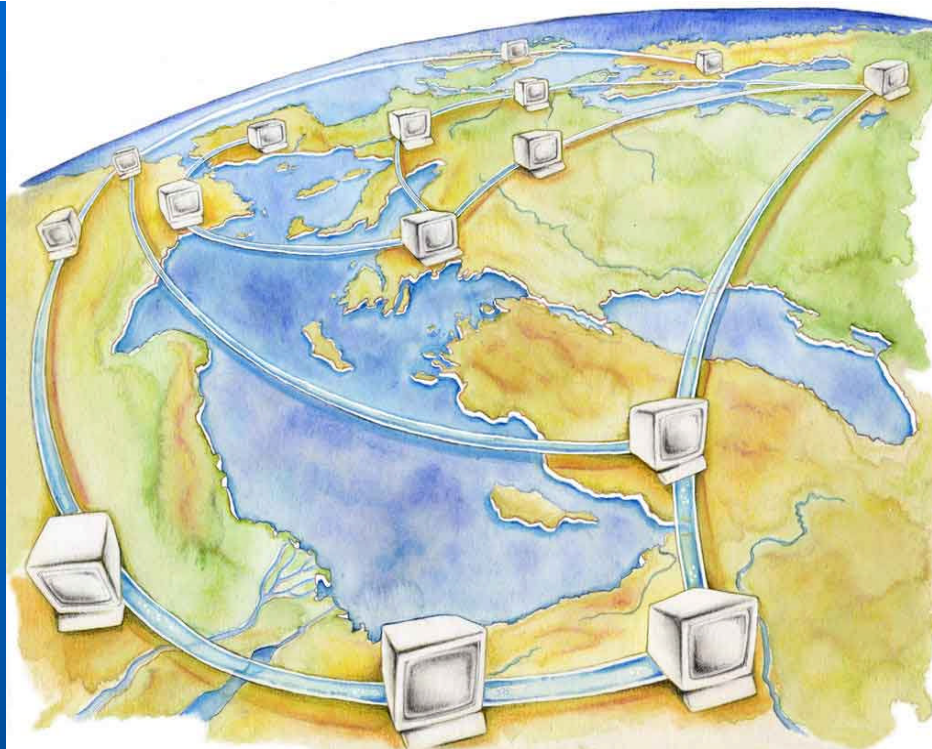


SEMIDE
EMWIS

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www.semide.net

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



**النظام المعلوماتي الأورومتوسطي
للمعرفة في مجال المياه**

**Towards a national water information
systems in Jordan**

1st mission findings

Eric MINO / Michael NAGY

EURO-MEDITERRANEAN PARTNERSHIP



EMWIS

www.emwis.net

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



DG ENV





Strengthening Water Information Background

1995 Euromed Partnership

1996 Euromed Ministers
Initiate EMWIS

1999 EMWIS operational launch

Focus on know-how sharing

- 9 years of operation
- 20 countries
- About 50 000 visitors per month

➤ **Confidence between water authorities**

2005 EMWIS first activities on data
management

• **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)

2008 UfM Water Ministerial conference
Long Term Water Strategy
initiated



Mission framework

- **Regional project supported European Commission**
 - Towards a Mediterranean Water Information System
- **Main activities**
 - Metadata catalogue (data discovery)
 - Interoperability guidelines
 - Standards
 - Data models
 - Thematic activities (working groups)
 - Water quality monitoring networks and programmes
 - Water scarcity and drought
 - Data harmonisation pilots
 - Tunisia and Jordan
 - Based on water accounting approach
 - Multilingual thesaurus enhancement
 - Map viewer and administrative reference data sets for the region

International policy drivers



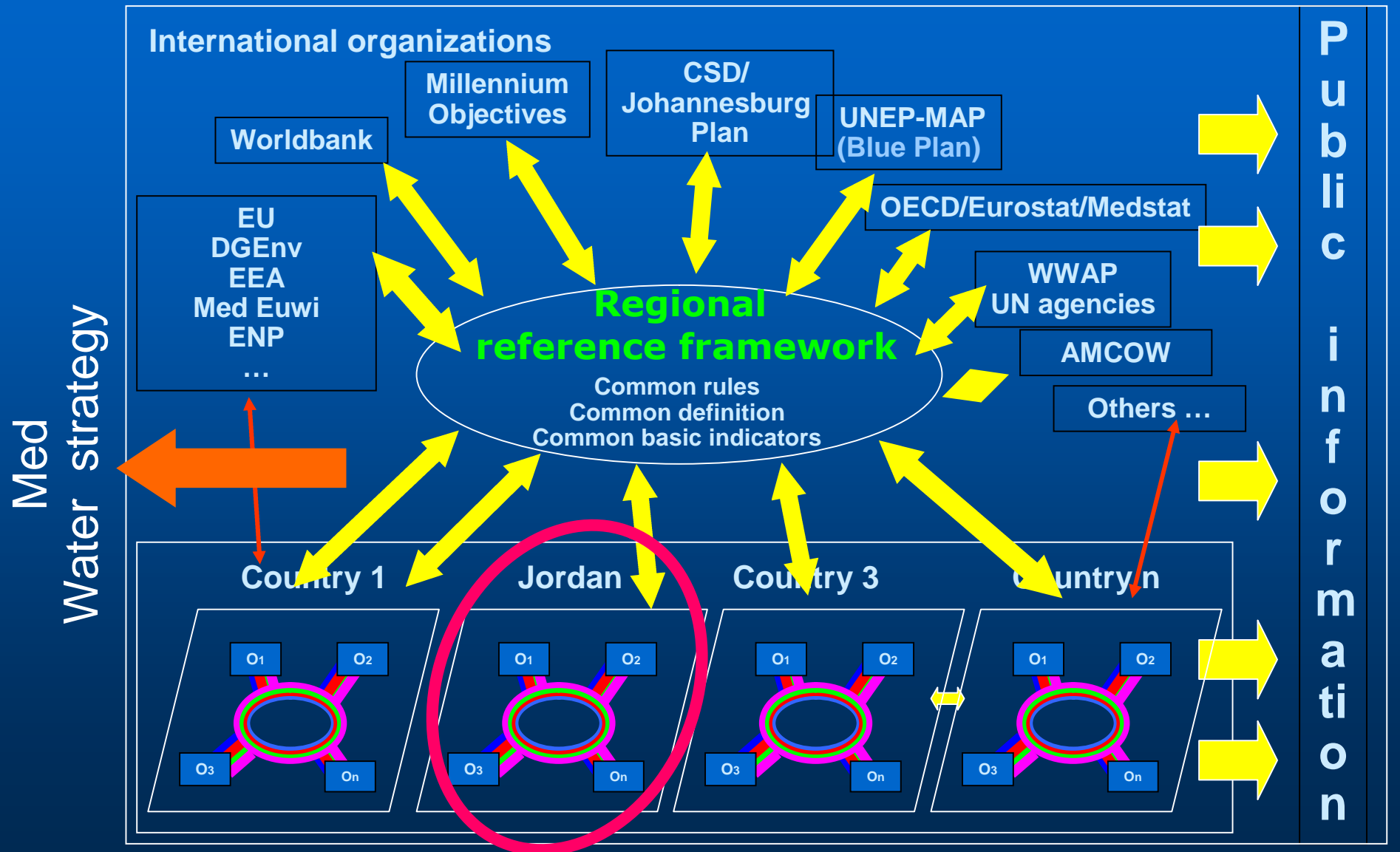
- **UfM Mediterranean Water Strategy**
 - ❑ Strengthening the provision of data, information and statistics on water
- **Arab Countries water strategy**
 - ❑ Database on shared water resources
- **EU - Horizon 2020 – Depolution of Mediterranean sea**
 - ❑ Monitoring: Urban waste water, Industrial emission 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



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)
 - Fostering NWIS as main source of reliable data
 - Exchange of experiences

Overall Mediterranean vision

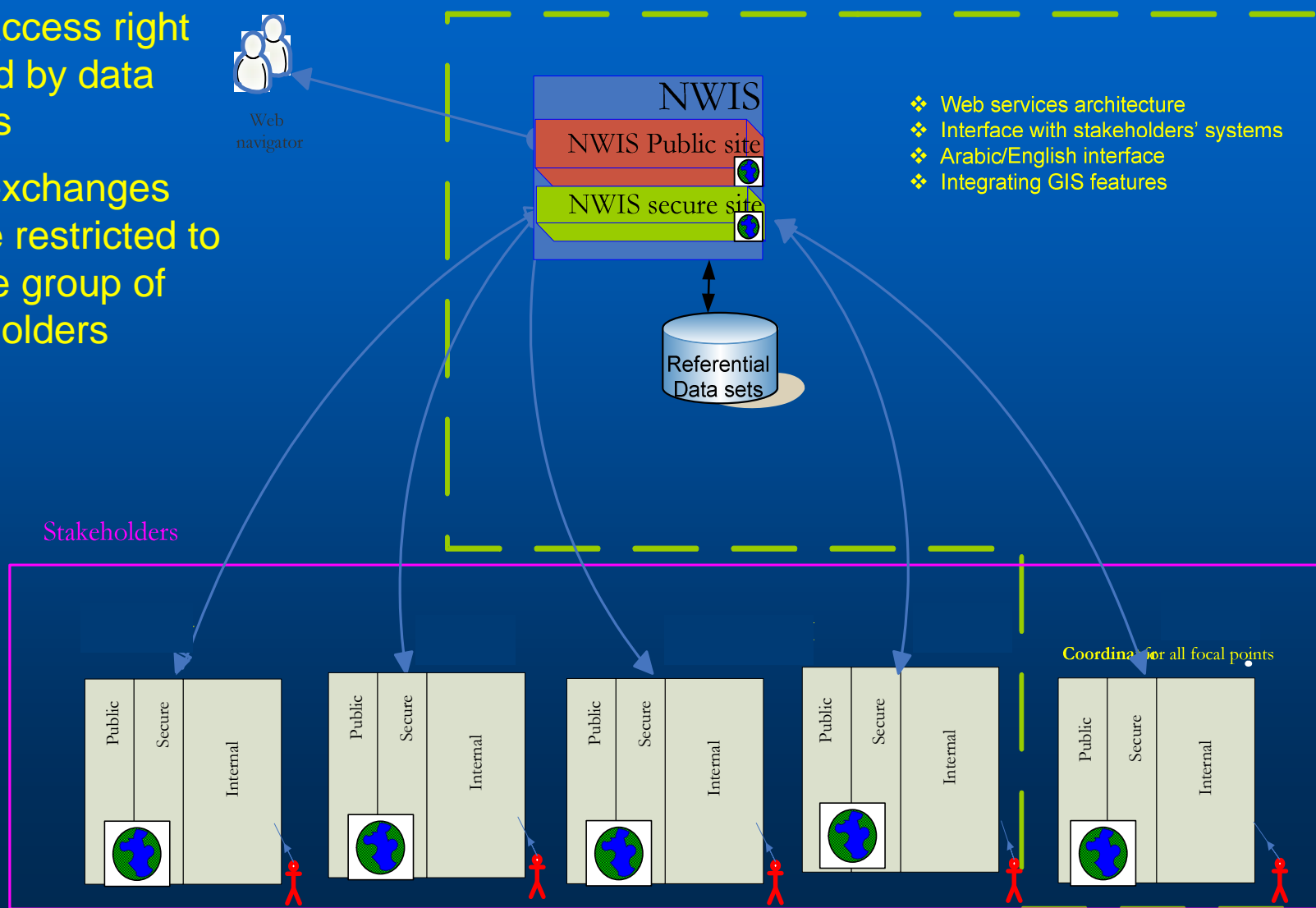


Shared Water information Systems

NWIS Management

Data access right
defined by data
owners

Data exchanges
can be restricted to
a close group of
stakeholders



1st Overview of data providers / users



	MWI	WAJ	JVA	MoE	MoA	MoH	RSS	DOS	Meteo	RJGC	NRA
Surface water quantity	P							U			
groundwater quantity	P							U			
Water use	U	P	P		P			U			
water abstraction	U	P	P					U			
Climatology & rainfall	P								P		
Evaporation /evapotranspiration	U				P				P		
Efluent quantities	U	P		U				U			
Desalination		P						U			
Surface water quality	P			P			P				
Groundwater quality	P					P	P				
Efluent quality (UWWTP)		P		P	P						
Land cover / use	U				P					P	
Population / industry / urban areas	U			P				P			
Irrigation paterns / crops	U				P						
Hydro networks*	P			U						P	U
Economic data, excl. Water sector	U				P			P			
Economic data water sector	P	P	P					U			
Grey literature	P	U	U								

*: (springs, dams, rivers, aquifers, wells, etc.)

provider

user

Existing information systems



- **Water sector**
 - Operational WIS, improvements planned, incl. Executive Information System
- **Ministry of Environment**
 - Under development
- **RSS / EMARCU**
 - Stand alone system on water quality monitoring
- **DOS**
 - Operational database linked with GIS web interface
- **RJGC**
 - Geographical Information System: reference maps, remote sensing
- **Ministry of Health**
 - ?
- **Ministry of Agriculture**
 - ?



NWIS vision

- **Governmental system**
 - ❑ Interministerial intranet
 - ❑ Limited public access (could be added later)
 - ❑ Sub-systems managed by each partner
 - ❑ Node of a broader system
- **User categories**
 - ❑ Executive / decision makers (incl. other ministries)
 - ❑ Experts
 - ❑ General public
- **Technical issues**
 - ❑ Web based system integrating thematic sub-systems
 - ❑ Graphical user interface, geographical data access
 - ❑ Using international data standards



Targeted users

- **Executive level / decision makers**
 - ❑ Score cards to support high-level decision making
 - ❑ all policy domains related to water (e.g. water management, environment, agriculture, health, tourism, planning, economy, defense etc.).
- **Experts:**
 - ❑ indicators and to raw data
 - ❑ for various purposes, such as: Water demand management, Monitoring of water quality and quantity, Water balances, Water accounts, Development or reports, transnational data exchange and transnational water management, etc.
- **General public:**
 - ❑ Aggregated data with descriptive information, static maps and diagrams as well as dynamic web-mapping features and access to (aggregated) data and reports.
 - ❑ Supporting awareness raising for protection of water resources and the related environment

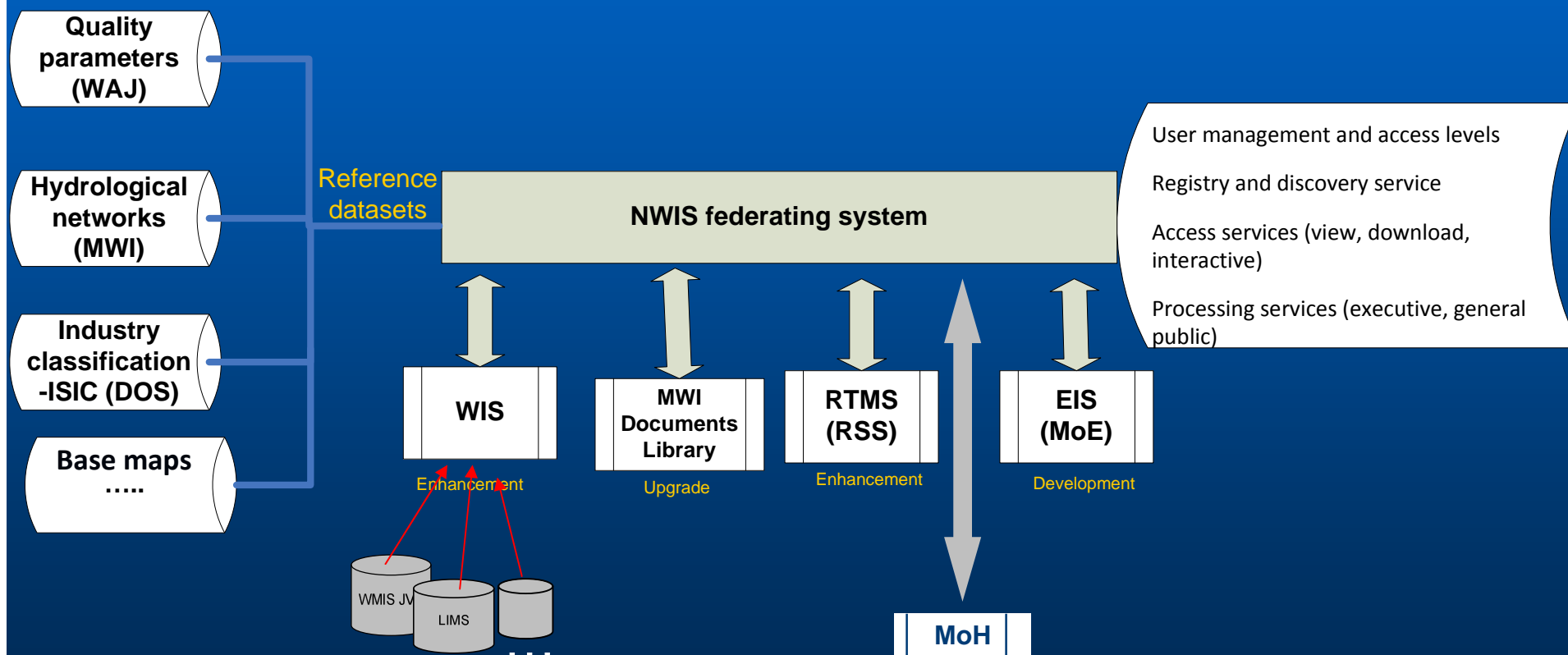


NWIS features

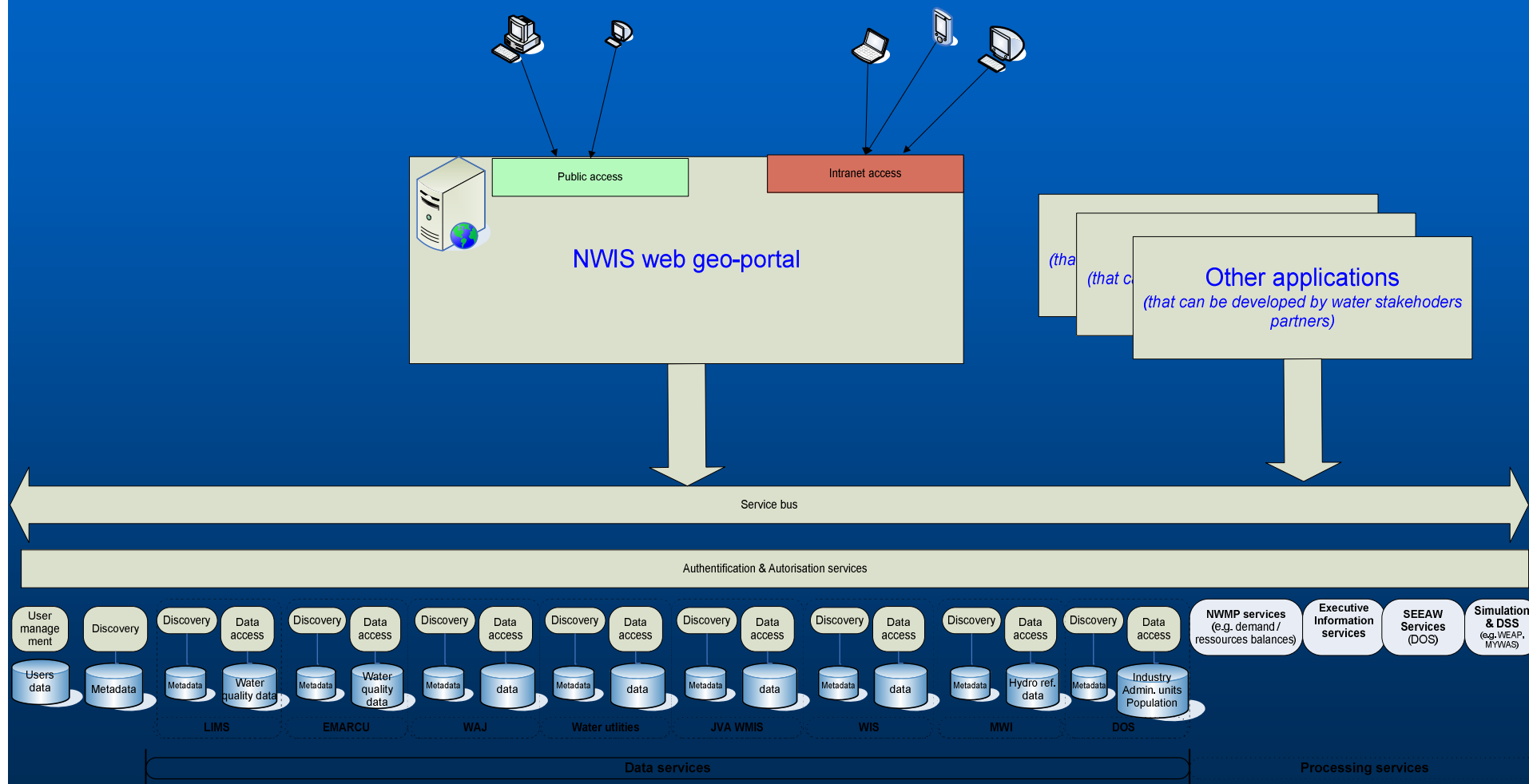
- **Shared framework:**
 - ❑ User management and access levels
 - ❑ Registry and discovery service
 - ❑ Access services (view, download, interactive)
 - ❑ Processing services (executive, general public)
- **Enhancement of current WIS (water sector)**
- **Enhancement of water sector document library system**
- **Joint management of reference datasets, with leading agencies, e.g.**
 - ❑ WAJ central laboratory for water quality parameters
 - ❑ MWI for hydrological network
 - ❑ DOS for industry classification (ISIC)
- **Enhancement of EMARCU water monitoring**
 - ❑ Direct access to water quantities from WIS
 - ❑ Realtime alert system (e.g. SMS)
 - ❑ Access from WIS water quality component
- **Interface with / enhancement of MoE information system**

NWIS first components

extendable architecture



Technical architecture





NWIS governance

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

NWIS Benefits



- **Data management:**

- ☐ Supporting decision making (water and other sectors)
- ☐ Better data accessibility
- ☐ Quality control & stability over time
- ☐ Better control on costs
- ☐ Upgrade of existing (sub) systems
- ☐ Openness to add applications/services

- **National referential data sets**

- ☐ Comparability
- ☐ Quality control
- ☐ Optimising monitoring networks
- ☐ Agregating and combining data
- ☐ Integration of water data with data from other sectors

- **Regional harmonisation**

- ☐ Sharing experiences, existing guidelines
- ☐ Use of international standards supporting data exchange
- ☐ Sustainability of technical solutions
- ☐ Easier reporting to international initiatives
- ☐ Potential international support



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 (e.g. environment)
- System implementation and training
- System operation
- Iterative process:
 - New components/public institutions can join later

2
years





Step wise approach

- **1st step:**
 - MWI, MoE, DOS, RSS, RJGC, MoICT
- **2nd step:**
 - Ministry of Health, Ministry of Economics, Ministry of Agriculture

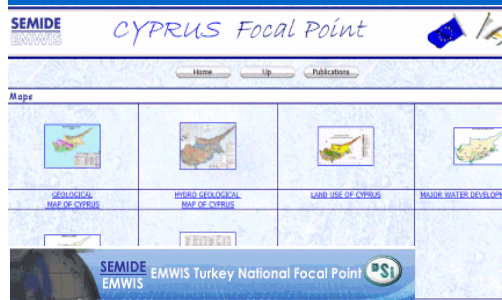


Broader vision

- ***NWIS: a key component of an eGovernment infrastructure for Jordan***
- ***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***

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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

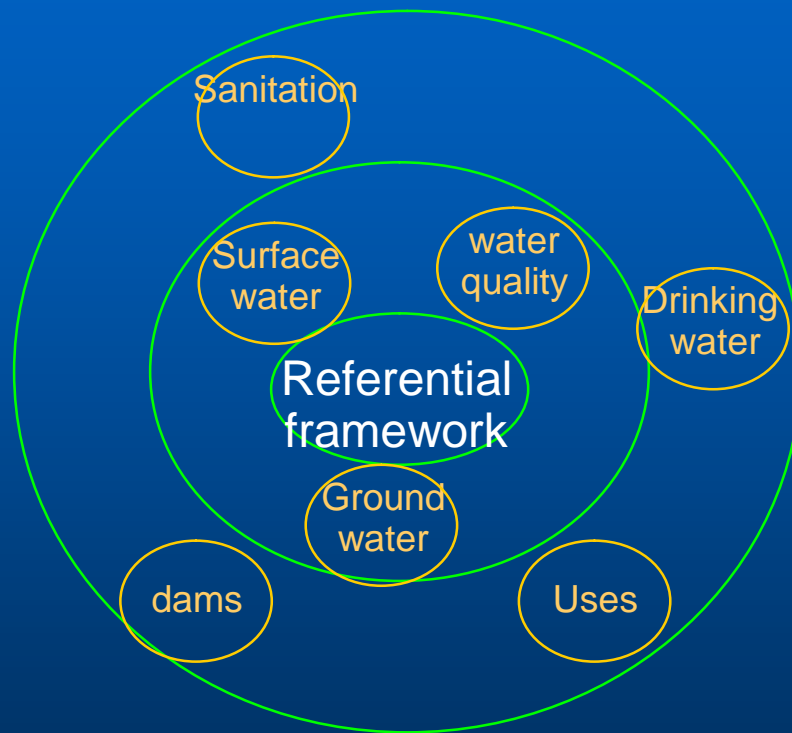




NWIS basic principles

- **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

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