

FOODIE

FARM-ORIENTED OPEN DATA IN EUROPE

CHALLENGE

The agriculture sector is a unique sector due to its strategic importance for both European citizens (consumers) and economy (regional and global) which, ideally, should make the whole sector a network of interacting organizations.

The different groups of stakeholders involved in the agricultural activities have to manage many different and heterogeneous sources of information that need to be combined in order to make economically and environmentally sound decisions, such as:

- definition of policies (subsidies, standardisation and regulation, national strategies for rural development, climate change);
- valuation of ecological performances;
- development of sustainable agriculture, crop recollection, timing and pricing;
- plagues detection, etc.

In this context, future agriculture knowledge management systems have to support not only direct profitability of agriculture or environment protection, but also activities of individuals and groups allowing effective collaboration among groups in the agri-food industry, consumers, public administrations and wider stakeholders communities,

INNOVATIVE ASPECTS

• **Cloud deploying of basic and standardized services**, decreasing not only deploying costs but also production and maintenance costs. Cloud deployment will also make easier integration and realize the vision of a “network of data-hubs”, sharing data and services to provide a new data exploitation ecosystem where data is enriched by composition. Collaboration among hubs will enable a market for data brokerage.

• **Easily discoverability and composability of services**. Data and services deployed and published by FOODIE - based on common and widely used standards - will be publicly available enabling thus the discovery by end users/third party companies and reuse of them stand-alone or by composition with other services to provide a richer or a particular solution. This approach will also enable a personalization market realized by third-party, specialized companies in vertical markets.

• **“Pay as you go” paradigm**. Services or data published by FOODIE can be free or non-free. For instance, FOODIE will provide for free a global agriculture sector balanced scorecard and a non-free repository where key indicators for the agriculture sector may be obtained and combined by all stakeholders to make their own balanced scorecard. This paradigm will enable third parties as for instance consultancy companies to sell consultancy services (reports, etc.) on top of FOODIE information.

• **Reward mechanisms for data sharing**. FOODIE will promote participation of stakeholders and end users (high value data owners) in terms of “the more information you provide to the hub, the more data and services for free you will enjoy”. Also, this approach will help to build virtual communities and exploit social knowledge.

• **Clear Return of Investment (ROI) for the end user**. Reduction of costs are a strategic pillar of most SMEs but also large number of companies in the agricultural domain. FOODIE services will include a simulator which calculates, asking a few questions about a crop, reduction of costs by rationalizing the use of fertilizers, water, energy, etc. thus quickly amortizing the cost of the service.

• **Multi-device/multiplatform/multipurpose front-ends**. FOODIE will include mechanisms allowing users to exploit information and services by means of graphical and intuitive interfaces. Standards as HTML5 widgets for visualization will be preferred to assure compliance with mobility devices, as they provide automatic means to perform interface adaptation according to specific hardware and software capabilities.

OBJECTIVES

FOODIE project aims at:

- building and open and interoperable agricultural specialized platform hub on the cloud for the management of spatial and non-spatial agriculture related data from heterogeneous sources;
- integrating of existing and valuable European open datasets related to agriculture;
- data publication and data linking of external agriculture data sources contributed by different public and private stakeholders, through an open and flexible lightweight Application Programming Interface (API);
- providing specific and high-value applications and services for the support in the planning an decision-making processes of different stakeholders groups related to the agricultural and environmental domains;
- providing a marketplace where data can be discovered and exchanged but also external companies can publish their own agricultural application based on the data, services and applications provided by FOODIE.

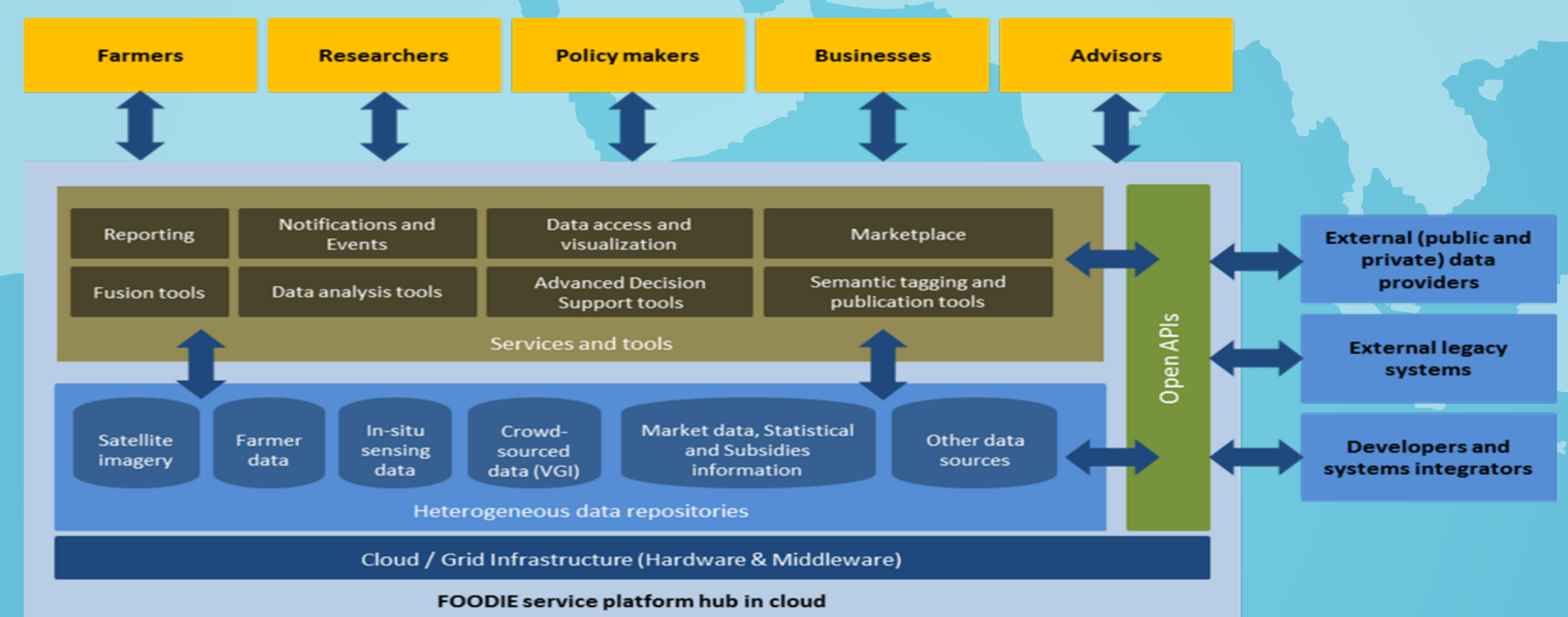


Figure 1. FOODIE service platform hub in the cloud

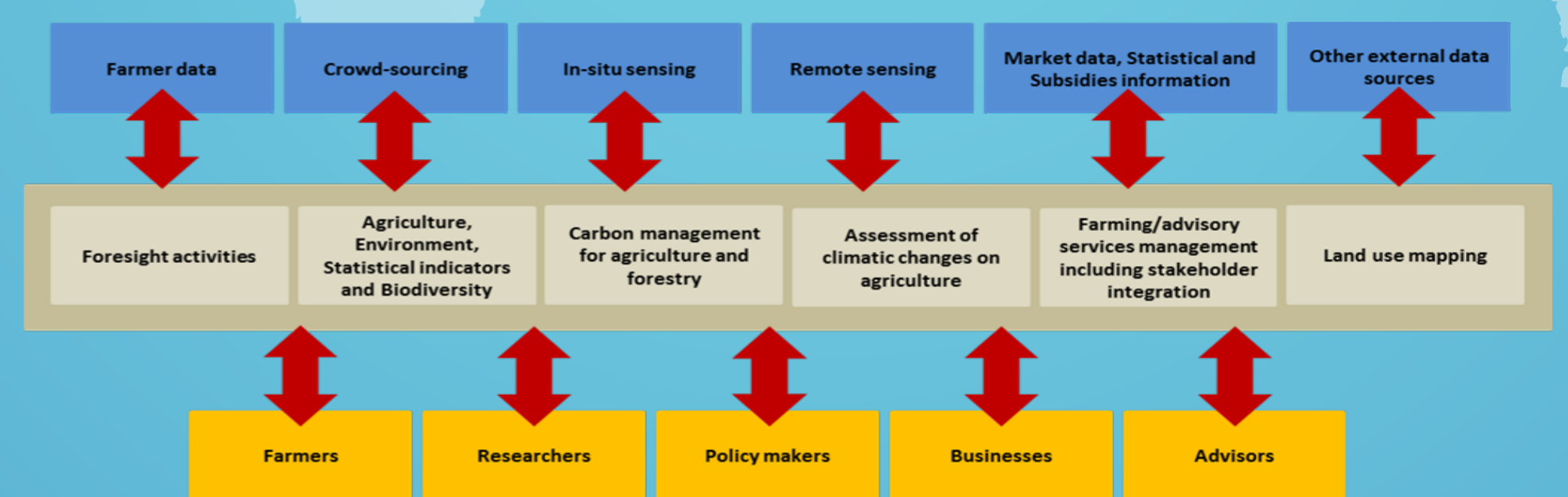


Figure 2. Stakeholders, decision making and data model

PILOT SCENARIOS

FOODIE concepts and objectives will be realized by means of the resulting service platform hub, which will be demonstrated in three different pilots scenarios across Europe, providing each of them thus a set of common and specific requirements:

- **Pilot 1: Precision Viticulture (Spain)** will focus on the appropriate management of the inherent variability of crops, an increase in economic benefits and a reduction of environmental impact.
- **Pilot 2: Open Data for Strategic and Tactical Planning (Czech Republic)** will focus on improving future management of agricultural companies (farms) by introducing new tools and management methods, which will follow the cost optimization path and reduction of environmental burden, improving the energy balance while maintaining the production level.
- **Pilot 3: Technology allows integration of logistics via service providers and farm management including traceability (Germany)**. This pilot will focus on integrating the German machinery cooperatives systems with existing farm management and logistic systems as well as to develop and enlarge existing cooperation and business models with the different chain partners to create win-win situations for all of them with the help of IT solutions.



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 621074.
Project website: www.foodie-project.eu