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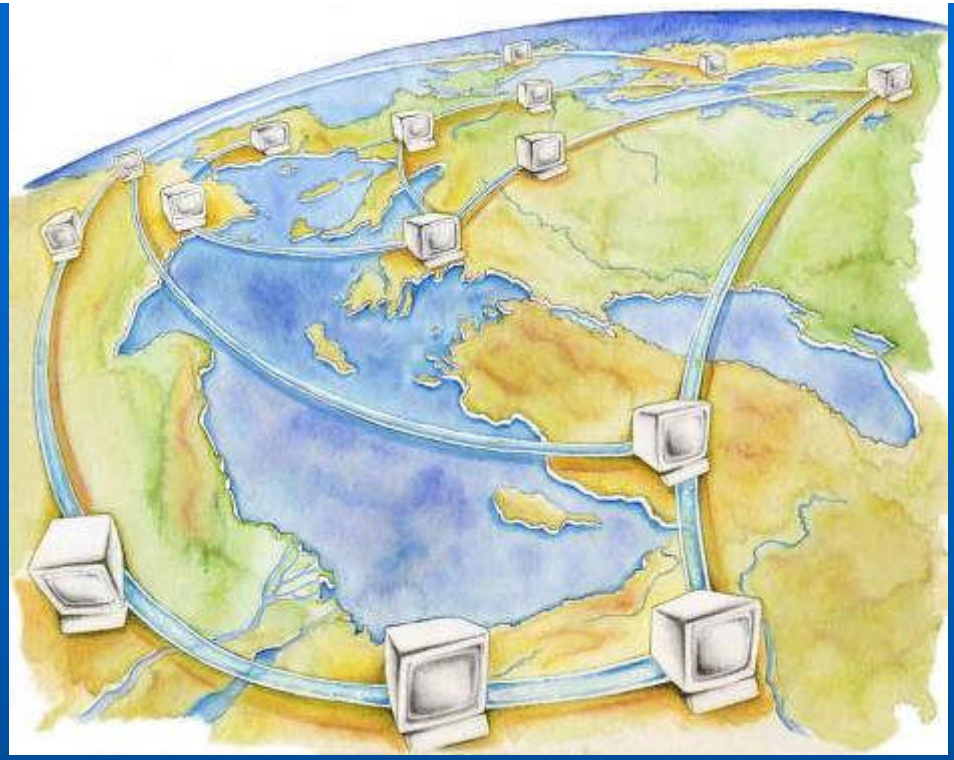
www.semide.net

Système Euro-Méditerranéen d'information sur les savoir-faire dans le domaine de l'Eau



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www.emwis.net

Euro-Mediterranean Information System on know how in the water sector

النظام المعلوماتي الأورومتوسطي
للمعرفة في مجال المياه

Developing harmonized national water information systems in the Mediterranean

Damascus, 20 December 2010

Eric MINO

DG ENV

EURO-MEDITERRANEAN PARTNERSHIP

Context of EMWIS activities

1995 Euromed Partnership

1996 Euromed Ministers Initiate EMWIS

1999 EMWIS operational launch

2005 EMWIS first activities on data management

2008 UfM Water Ministerial conference Long Term Water Strategy initiated

Focus on know-how sharing
- **9 years of operation**
- **20 countries**
- **About 50 000 visitors per month**

➢ **Confidence between water authorities**

- **Feasibility studies of National Water Information Systems (Algeria, Cyprus, Israel, Jordan, Lebanon, Malta, Morocco, Palestine, Tunisia, Turkey)**
- **Preliminary analysis for a Mediterranean Water Observation Mechanism - 2006-2007**
  (7 national diagnostic studies, 25 international initiatives consulted)

Mission framework

- **Regional project supported European Commission**
  - **Towards a Mediterranean Water Information System compatble with Water information for Europe**
- **Main activities**
  - **Metadata catalogue (data discovery)**
  - **Interoperability guidelines**
    - Standards
    - Data models
  - **Map viewer and administrative reference data sets for the region**
  - **Thematic activities (working groups)**
    - Water quality monitoring networks and programmes
    - Water scarcity and drought
  - **Data harmonisation pilot**
    - Tunisia and Jordan
    - Based on UNDS water accounting approach (SEEAW)
  - **Mulitilingual theusaurus enhancement**
  - **National technical workshops:**
    - State of plays on National Water Information systems
    - Tunisia, Lebanon, Jordan, Egypt, Palestine, Morocco, Turkey, Syria

International policy drivers

- **UfM Mediterranean Water Strategy**
  - Strengthening the provision of data, information and statistics on water
- **Arab Countries water strategy**
  - Database on shared water resources
- **EU - Horizon 2020 – Depolution of Mediterranean sea**
  - Monitoring: Urban waste water, Industrial emission and Urban solid waste
  - Extension of Shared Environmental Information System
- **UNEP - Mediterranean Strategy for Sustainable Development**
  - Resources and Demand indicators
- **UN – Water => World Water Assessment Programme**
  - Total freshwater renewable resources
  - MDG goals
  - Water abstraction per sector

Union for the Mediterranean: High level of expectations

- **Civil Society:**
  - *"underline the need for reliable data and to enable the free flow of information and sharing of data"*
- **Ministerial declaration:**
  - *"reaffirm the importance of data, information and statistics on water, based on internationally agreed definitions and methods, structured within information system "*
  - *"call for strengthening the coordination of existing Euro-Mediterranean initiatives and networks on information and expertise, policy planning and monitoring "*
  - *"underline the importance of exchange of good practices, including through EU, Mediterranean, and other relevant programme "*

Ministerial conference on Water, Dead Sea, Dec'2008

Strengthening Water Information and monitoring in the Mediterranean

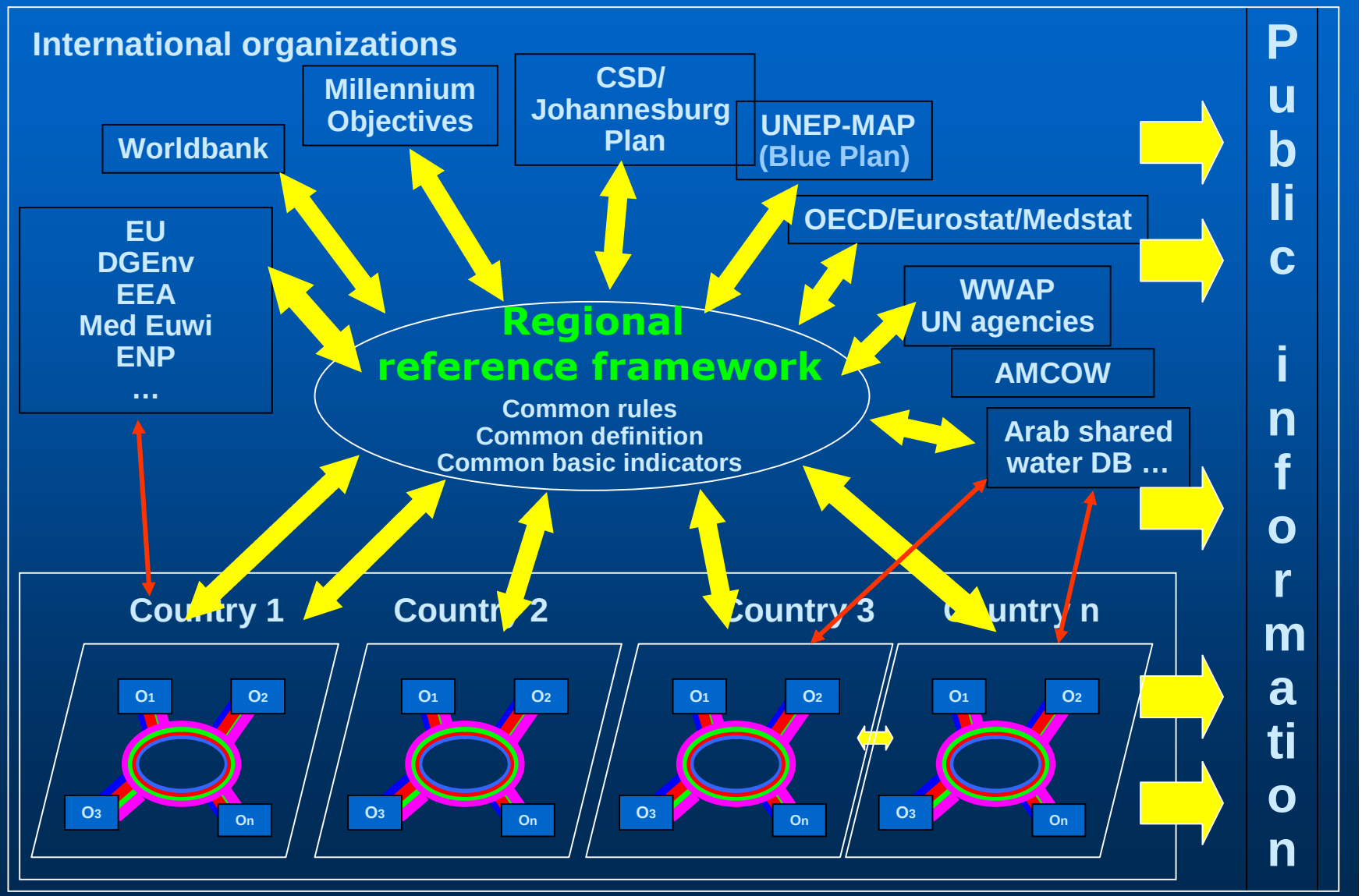
- **Improving National water data systems in coherence with international standards**

- **Coordinating data collection mechanisms**
  - **Harmonisation of definitions (interoperability)**
  - **Mutualisation of resources**
  - **Fostering NWIS as main source of reliable data**
  - **Exchange of experiences**

Fund raising

- **Preparation of Med water knowledge hub (concept note)**
- **Capacity building programme on Earth observation for water management**

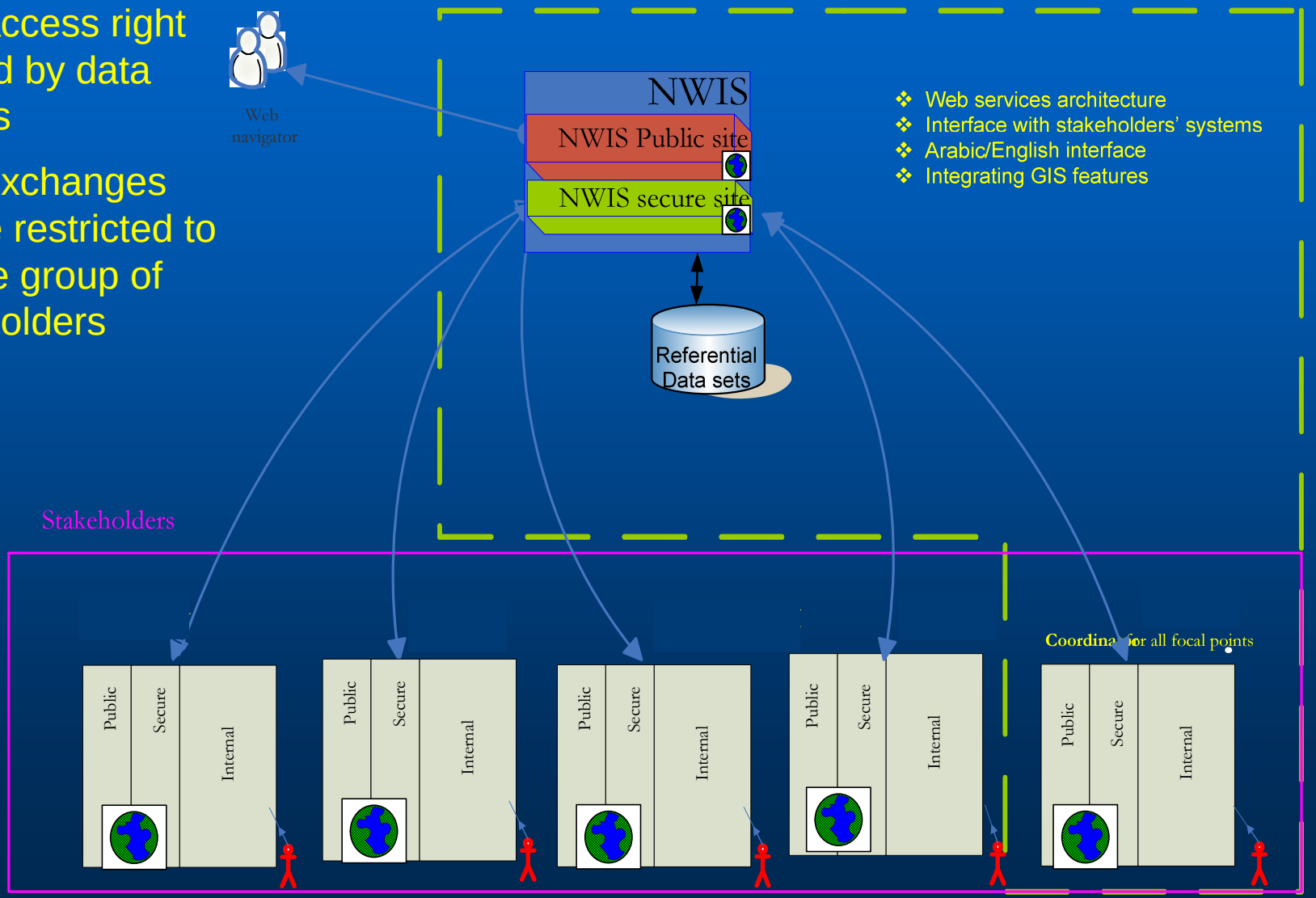
Overall Mediterranean vision



Shared Water information Systems

Data access right defined by data owners

Data exchanges can be restricted to a close group of stakeholders



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Constraints

- **Lack of legal framework for reporting water data**
- **Many international initiatives and political processes**
- **"Observation"/"monitoring" seen as intrusive for national water management**

Opportunities

- **Strong demand of international stakeholders**
- **Commitment to NWIS, but not yet developed (information necessary for daily management)**
- **Common basic data used for the calculations of indicators**
- **Organisational problems rather than lack of data**
- ***Union for the Mediterranean (Mediterranean Water Strategy)***

Content of a reference data framework

- **Referencial datasets**
  - Hydrological networks (e.g. rivers, watersheds, lake, aquifers)
  - Water management areas (e.g. protected areas, administrative units)
  - ….
- **Data dictionaries (data models, reference lists)**

  => Generic conceptual data model developed
- **Definition of indicators, data collection methods**

  => Pilot activity on going on water quantities
- **Geo-catalogue of data sources and data services**

  ⇒ Inventory activities

  ⇒ Prototype available with a Mediterranean profile Linked map viewer
- **Interoperability specifications (exchange formats/ service protocols)**

  => Recommendations on standards to be used (for SEIS/WISE/INSPIRE/ISO interoperability)

NWIS basic principles

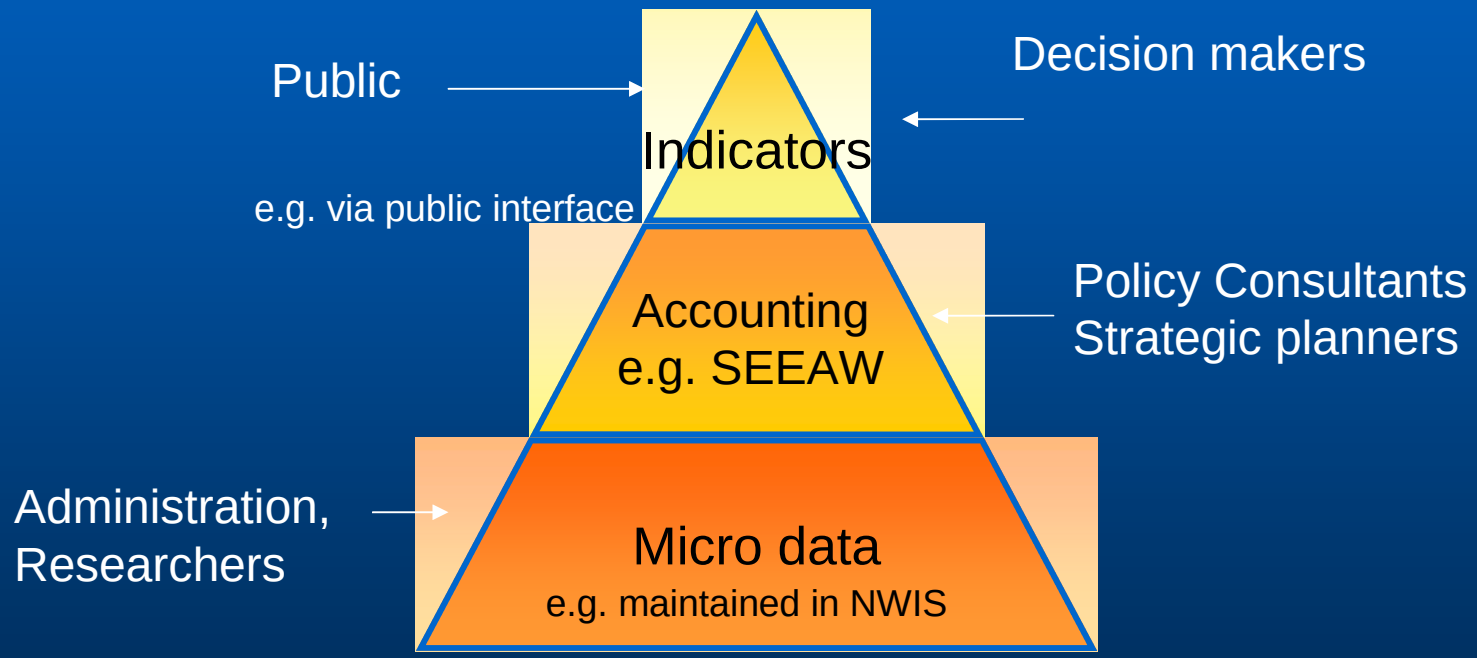
- **Information should be managed as close as possible to its source**
  - Multiple partners/providers
- **Information collected once and shared with others for many purposes**
  - Different aims / user categories
  - Interoperability, geographical scales
- **Provision to the public of aggregated data**
- **Unique provider for each data type**
- **Gouvernance**
  - Strategic -> needs
  - Technical -> referential data sets
  - Basins (or management units) -> data collection

NWIS vision

- **Governmental system**
  - **Interministerial intranet**
  - **Limited public access to aggregated information**
  - **Sub-systems (thematic) managed by each partner**
  - **Node of a broader system**
    - SEIS
    - eGov infrastructure

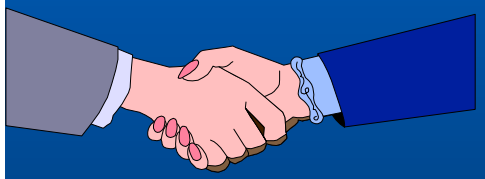
- **Technical issues**
  - **Web based system integrating thematic sub-systems**
  - **Graphical user interface, geographical data access**
  - **Using international data standards**

Data aggregation vs user groups



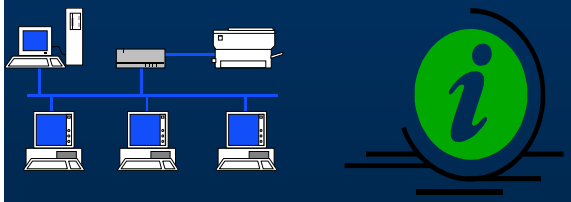
NWIS governance

Policy Framework Agreement (main objectives, priorities)



- **Interministerial body:**
  - Rely on an existing body
  - MoU on management / data sharing rules
  - Specific agreements on datasets to be shared, incl. publications
  - Defining priorities and further developments
  - System validation
  - Fund raising requests
  - Members: public institutions partners of the NWIS

Common language Specifications Technical agreements



- **Technical coordination committee**
  - In charge of implementation and system management
  - Definition of thematic developments and reference data sets
  - Involving focal points from each stakeholder

NWIS components
extendable architecture

Quality parameters

Hydrological networks

Industry classification -ISIC

.....

Reference datasets

NWIS federating system

- User management and access levels
- Registry and discovery service
- Access services (view, download, interactive)
- Processing services (executive, general public)

Water Library

Surface water

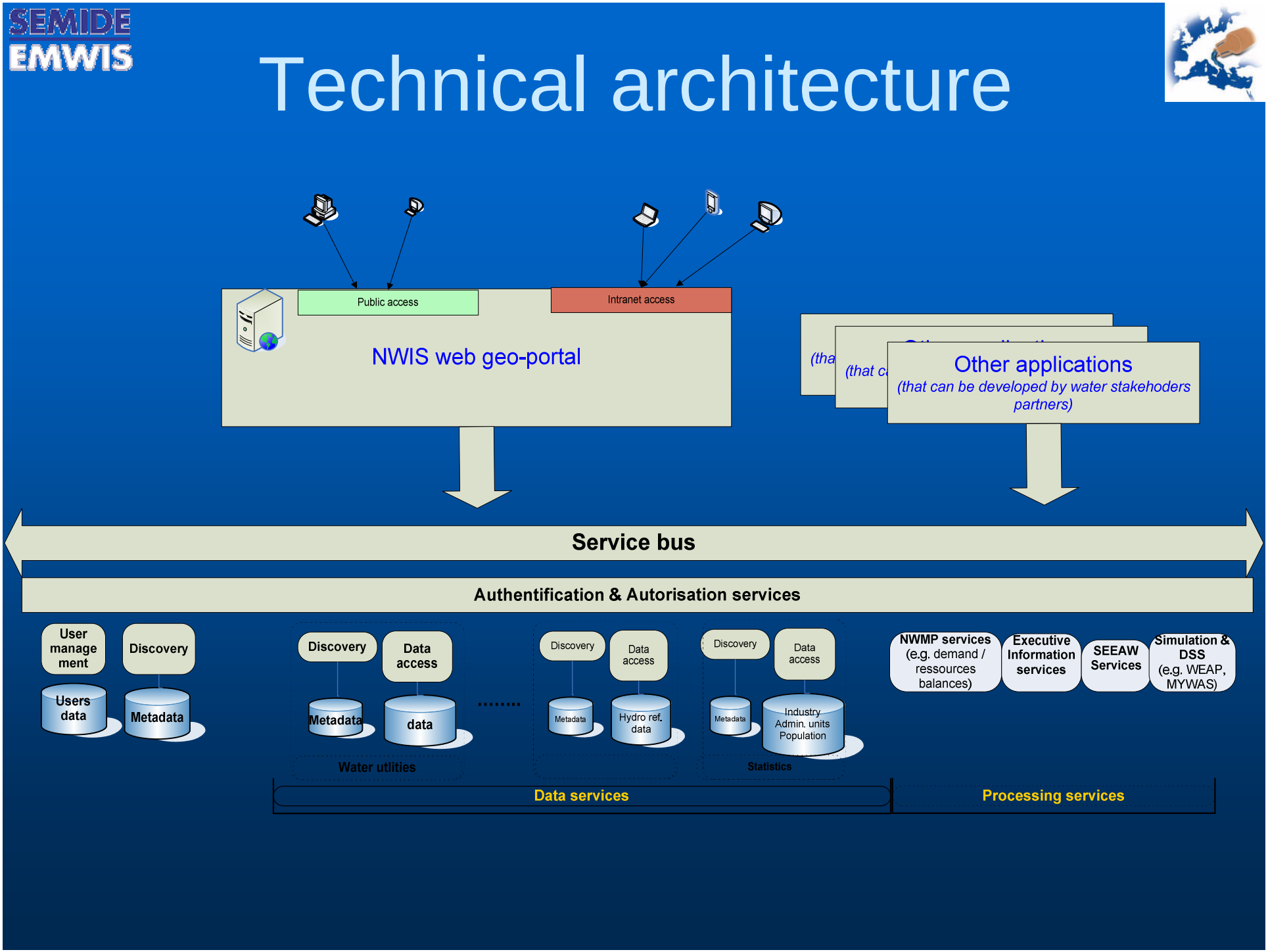
Drinking water supply

.....

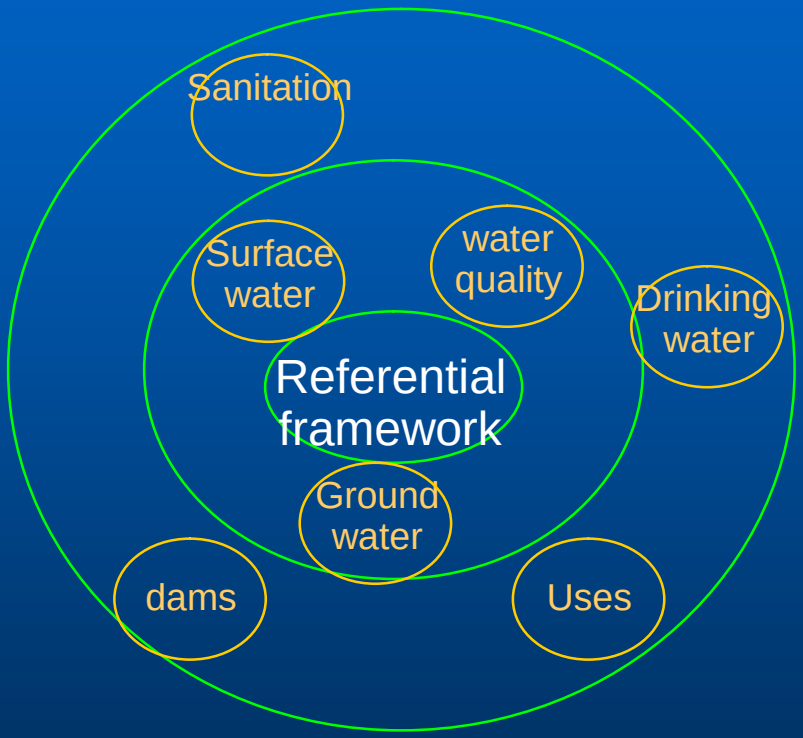
Field data

Earth observation data

Technical architecture



A step wise integration process



- **Referential framework**
  - Set by and for the stakeholders
  - Quality Assurance
- **Sub-systems**
  - One domain = one leader
- **National system**
  - Sub-systems integration
  - Needs going beyond single sub-systems

Typical NWIS roadmap

- **High level decision on building a NWIS**
- **MoU signature, with identification of focal points in each institution**
- **Fund raising**
- **Detailed analysis and NWIS specifications, including some sub-systems upgrading**
- **System implementation and training**
- **System operation**
- **Iterative process:**
  - **New components/public institutions can join later**

2 years

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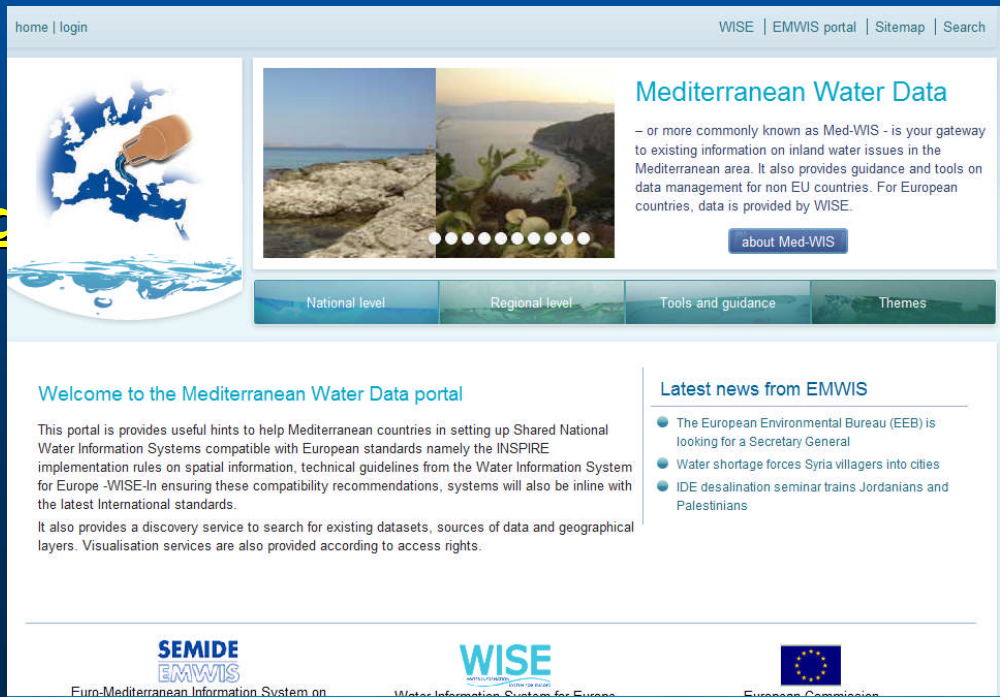
Broader vision

- ***NWIS: a key component of an eGovernment infrastructure***
- ***An important node of a Shared Environmental Information System –SEIS-***
- ***Could benefit from EU experience on SEIS and its foreseen extension to Southern Med countries***

Tools

Available from Medwis portal (under development)
WISE « look & feel »

- **Generic conceptual data model**
- **Geo-catalogue of data sources and data services (discovery service)**
  - ❑ **Metadata profile compliant ISO, INSPIRE and WISE**
- **Web map viewer**
  - ❑ **Linked to the geo-catalog**
- **Interoperability technical guidelines**
- **NWIS feasibility studies and Med water observation study**
- **Examples of MoU for NWIS**
- **Reporting obligations of Med countries**



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Thank you for your attention

National portals

« who does what

Common taxonomy
(multilingual water thesaurus)

www.semide.net

Thematic forums/folders

Ground water, water scarcity

Water glossaries, satellite images, etc.

Clearing house for EU programs and initiatives

Regional water projects

Monthly eNews Flash in Arabic, English and French