



## Common strategy for capacity building (CB) and training

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# Presentation outline



**AEGOS**

- Background
- Capacity Building - objectives
- Challenges
- Achievements
- AEGOS SDI and CB
- Knowledge baseline
- Multi-stage training
- Workflows
- Training modules
- Training centres
- Organisational framework
- Training and CB concept
- Strategy

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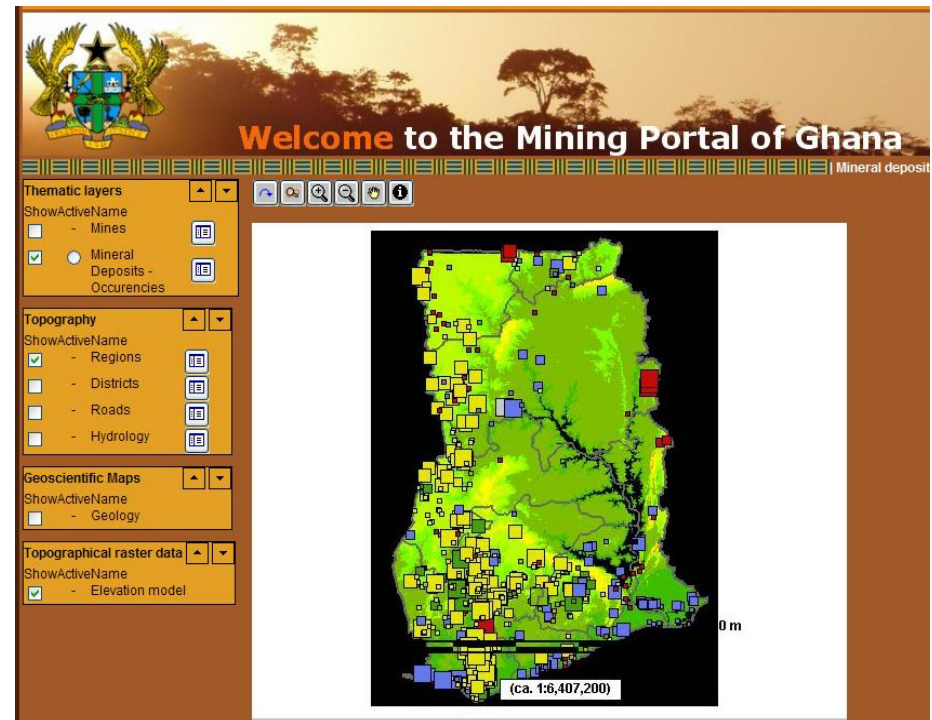
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# Background



## Why AEGOS and why accompanied by CB

1. Many African states suffer from poverty and underdevelopment.  
→ The **sustainable use** of natural resources is **a key** for development.
2. Many projects generate an enormous amount of data  
→ The **sustainable use** of databases is **a key** for sustainable use of natural resources
3. Qualified and ambitious personal is **a key** for sustainable use of data



### Description of Work (AEGOS):

“Qualified personnel will be required to perform the AEGOS implementation activities and its sustainable use”

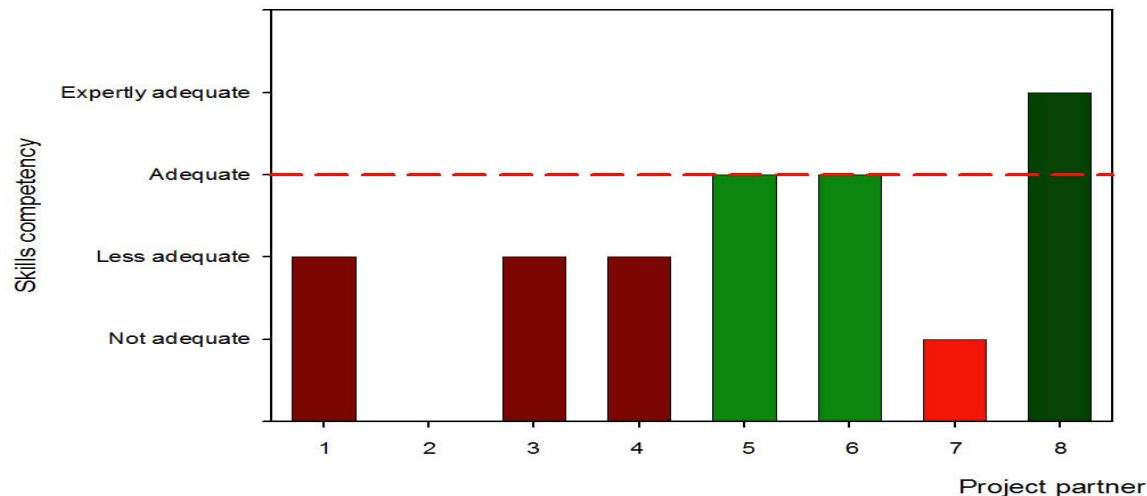
# Capacity Building - objectives

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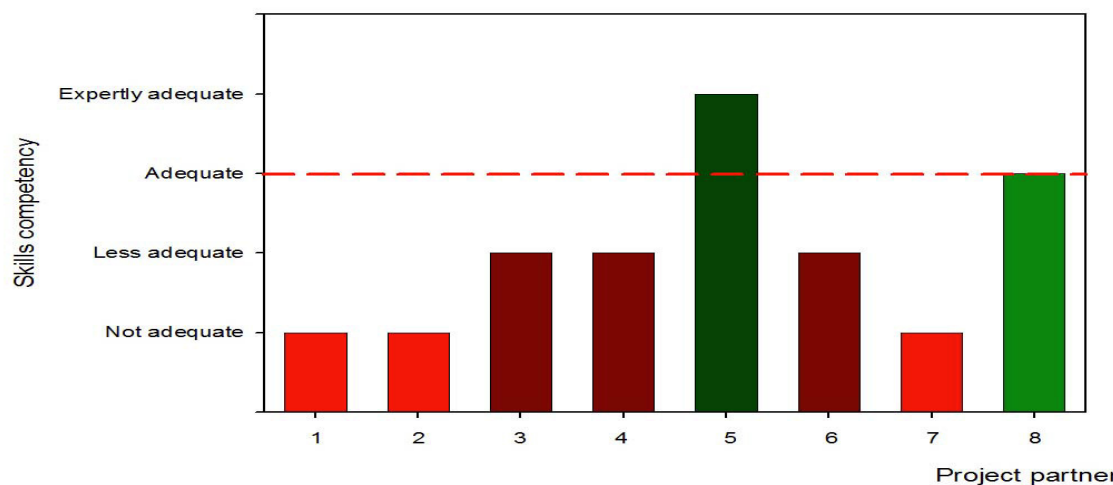


- Designing the necessary training curricula and required organisational structures to implement successfully and sustainably the **AEGOS Spatial Data Infrastructure**
  - Overview of activities and qualifications needed for operating the AEGOS SDI
  - Identifying skills and knowledge currently available at African geoscientific institutions
  - Definition of a strategy for capacity building and training
  - Design of a training infrastructure and organisational structure required to operate the AEGOS SDI
  - Development of a training program to qualify the personnel of African partner institutions in implementing and operating the AEGOS SDI

# Examples for the Gap between requirements and existing skills

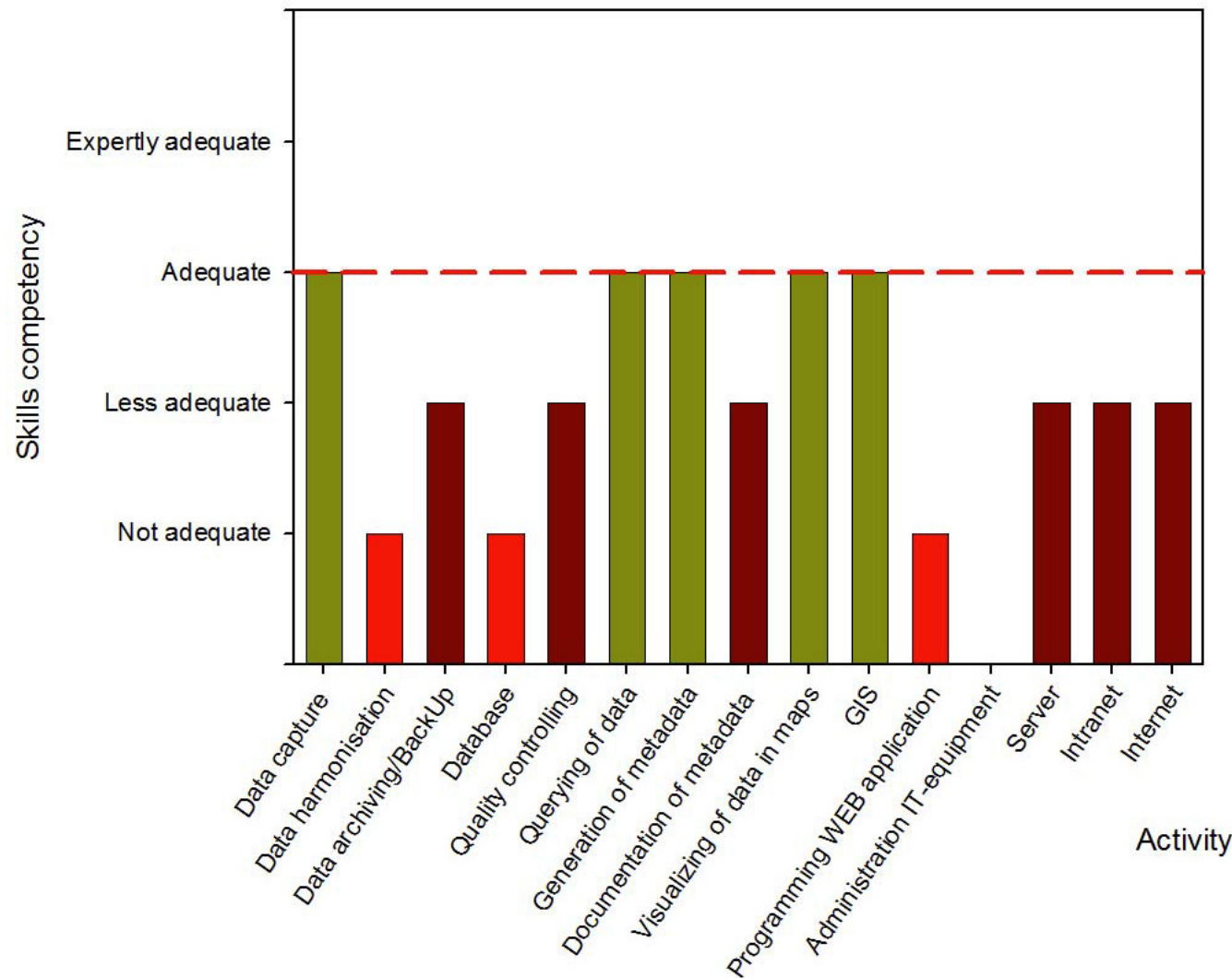


Skills competency in  
administration of *IT-*  
*equipment*



Skills competency in  
*data harmonisation*

# Examples for the Gap between requirements and existing skills



Skills competency at an African partner institution with partly trained staff.

Remarkable is the lack of skills in

- Data harmonisation, Databases,
- Documentation of metadata
- Server,
- Internet, etc.

# Challenges

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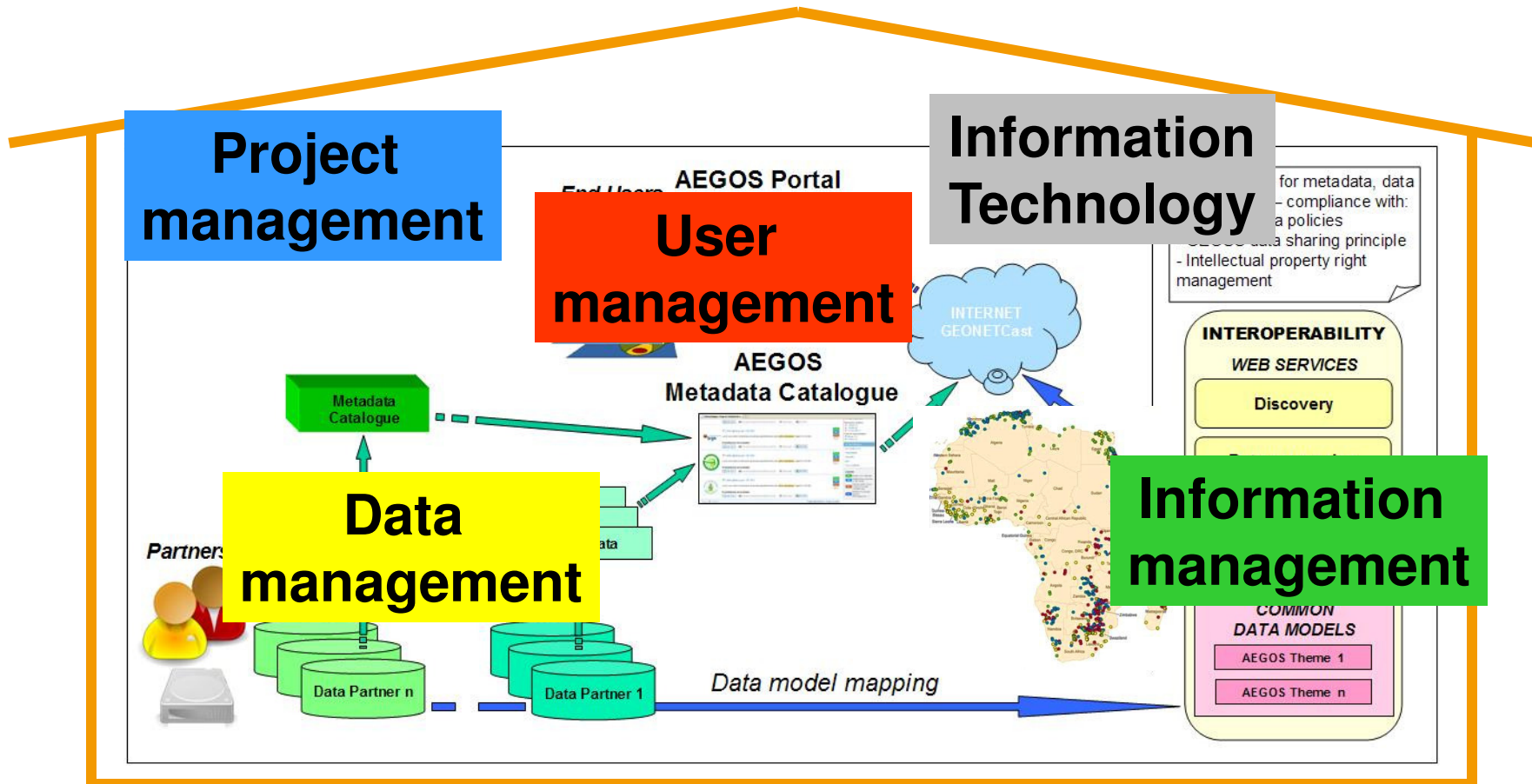


- To **bridge the gap** between **existing qualifications** in African partner institutions and the **required skills** to operate the SDI, a **multi-stage training** program is developed
- To **qualify** the African partners in operating and implementing the AEGOS SDI, a **training curriculum** consisting of **15 training modules** and **24 training topics** is worked out



1. Definition of a **required minimum knowledge baseline** for AEGOS-specific training and a **baseline for training participation**
2. Completion of a comprehensive training curriculum based on a **multi-stage training**
3. Definition of **training modules, topics, goals and content**
4. Inventory of available **training facilities**
5. Design of an **organisational framework** for the performance of training courses and technical support for African AEGOS partners
6. Training and capacity building concept with focus on
  - a) **short-term training** (training-of-trainers courses)
  - b) **facilitation of long-term training** by universities
7. **Strategy** to get highly skilled human resources to implement and operate the AEGOS SDI

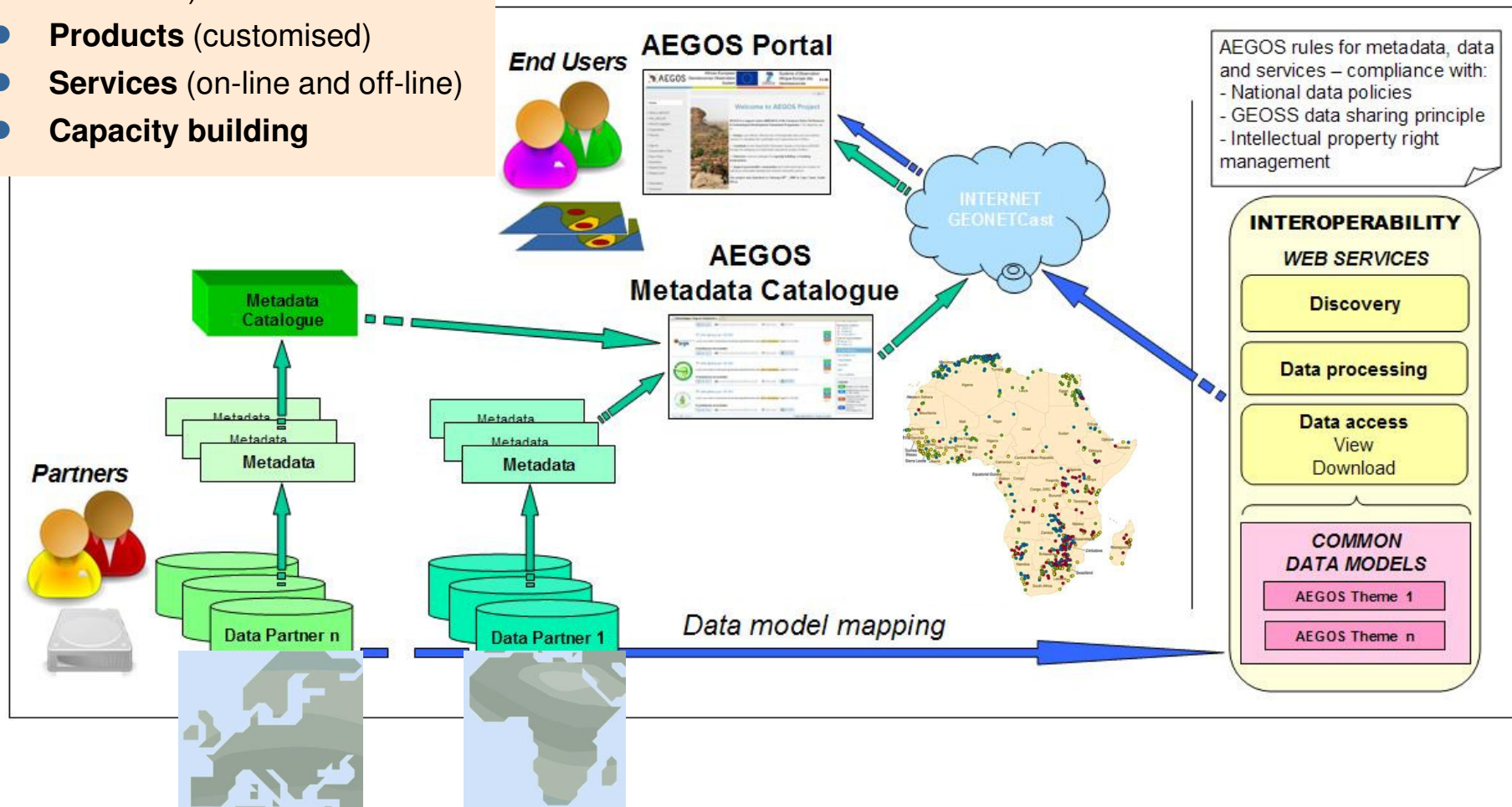
# AEGOS SDI and CB



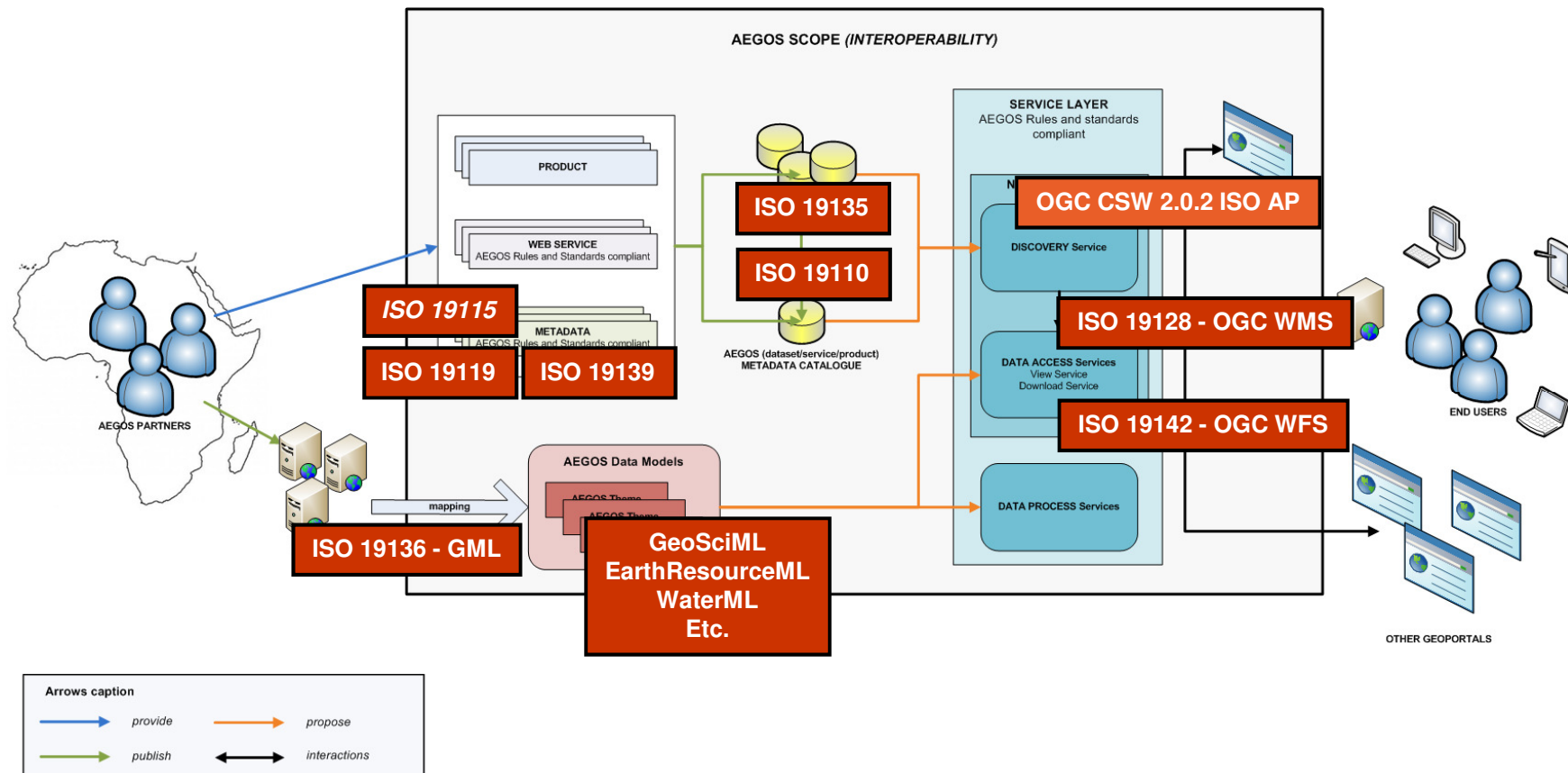
# AEGOS Distributed Infrastructure



- **Metadata** on-line
- **Data** (on-line and off-line / e-AEGOS)
- **Products** (customised)
- **Services** (on-line and off-line)
- **Capacity building**

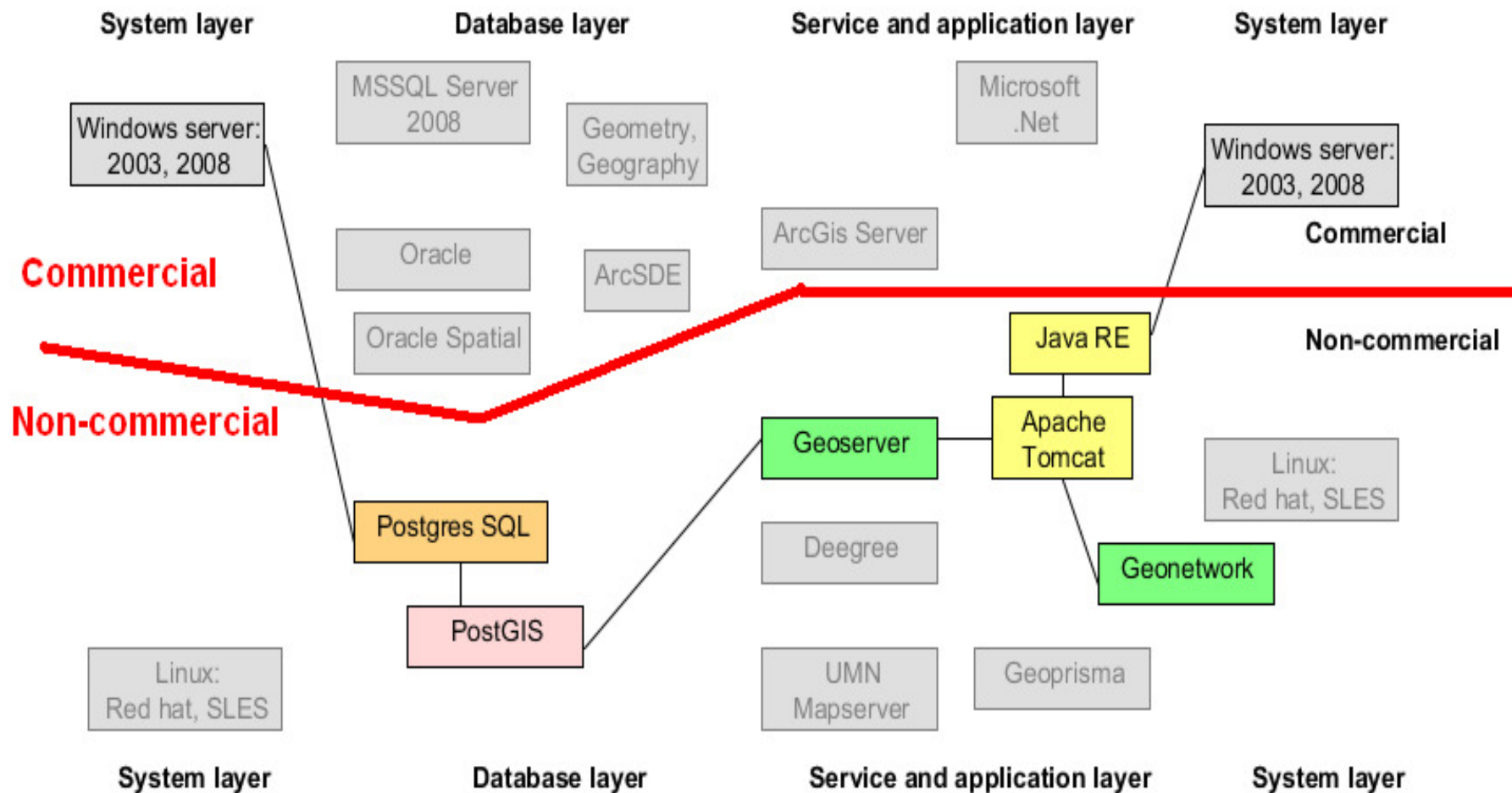


# Standards (ISO/OGC/CGI)





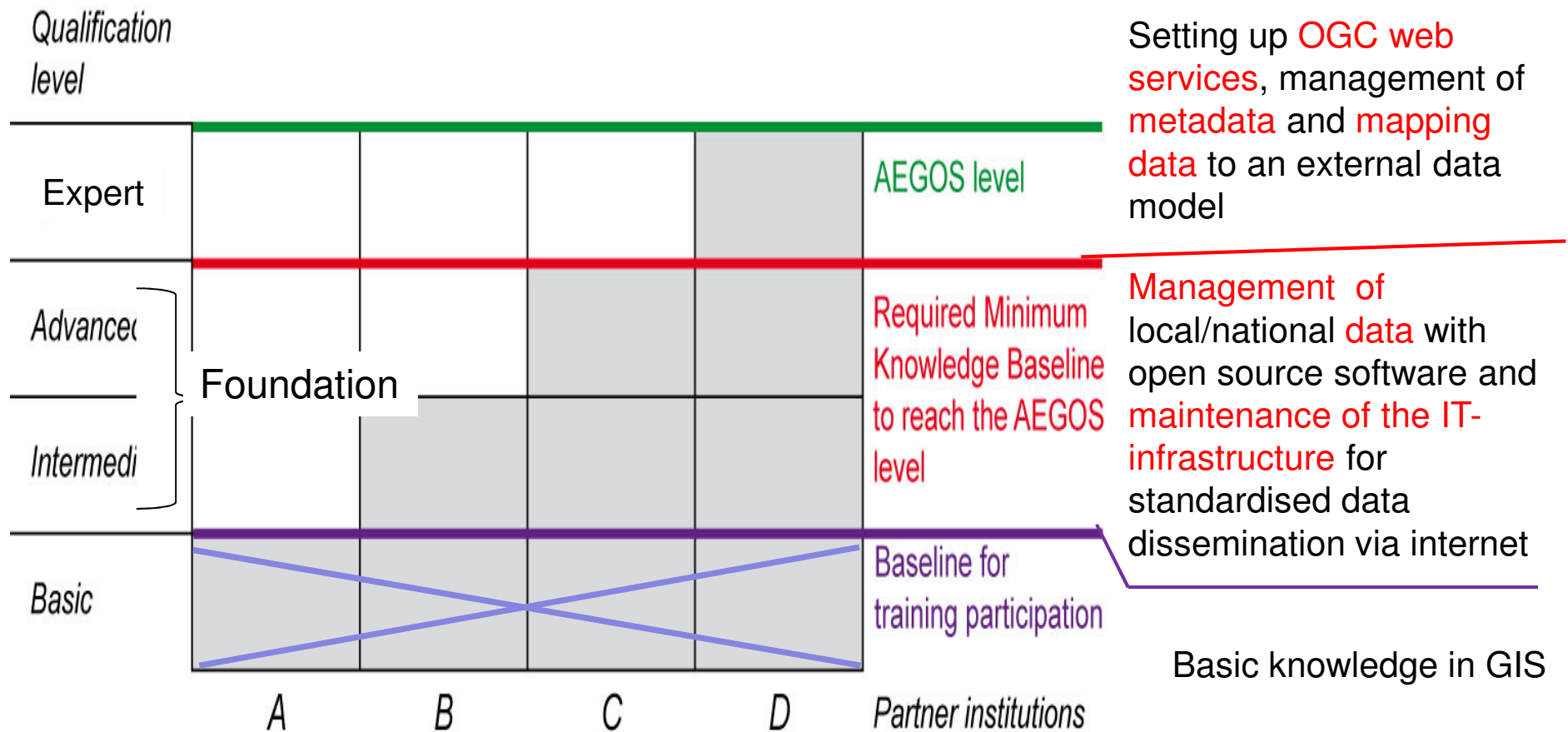
# Recommended software



# Knowledge baseline

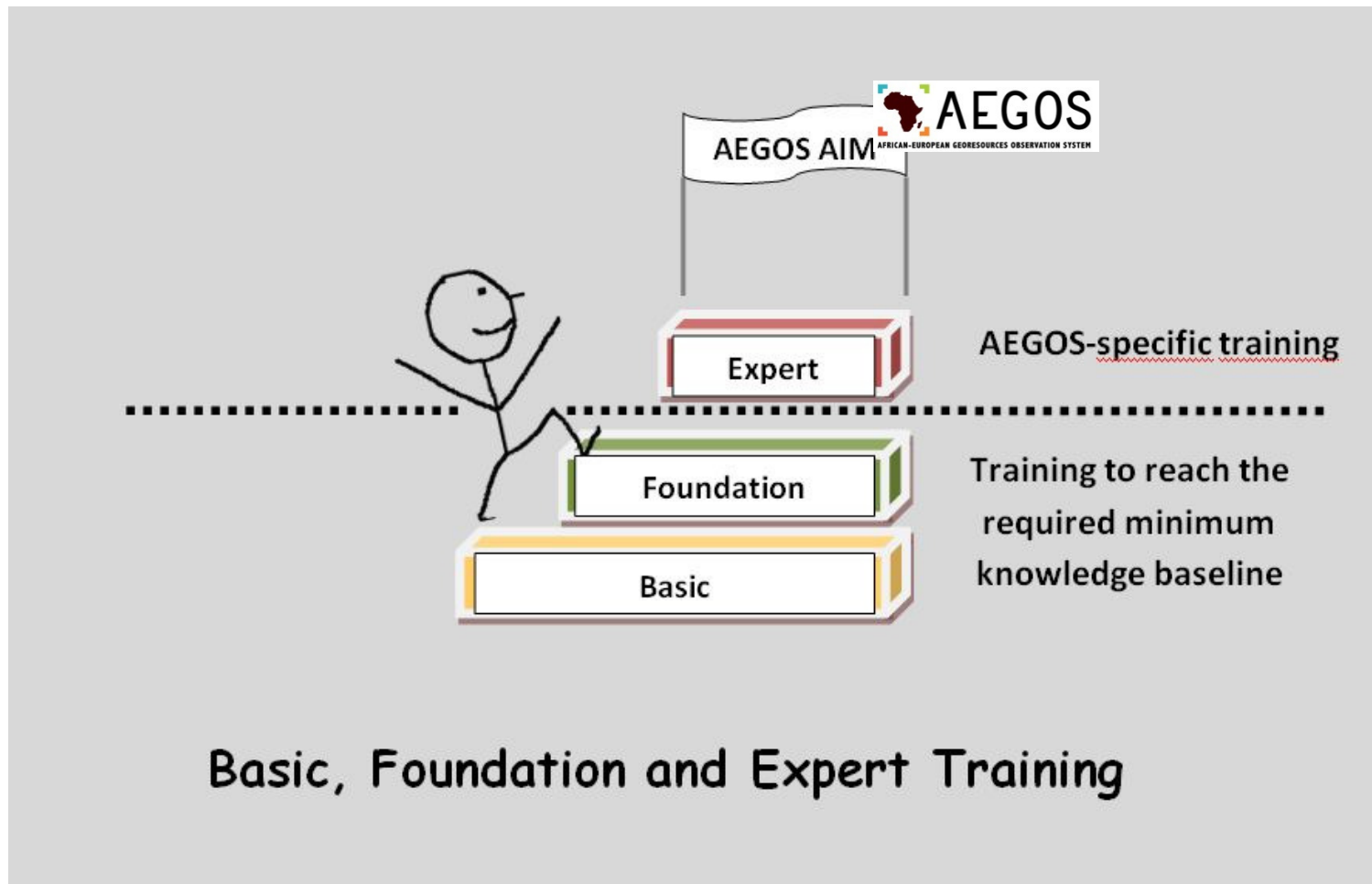


- Definition of a required minimum knowledge baseline for AEGOS-specific training and a baseline for training participation

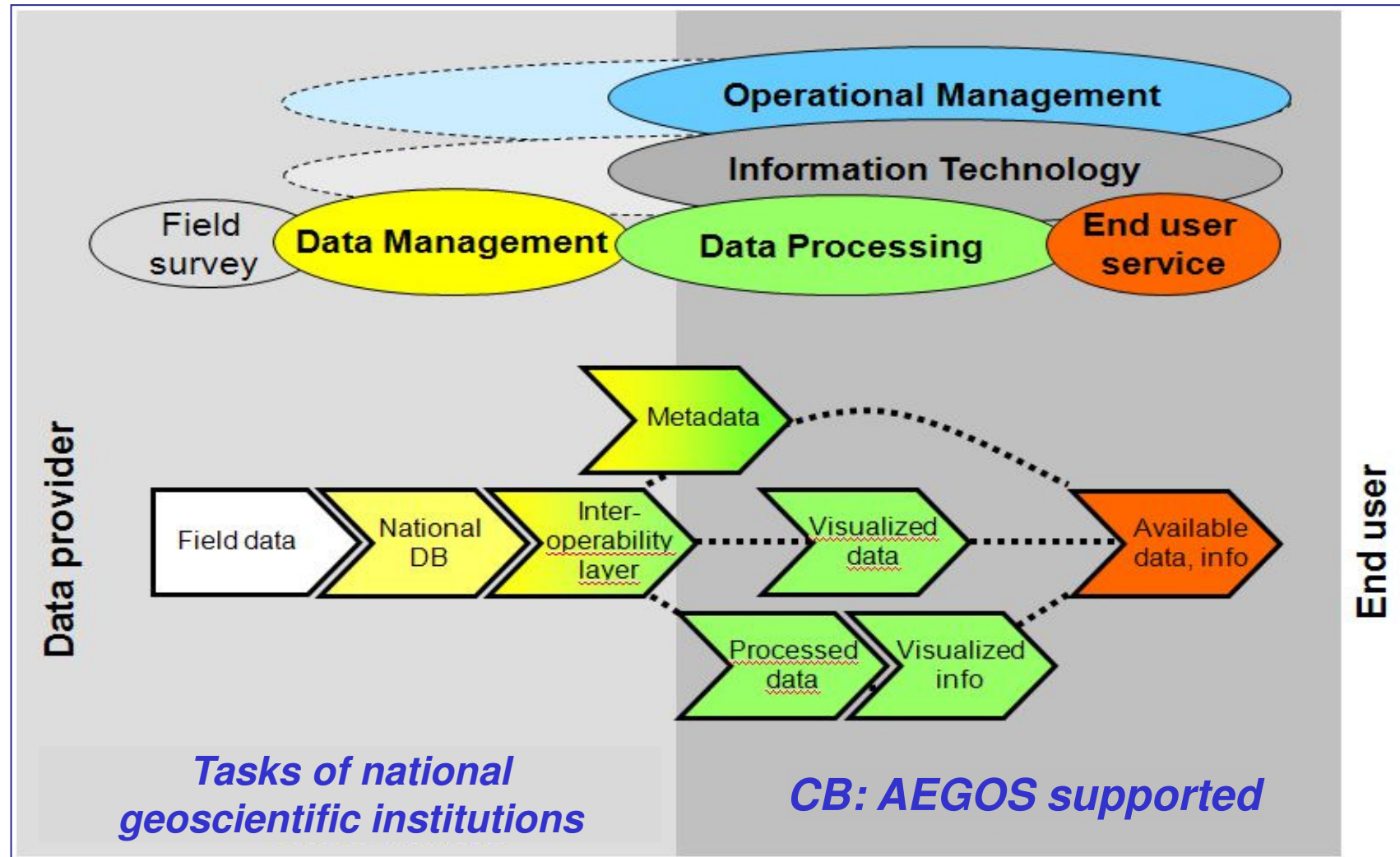


# Multi-stage training

- Completion of a comprehensive training program based on a multi-stage training

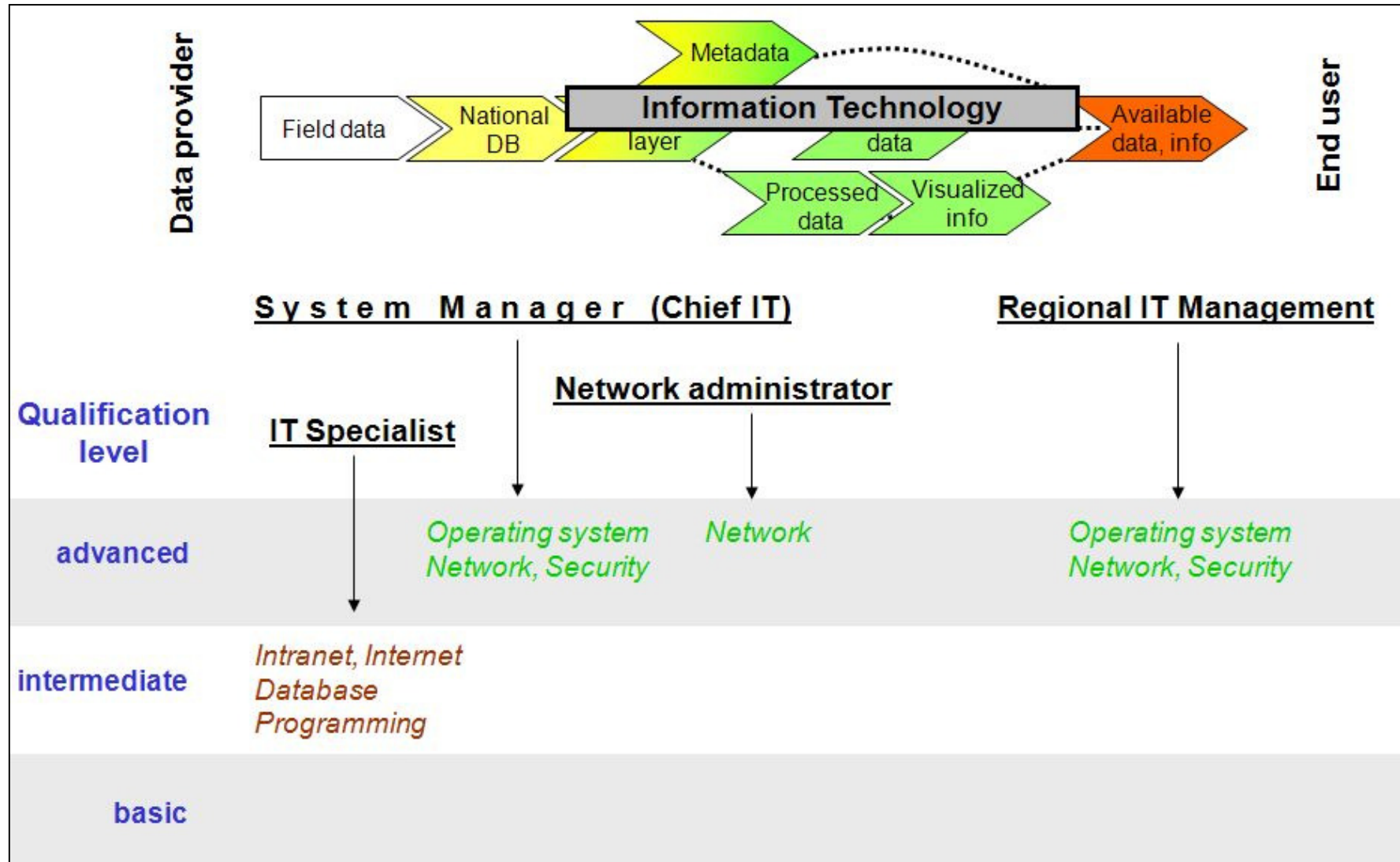


# Workflows

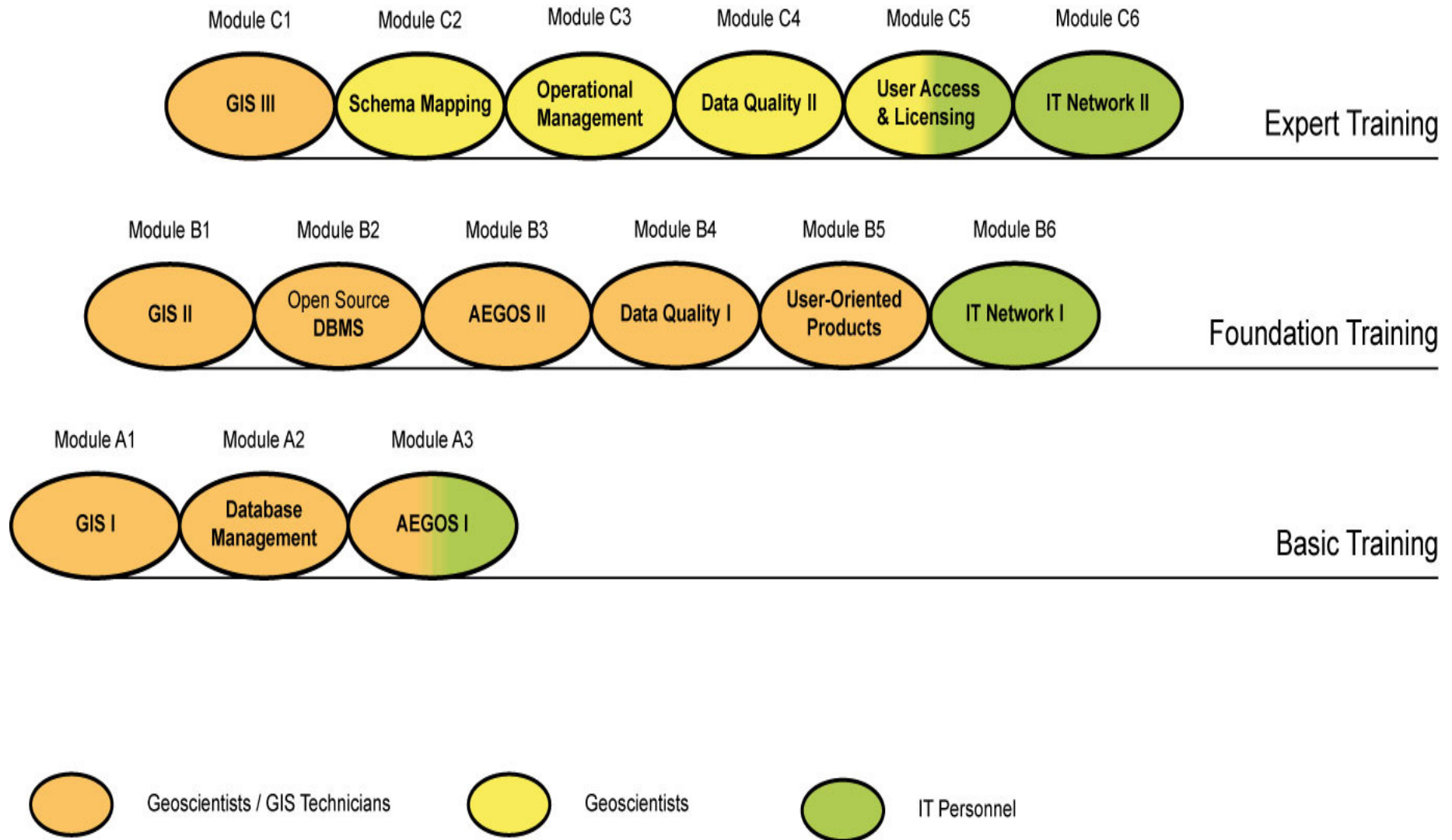




# Profiles / Functions

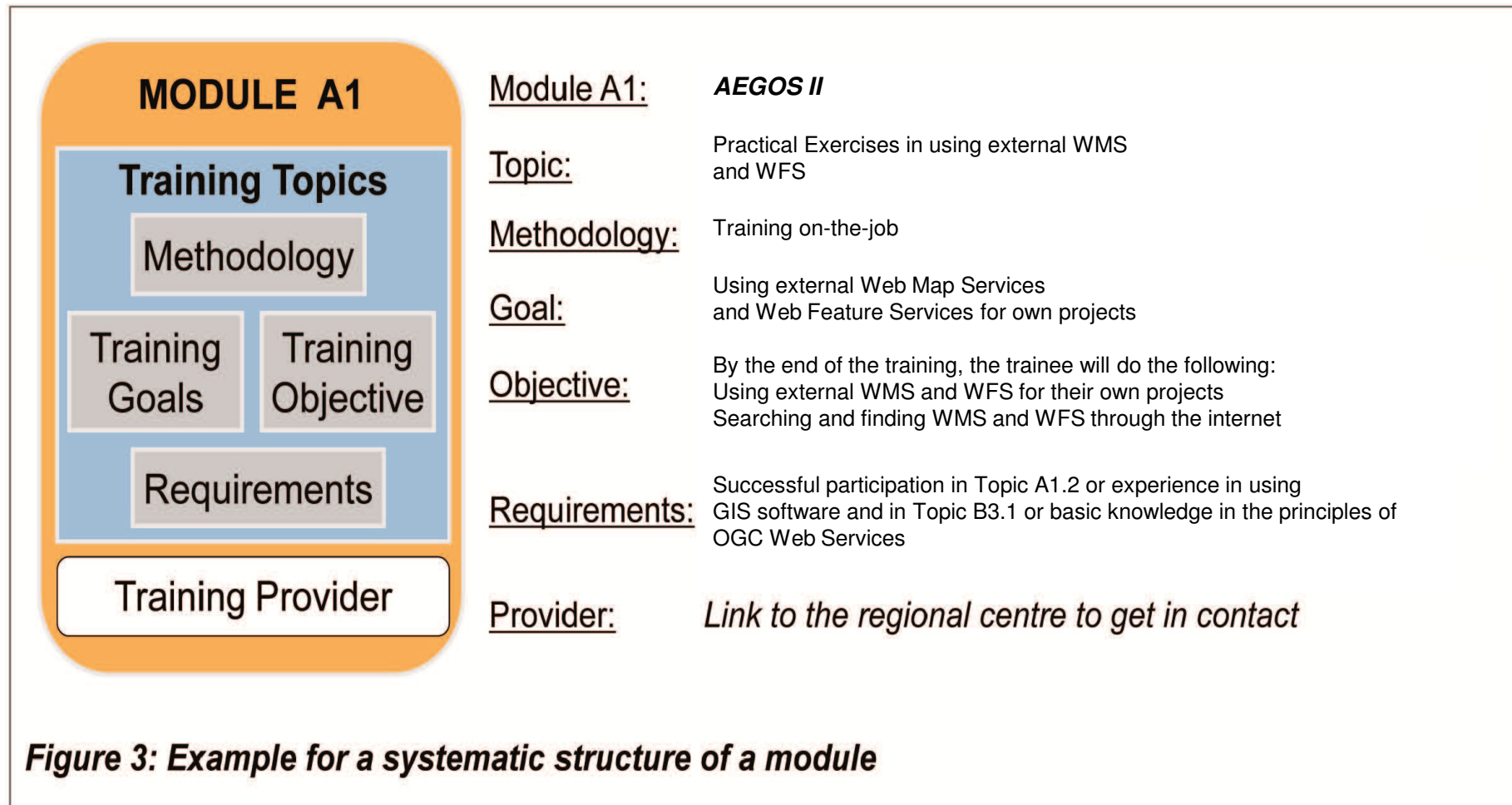


# Training modules



# Example of a module

- ...and also training topics, goals, objectives and content



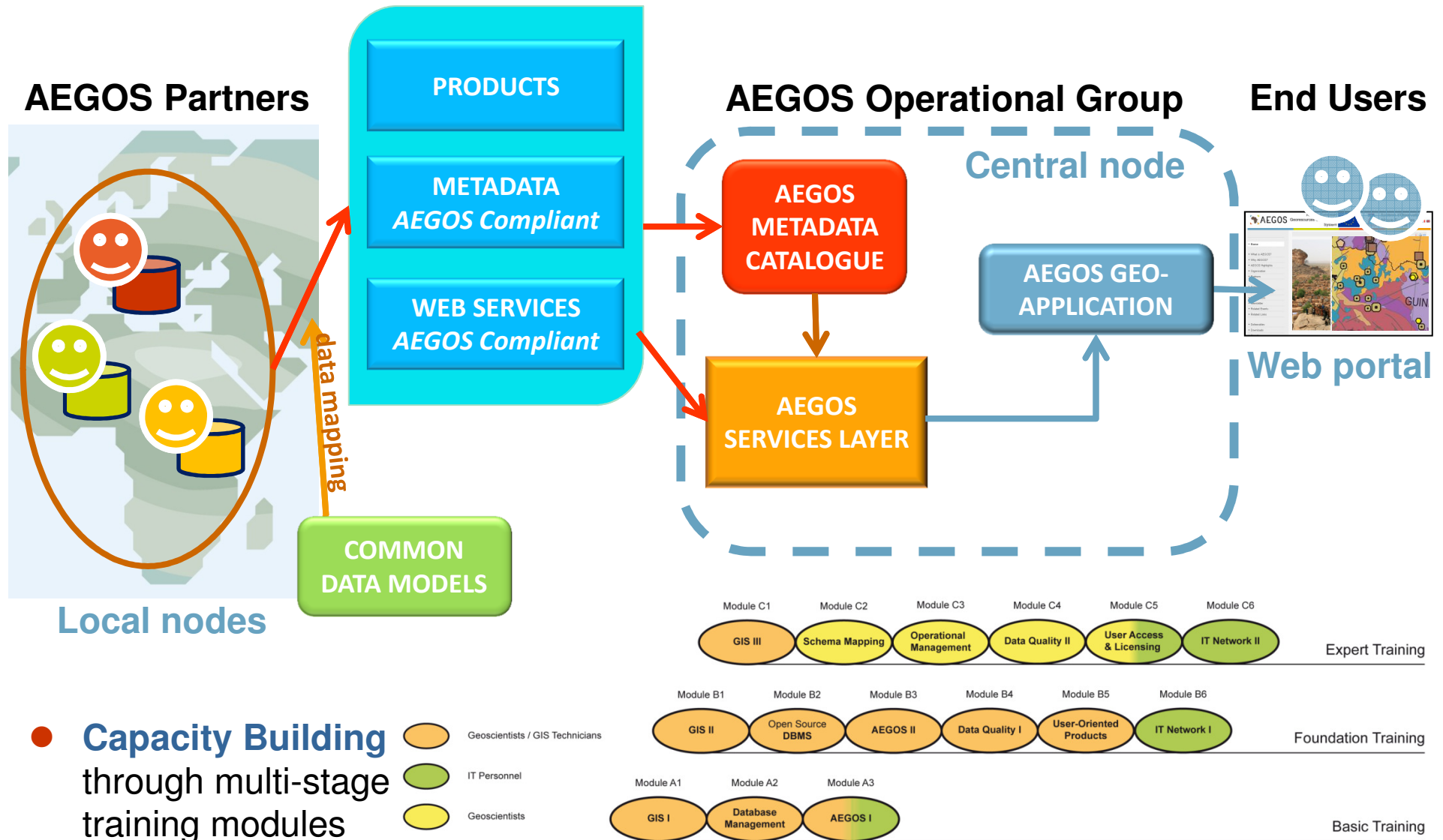
# Training Centres



Module	Topic	Methodology	CGS	SEAMIC	UNZA	FossGIS Academy
<b>BASIC Training</b>						
GIS I	Introduction to Quantum GIS	FTF & OJT		X	X	X
	Digitising with the Starter-Kit	OJT	X	X	X	X
Database Management	Introduction to Database Management	FTF	X	X	X	X
AEGOS I	Introduction to AEGOS	ID		X	X	
<b>FOUNDATION Training</b>						
GIS II	Advanced methodologies for data analysis with the Starter-Kit	OJT	X	X	X	
Open Source DBMS	PostgreSQL and PostGIS	FTF & OJT		X		X
AEGOS II	General introduction to the principles of SDI	S	X	X	X	
	General information about INSPIRE, GEOSS, OneGeology	ID		X		
	Practical Exercises in using external WMS and WFS	S	X	X	X	X
	Data Quality Assurance for Technicians	FTF & OJT	X	X	X	
Data Quality I	Data Quality Assurance for Project Manager	FTF & OJT	X	X	X	
User-oriented Products	How to create value added products	FTF	X	X	X	
IT-Network I	Network Administration	FTF		X	X	
<b>EXPERT Training</b>						
GIS III	Provision of WMS, WFS and WCS with the Starter-Kit	FTF & OJT	X	X	X	X
	Editing and Publishing of Metadata with the Starter-Kit	FTF & OJT	X	X	X	X
Schema Mapping	Introduction to GeoSciML	S		X	X	
	Schema Mapping for Technicians with the Starter-Kit	FTF		X	X	
	Schema Mapping for Geoscientists with the Starter-Kit	FTF		X	X	
	Introduction to INSPIRE conformance data model	S	X	X		
Operational Management	Project Management for GIS	FTF		X	X	
Data Quality II	Data quality assurance for the AEGOS SDI	FTF		X	X	
User Access and Licensing	Management of user and access rights	FTF	X	X	X	
	Management of pricing and licensing options	FTF		X	X	
IT-Network II	Maintenance of multi-tier architectures	FTF		X	X	
	Building the AEGOS node with the Starter Kit	FTF	X	X	X	



# Implementing the Spatial Data Infrastructure & Capacity Building programmes



# Organisational Framework



## Strategic Group:

Advisory Board, Steering Committee,  
→ Policy Framework, Funding,  
Networking, Project Objectives

## Operational Group:

- Administrative Unit
- Technical Group

## Technical Group:

Support and Helpdesk Function for AEGOS partners, maintenance of the AEGOS portal and training of the trainers of the Regional Training Centres

## Regional (Training) Centres:

Execution of training for AEGOS partner institutions, technical support for partners, first contact as public support

# Regional Training Centers



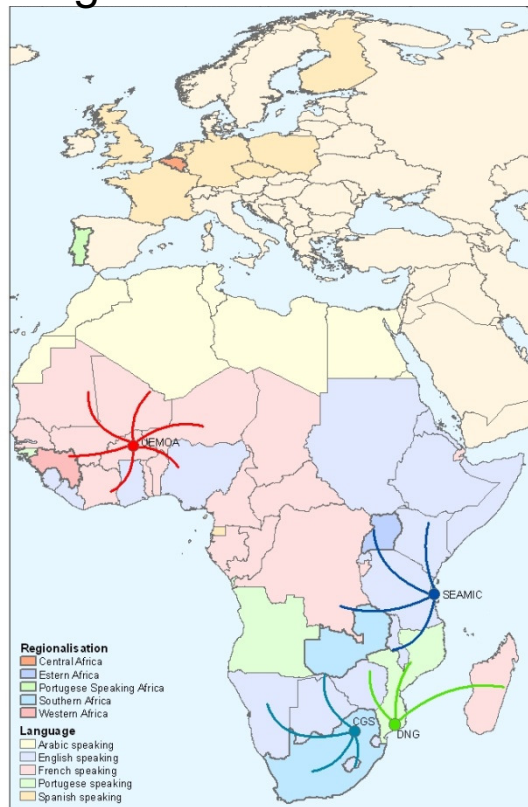
## Future level of networking

- for operation support and
- for capacity building

Continental, operational unit



Regional centers

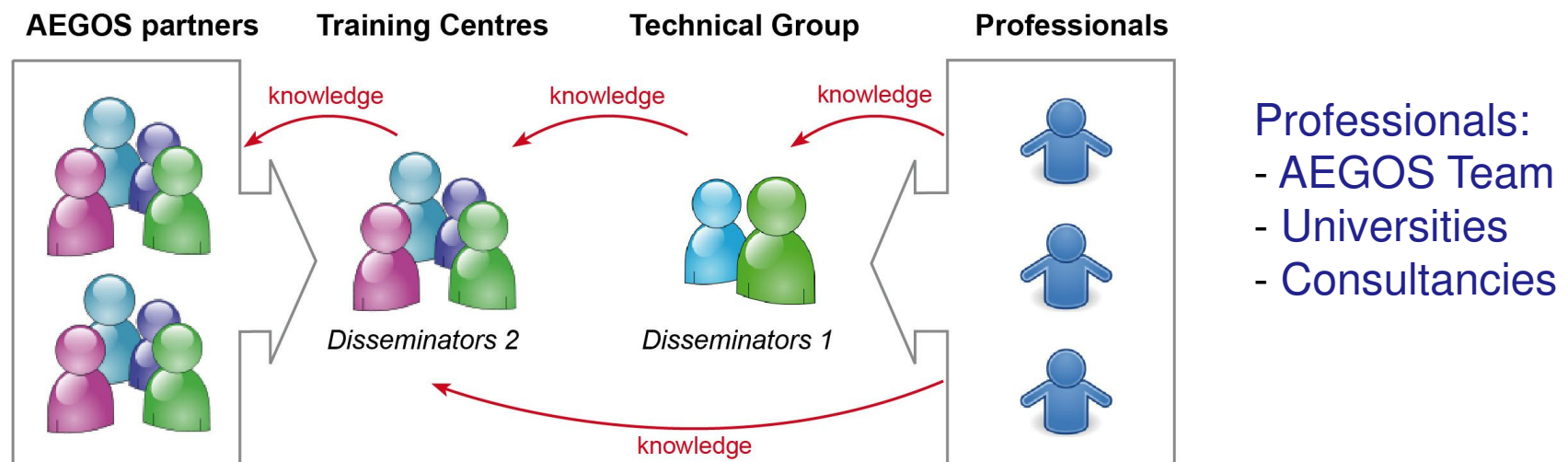


Local network



# Training and capacity building concept

## ● Training-of-trainers courses

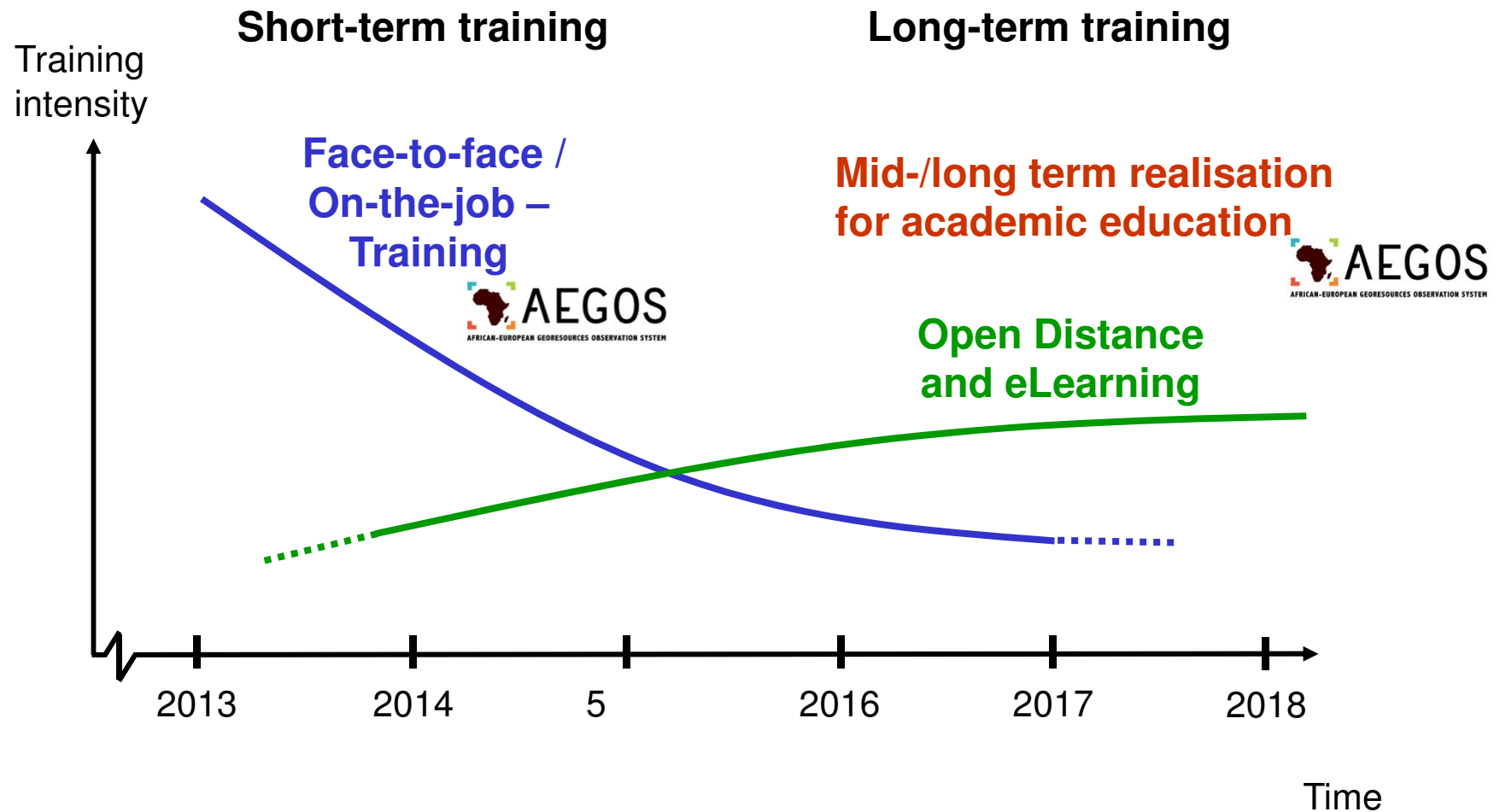


## ● Facilitation of long-term training by universities

to work together with the universities on the formulation of curricula to compile comprehensive syllabi and to assist them in the development of curricula or teaching material

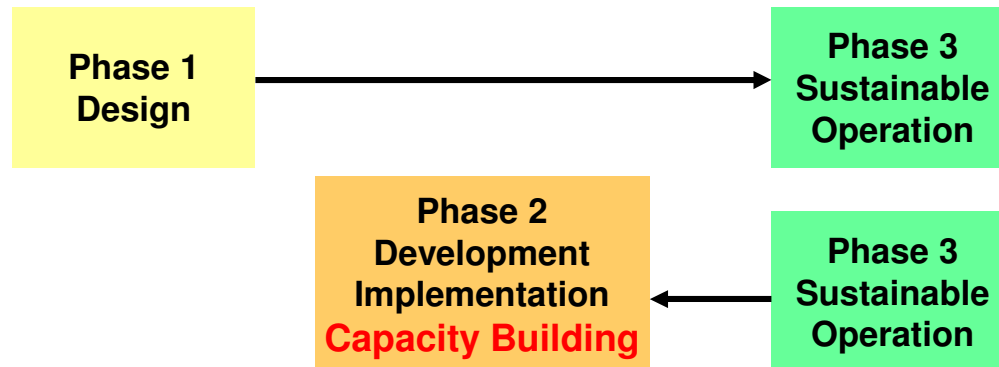


# Training and capacity building concept AEGOS



- **Strategy** to get highly skilled human resources to **implement and operate the AEGOS SDI**
  - Knowledge about **data standardisation**
  - **Setting up web services** including **network security**, **server configuration**
  - **Harvesting** of **metadata**
  - Provision of OGC compliant **interoperable data** via Internet (metadata, WMS, WFS, data on georesources)
  - Hosting and maintenance of **AEGOS Portal**
  - Operation of a **helpdesk function** for data provider and data user
  - Application of the **Starter AEGOS Suite**

# Main outputs at this stage



- AEGOS (Phase III) must be African
- AEGOS must be
  - scientifically,
  - technically,
  - economically and
  - politically sustainable.





# Thank you for your attention



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