



# PATAFEST

**TOPIC:** Emerging and future risks to plant health  
**HORIZON-CL6-2022-FARM2FORK-02-02-two-stage**  
**Overall project budget:** € 6 097 603,75  
**Start date:** 1 June 2023  
**End date:** 31 May 2027  
**Total months:** 48

## POTATO CROP EFFECTIVE MANAGEMENT STRATEGIES TO TACKLE FUTURE PEST THREATS

**CULTIVATING POTATO RESILIENCE: AN INITIATIVE FOR THE EARLY DETECTION, SURVEILLANCE, AND SOLUTIONS TO POTATO PLANT DISEASES**

**PATAFEST** is a research project funded by the European Commission aimed at protecting potato crops, focusing on sustainable Integrated Pest Management (IPM) strategies to treat and control the presence of *Candidatus Liberibacter solanacearum* pest and its vector in plant, and address the incidence of soil-borne pathogens during potato postharvest storage.

## THE BACKGROUND

### GLOBAL SIGNIFICANCE

- In Europe (2020), potato production reached **55.3 million tonnes**, valued at 12.3 billion euros.

### CHALLENGES IN POTATO CULTIVATION

- Potatoes face susceptibility to pests and soil-borne pathogens
- The most important **pest in the potato plant** is caused by **bacteria *Candidatus Liberibacter solanacearum* (CLso)** and which disease is known as **zebra chip (ZC)**.
- Additionally, other threats (such as *Fusarium sambucinum*, *Colletotrichum coccodes*, *Helminthosporium solani*) also affect potato safety and quality **during the postharvest activities**, making the tubers unmarketable.



## PROJECT PARTNERS

**9** COUNTRIES  
**18** PARTNERS

**6 SMALL AND MEDIUM ENTERPRISES**  
**2 LARGE COMPANIES**  
**4 RESEARCH TECHNICAL ORGANIZATIONS**  
**4 UNIVERSITIES**  
**2 ASSOCIATIONS**



## IMPACTS

### SCIENTIFIC IMPACT

**PATAFEST** aims to advance the understanding of potato Resistance Genes (RGs) and key pests like *Candidatus Liberibacter solanacearum* (CLso) and its vector, psyllid *Bactericera cockerelli* (BC), through molecular and ecological analyses. It seeks to develop a sustainable disease management strategy for zebra chip disease (ZC) without relying on harmful chemical pesticides, in line with the EU Biodiversity Strategy 2030.

### ECONOMIC & TECHNOLOGICAL IMPACT

**PATAFEST** focuses on Integrated Pest Management (IPM) strategies, offering prevention, early detection, and surveillance methods for potato pests and postharvest diseases. The project aligns with EU agricultural research and innovation strategies and contributes to the goal of reducing chemical pesticide use.

### SOCIETAL IMPACT

**PATAFEST** engages citizens and farmers through citizen science activities, fostering long-term adoption of IPM practices and promoting collaborations. The project establishes an innovative multi-actor platform for knowledge sharing and engagement, maximizing outcomes in rural communities and amplifying its impact through partnerships with existing groups and projects.



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## OBJECTIVES



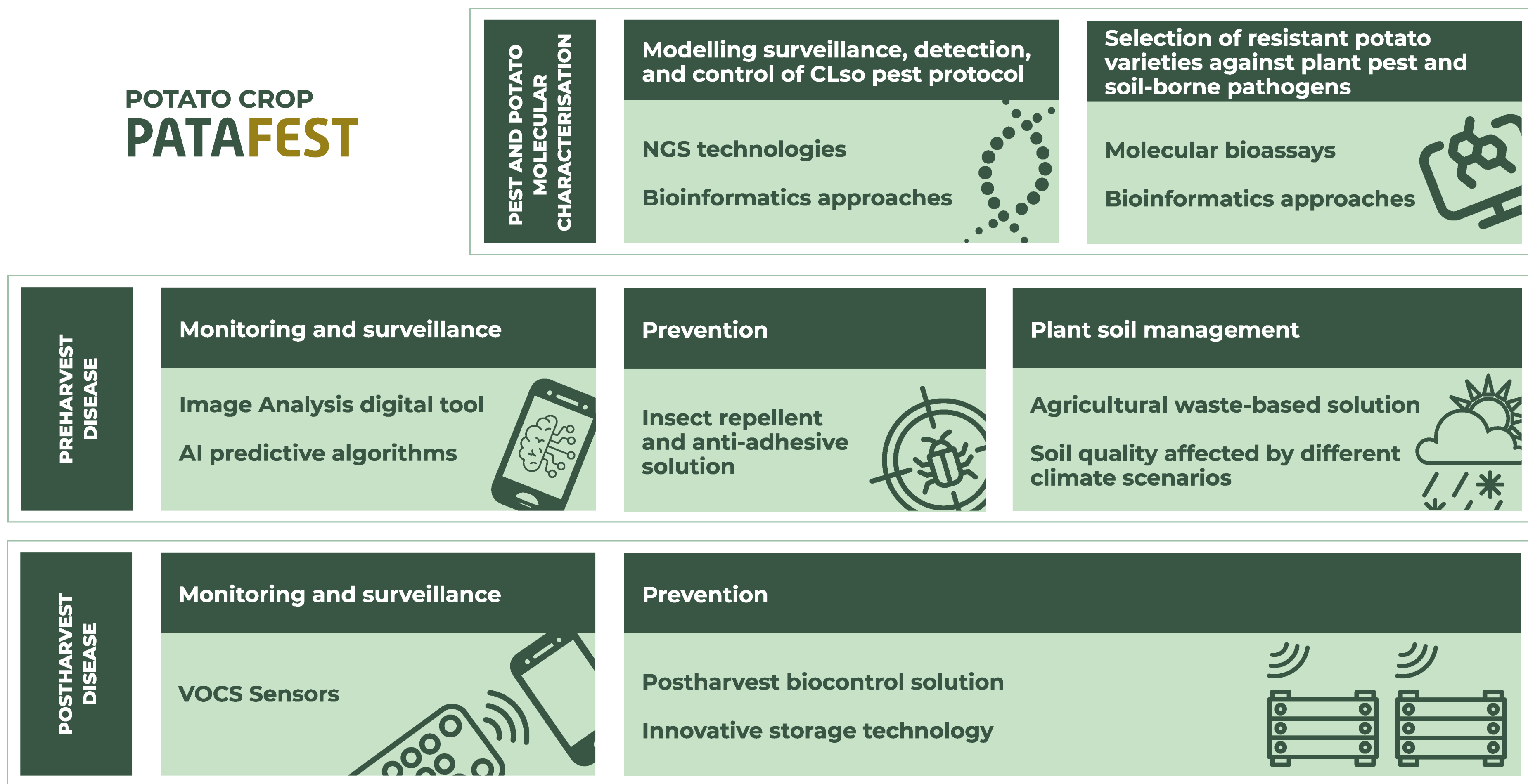
- Characterize at molecular level the **ecological pest spread pathway**.
- Identify potato disease resistance varieties** against CLso and postharvest pathogens.



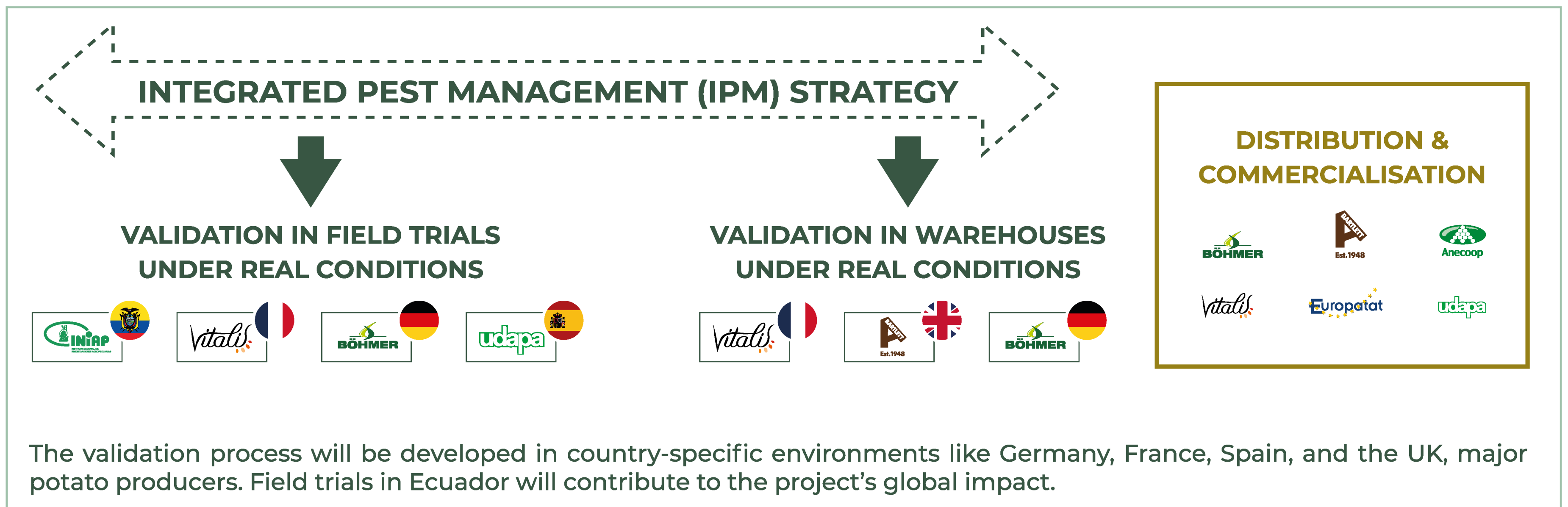
- Cutting-edge digital technologies:** real-time diagnosis tools and AI algorithms for **early detection and proactive protection**.
- Effective **preharvest plant and soil treatments** against CLso vector and soil-borne pathogens combined.



Develop **postharvest technologies** to control the incidence of soil pathogens and maintain the quality of potato tubers stored:  
i) biocontrol coating solution;  
ii) controlled atmosphere storage;  
iii) volatile organic compounds (VOCs) sensors.



Validate the Integrated Pest Management under real conditions. The project plan to test developed technologies in European and non-European environments (Ecuador), as well as validating postharvest technology and soil treatment solutions for both organic and conventional potato crops at TRL5.



Engage Citizens as a source to collect scientific and technical data. Organizing citizen science campaigns and workshops to gather a database of information on potato pest diseases, as well as conducting webinars to enhance citizen engagement in project activities.



*Disseminate and Communicate and exploit the main achievements of the project:*  
The project aims to establish a multi-actor participatory platform for efficient dissemination of project outcomes.

