

Introduction Framework Development

How to combine overall architecture and practical prototyping?

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Context: some highlights ICT development

1940s 1950s	1960s 1970s	1980s	1990	2000s
1st (digital) computers	Mainframes	Software development PC's Architectural frameworks EDI	ERP Internet Breakthrough EDI platforms	Mobile networks .com bubble Social Media T&T RFID XML ebXML

Context

- Explosion of applications
- Shift from architecture-driven to implementation-driven approaches
 - centralized → decentralized
 - sequential → incremental prototyping
 - greenfield → legacy
 - common goals → diverse interests
- Great, but...
 - Complexity and fragmentation
 - Reinventing the wheel



Key challenge regarding the methodology

How to combine overall architecture and practical prototyping?



Objective agriXchange WP4

- to develop a reference framework for interoperability of data exchange in agriculture in the EU

The framework is used as a core vehicle to combine overall architecture and practical prototyping in use cases



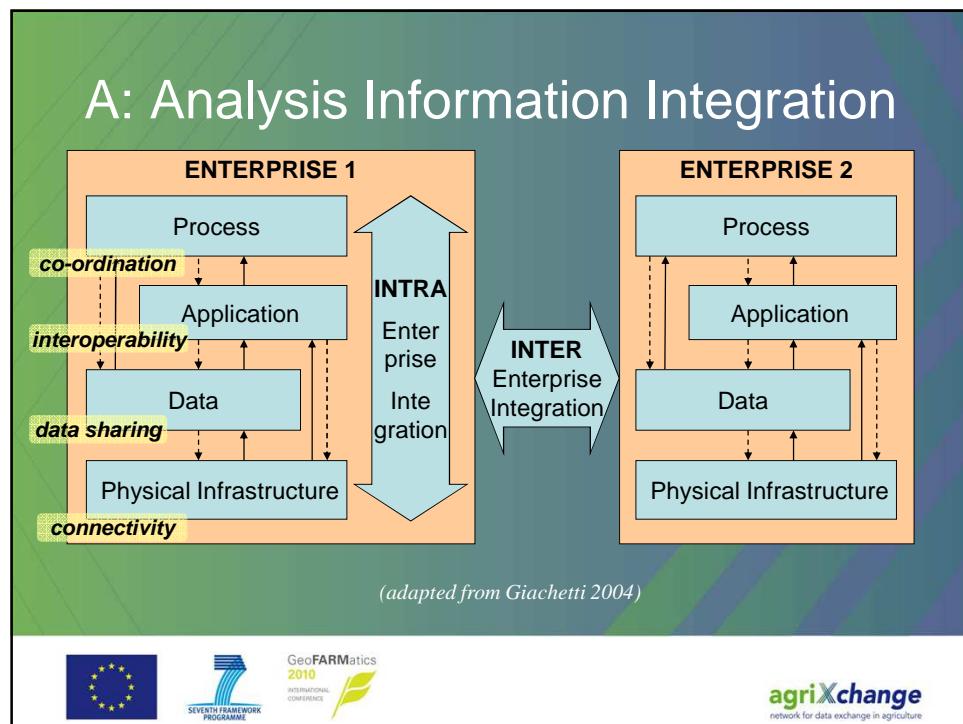
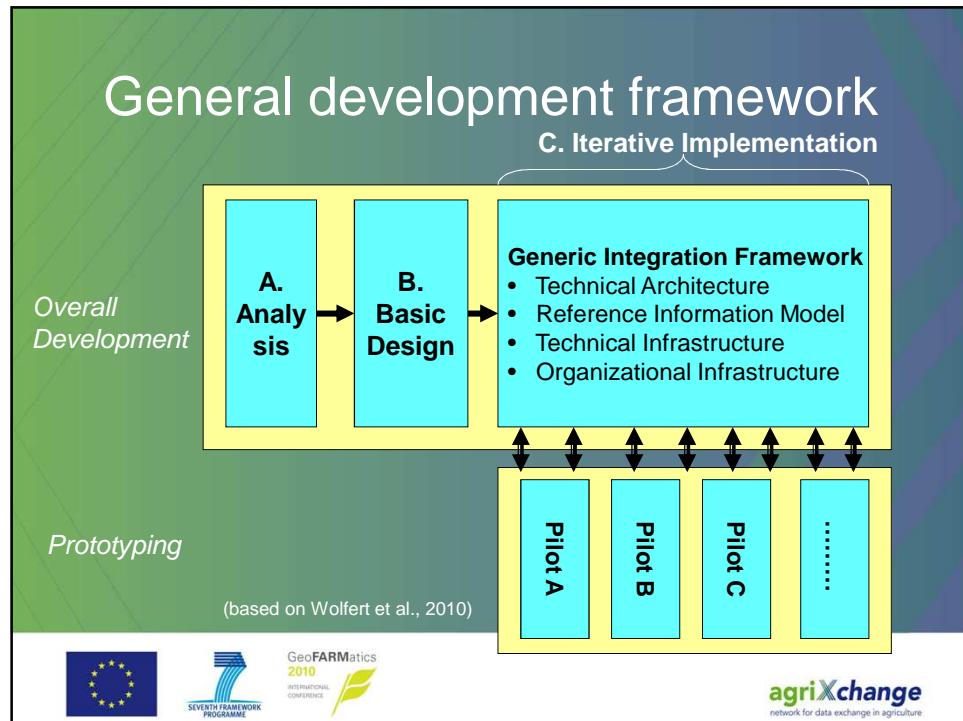
network for data exchange in agriculture

What is a reference framework?

Architectural framework	<ul style="list-style-type: none"> • A systematic taxonomy of concepts of how to organise the structure of information models • Define the required types of information model types in different views and at various levels of abstraction, and show how these are related.
Reference model	<ul style="list-style-type: none"> • A predefined information model that captures 'recommended practices' and that is used as a 'frame of reference' (i.e. blueprint, template) to construct company-specific information models
Reference framework	<ul style="list-style-type: none"> Combination of an architectural framework and a reference model Serves as a frame of reference for modelling specific use cases Continuously updated with designs developed in use cases



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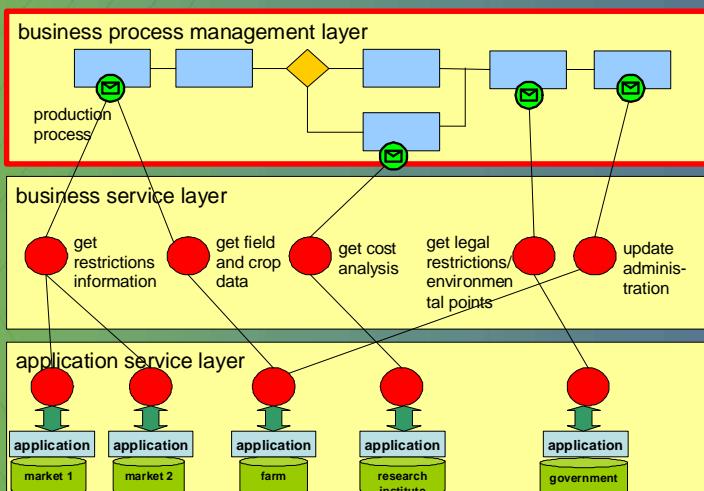
Analysis: method

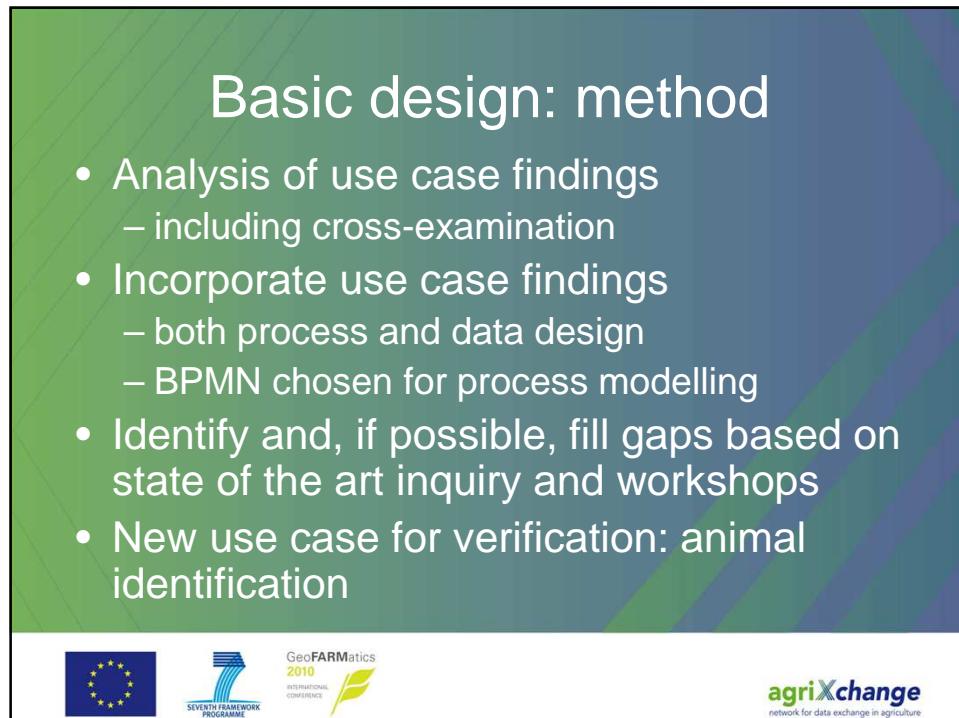
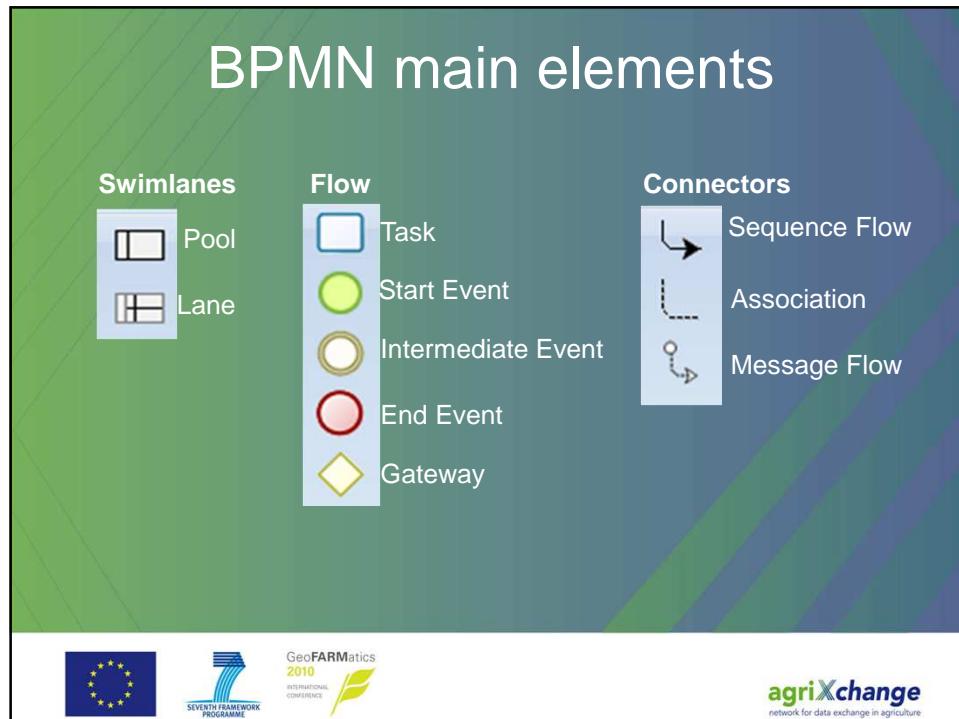
- Overall Analysis
 - Based on State of the Art inquiry (previous session)
- Use Case Investigation
 - Updating of LPIS (Land Parcel Identification System)
 - Geo-farmer and fertilizing
 - Animal registration
- Template
 - Text
 - Supporting graphical models

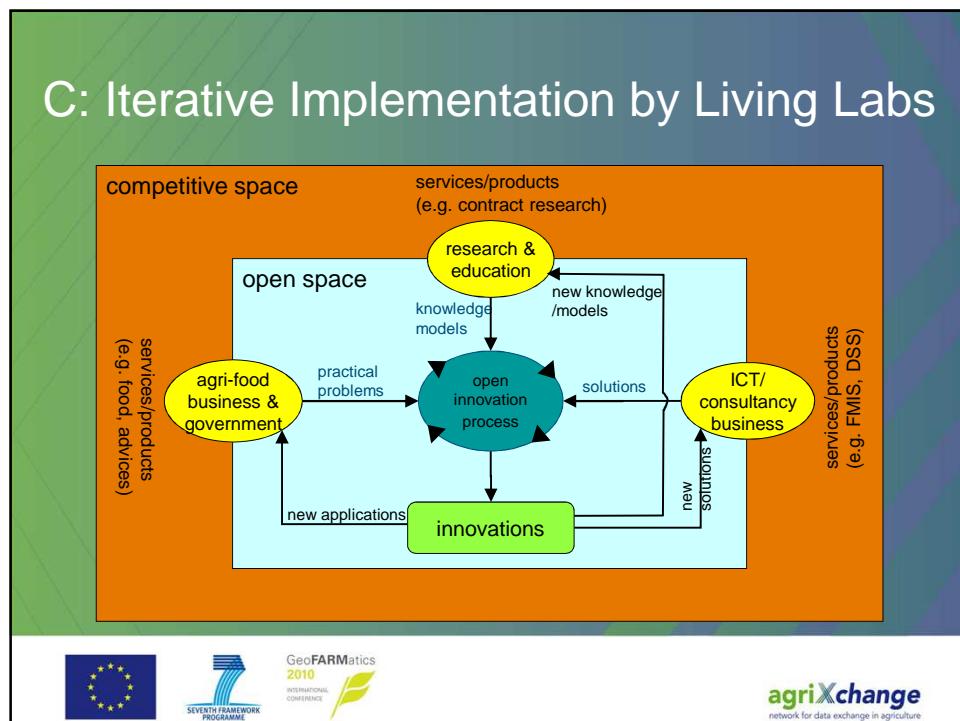
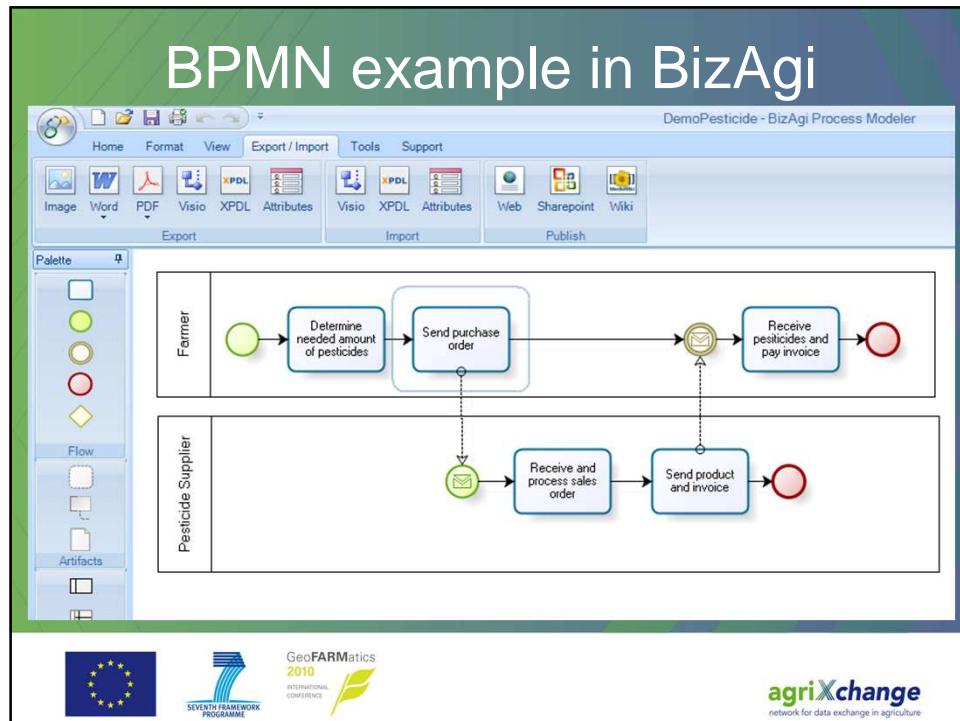


Geographic Information Science

B: Basic Design: SOA-based







Use Cases

- Updating of Land Parcel Identification Systems (LPIS)
- Geo-farmer and fertilizing
- Animal registration



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Thank you for your attention!



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