

# SMART FARM COLAB

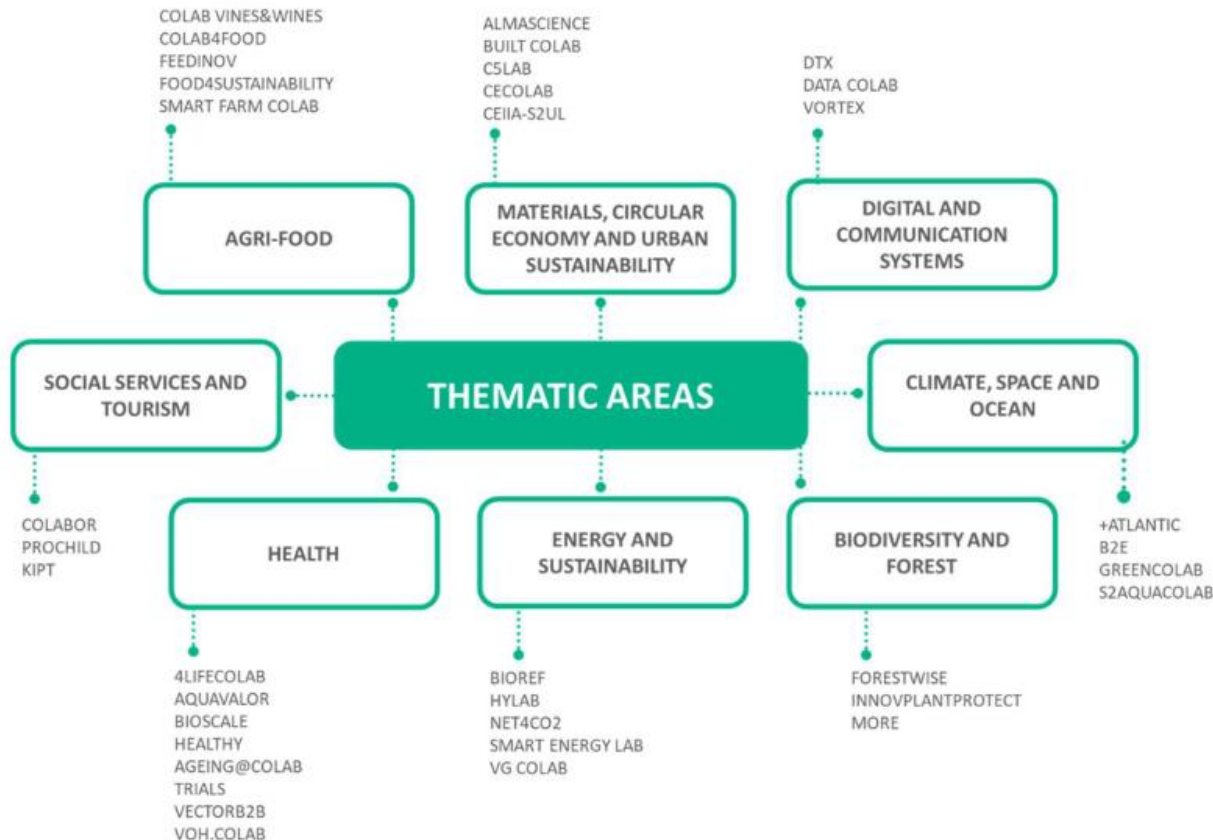
LABORATÓRIO COLABORATIVO  
PARA A INOVAÇÃO DIGITAL  
NA AGRICULTURA

## SFCOLAB

Collaborative Laboratory for the Digital  
Innovation in Agriculture

Cátia Pinto

# Portuguese Collaborative Laboratory Network



**35 entities** recognised as Collaborative Laboratories



# A Portuguese reference for Digital Agriculture

- Private non-profit organisation
- Quadruple Helix-Based Innovation
- Targeting applied research (TRL5-8)
- Services for digitalisation of the agriculture



Scientific and Technology Knowledge Transfer



# SFCOLAB's Members

## City Council



## SMEs



ADEGA  
SÃO MAMEDE  
DA VENTOSA



## Academy & Research Institutes



17 Members

# From Torres Vedras to the world

The Portuguese Western Region  
is the national leader in wine and vegetables production



**1600**

Agro-companies

**3500**

Fixed Workers

**€200M**

annually

**7000ha**

vineyards

**700ha**

Greenhouses

# SFCOLAB's Action Lines (R&D+I)

## Digital Innovation in Agriculture



### Smart Technologies

- Needs and gaps assessment
- Develop and/or customise digital tools
- Assertive technological support answer
- Inclusive solutions with affordable costs



### Smart Data

- An Ecosystem of applications based on data analysis and data-driven models
- Support the decision-making process
- Recommendations and alerts
- Interoperability and integration platforms



### Smart Production Ecosystem

- Maximizing the use and adoption of the digital agriculture technologies/tools
- To guarantee a sustainable intensification of agriculture
- To ensure the quality of these products and their valorisation in the market and consumers



### Business services

- To bring value for the SFCOLAB's ecosystem and Region
- To generate new business models valuing the agro-sector
- To identify existing services from the ecosystem



### Capacity Building & Training

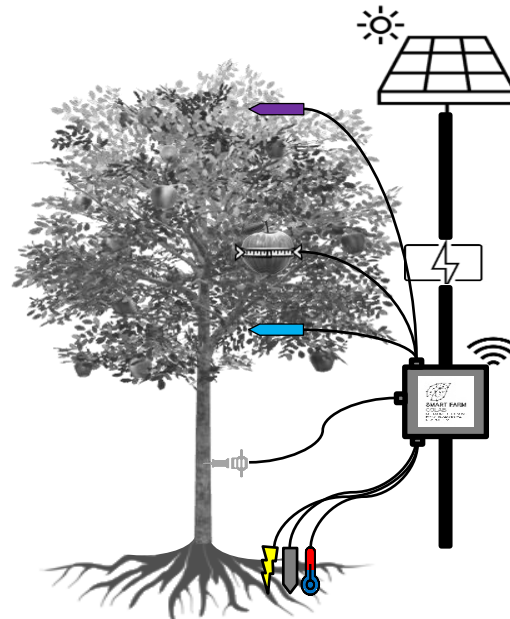
- Knowledge transfer and development of basic skills for the use of innovative systems and tools
- Digital upscaling of the agro-sector
- Partnership with higher education and business entities

# Key Activities and Target Markets



## Key Technologies Development

- SOFIS – Affordable and tailor- made sensors
- Data visualization platform
- Fruit Yield estimation/ counting
- Ecological Footprint
- Smart Farm 4.0: market-driven solutions
- Customised digital tools



## Customers

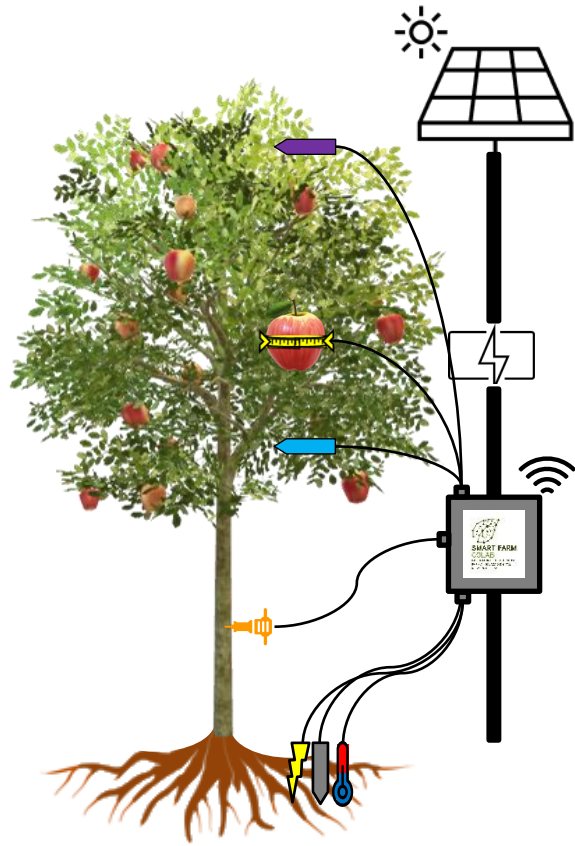
- Farmers
- Companies (including technology and industry)
- Associations & Competence Centres (for training; dissemination; projects; consultancy)
- R&D Institutions (development of specific R&D projects)





# SOFIS – Affordable Technologies

## SOFIS<sup>®</sup> - SMART ORCHARD FERTI-IRRIGATION SYSTEM



- € Low-cost modular sensing system
- Customized solutions according to the agricultural needs
- Real-time monitoring
- Remote communication

### OUTPUT

- Soil quality
- Fertirrigation control
- Climate control in greenhouses
- Diseases alerts (fungal)



Painel solar



Comunicação



Radiação PAR



Temperatura do solo



Fluxo de seiva



Bateria



VPD



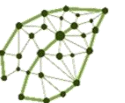
Humidade do solo



Condutividade elétrica da água



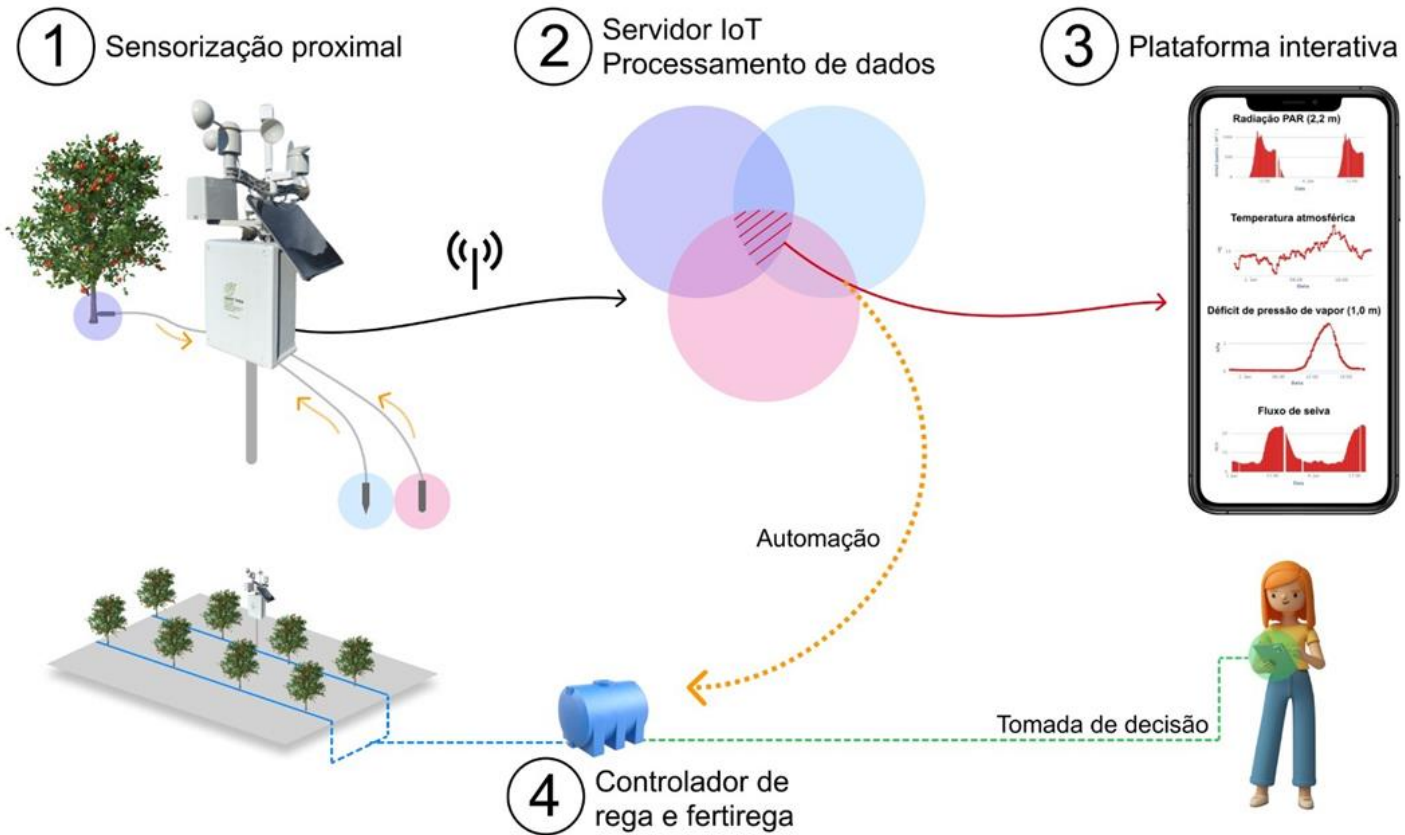
Dendrômetro



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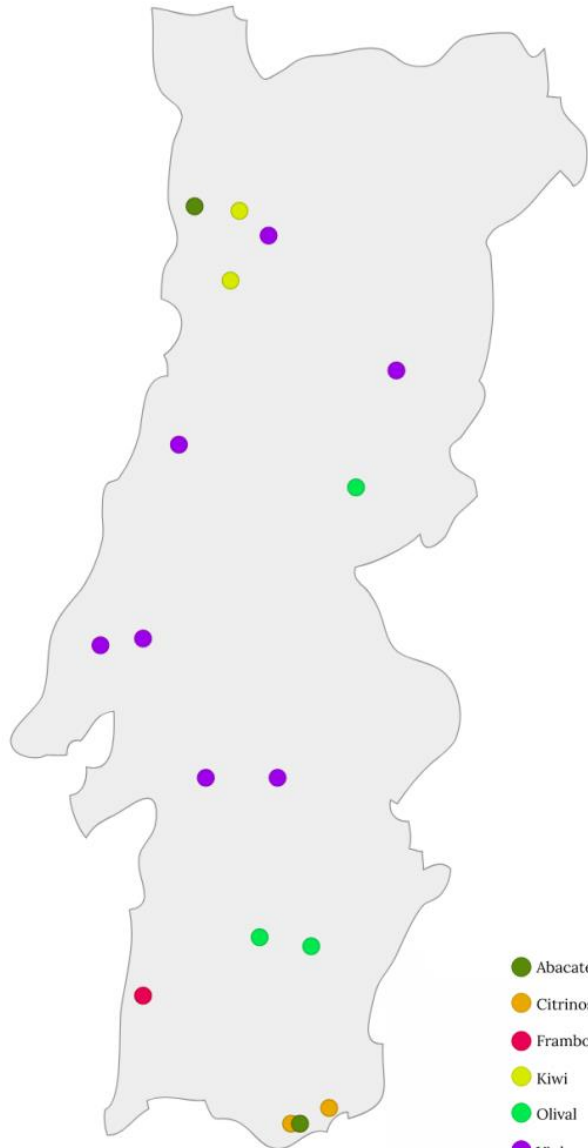
# Digital tools



**SOFIS'meteo**  
**INIAV**

1

# Technology Demonstrator Network



**DIGIFARM2ALL**  
DIGITALIZAÇÃO NA AGRICULTURA

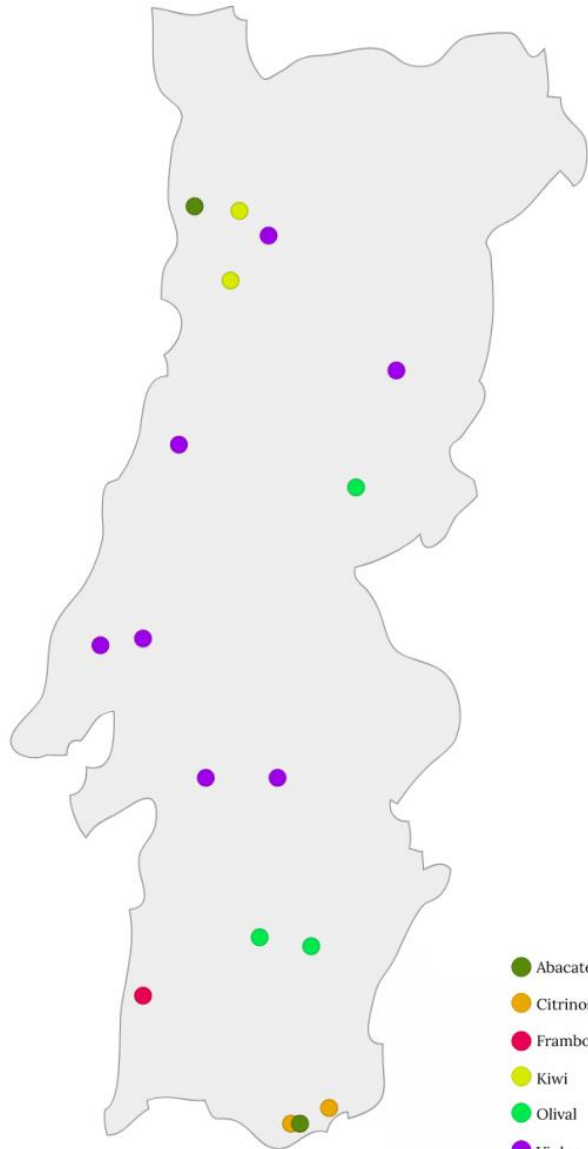
**Sustainability and Democratization of Agriculture 4.0**

Democratize Agriculture 4.0 through **specialized technical support** for an efficiency and sustainable intensification of national agricultural production



1

# Technology Demonstrator Network



- Abacate
- Citrinos
- Framboesa
- Kiwi
- Olival
- Vinha

## 17

## Technological Pilots



# Monitoring of the agricultural management practices, resources and production factors

# Proximal and remote sensing

# Real-time processing data

# Development of a data management platform and decision-making support



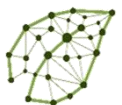
#Burgopanorama - Sociedade Agrícola

#Carla Cabo Silva

#Filipe e Marcela

#Lopes e Assis

#Mariano Lopes e Filho



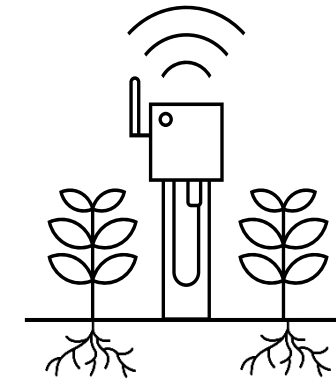
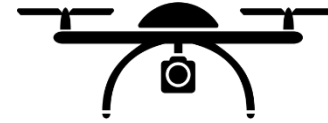
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1

# Vineyards from Terceira Island

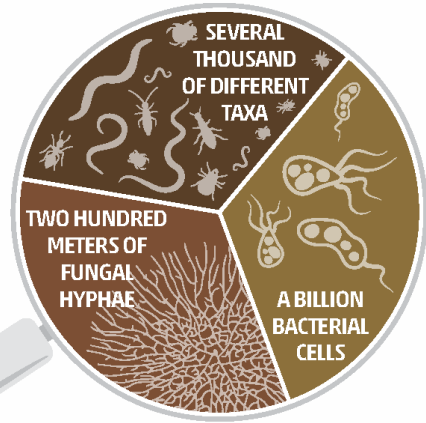
Development of an automatic alert and visualization system for the prevention of diseases





1

# Vineyards from Terceira Island



ONE GRAM OF SOIL MAY CONTAIN



Characterization of the micro terroirs from the Terceira's vineyards

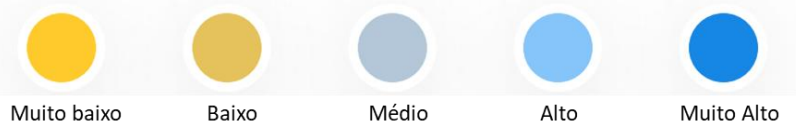
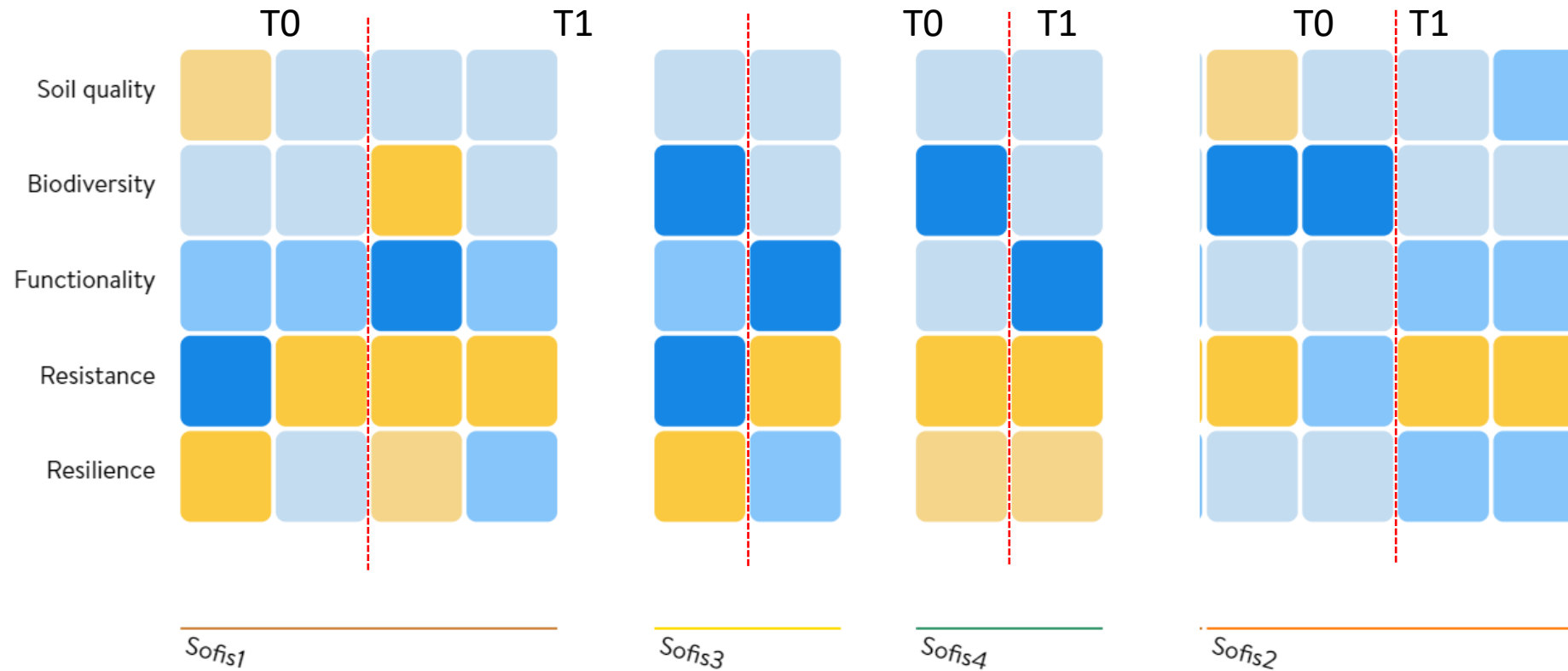
BIOME MAKERS

fields4ever  
A GLOBAL SOIL HEALTH INITIATIVE

Projeto Horizon 2020 (referência 947084)



# Vineyards from Terceira Island





## 2 Training & Workshops

Democracy and literacy of Ag4.0 for digital technologies adoption

SPECIALIZED TECHNICAL SUPPORT

1

Workshops (Calibration of sprayers)

2

Training (Agriculture 4.0)

3

Open Days (Special Programmes for Agro Professional Schools)

4

Events

Transfer of Knowledge and Technology



# 3 Innovation Projects

## Consortium promotion

- National and International Projects
- Project Scouting Service



**SMART FARM 4.0**

SOLUÇÕES INTELIGENTES PARA UMA AGRICULTURA SUSTENTÁVEL PREDITIVA E AUTÔNOMA



**DIGIFARM2ALL**  
DIGITALIZAÇÃO NA AGRICULTURA



SFT-EDIH:  
Smart Sustainable farms, foods and Trade European Digital Innovation Hub



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# V FÓRUM AGRICULTURA 4.0



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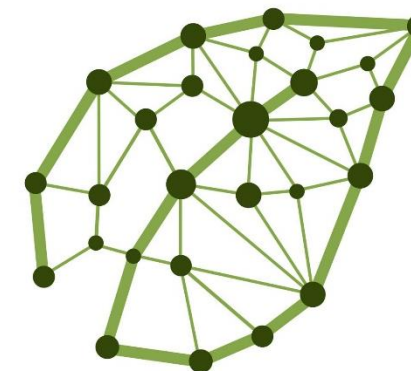
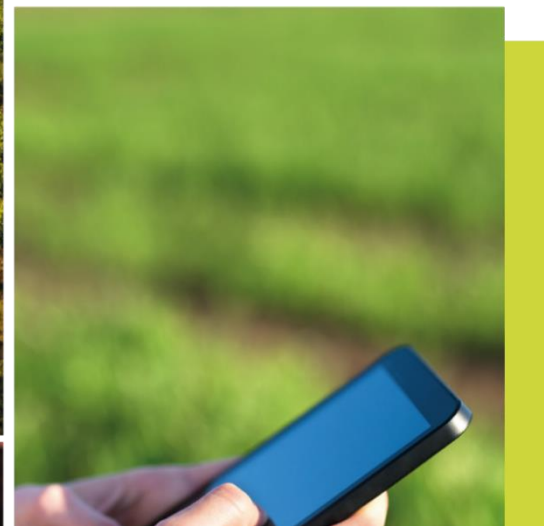
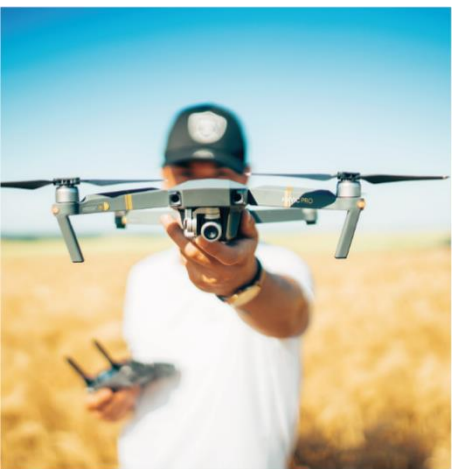
**Evento final SmartFarm 4.0**

**30  
junho & 01  
julho**

**Auditório da Feira de São  
Pedro (Torres Vedras)**

**9h - 18h**





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Agriculture

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