Παραδείγματα Ανάπτυξης Εφαρμογών στα Έξυπνα Οικοσυστήματα – Έξυπνη Πόλη και Έξυπνη Συνεργατική Γεωργία

Future Intelligence Ltd

December 2016 | ΕΛΣΤΑΤ

«Στατιστικές και Μαζικά Δεδομένα (Big Data)»

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Short profile (1/3)

- **Future intelligence Ltd** (short name FINT) an SME (est. 2009)

- Specialized in Information & Communication Technologies (ICT)
  - Highly-demanded solutions and business services in the fields of **Long range Networks (WiMAX, LTE)**, **Short range Communications (WSN, M2M, IoT)** and **Future Internet Research**.

- Business activities
  - Integrated wireless management solution for device control and monitor applied in industrial and semi-industrial domains
  - Remote control and management of UxVs over 4G integrated network solution
  - Platform for detection of thievery and petty crimes using cameras and smart sensors through cloud infrastructure
  - Combinations of above services
  - RnD services for third party companies/organisations

Short profile (2/3)

- HQ: Technological & Scientific Park Lefkippos N.C.S.R. “Demokritos”, Athens, Greece
- South & East Europe: Scientific & Technological Park of Epirus, Ioannina, Greece
- RnD Lab and Cloud infrastructure: TEI of Crete, Herakleion, Greece
- North and West Europe: 1 Canada Square Canary Wharf, London, UK

Short profile (3/3)

- All hardware and software development is performed in-house
- Manufacture according to Quality Management System ISO 9001:2008
- The only IoT solution manufacturer in Greece
- Highly experienced M2M and IoT network operations & support team
- 99.995% Service availability
- Turnkey solutions
- Key drivers:
  - Growing ecosystems
  - Standardisation & regulations
  - Open API's
  - Partnership approach

The company in a nutshell

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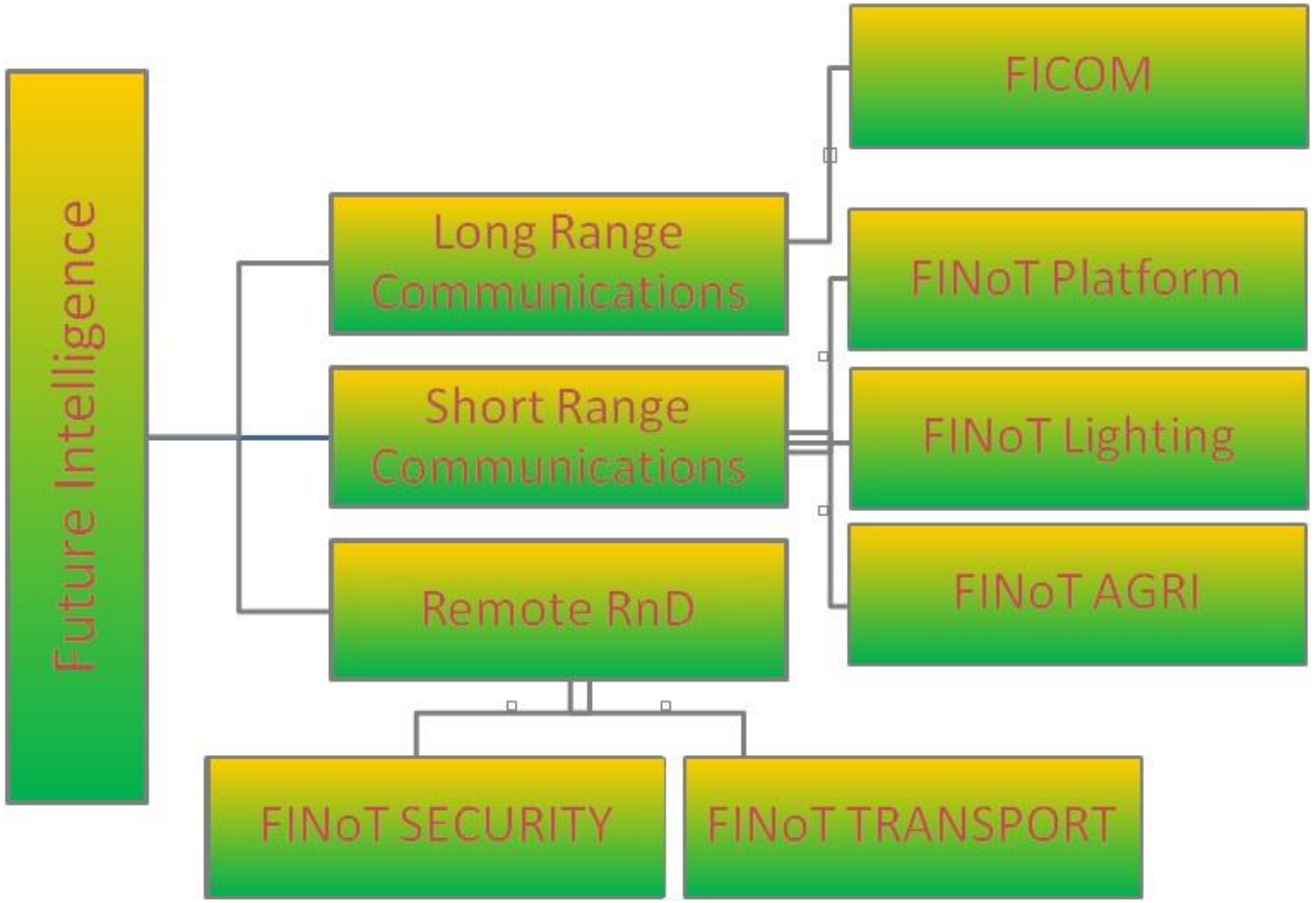

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FINoT

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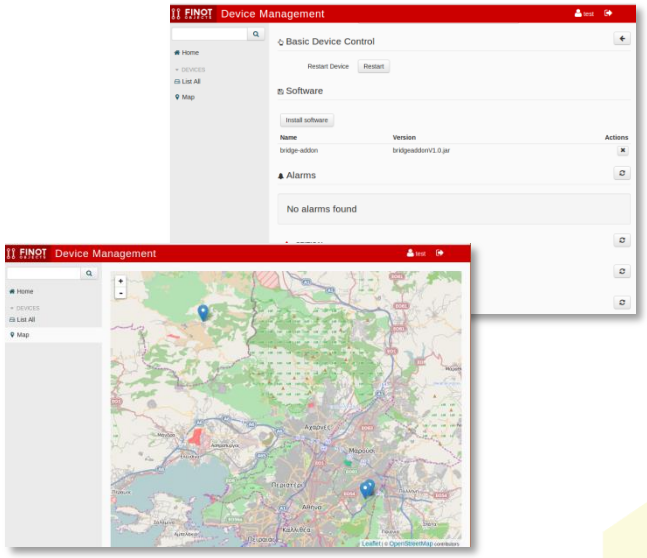
Future Intelligence Ltd has implemented an innovative platform for the efficient management of sensors, actuators and loggers. Its main features are the collection, wireless transmission and intelligent management of data regarding urban and industrial environments. The platform merges the concept of Internet of Things with Automation Engineering approaches.



What are you looking for?

- Smart Cities
- Environmental Monitoring
- Smart Water/ Grid
- Smart Metering
- Security & Emergencies
- Retail
- Supply Chain Management/ Logistics
- Industrial Control
- Smart Agriculture/ Animal Farming

FINoT – Smart Applications

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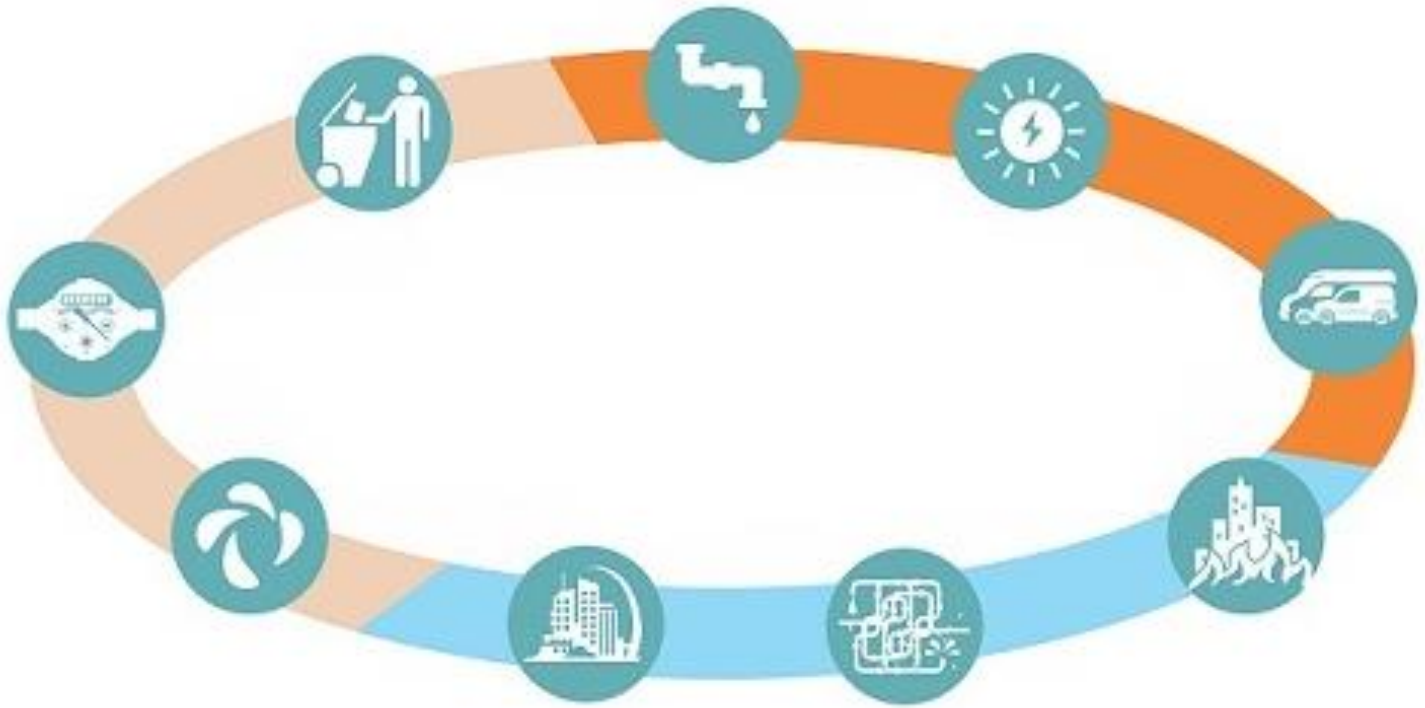

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FINOT LIGHTING

Why focus on LED Street Lighting

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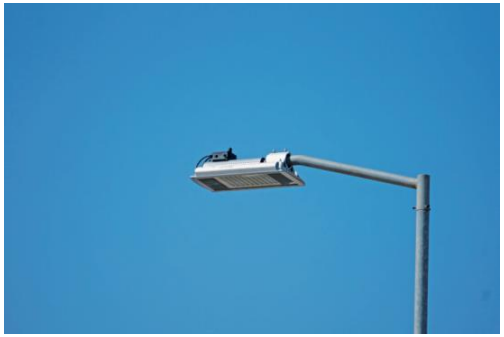
LED Benefits

- More energy efficient lighting
- Efficient delivery light → reduced light pollution
- Longer operational lifetimes → less maintenance
- Improved lighting quality / colour / colour temperature
- Flexibility in lighting → dimming, smart controls



Enhancement of Cities

- Modernised city environment → ‘smart city’ concepts
- Enhanced living experience and well-being
- Socio economic benefits – regeneration / business development
- Road safety and perceived safety at night

LEDs achieve 50 to 70 % energy savings, and reach up to 80% savings when coupled with smart controls

FINoT Lighting

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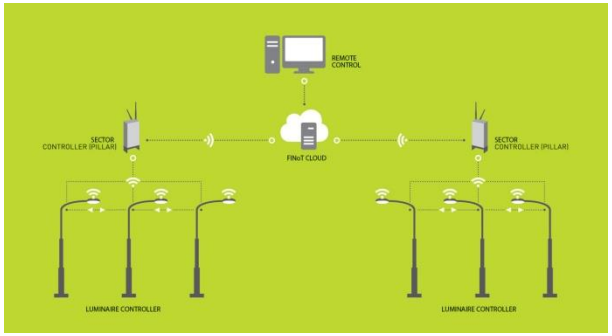
A complete system for Outdoor Lighting management



- Wireless management
- Easy installation
- Easily deployable and scalable
- Retrofit features
- Luminaries are individually controlled
- Supports multiple and complex profiles
- Provides real-time consumption statistics
- Automatic notifications on lamp failure or malfunction
- Supports various types of sensors, including motion and ambient light sensors
- No security issues
- Intelligent Dimming capabilities

Why you should choose FINoT Lighting

- To provide an energy efficient and cost-effective solution
- To provide infrastructure for an expandable Smart City/Road infrastructure
- Expandability for : waste management, parking assistance, traffic control and management, refueling of electric vehicles, garbage collection etc

FINoT Lighting is a smart city enabler

FINoT Lighting

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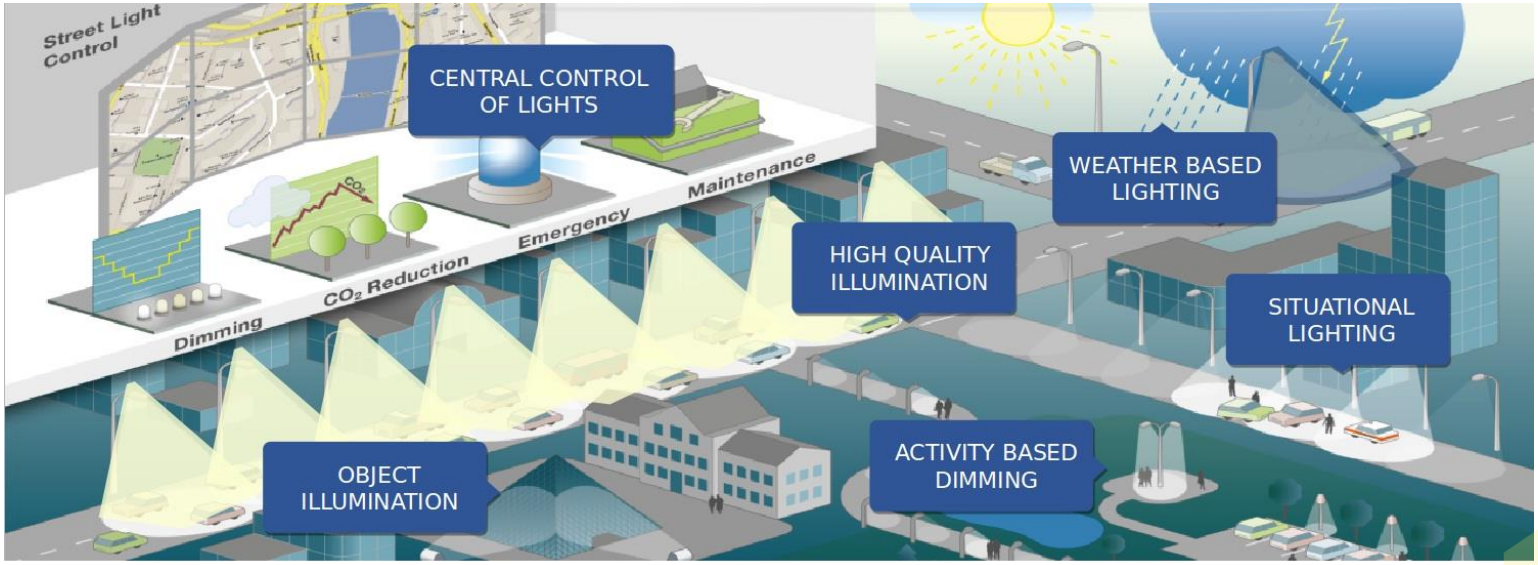
Main Advantages of a “Smart” Lighting Solution

- Cross city applications data sharing
- Custom and on demand Statistics
- Control per lamp and dynamic sector allocation
- Power-saving
- Better Infrastructure Management
- Power-metering
- Less CO2 emissions
- Increased reliability and safety



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SHORT RANGE
COMMUNICATIONS

FINOT
AGRI

QUHOMA for Smart and Collaborative Farming

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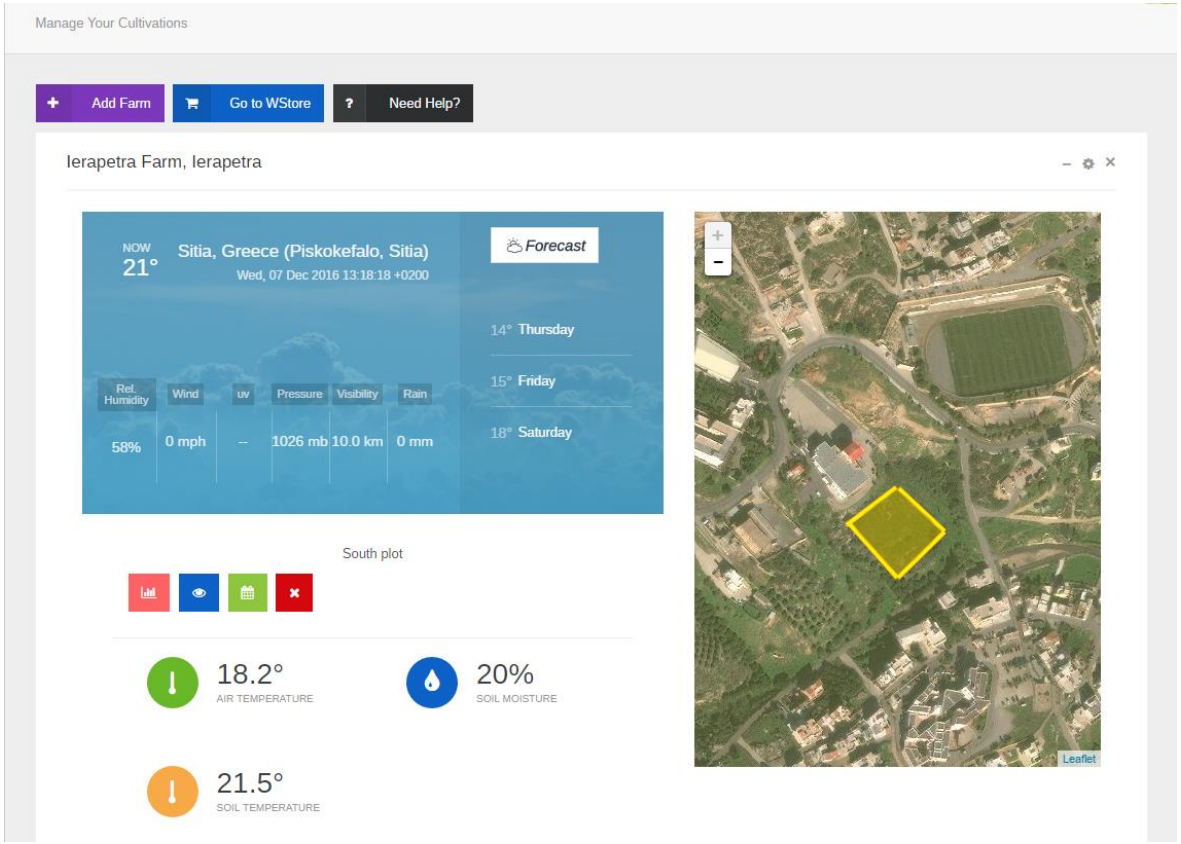

QUHOMA for Smart and Collaborative Farming

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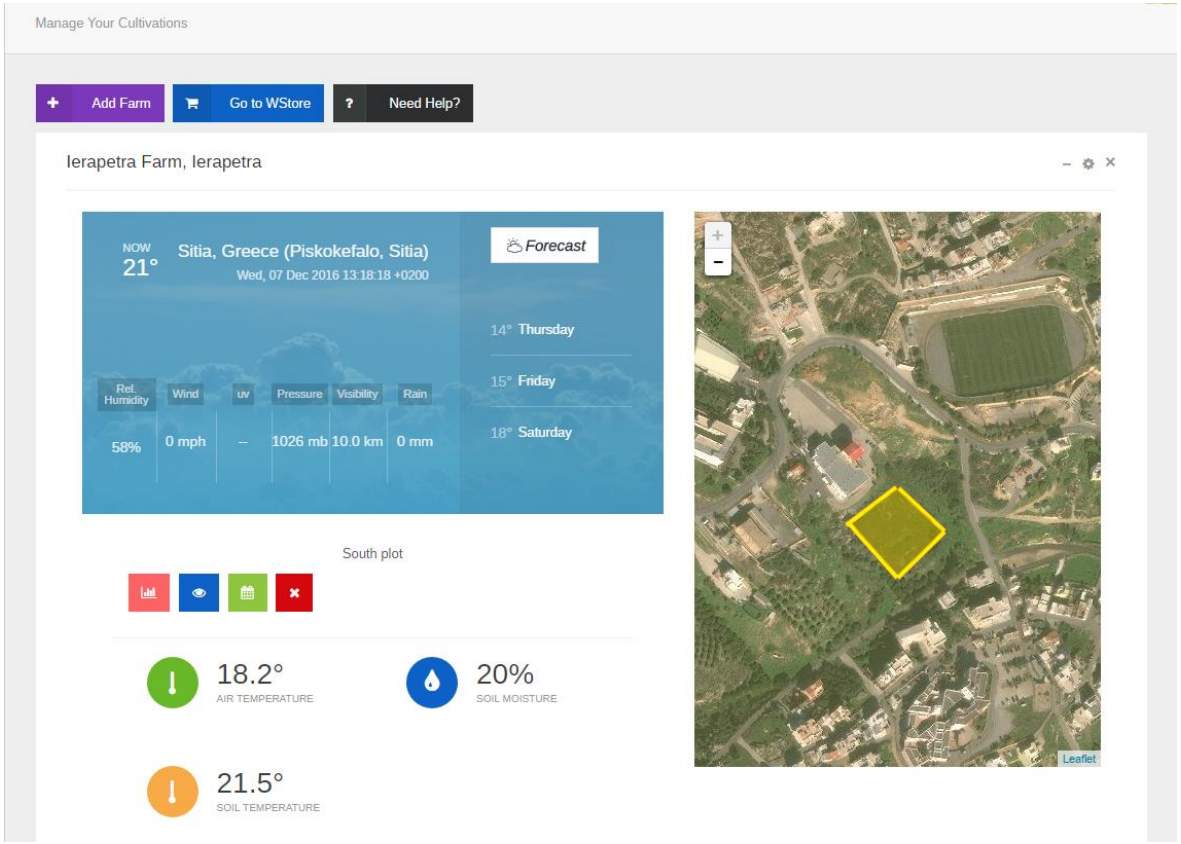
Based on **FINoT Platform**, Future Intelligence has developed a **multi-stakeholder sharing** platform to optimise and promote **organic and sustainable farming**



QUHOMA for Smart and Collaborative Farming

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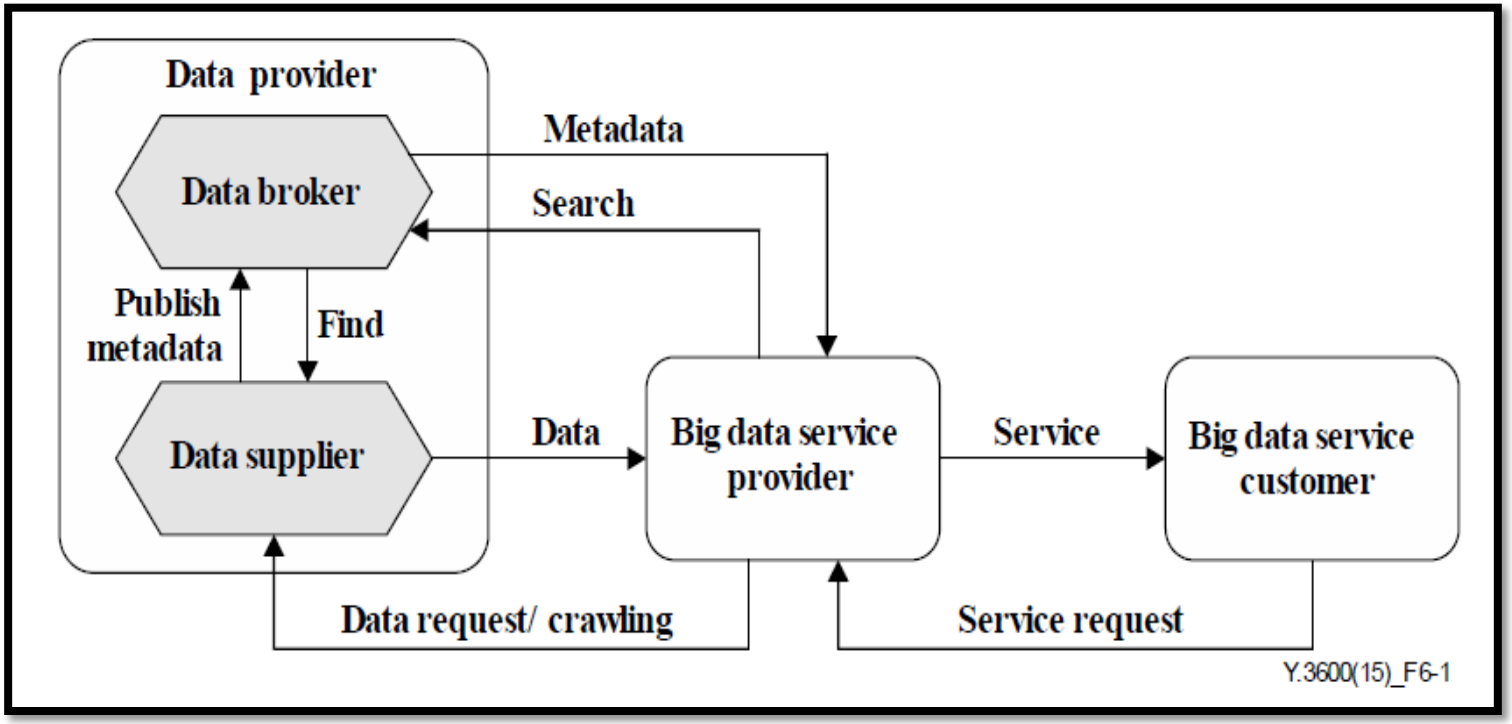
WHAT

QUHOMA for Smart and Collaborative Farming

WHAT

A **FIWARE B2B Marketplace** for services' exchange among **cross-sectorial** agri-food actors (farmers, agronomists and Quality Bodies) for **optimising** and promoting **qualitative** horticulture farming

FINoT Solutions for BigData



The Big Data ecosystem

Big Data Ecosystem Roles and Complementarities

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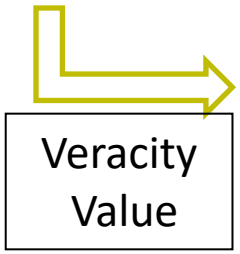
Data provider (DP)

The data provider (DP) role consists of two sub-roles:
– data supplier;
– data broker.



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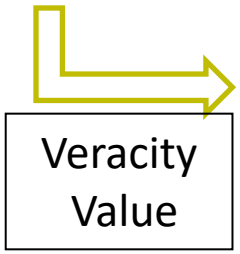
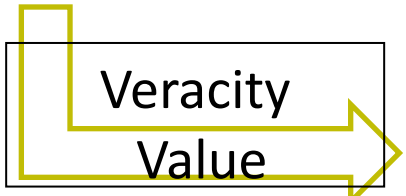


Big data service provider (BDSP)

The big data service provider (BDSP) supports capabilities for big data analytics and infrastructure. The big data service provider can act as a form of big data platform, an extension of the existing data analytics platform, etc



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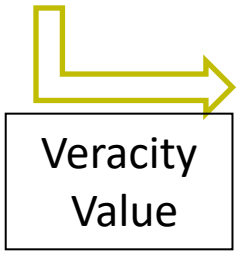

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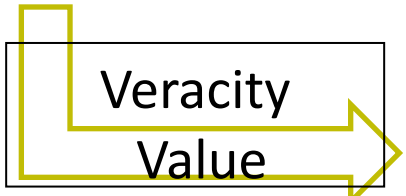


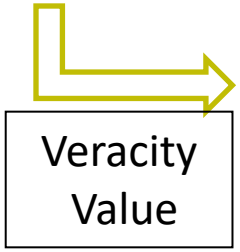
Big data service customer (BDC)

The big data service customer (BDC) is the end-user or is a system that uses the results or services from a big data service provider. The big data service customer may produce new services or knowledge on consumer activities and furnish them outside of the big data ecosystem.

Current and Future FINoT Ecosystem Uptakers

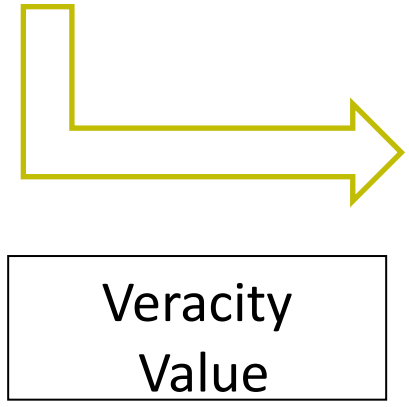
Data provider (DP)

-FINoT Lighting
-FINoT Agri
-Other Technology Suppliers



Big data service provider (BDSP)

- FINoT Platform
- Other Partner
- Other 3rd Party



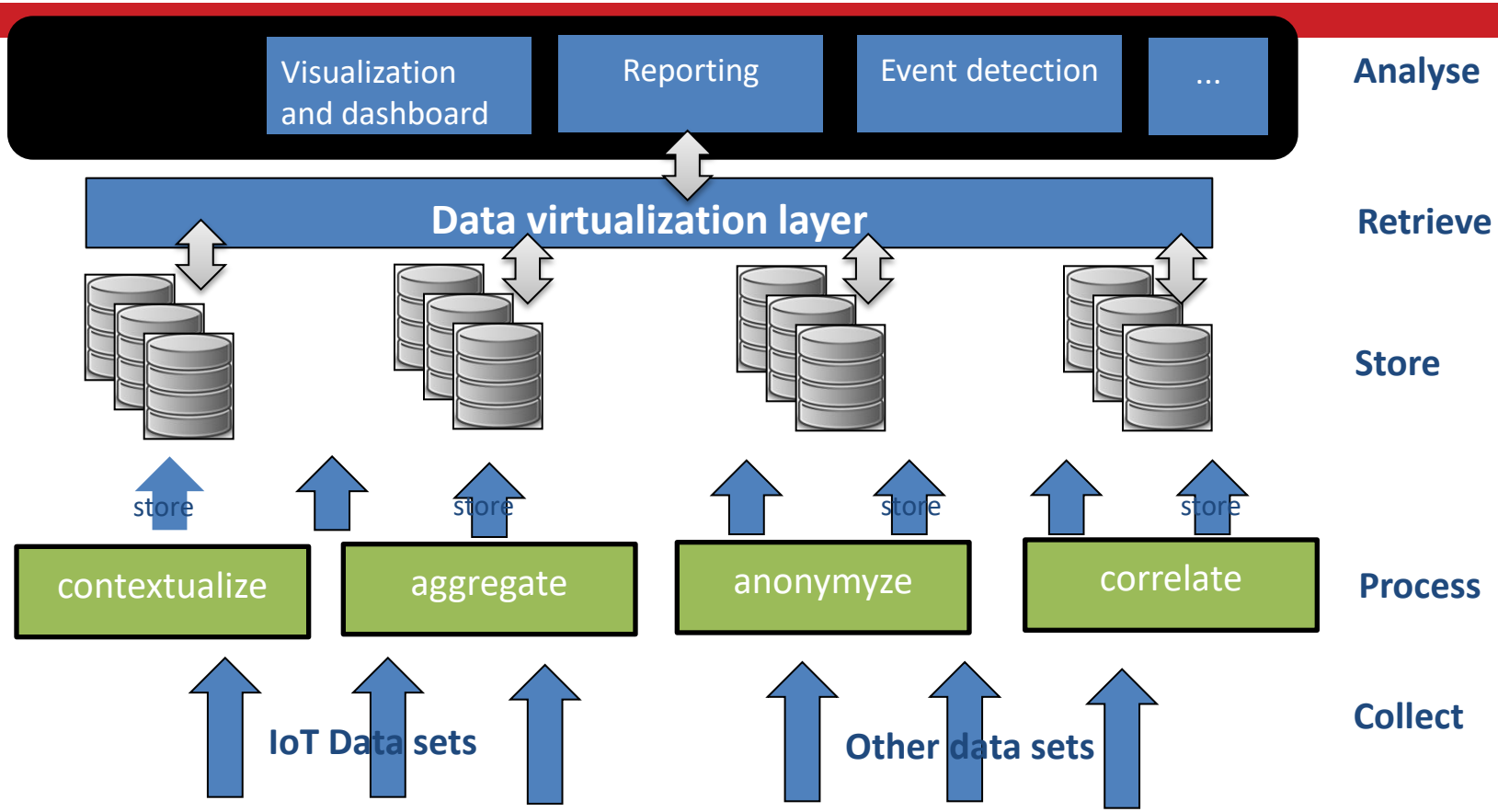
1. Big data service customer (BDC)

Current users
- Municipalities
- Street Operators
- Cooperatives
- Other Industries

2. Big data service customer (BDC)

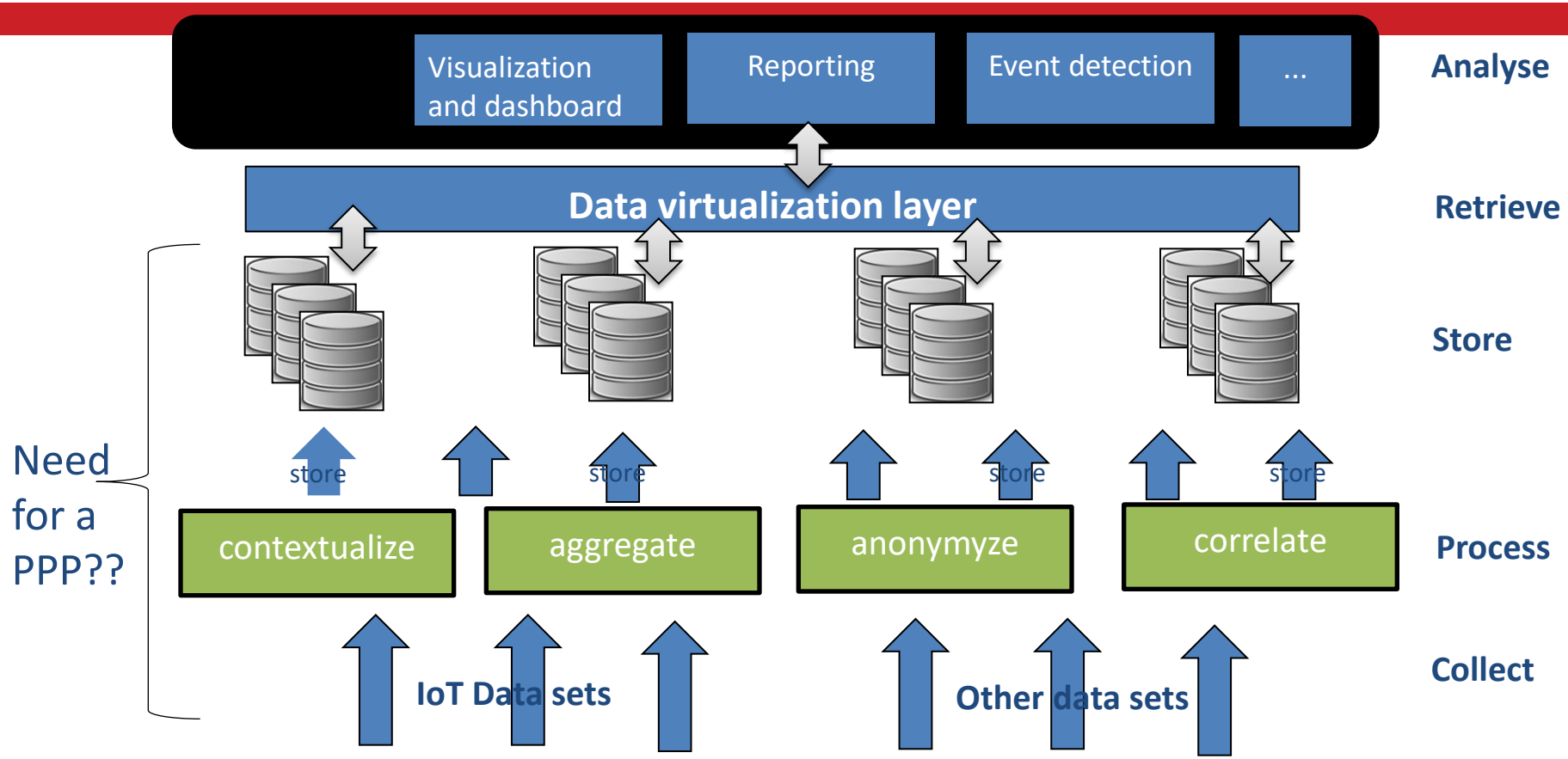
Future end users for **Smart Statistics**
- Prefectures
- National Authorities
- Tax Payers

Possible Technical Architecture?



Source: Omar Elloumi (Nokia)

Possible Technical Architecture?



Source: Omar Elloumi (Nokia)

Supporting Schemas??

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Current EU debate on

1. How can industrial partnerships (such as PPPs) contribute to building platforms?

2. Why Countries need National IOT strategies? What governments must do for building platforms?

3. How to maximise benefits through coordination at European level?

Supporting Schemas??

EU Prioritisations for Large Scale Pilots

Supporting Schemas??

EU Prioritisations for Large Scale Pilots

Top selected use cases

1. Multi-modal mobility and Smart Road Infrastructure (scored 119/125)

2. Smart Agriculture and Food Traceability (scored 115/125)

Supporting Schemas??

Roundtable on Digitising European Industry with Commissioner Oettinger, September 2016

The Roundtable's core objective is to start the process establishing the European Platform of National Initiatives. Among others it aims at:

…

3. Promoting the setup of national initiatives in Member States where there is none yet;

….

Supporting Schemas??

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LIST OF NATIONAL POLICY AND RESEARCH INITIATIVES FOR DIGITISATION OF INDUSTRY

Member State	Program	Objective	Focus	Priorities	Method	Funding
GREECE	???	???	???	???	???	???

Available at
http://ec.europa.eu/information_society/newsroom/image/document/2016-39/160913_background_document_17339.pdf

Supporting Schemas??

WHAT IS THE OPEN GOVERNMENT PARTNERSHIP?

The OGP is a multilateral initiative that aims **to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption, and harness new technologies to strengthen governance.**

Supporting Schemas??

Greece_Commitment 23: Open provision of Geo-data Context

The Ministry of Environment and Energy, following Law 3882/2010 is responsible to centrally coordinate all involved bodies of the **Greek Public Administration** that **manage/produce/provide geospatial data**, so as those data to be provided publicly and open format to all interested parties.

Let’s work together for a Greek Digital Society

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- Contribution to scientific research for producing innovative and original products and services (FP6, FP7, INTERREG-MED, SEE, H2020).
- Member of various EU Alliances
- Existing IoT pilots in the area of Smart Lighting and Smart Farming
- Ties with the majority of Greek National Universities and Research Centers

— Let’s build the future together —

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Thank you for your attention!!

comments and questions tmoysiadis@f-in.gr

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Research Domains

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- **SMART CITY/ROAD/BUILDING SERVICES AND APPLICATIONS (**Advanced communications (including 5G, SDN, NFV, Next generation LTE, WiMAX, Platform development- H/W & S/W- for Indoor/Outdoor parking control and parking assistance,

- **COMMUNICATION COMPONENTS FOR UNMANNED AERIAL/GROUND VEHICLES (**UxV Data links, fast-deployed interoperable network infrastructures incorporating UAVs communication systems, Development of data links for cooperative networking supporting UxV's swarms)

- **DISTRIBUTED COMPUTING ARCHITECTURES AND WEB TECHNOLOGIES (**secure cloud computing platform for critical infrastructures, Intelligent management over cloud infrastructure for user-centric multimedia services)