IOF2020 LARGE SCALE PILOT

EU project for IoT innovations in agriculture
Our Agenda
Here is what will be going on

1. Introduction to IoT Large Scale Pilot
What is the EU doing to push IoT as an industry in Europe?

2. What is IoF2020 doing in agriculture?
The largest IoT pilot is focusing on agriculture. How do they work and what will be implemented?

3. Use-case examples
What are concrete projects that IoF2020 tries to put into practice?

4. Q&A on Future Business Models
What are the new revenue sources coming up with the data economy in agriculture and what are the cross-cutting potentials?
Large Scale Pilot Programme

The EU is pushing actively to make IoT a success in Europe

IoF2o2o | €35m
IoT innovations in agriculture to improve productivity, food security and quality

SynchroniCity | €20m
IoT innovations for smart cities

Activeage | €26m
IoT large scale of active & healthy ageing IoT based solutions

AUTOPilot | €25m
Disruptive impacts on fully automated driving along all value chains

MONICA | €17m
IoT ecosystem for innovative wearable and portable IoT sensors

U4IoT & Create IoT
Support on legal framework, user engagement, design, technical synergies and economic impact

IoT Large-Scale Pilots Programme

IoF2020 is funded by the Horizon 2020 Framework Programme of the European Union. Grant Agreement no. 731884. Visit ioF2020.eu for more information about the project.
Agricultural Challenges
IoF2020 is dedicated to tackle the following challenges

**Food Safety**
Prevent food scandals & improve information

**Food Security**
Fulfill the growing demand for food

**Increase Quality**
Produce healthier food and better conditions

**Competitiveness**
Get more efficient and get more independent

**OUR DEDICATION**
The IoF2020 project is dedicated to accelerate adoption of IoT for securing sufficient, safe and healthy food and to strengthen competitiveness of farming and food chains in Europe.
Objectives of IoF2020

Here is what we intend to achieve

1. **Demonstrate the business case** of IoT for a large number of application areas in farming and food sector.

2. **Integrate** and reuse available **IoT technologies** by exploiting open infrastructures and standards.

3. **Ensure user acceptability of IoT solutions** in farming and food sector by addressing user needs, including security, privacy and trust issues.

4. **Ensure the sustainability** of IoT solutions beyond the project by validating the related business models and setting up an IoT ecosystem for large scale uptake.
We are actively proving the impact of IoT technologies in an large scale implementation as well as the potential of cross-cutting data business models.

**Innovation Activities**

This projects aim to produce innovations in segments of agriculture

We are actively proving the impact of IoT technologies in an large scale implementation as well as the potential of cross-cutting data business models.

1. **Arable**
   - 4 use-cases on precision smart farming and machine interoperability in potatoes, wheat, soya

2. **Dairy**
   - 4 use-cases on animal welfare & quality by tracking, milk scans and health management

3. **Fruits**
   - 4 use-cases on resource management for table grapes, wine, olive oil and fruit logistics

4. **Vegetables**
   - 4 use-cases on horticulture, Mediterranean green house and enhanced certification

5. **Meat**
   - 3 use-cases on pig and poultry management to increase animal welfare and food safety
Geographical Spread
Here is how our test farms are spread all over Europe
How we work on innovation
Here are the coIoF2020 is planning to support your economic success

**IOT SOLUTIONS**
Concrete large scale applications of IoT technologies in agriculture

**BUSINESS MODELS**
Cross-cutting data business models to open new revenue sources

**TECHNOLOGY STANDARDS**
Cross-sector collaboration for open standards in IoT data exchange

**DATA PRIVACY**
Develop standard procedures and guidelines to handle sensitive information and to protect IP
Technology Focus
Here is on which technologies we are focusing

Open Standards
FIWARE

Transmissions
LoRa, SigFox, GSM, LTE

Latest Sensors
Hardware manufacturers as partners

Security
Encryption, protocols

Data routing
Secure data brokerage across the value chain
Technology Architecture

Here is on which technologies we are focusing

USE CASE REQUIREMENTS

Use case architecture
Use case IoT system developed
Use case IoT system implemented
Use case IoT system deployed

IoT reference architecture
IoT catalogue
IoT Lab

Instance of
Reuse
Reuse

Reusable IoT components
Reference configurations & instances
Collaboration Space

Shared services & data

Reuse

Project level

Use case level
New Business Models

We are eager to prove new revenue models

**BUSINESS MODEL INNOVATION**
Making use of the data potential to innovated existing business models

**MVP CYCLES**
Agile product development and testing in the market in reoccurring cycles

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**Cross-cutting**
Monetization of data through market places

**Core Business Models**
Development of business models involving all partners

**Additional Income**
Explore possibilities of secondary income e.g. licensing

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**01**
1. CO-DESIGN
2. IMPLEMENTATION
3. EVALUATION
Liability in cases of damages by hacked automation services

Automatic transfer of data to authorities lead to wrong reports

Misleading data
Automatic transfer of data to authorities lead to wrong reports

Reproducibility of secrets
Data could be targeted back by competitors and secrets stolen.

Closed systems
Partners in the value chain are not opening their systems for new data flows

Manipulation of data
End-user could trick sensors to report better results

Hacked automation
Liability in cases of damages by hacked automation services

Transparency
Lack of an overview of data streams and control of data
Roadmap of IoF2020
Here is what we are planning in the next 4 years

Mid 2017
- Decide for a technical platform solution to collect KPI data

2017
- Setup of test farms all over Europe
- Technological development

Late 2017
- Market tests
- Product development
- Business model testing

Early 2018
- Issue of an open call for new use-case on IoT in agriculture

2018-2020
- Market tests
- Product development
- Business model testing

2020
- Lighthouse effect of use-cases and legal framework for data privacy

KPI Measurement
Installation
MVP Cycles
Open Call
MVP Cycles
Results
SELECTED USE-CASES
Smart services on the EUROPOOL box network

This use-cases tests the usage of smart sensors for temperature, vibration, light, gases and location to offer intelligent services to logistical providers.
City farming leafy vegetables

Fully automated horticultures to grow functional vegetables

Vertical hydroponic farming in city areas

Production of high quality vegetables in a very predictable and reliable manner, unaffected by disease and independent of seasonal influences with optimal growth conditions are present at all times, and unwanted influences are kept out.

PHILIPS
Leading lighting company for horticulture

StayFoodGroup
Fresh food processing company

Excellent Dutch technical university
INTERNATIONAL CONSORTIUM OF CORPORATES, STARTUPS & UNIVERSITIES

The activities of a company associated with buying and selling a product or service that includes advertising, selling items and delivering products to people who work on social media market marketing is based on thinking about the business in terms of customer needs and their satisfaction differs from selling selling concerns itself with the tricks and techniques of getting
THANK YOU
Let’s stay in touch

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