



Data Sharing in Agricultural Supply Chains: Using semantics to enable sustainable food systems

The Ploutos project developed mechanisms for achieving data sharing across agri-food stakeholders (farmers, food processors, retailers, consumers) aiming to push forward data driven technological innovation. The literature review and our analysis of the real-life agrifood barriers and drivers to technology adoption, led us to the following principles:

- A. Stakeholders should retain control of their data.
- B. Interoperability must be maintained with conventional software, whether legacy or developed in the future.
- C. Vendor lock-in must be avoided thereby ensuring both flexibility and future proofing of any given part of the overall system.

Aiming to support a harmonized manner for expressing the main common concepts derived from various ICT systems of the agrifood domain the Ploutos Core Semantic Model (PCSM) was specified based on the modular reuse of existing data models issued by standardization bodies like the European Telecommunications Standards Institute.

In combination with the PCSM, the Ploutos Interoperability Enabler (PIE) was introduced able to be deployed as a plug and play software module on top of existing ICT systems. A PIE deployed on top of a Farm Management Information System can receive queries for data selections from remote systems, to authorize the data exchange and then to fetch, translate and transfer the data. In combination with the “Ploutos Registration and Discovery Directory” the PIEs announce their existence and hence are discoverable by entities interested to exchange data.

A key practical outcome is that data interoperability can be applied even with legacy ICT systems with the use of lightweight data translators without the need for radical changes on the existing operations of systems.



Description of project activities

The Ploutos project will develop a Sustainable Innovation Framework that follows a systemic approach to the agri-food sector, building on three pillars: Behavioural Innovation, Sustainable Collaborative Business Model Innovation and Data-Driven Technology Innovation. The project will deploy 11 Sustainable Innovation Pilots, where using a Multi-Actor Approach, new innovative solutions and methodologies will be implemented, tested, assessed and derive practical lessons learned. A Ploutos Innovation Academy will be established as a vehicle for integrating the know-how, best practices and assessments developed across the project and derived from the Sustainable Innovation Pilots.

 **33 Partners**

 **11 Pilots**

 **10 Countries**



Objective of the project

The main objective of Ploutos project is to help rebalance the agri-food value chain and enhance its sustainability (economic, environmental and social) by establishing a Sustainable Innovation Framework that is powered by an innovative combination of behaviour change, collaborative business model innovation and data-driven technological services.

PLOUTOS CONSORTIUM

