Information architecture (IA)

Global Risk Identification Program

Context

- Risk identification for taking concrete mitigation actions (decision-making)
- 3 types of GRIP projects
  - demo projects in 3 selected countries, done by local people with strong support from GRIP (Sri Lanka, Nicaragua, Mozambique)
  - risk & loss data projects in 10-15 countries, lower GRIP support to existing projects
  - global report update (to be released in 2009) : new RDR, new Hotspots or synthesis of GRIP national projects ?
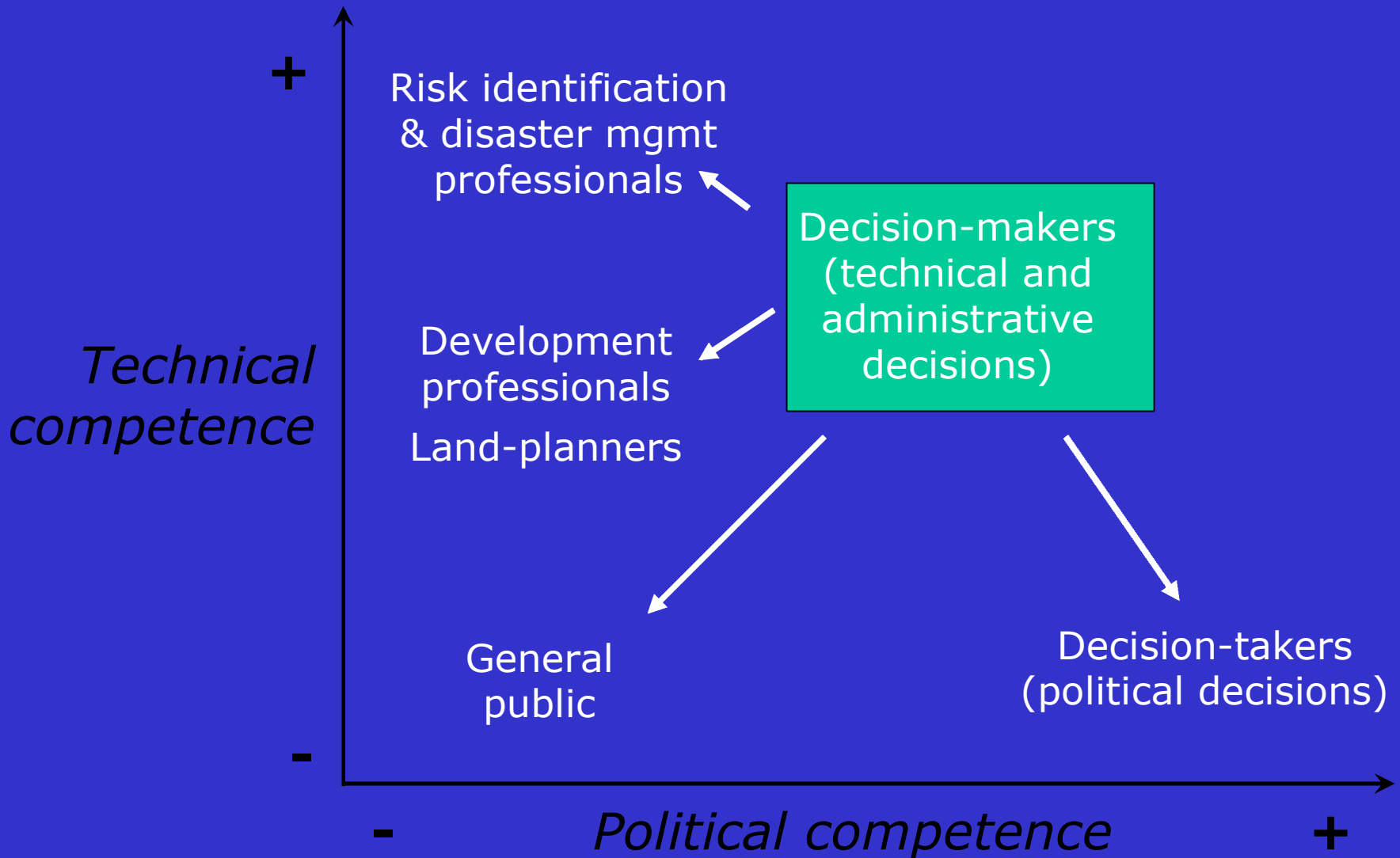
Objectives of the IA

- To set-up an information infrastructure that will support all the GRIP projects
  - <u>Identify</u> existing data/information sources and contact persons/institutions
  - <u>Capitalize</u> data and information by integrating it in a structured system
  - <u>Disseminate</u> data and information to various user groups
  - Offer a <u>training</u> on the <u>use</u> of data/information for risk identification
  - <u>Stimulate</u> the <u>creation</u> of new data and information by the GRIP partners

Challenges

- Avoid duplication/reinvention of information and tools

- Integrate existing information with minimal modifications

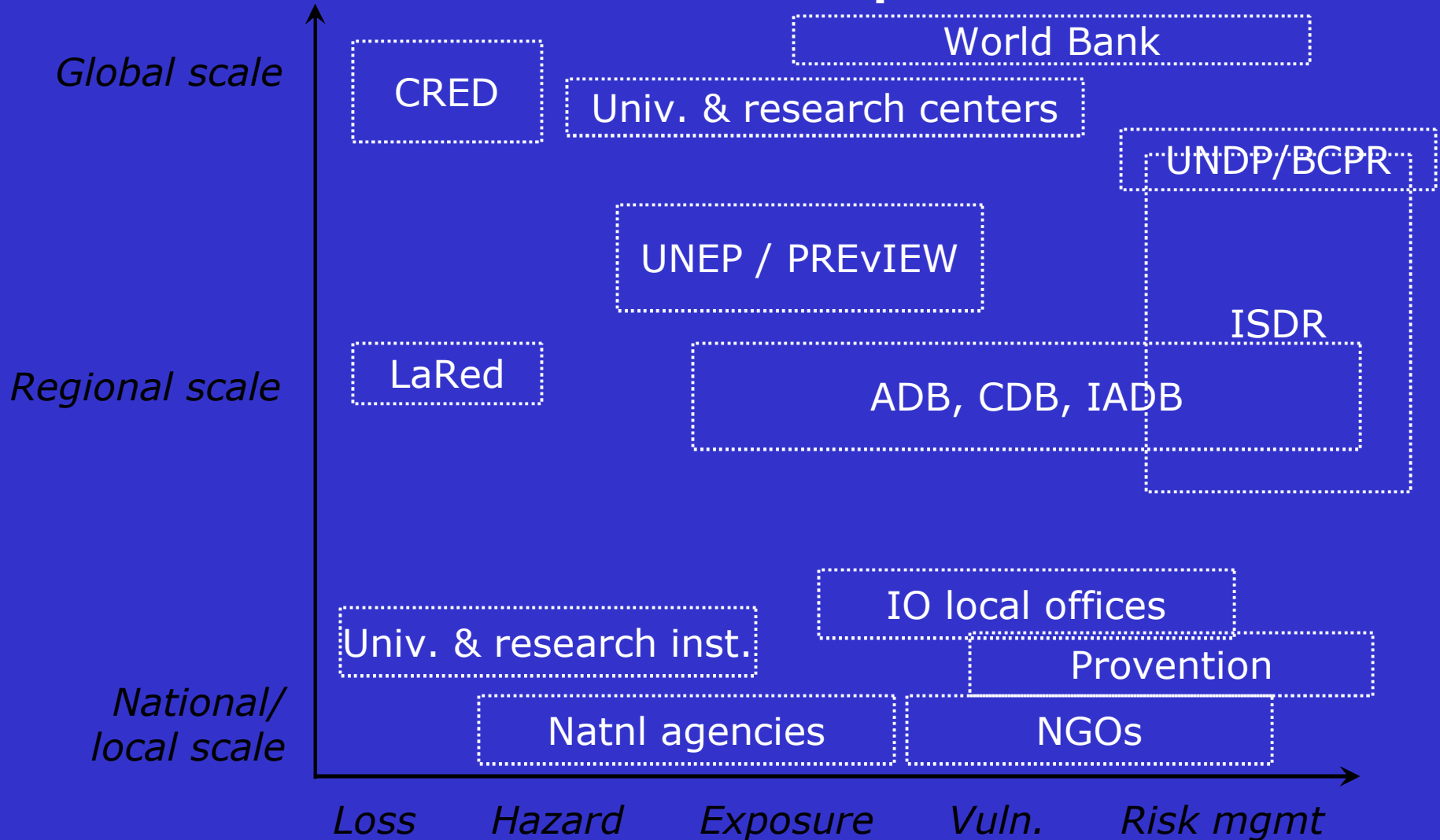- Ensure the property rights and the proper credits to the information owners

Risk information users

+

Risk identification
& disaster mgmt
professionals

Technical competence

Development
professionals

Land-planners

Decision-makers
(technical and
administrative
decisions)

General
public

Decision-takers
(political decisions)

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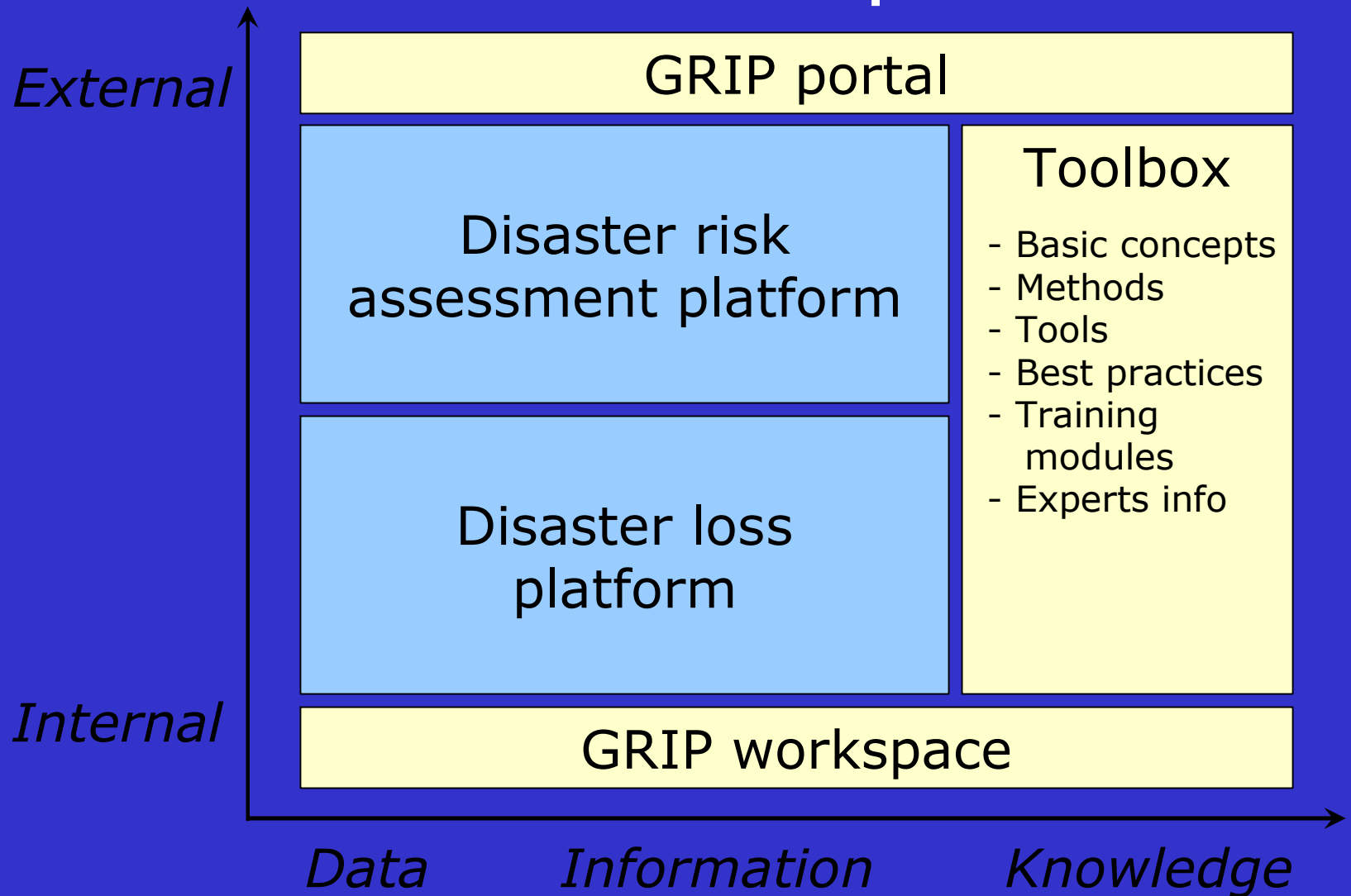**-**   *Political competence*   **+**

What information is needed ?

- Applications
  - research and analysis
  - planning, development
  - investment, risk transfer
  - education

- Domains
  - Losses (economic, lives), hazards, vulnerability, risk management

- Scales
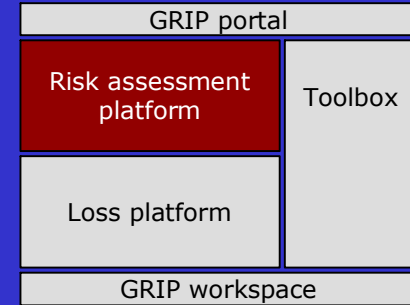 - spatial (global, regional, national, subnational, community)
  - temporal

Risk information producers

Global scale

CRED

World Bank

Univ. & research centers

UNDP/BCPR

UNEP / PREvIEW

ISDR

Regional scale

LaRed

ADB, CDB, IADB

IO local offices

Univ. & research inst.

Provention

National/ local scale

Natnl agencies

NGOs

Loss   Hazard   Exposure   Vuln.   Risk mgmt

Information components

External

	GRIP portal

Disaster risk assessment platform

Toolbox

- Basic concepts
- Methods
- Tools
- Best practices
- Training
  modules
- Experts info

Disaster loss platform

Internal

GRIP workspace
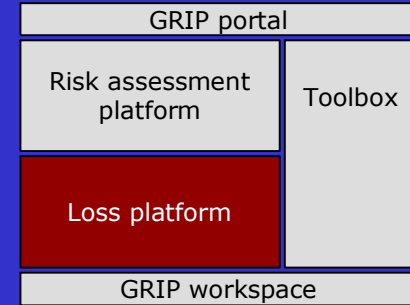
Data   Information   Knowledge

Risk ass. platform

- Objectives
  - Clearinghouse : <u>link</u> global hazard and vulnerability data sources
  - Global report : <u>integrate</u> global hazard and vulnerability data in a GRIP database
  - Integrate local hazard and vulnerability data obtained from GRIP projects
- Coordination : CU (+ others)
- Means
  - Propose a mechanism for linking the global data sources and for updating these links
  - Design and implement a web database of local hazard and vulnerability data

Loss platform

- ## Objectives
  - Clearinghouse : <u>link</u> global loss data sources
  - Global report : <u>integrate</u> global loss data in a GRIP database
  - Integrate local loss data obtained from GRIP projects
- ## Coordination : CU, CRED (+ others)
- ## Means
  - Propose a standard exchange format, including standard value lists (e.g. GLIDE, ISO 3 country codes, etc.)
  - Design a web data service that could be offered by each data provider

Toolbox
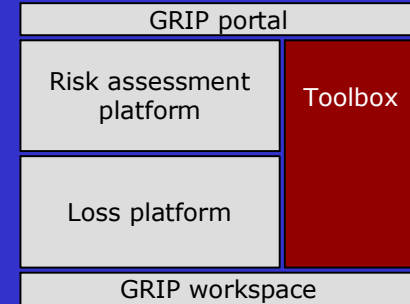
- A knowledge base for using/producing risk data in a relevant way
- Execution : GRIP team
- Components of the toolbox
  - Concept base
  - Methods
    - Validation of data : quality assessments
    - Lists of data needs for hazard, exposure and vulnerability
    - Calibration of models (linking loss data with hazard and vulnerability data, like DRI)
  - Softwares (see Christian's bookmarks)
  - Best practices (from GRIP local case studies)
  - Training module (using distance learning)

GRIP portal
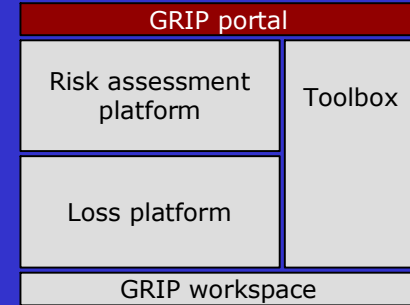
- General information about GRIP

- Execution : GRIP team

- Components
  - Descriptions (GRIP's objectives, structure, project areas, etc.)
  - Documents
  - News (to be shared using RSS)

- Means
  - A dedicated website with a GRIP domain name (e.g. gri.net)

GRIP workspace
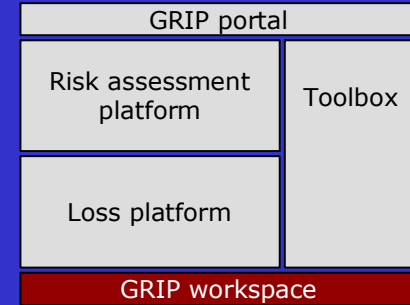
- The internal workspace restricted to the core GRIP team

- Coordination : GRIP team

- Components
  - Document upload
  - Mailing, forum
  - Calendar

- Means
  - So far yahoo!groups, Plone@unige to be studied

To be discussed

- ## Content (what)
  - Specification of the information needs
  - Specification of the service needs

- ## Organisational (who, when)
  - Roles of the GRIP partners
  - Ownership of the information (Intell. prop., license)
  - Maintenance of the information architecture
  - Agreements (GRIP proposals)

- ## Technologies (how)
  - Standard formats and protocols
  - Hardware, software
  - Internet network issues (security, domain names, bandwidth, etc.)

Portal/platform services

- Gate to My Data / World of data
  - See GSD Workshop, CIESIN, Sept. 2004

- Knowledge Management System
  - See GRIP meeting, NYC, Jan. 2006
    1. Access to Hotspots/DRI data
    2. Display (Map services)
    3. Decision Support System (toolkits)
    4. Interactive integration of loss data
    5. Catalogue
    6. Enhancements of on-line loss databases
    7. Communication, thesaurii, training, contacts
    8. Disaster driven automatic recommendations
    9. Standards for post-disaster loss data collection
    10. International monitoring network

Set priorities according to GRIP's objectives !

Portal/platform requirements

- Users/rights management
- Long-term service (e.g. 10 years)
- Services
  - Definition (standards, thesaurii, ontology)
  - Integration (connect, export/import, upload)
  - Identification (search and description)
  - Visualization (navigate, customize)
  - Processing (e.g. extraction, by drawing a rectangle or a free shape on an interactive map)
  - Access (download)
  - Information on how to use (training, contacts, IP rights, license)

How to link platforms/DBs ?
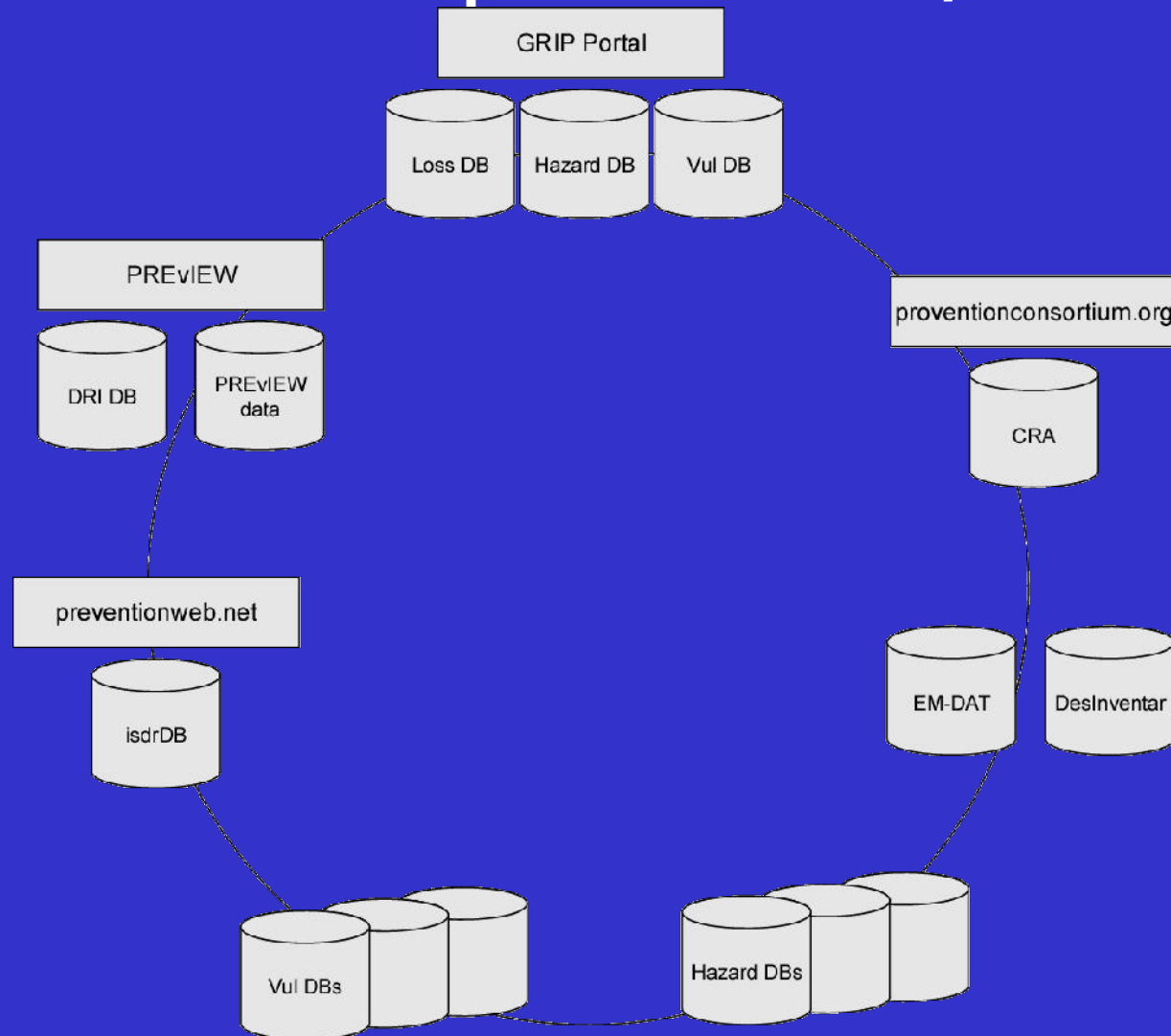
Linking platforms and DB

- A mixture of GRIP centralized databases and partners' databases
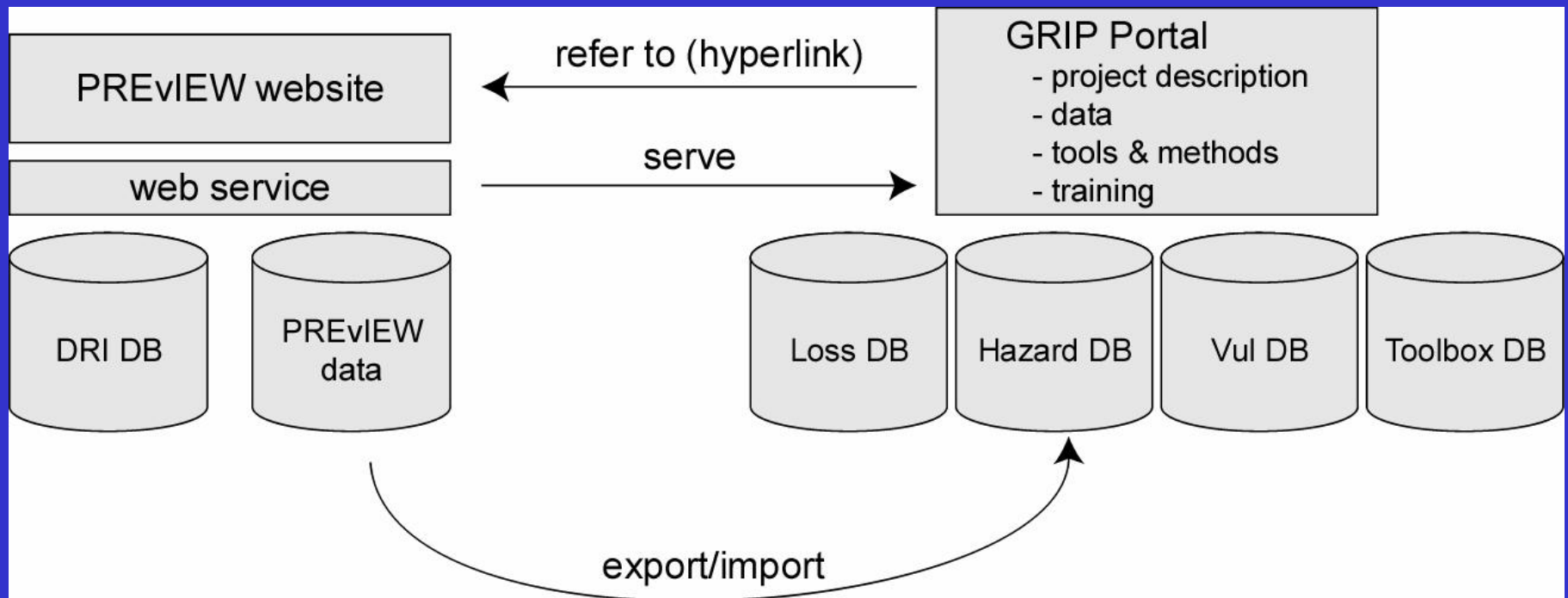
Data models and protocols

- ## Data models
  - Define a data model for loss data (e.g. a flat table containing disaster id, disaster type, year/month/day of disaster, killed, economic losses, comments, etc.)
  - Use GLIDE as a common disaster identification code

- ## Protocols, communication standards
  - Use RSS for exchanging news
  - Use XML/SOAP for data services
  - Use Mapserver & WMS/WFS for map services