A LARGE-SCALE PILOT FOR AG-IOT

Sjaak Wolfert, Scientific Project Coordinator  
(Wageningen University & Research)

Agriculture 4.0 – Feeding the next generation, AgroLink Flanders  
11 May 2017, VLEVA building, Brussels
Advancements in Farming

BIG DATA

SMART SENSING & MONITORING

SMART ANALYSIS & PLANNING

SMART CONTROL
Involving entire supply chain and beyond

Smart Farming
tracking & tracing
Smart Logistics

Domotics

Health

Fitness/Well-being
OBJECTIVE

IoF2020 fosters a large-scale uptake of IoT in the European farming and food sector

- Demonstrate the business case of IoT for a large number of application areas in farming and food sector;
- Integrate and reuse available IoT technologies by exploiting open infrastructures and standards;
- Ensure user acceptability of IoT solutions in farming and food sector by addressing user needs, including security, privacy and trust issues;
- 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.
IOF2020 IN BRIEF

71 PARTNERS ORGANISATIONS

16 COUNTRIES

4 YEARS
Start = January 2017

€35 MILLION BUDGET
(€30 million co-funded under EU H2020 programme)
IoF2020 will pave the way for:

- Data-driven Farming
- Autonomous Farm Operations
- Virtual Food Chains
- Personalized Nutrition for European citizens
5 TRIALS, 19 USE CASES

ARABLE
FRUITS
DAIRY
VEGETABLES
MEAT
Optimizing cultivation and processing of wine by sensor-actuator networks and big data analysis within a cloud framework
OBJECTIVE

Deploy an IoT system
• based on 150 actuator/sensor nodes
• to monitor and gather the data coming from 5 vineyards and cellars
• to perform data analysis and decision making
• to improve the vine yield and wine production
IOT SYSTEM ARCHITECTURE

• Fixed and mobile sensors to monitor weather, vineyard and wine conditions
• Middleware to collect and analyse sensor data and actuate
• Applications to facilitate the decision making to monitor and control the vineyards and wine anytime and anywhere.
PARTNERS

Denis Dubourdieu Domaines
Wine grower and Wine Producer

VINIDEA
Innovation brokering and dissemination to wineries

Process2Wine
IT provider for a Smarter Viticulture

ISVEA
Analytical, consulting and R&D services to Wine industry.

Bordeaux INP
Signal and Image Processing Research lab

CEA
Worldwide, leading, Applied Research center

STMicroelectronics
Semiconductor company leader in IoT components
Optimize pig production management via on-farm sensors and slaughter house data
Objective

Provide the pig farmers with crucial information to effectively steer their management to reduce boar taint, health problems, increase productivity.
Data acquisition throughout the entire supply chain
GENERIC APPROACH & STRUCTURE

1. CO-DESIGN
2. IMPLEMENTATION
3. EVALUATION

WP2 Trials/Use cases: Knowledge & App development
Lean multi-actor approach

WP3 IoT Integration
WP4 Business Support
WP5 Ecosystem Development

WP1 Project Coordination & Management

IOF2020 ECOSYSTEM & COLLABORATION SPACE
TECHNICAL / ARCHITECTURAL APPROACH

USE CASE REQUIREMENTS

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

Project level

- IoT reference architecture
  - instance of
  - reuse
- IoT catalogue
  - Reusable IoT components
- IoT Lab
  - Reference configurations & instances
  - Collaboration Space
  - shared services & data
  - sustain

Use case level

- Use case
- architecture
- IoT system developed
- deployed
Different business models will be tested to identify the most successful and sustaining ones.

Buying and selling a product is the best.

Develop standard procedures and guidelines to handle sensitive information and to protect IP.

Calculate costs savings and effects on revenue development & financing plans for farmers.

MARKET STUDY

KPI & IMPACT

BUSINESS MODELS

PRIVACY GUIDELINES

Calculate costs savings and effects on revenue development & financing plans for farmers.

Buying and selling a product is the best.

Develop standard procedures and guidelines to handle sensitive information and to protect IP.

Different business models will be tested to identify the most successful and sustaining ones.

MARKET STUDY

KPI & IMPACT

BUSINESS MODELS

PRIVACY GUIDELINES

Calculate costs savings and effects on revenue development & financing plans for farmers.

Buying and selling a product is the best.

Develop standard procedures and guidelines to handle sensitive information and to protect IP.

Different business models will be tested to identify the most successful and sustaining ones.
TOWARDS TO THE IOF2020 ECOSYSTEM

FARMERS

GENERAL PUBLIC AND MEDIA

COOPERATIVES

SCIENTIFIC COMMUNITY

INVESTORS

POLICY-MAKERS AND REGULATORS

END-USERs
- Farm equipment suppliers
- Food processing companies
- Retailers
- Transporters
- Consumers’ associations

IOT TECHNOLOGY PROVIDERS

NGOS & INTEREST ORGANISATIONS

AGRICULTURAL (INDEPENDENT) ADVISORY SERVICES

BUSINESS SUPPORT ORGANISATIONS
- Accelerators
- Incubators
- Chambers of commerce
- Enterprises networks
STAY-TUNED VIA

- Website: [www.iof2020.eu](http://www.iof2020.eu)
- Twitter: [https://twitter.com/IoF2020](https://twitter.com/IoF2020)
- Newsletter subscription & contact: [communications@iof2020.eu](mailto:communications@iof2020.eu)
THANK YOU FOR YOUR ATTENTION!

CONTACT INFORMATION

Sjaak Wolfert
sjaak.wolfert@wur.nl
+31 317 485 939