SPADE
physical-cyber drones ecosystem
agriculture • forestry • environment

THE SPADE PROJECT

MULTI-PURPOSE PHYSICAL-CYBER AGRI-FOREST DRONES ECOSYSTEM FOR GOVERNANCE AND ENVIRONMENTAL OBSERVATION

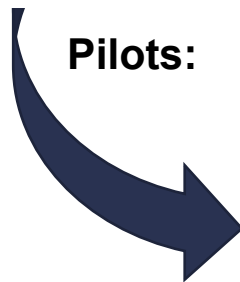**Rationale:**

Risks related to drone operations
- Cyber-security breaches
- physical safety and security hazards
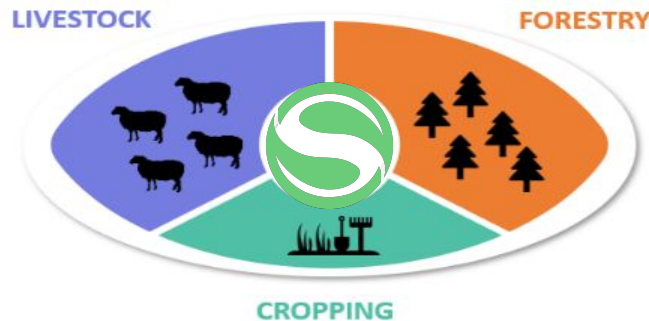- risks of human errors

New regulations concerning drones

Emergence of new operations, applications and services

Technological architecture is complex

SPECIFIC OBJECTIVES

| Engagement for a farm-to-fork ecosystem | Cost effective drones for multipurpose applications | Open-source ecosystem | 3 pilots and open calls | Long term impact in agriculture and forestry |

Pilots:

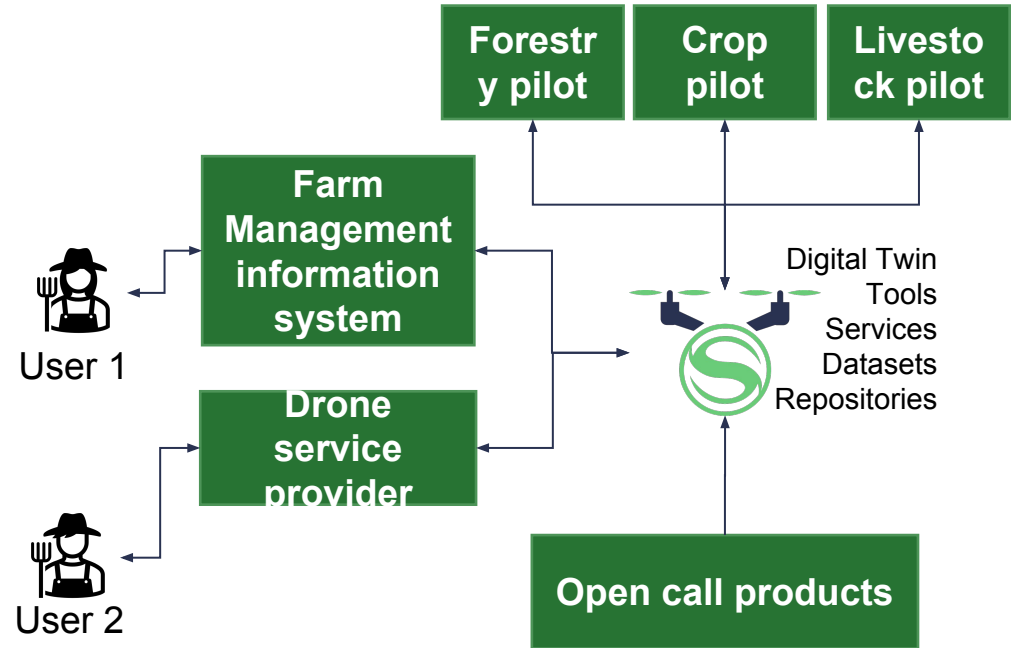LIVESTOCK   FORESTRY   CROPPING

The SPADE ecosystem

SPADE platform

- Distributed architecture
- Cybersecurity, Connectivity and Interoperability
- Digital twin support
- Drone data marketplace
    - Data processing and distribution
- Services marketplace

Large scale demonstration and impact

- Pilots in Forestry, Crop and Livestock
    - 3 use cases – swarm, cooperative and large operative for applications
- Open calls
- Virtual representation via digital twin method
- Open source
- Standardisation

Forestry pilot

Crop pilot

Livestock pilot

Farm Management information system

Drone service provider

User 1

User 2

Digital Twin
Tools
Services
Datasets
Repositories

Open call products

The SPADE open research

Open data

- Repositories
- Codes

Open tools

- Services

Open access publications

- Scientific publications
- Popular press and other publications

Project results

- Public documents

Open platform

- External service providers
- External data providers

OPEN ACCESS

open source

https://spade-horizon.eu/