

- Spatial coverage
- Thematic Coverage


Challenge: Exchange of Information across borders

- Using external data for individual projects
- Integration of Data

Motivation for HUMBOLDT

- Broadening the use of GMES data by applying INSPIRE principles


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Outline


- ▣ Information on the project
- ▣ HUMBOLDT Approach
- ▣ Example of use
- ▣ Summary and Outlook

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Information on the project

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HUMBOLDT - Keynote

It was the ultimate ambition of Alexander v. Humboldt to collect and integrate the knowledge of his time and, by doing this, to gain new insights in all areas of life.




A step towards the European Spatial Data Infrastructure (ESDI)

Project philosophy:

re-use the existing – extend by need – arrive at the ESDI – prosper by application

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HUMBOLDT – Facts

Full title	<i>Development of a framework for data harmonisation and service integration</i>
Term	48 months 01/10/2006 – 30/09/2010
Effort	~ 13.5 mill. € ~ 110 person years
Contracting authority	Commission of the European Community FP6 – Aeronautics and Space (GMES)
Consortium	27 partners (coordinator Fraunhofer IGD)


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HUMBOLDT Partners




Coordinator: Fraunhofer IGD

Partners:

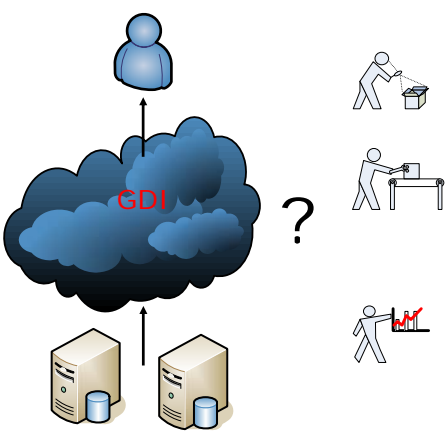
ETRA (ES), HSRS (CZ), Logica CMG (UK), IGN (F), Intergraph (CZ), ETH Zürich (CH), TU Delft (NL), Uni Rome (I), FÖMI (H), MARIS (NL), KTC (Lit), INI-GraphicsNet (D), IFREMER (F), NERC/BODC (UK), HCMR (G), SMHI (S), UWE (UK), Telespazio (I), GISIG (I), RT-GIS (D), CNR-IREA (I), FMI (CZ), IGP (P), CLS (F), HiG (S), Promiteas (Cyp)

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HUMBOLDT – Overall Goal



Trans-sectoral use of information


Approaches:

- Consistent modelling ?
- Domain GDIs ?
- Leave it to the users ?


Supporting (not superposing) current SDIs

HUMBOLDT aims to be applicable to the different architectures

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HUMBOLDT approach

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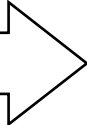
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HUMBOLDT enabled SDIs

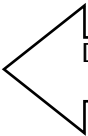






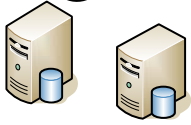
Formulation of the demand




HUMBOLDT Layer

Demand-oriented information



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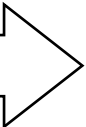


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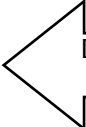
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HUMBOLDT – selected areas of activities

Formulation of the demand



Demand-oriented information



Format

Spatial reference

Graphical form

Object generation

Language

Object semantics


Model, attributes, semantics, ...

Expected quality

Provision of information in the language area / semantics of the application domain
→ Information for user directly useable

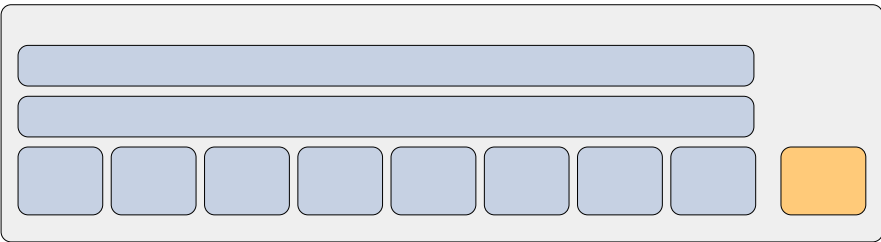
Quality information / information about the level of goal achievement
→ Influences of the harmonisation processes on the quality

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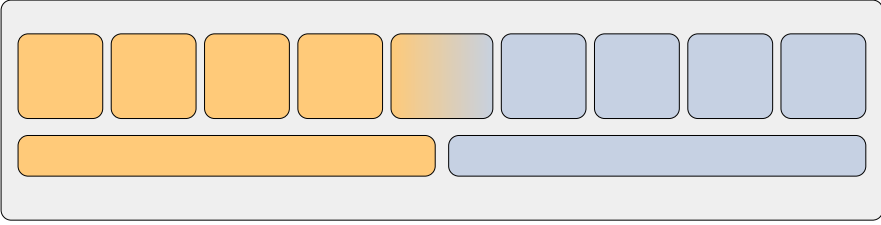


HUMBOLDT is a project driven by it's applications, especially those from the GMES area. This is reflected in the project's application scenarios.

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HUMBOLDT is at the same time a research project with innovative concepts, built on standardization and best practices already available.

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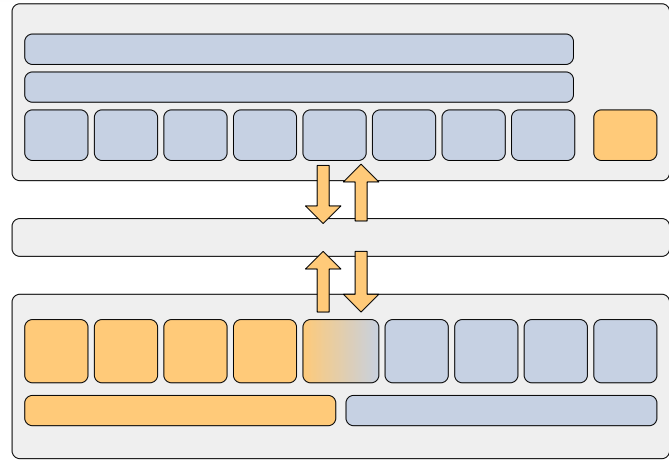
(semantic) Distributed Engineering
Inter- Computing Processes
operability (SOA/SCA)

Assoc
Pro

Research

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Let's have a look at a simplified scenario to see how HUMBOLDT will help geoinformation producers and consumers.


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 Example


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Paul

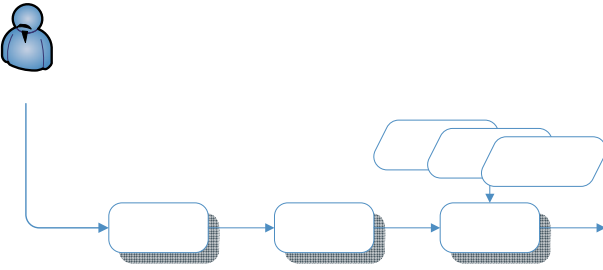
... is an **Urban Planner**
tasked with the creation
of zoning plans for his
municipality.

 Create Zoning
Plan

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... is an **Urban Planner** tasked with the creation of zoning plans for his municipality.

Paul

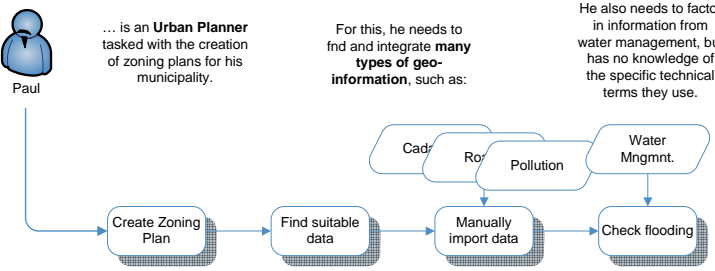
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For this, he needs to find and integrate many types of geographic information, such as

Cadastral

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... is an **Urban Planner** tasked with the creation of zoning plans for his municipality.


For this, he needs to find and integrate many types of geographic information, such as:

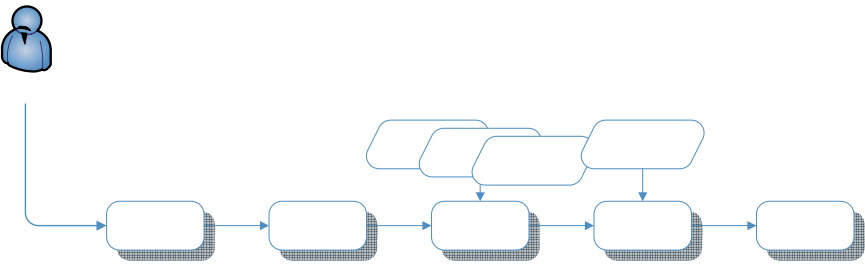
He also needs to factor in information from water management, but has no knowledge of the specific technical terms they use.

Paul

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Find suitable data

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... is an **Urban Planner** tasked with the creation of zoning plans for his municipality.

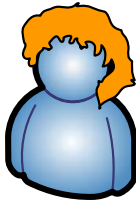
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Paul

For this, he needs to find and integrate multiple types of geographic information, such as

Cadastral

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Jeanette

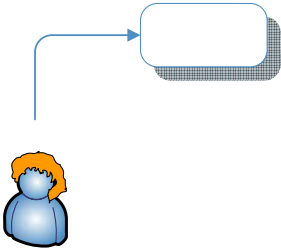
... is an **Environment Engineer** tasked with allowing Paul an efficient and easy access to the SDI.

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Find suitable data

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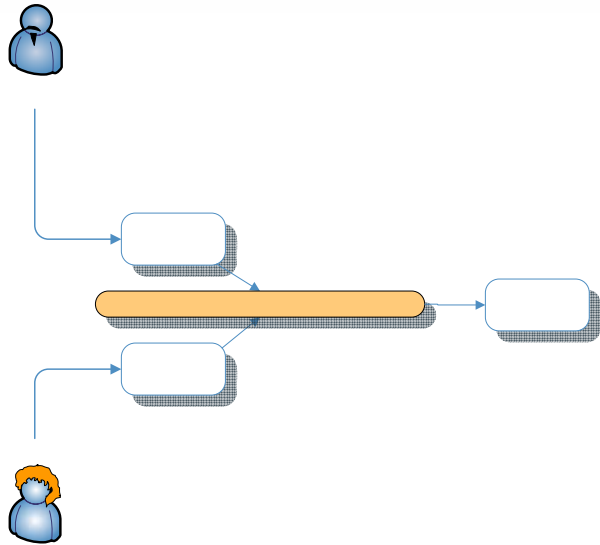
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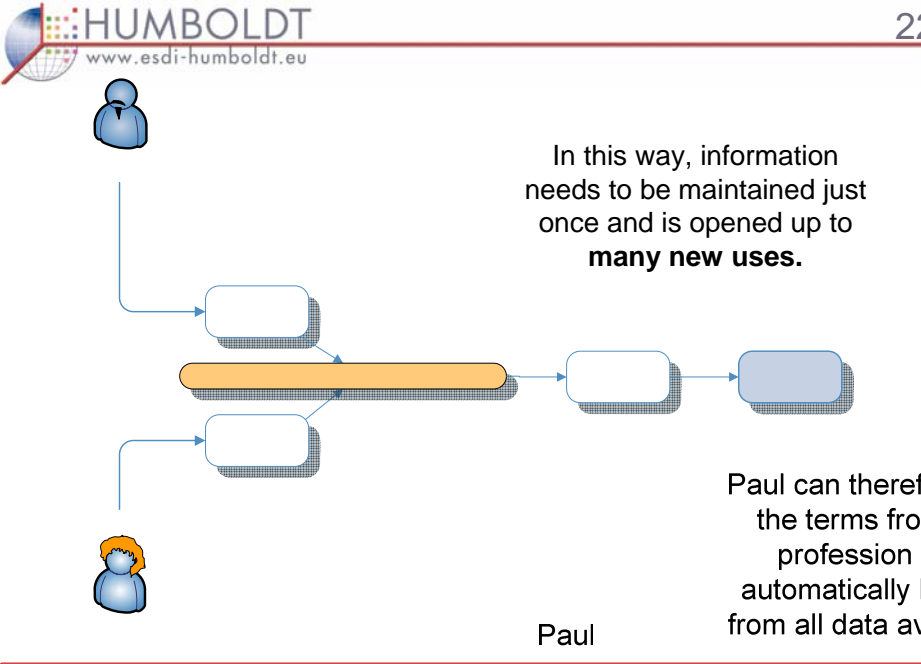
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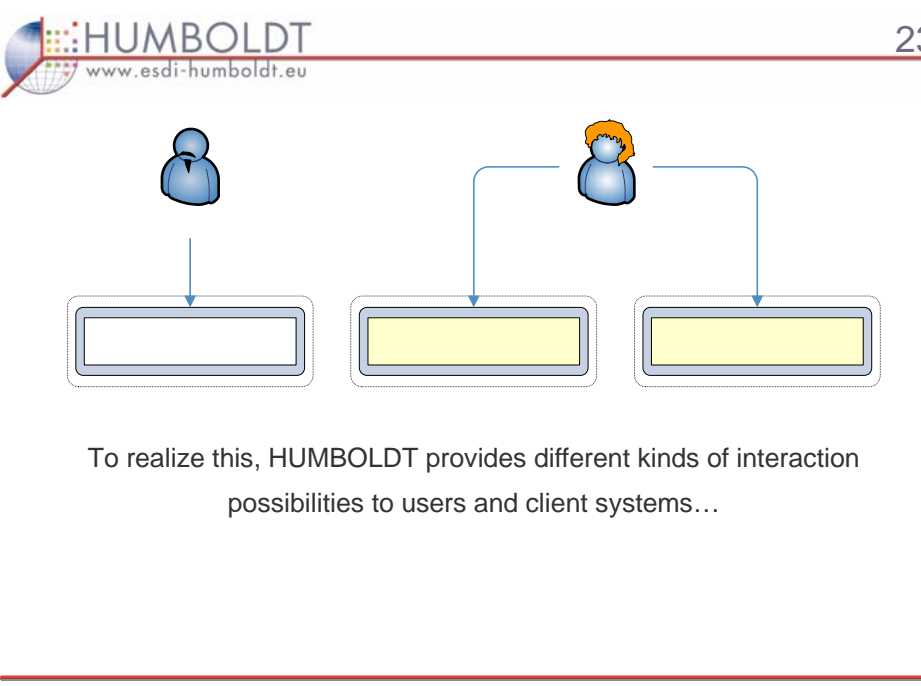
In this way, information needs to be maintained just once and is opened up to **many new uses.**

Paul can therefore use the terms from his profession and automatically benefit from all data available.

Paul

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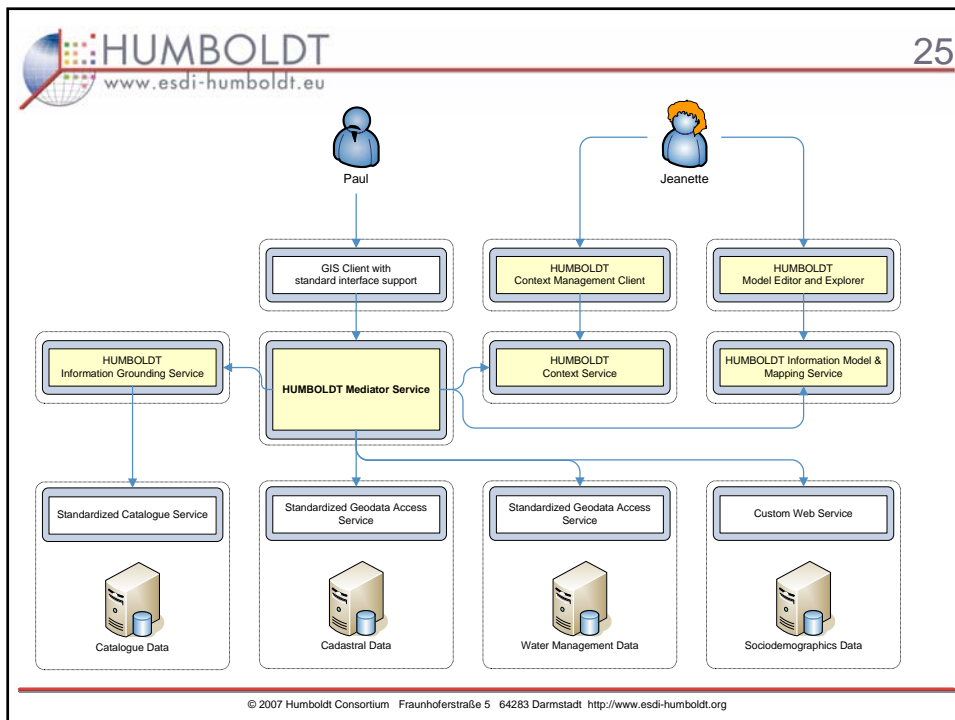
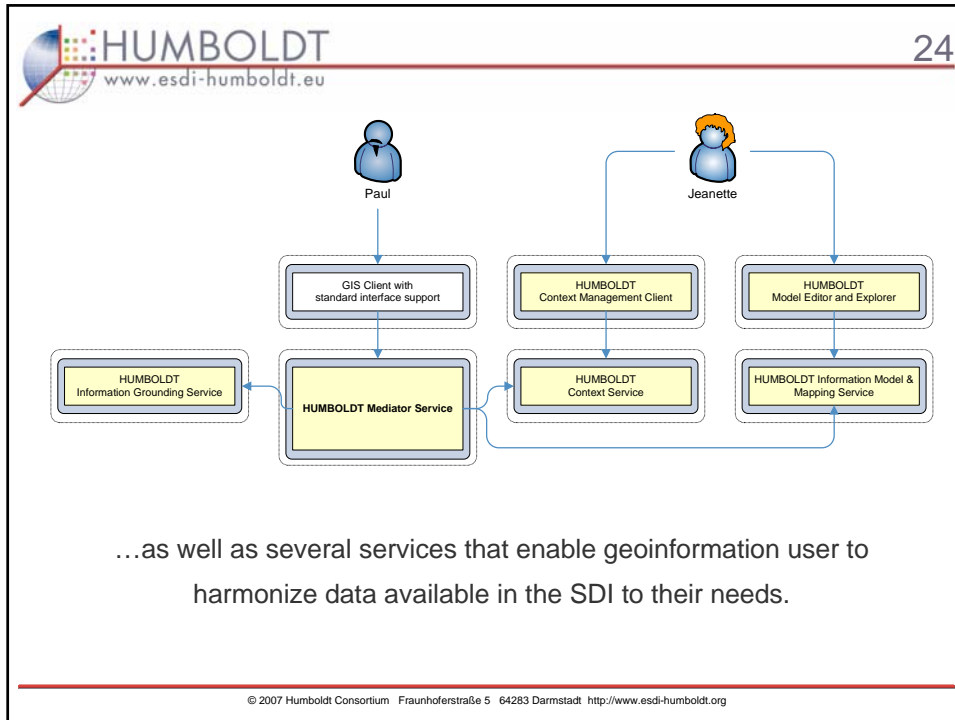
To realize this, HUMBOLDT provides different kinds of interaction possibilities to users and client systems...


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ment
with
an
easy
SDI.


She is using HUMBOLDT software to create descriptions of how these domains **relate to each other** and to publish the descriptions





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Summary and outlook

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Summary and outlook

HUMBOLDT results

- ▣ HUMBOLDT results (technical) will be provided as an Open Source Framework for further use
- ▣ HUMBOLDT framework will be developed within 3 iterations until 2010
 - Version 1 will be provided only internal (and cooperation partners)
 - Version 2 will be provided for public use
 - Version 3 will be the result of the EU funded project
- ▣ HUMBOLDT scenarios
 - HS-Border Security HS-ERiskA
 - HS-Urban Planning HS-Water
 - HS-Forest HS-Ocean
 - HS-Protected Areas HS-Galileo
 - Further scenarios foreseen

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 Thank you



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