

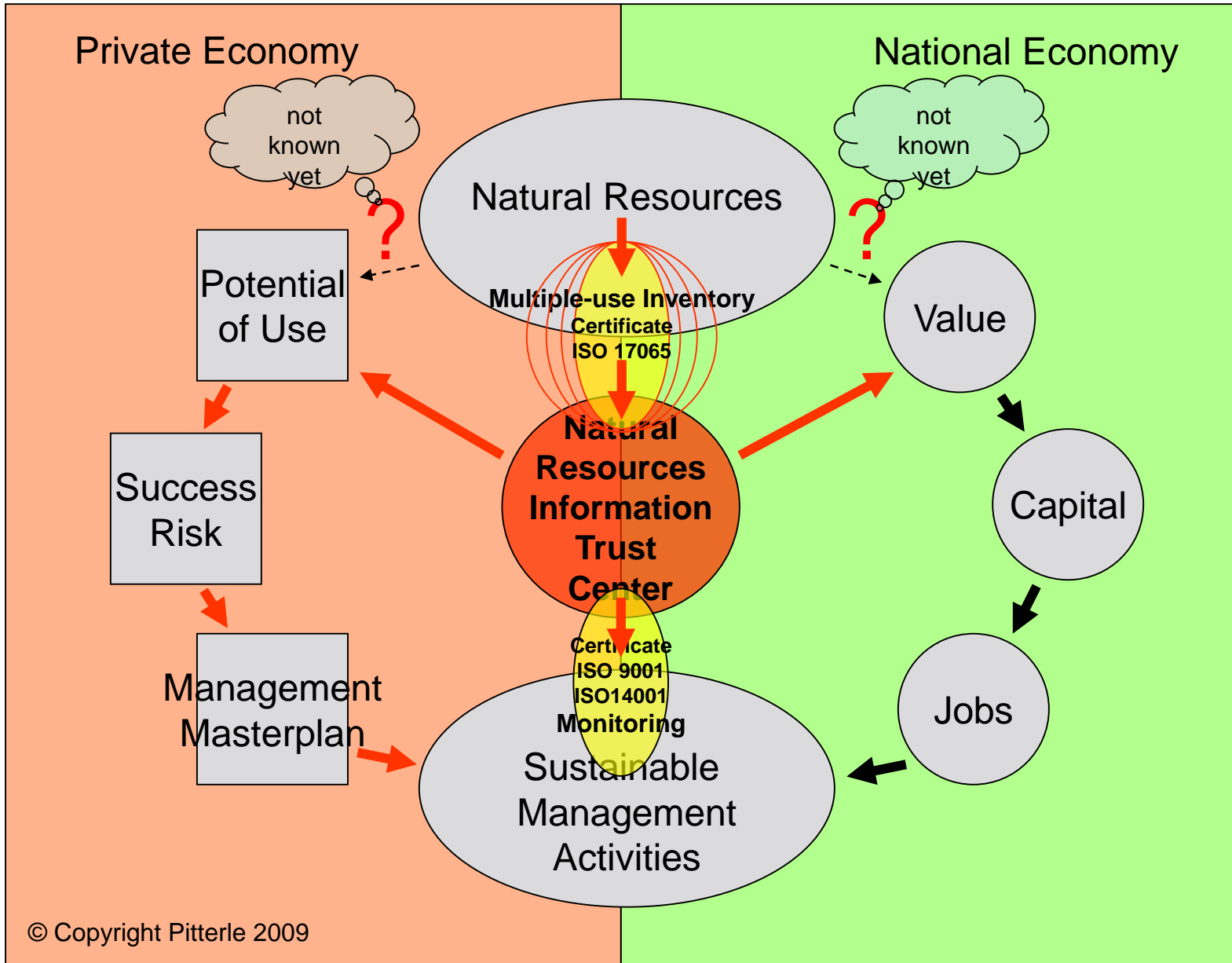


**Universität für Bodenkultur Wien**  
Department für Wald- und Boden-  
wissenschaften

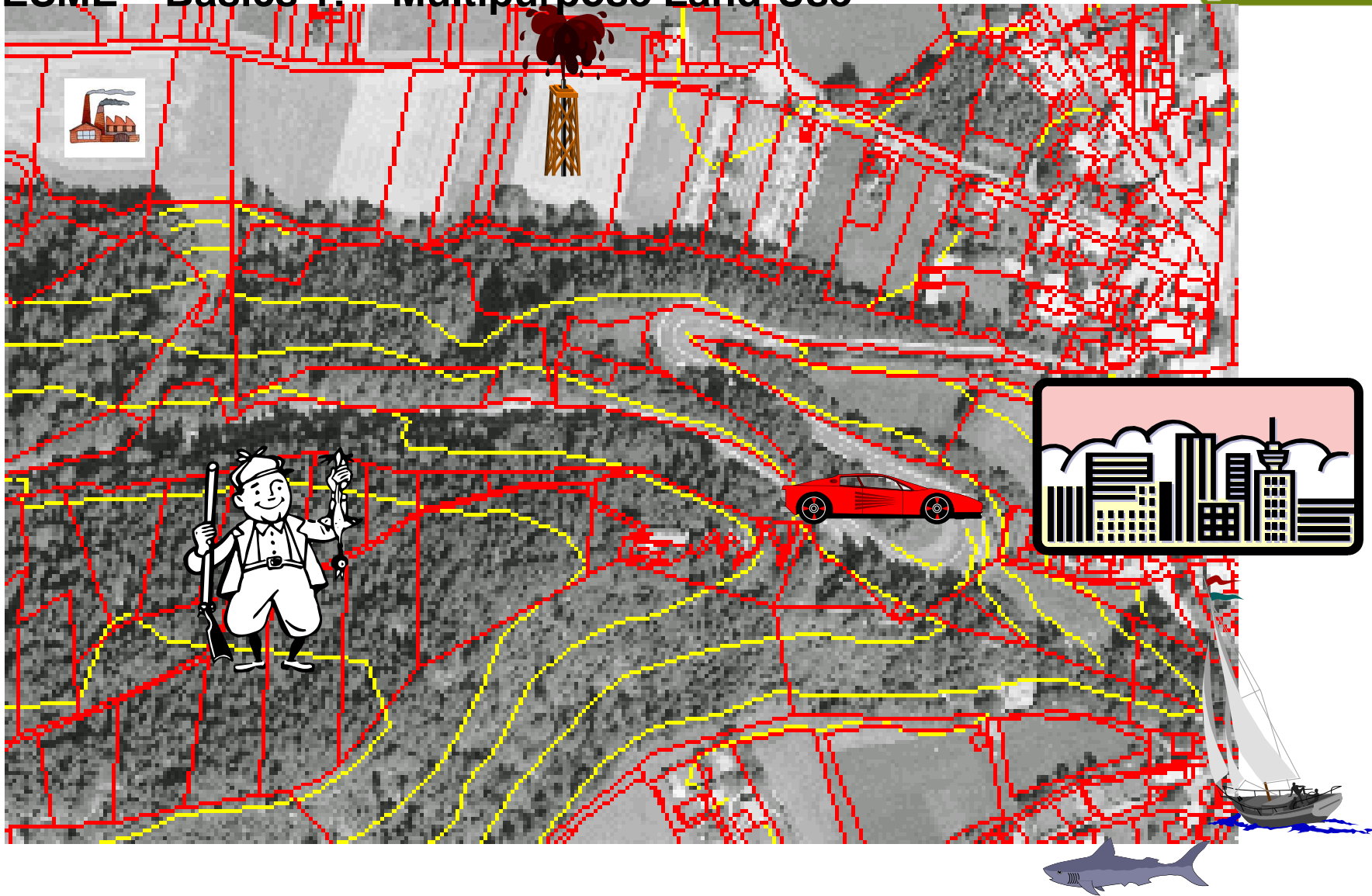
# Basic Knowledge to manage agro–forest–environment in entire countries

Alfred Pitterle  
University of Natural Resources and Life Sciences, Vienna

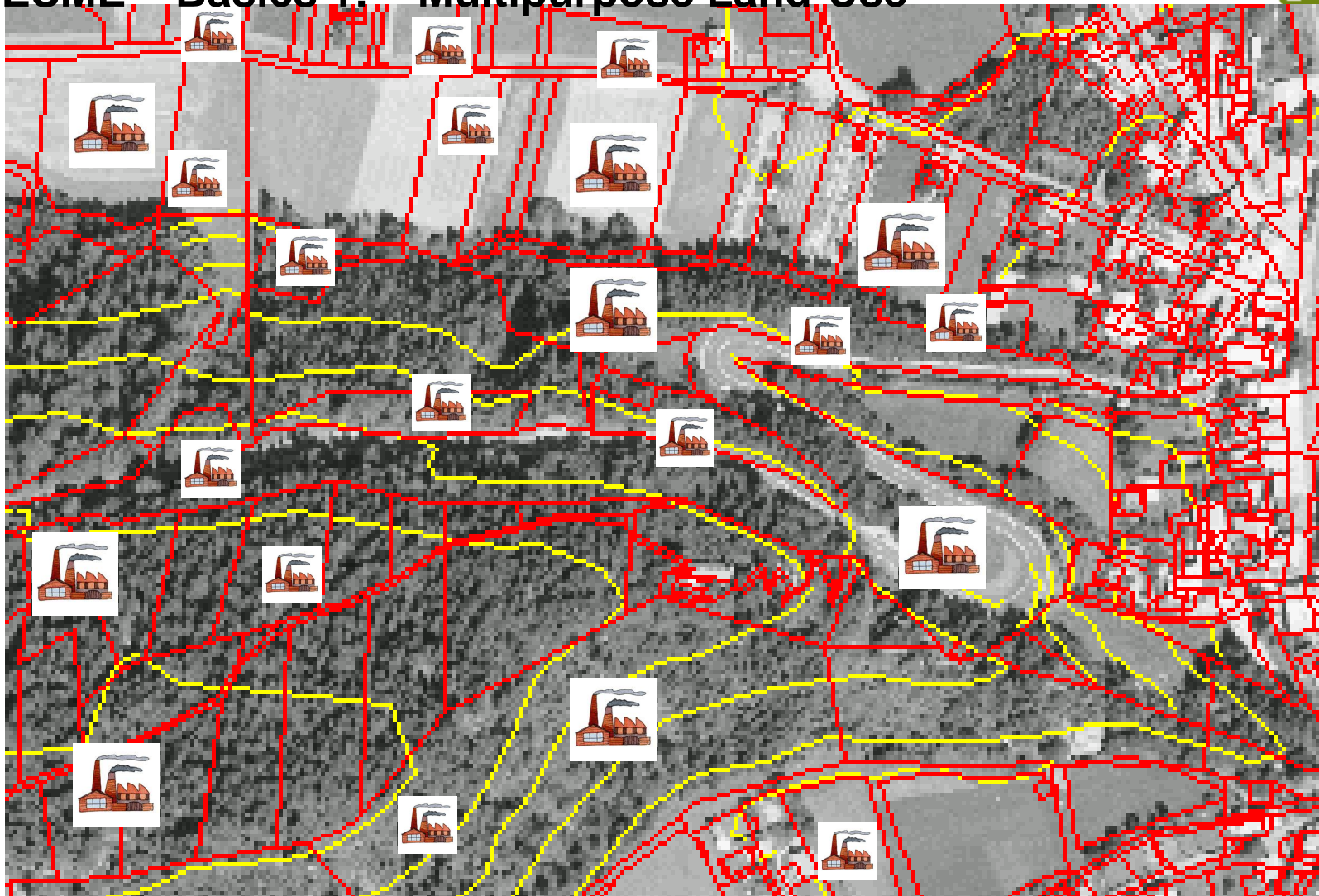
# A Sustainable Multiple-use Natural Resources Management



# ESME – Basics 1: Multipurpose Land-Use



# ESME – Basics 1: Multipurpose Land-Use



# ESME – Basics 1: Multipurpose Land-Use

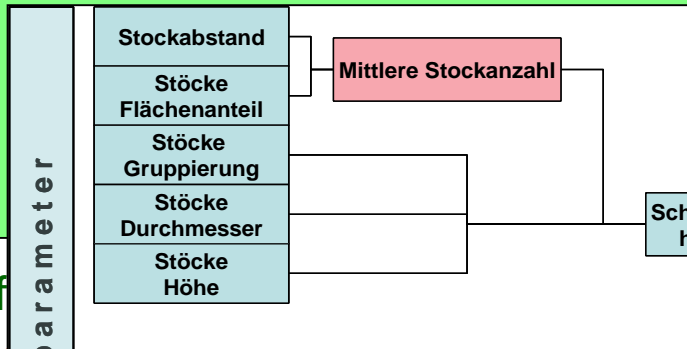


# Analyses by FOMUMIIS® : Data Management

## FOMUMIIS® 系统分析：数据管理

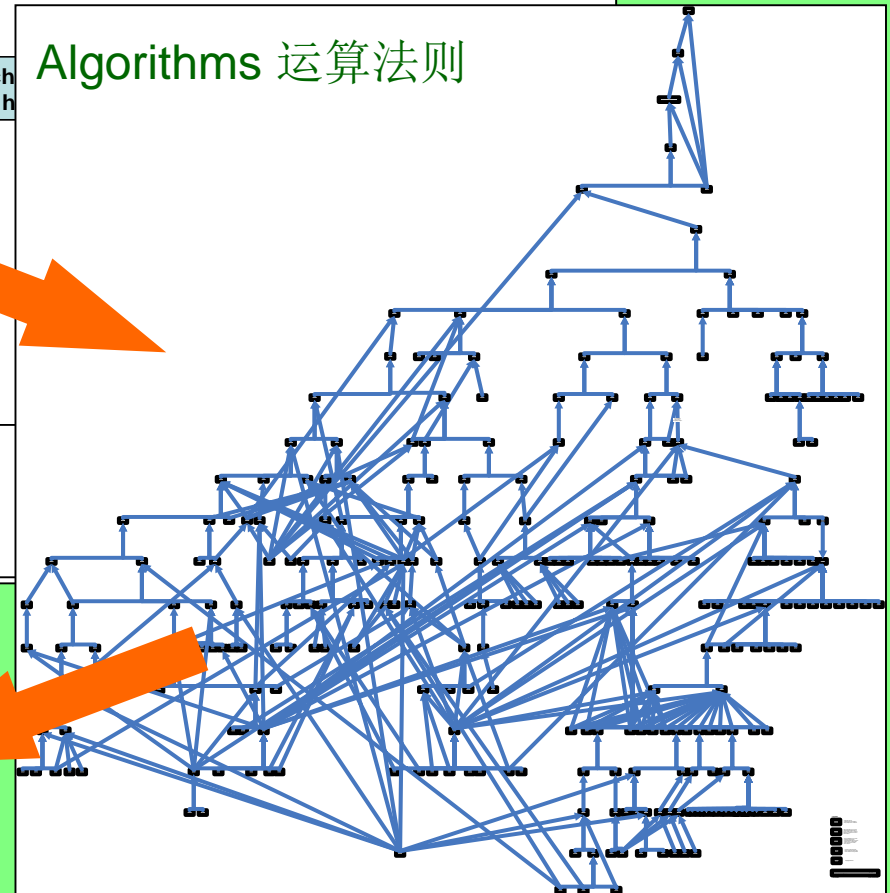
Data used for

- Climate
- Site
- Vegetation



Structure of Data  
数据构成

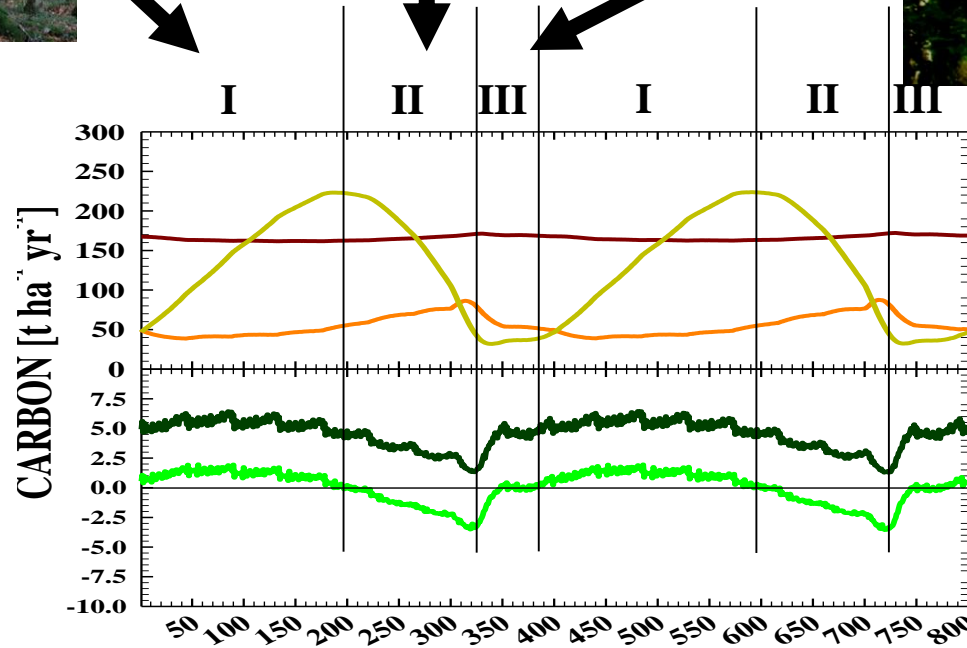
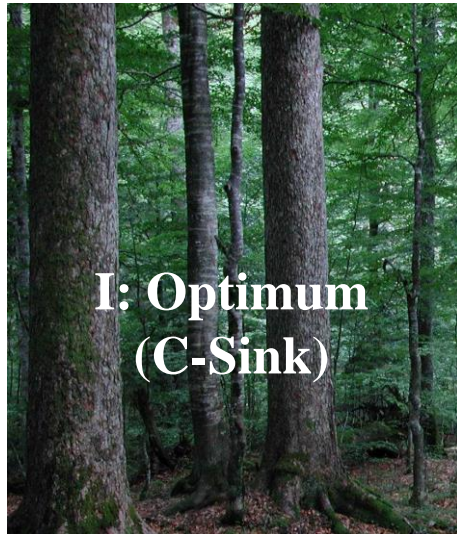
Algorithms 运算法则



		Quality of Forest Function 森林功能质量									
		low <				> high					
Quality of Forest 森林质量	> high	1	1	2	3	4	5	6	7	8	9
		2	1	3		8				9	
		3	1								
		4	1								
		5	1	2			6			7	
		6	1								
		7	1								
		8	1	1			4			5	
		9	1								

Matrix of Evaluation 评价矩阵

# Carbon Sink / Source Calculation



**Total Carbon**

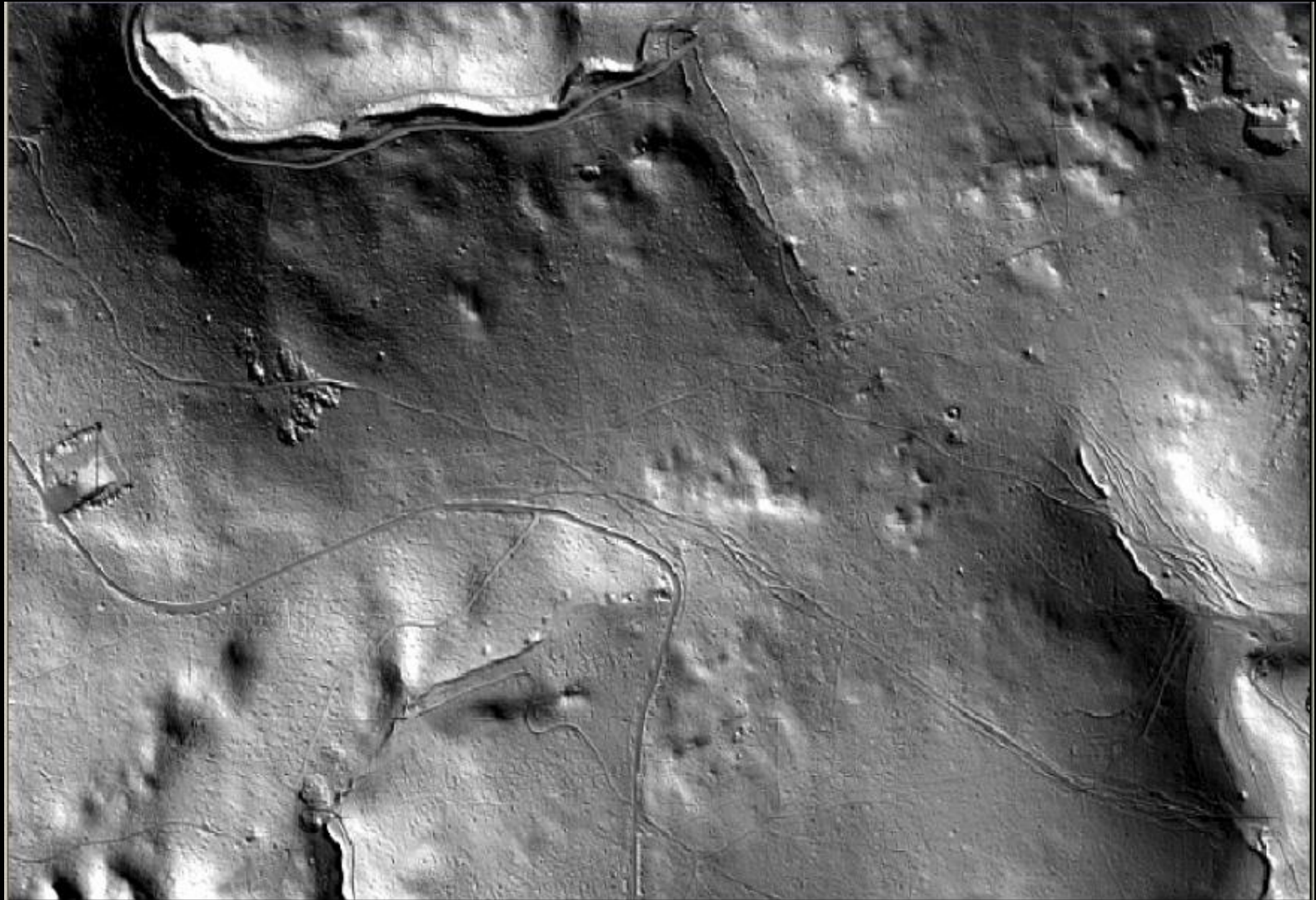
**Soil Carbon**

**Necromass C**

**NPP Carbon**

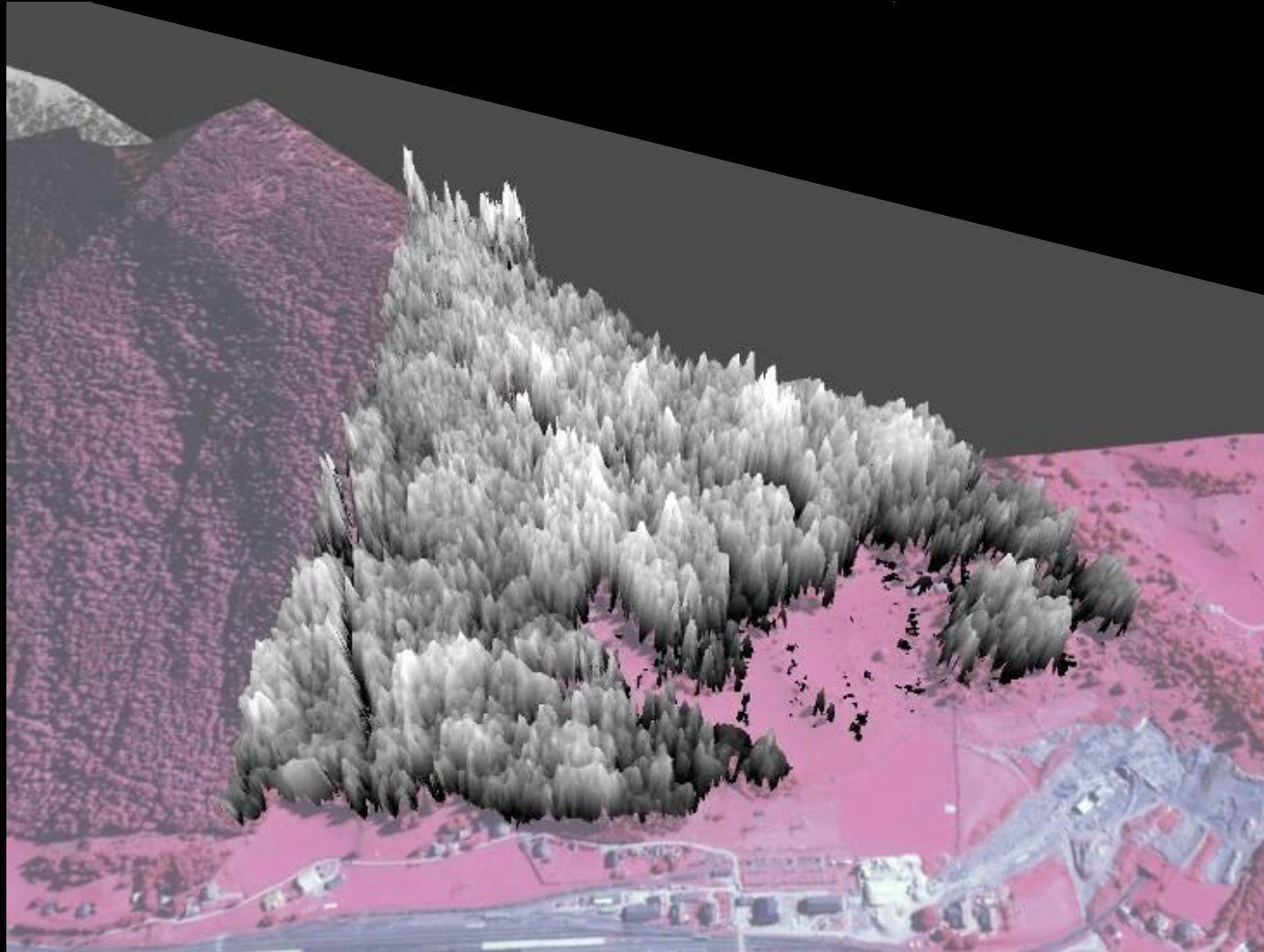
**NEE Carbon**

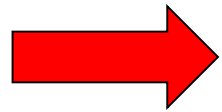
# forCERT Resource Inventory Technologie



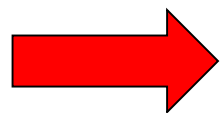


# forCERT Resource Inventory Technologie





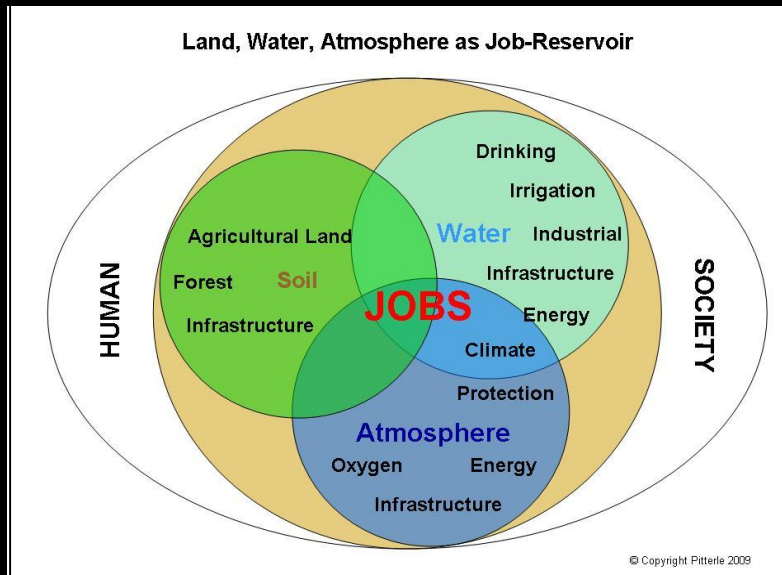
**ISO-17065 CERTIFICATION  
for Planning, Monitoring & Evaluation**



**ISO-9001, 14001 CERTIFICATION  
for Planning, Monitoring & Evaluation**

# Technology Applications for Sustainable Natural Resources Management

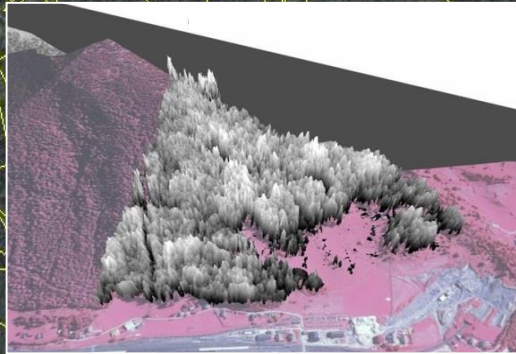
**Agriculture  
Forestry  
Renewable Energy  
Animal Husbandry  
Grazing  
Food Safety  
Water Supply  
Biodiversity Control**



**CO<sup>2</sup> Storage  
Water Pollution  
Air Pollution  
Natural Hazards  
Risk Assessment  
Public Subsidies  
Logistics  
Environment Control**

Public Users: ministries, administration, extension services, research, ... etc.

MICROSOFT® Bing – maps (30 cm resolution)



4-CERT-Technology

Inventory  
ManagemModels  
Certification



Weather & Soil  
Sensors

Data



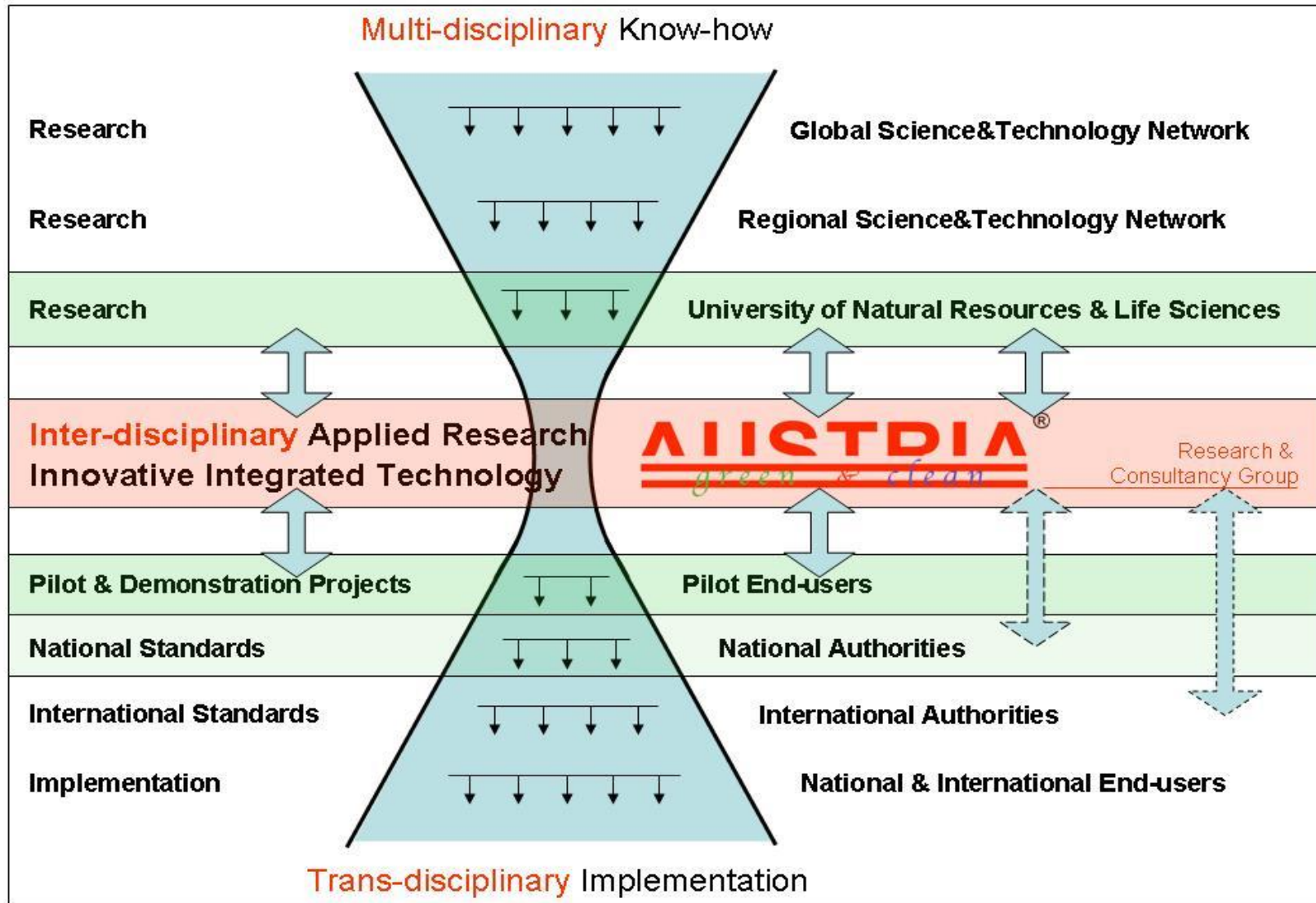
PROGIS-Technology

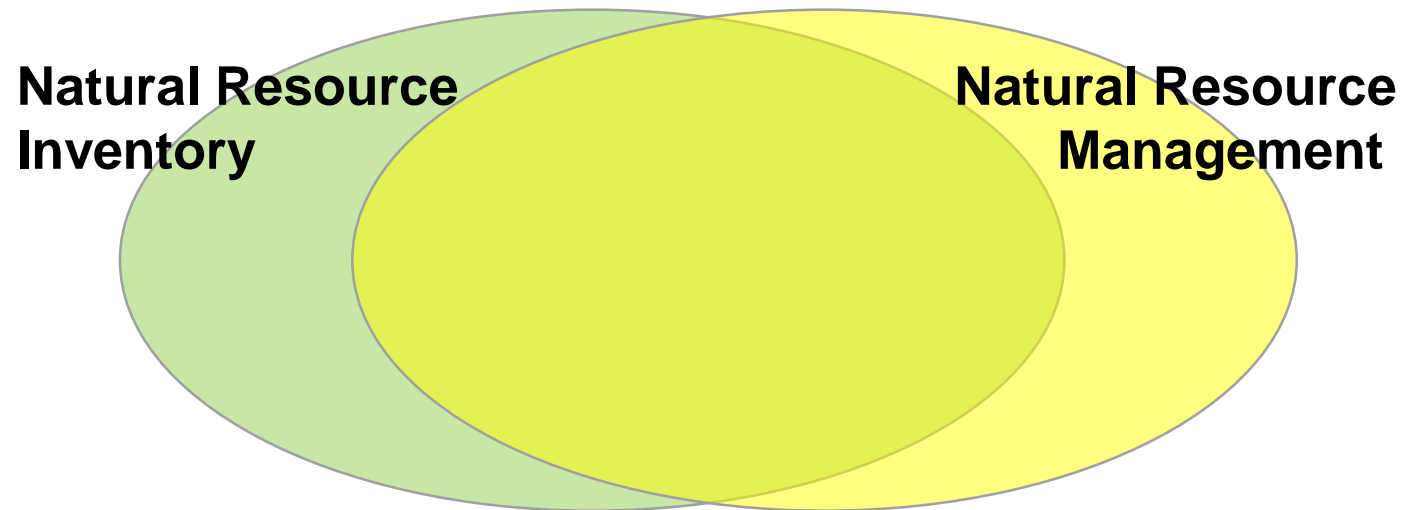
GIS  
Software

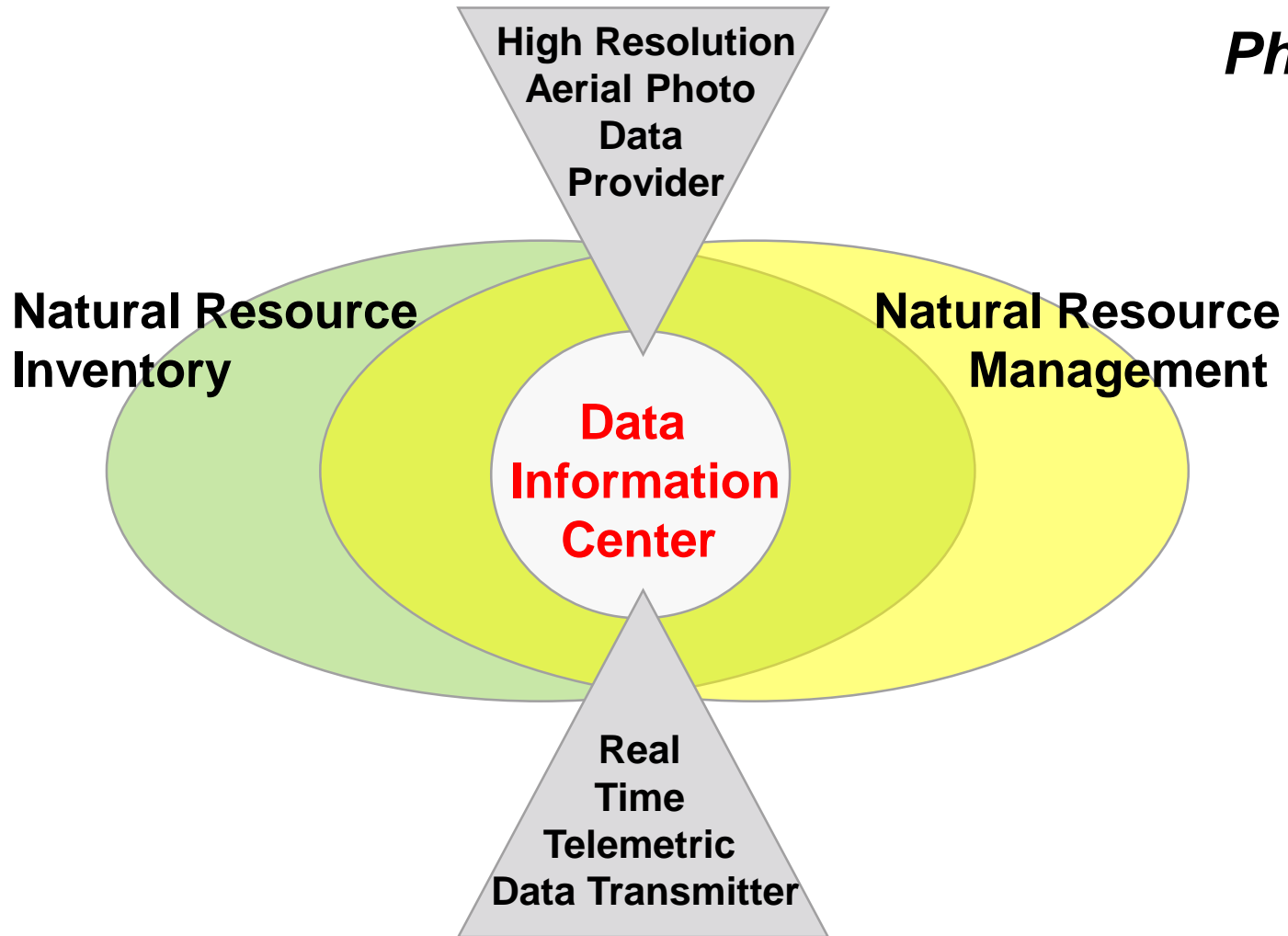
Sustainable Management

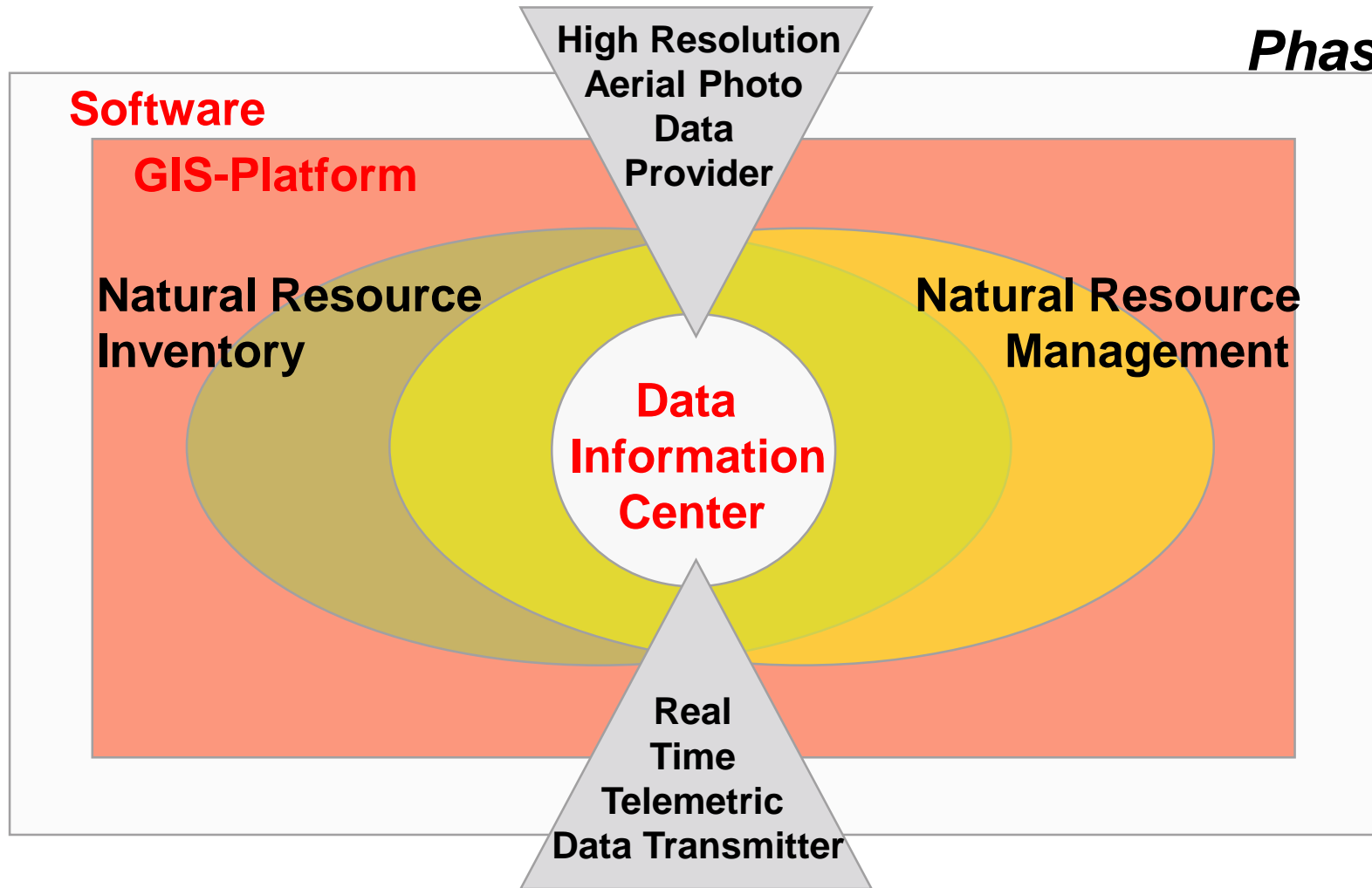
Sustainable Management

Private Users: farmers, foresters, advisors, industries, investors, ... etc.

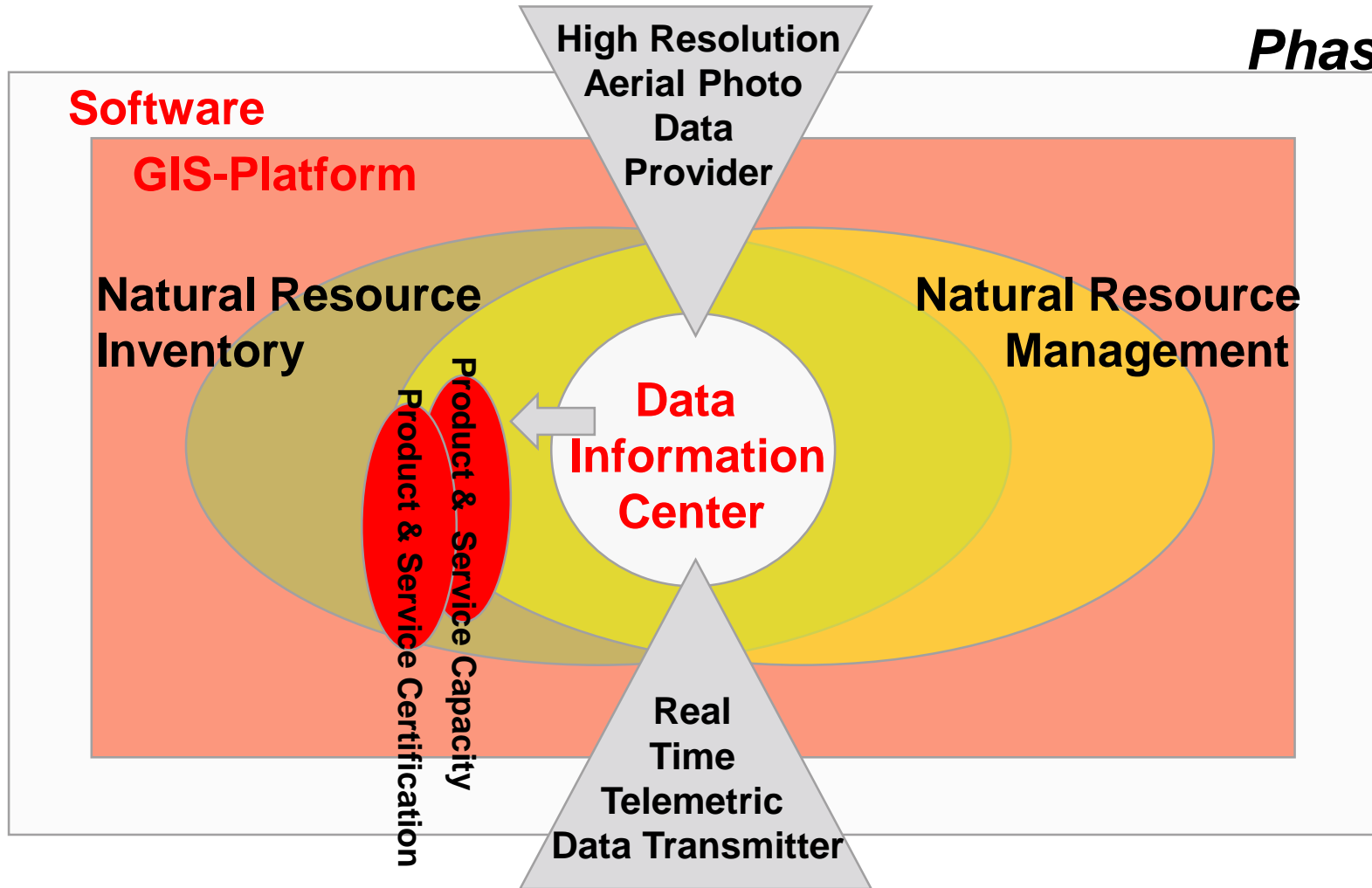


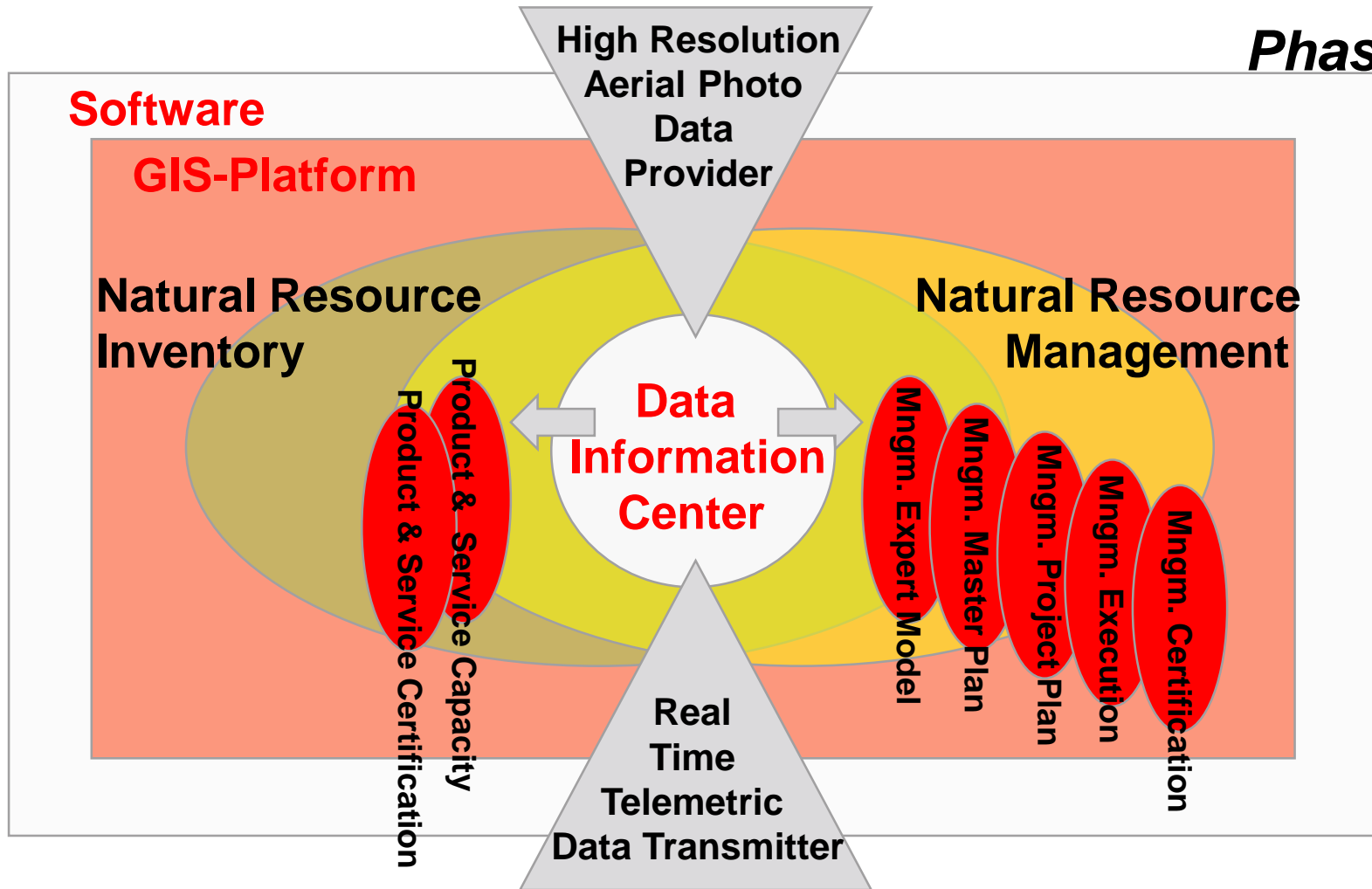






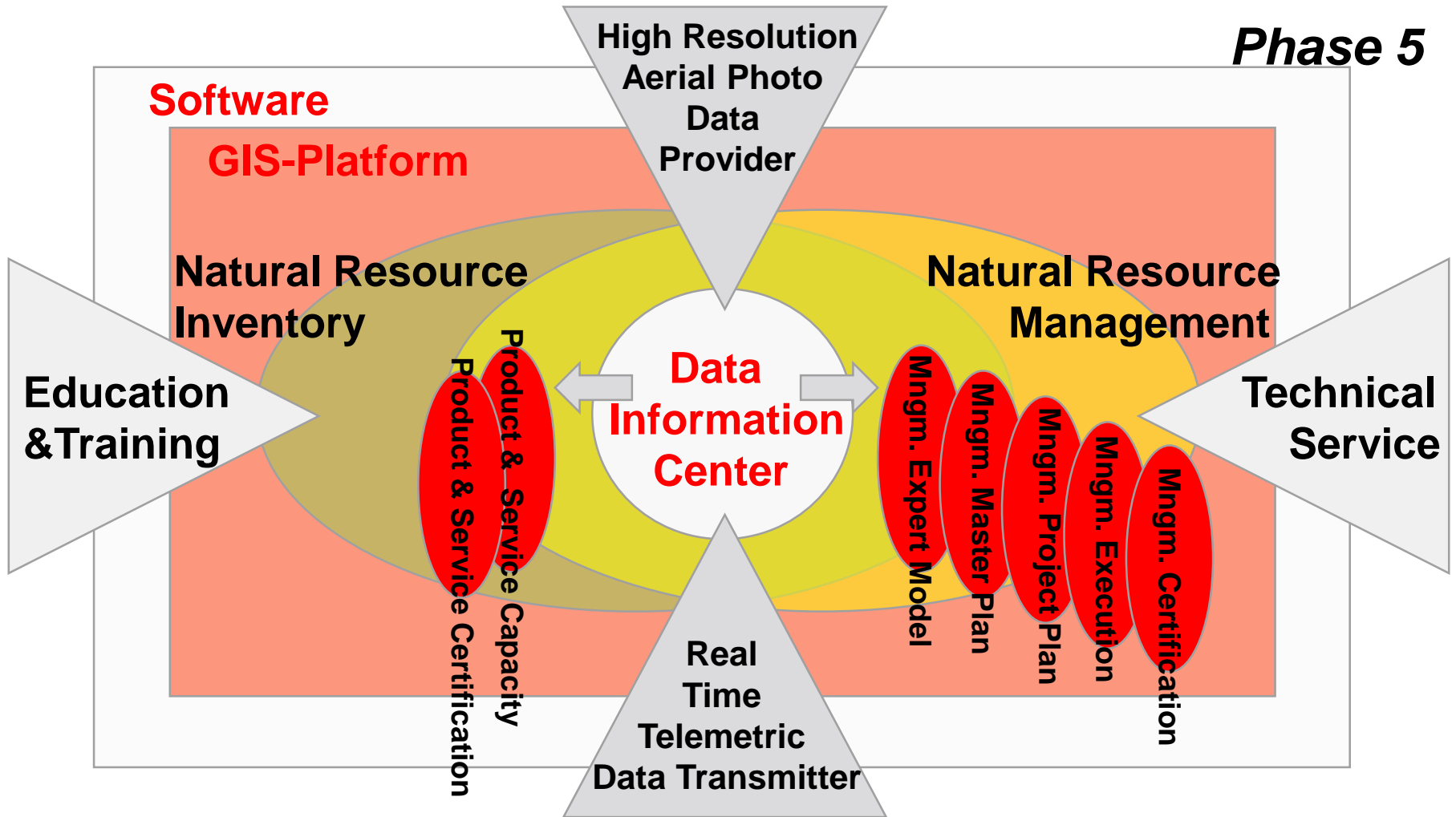






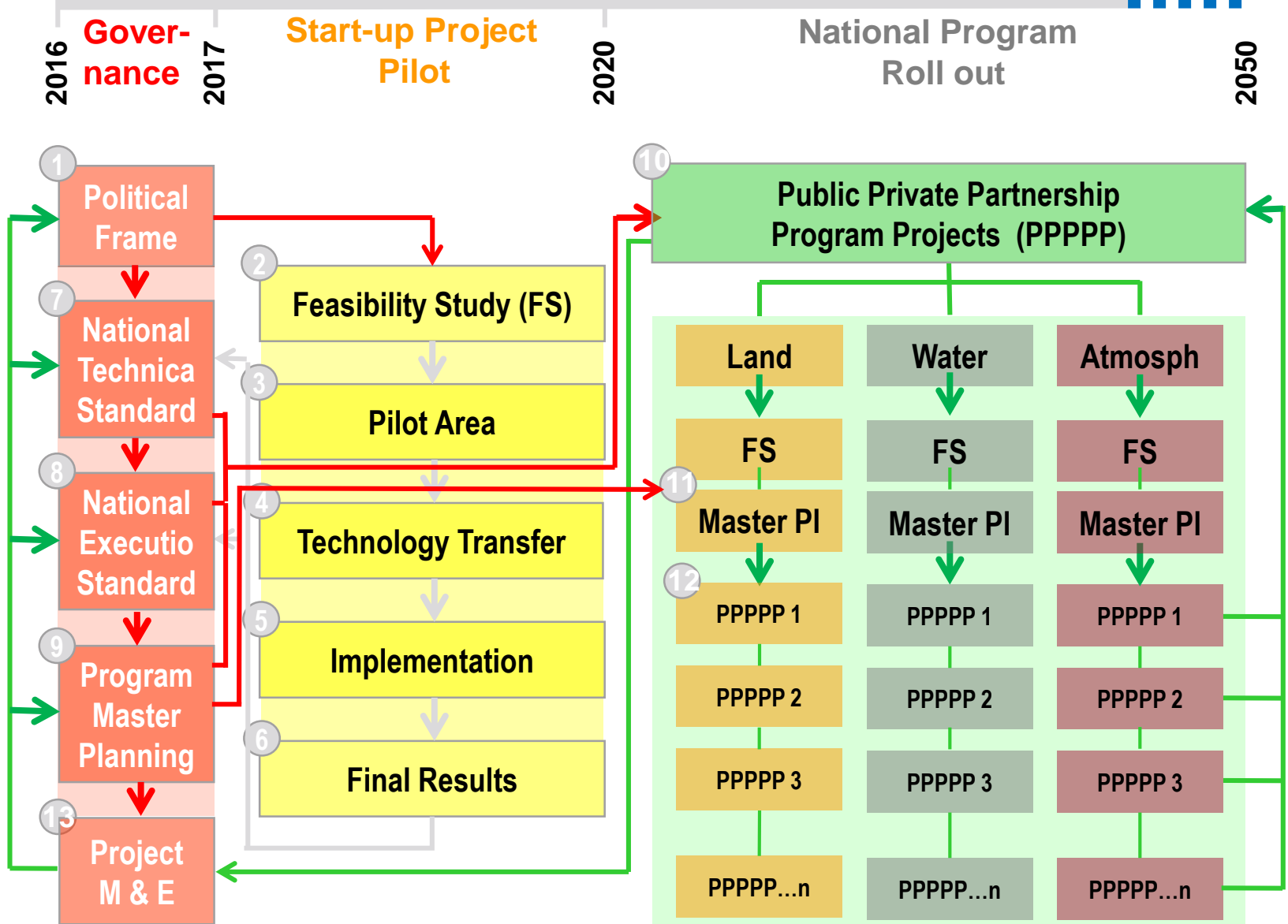
# Integrated Sustainable Multiple-use Natural-Resources Management Model

**Phase 5**



©Copyright Pitterle 2012

# National Strategy on Natural Resources Management





**Universität für Bodenkultur Wien**  
Department für Wald- und Boden-  
wissenschaften

# Thank you !

## Prof.Dr. Alfred PITTERLE

Peter Jordan-Str. 82, A-1190 Vienna, Austria

Tel.: +43 (0)664 3500151

[alfred.pitterle@boku.ac.at](mailto:alfred.pitterle@boku.ac.at) , [www.boku.ac.at](http://www.boku.ac.at)