Andalucía SmartCity

1º Reunión de trabajo "Cooperación Público-Privada para el desarrollo de Proyectos de I+D+i Internacionales"

Ayuntamiento de Málaga

Possible collaborations in the perspective of forthcoming international project calls

Gianluca Fabbri

6th November 2018, Malaga, Spain

Open City IoT smartlab

SeTeL

AgriDrone vision

LINK University CAMPUS

SUMMARY

1. Introduction – The Open City IoT Smart Lab

2. Opportunities in Europe (LIFE & FTI Programs)

3. Example of projects in the Lazio Region:
   -AGRIDRONE VISION – Precision Agricolture
   -ePOP-ZEB – Smart Building

4. Conclusions

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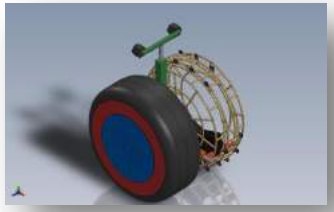
ABOUT MYSELF

Gianluca Fabbri, Ph.D
Electrical Engineer
EU Expert Evaluator
Independent Consultant

- **CEO of DINESTO Srl – Innovative Start Up Spin Off ENEA – POMOS**
- **Head of the Smart Grid & Mobility R&D Unit at LINK CAMPUS UNIVERSITY in ROME**
- **Director of the OPENCITY-IOT-SMARTLAB Scientific Laboratory**
- **Expert Evaluator for the EUROPEAN COMMISSION**
- **Lecturer and Academic expert for various universities**

Research Activities

- Conventional and renewable electrical-energy production systems
- Smart Grids and Smart City
- Hybrid and Electric Vehicles – V2G and G2V
- Internet of Things and Smart Connected Objects
- Open Innovation



Funding Request Activities

- Preparation of project proposals for funding from the EU national and regional programs
- Innovation processes and technology transfer
- Construction of Public and Private Partnerships and Networks for complex collective R&D Projects
- Project Management and Coordination

EUROPEAN COMMISSION

FRAMEWORK PROGRAM FOR RESEARCH AND INNOVATION

Expert Evaluator for the European Commission

European Commission | EASME

European Commission environment

European Commission Research Executive Agency

European Commission | Innovation and Networks Executive Agency

EU Agencies and General Directorates:

Executive Agency for Small and Medium-sized Enterprises (**EASME**)

Innovation and Networks Executive Agency (**INEA**)

Research Executive Agency **(REA)**

DG Research and Innovation

DG Environment

Areas of Expertise:

Smart Green and Integrated Transport

Environment

Fast Track to Innovation

IUC INTERNATIONAL URBAN COOPERATION European Union –Asia

A European Union Programme

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Open City IoT smartlab

Particpation in the last 10 years in many regional, national and EU projects for a total budget of more than ***52 milions of Euro (31 M€ of proposal written and coordinated****).*

Smart Mice Platform: *18 months project Cost: 1.315 M€. POR FESR LAZIO 2014-2020 Number of partners involved: 6*
ePOP-ZEB Zero Emission Building: *18 months project Cost: 896 k€. POR FESR LAZIO 2014-2020 Number of partners involved: 6*
Agridrone Vision: *18 months project Cost: 1.2 M €. POR FESR LAZIO 2014-2020 Number of partners involved: 5*
SSWS-IOT: *Cost: 0,12 M€ Progetti di Grande Rilevanza Internazionali*
E-IMPACT: *Two year EU Number of Partners involved: 11. Cost: 3 M€*
EUCISE 2020: *33 months FP7 funded project 37 partners. Cost: 17.53 M €.*
HI-ZEV: *Progetto triennale Cost : 9M€.*
HI-QUAD: *Progetto triennale Costo : 12M€.*
FEMAG-T: *Progetto biennale. Costo : 0,6 M€*
ECO-CHASSIS: *Progetto biennale Cost : 0,6 M€.*
ROTOLION: *Costo 4.3 M €.*
VENTOTENE ISOLA A EMISSIONE ZERO:*. Cost: 0,3 M€.*
PRESS4TRANSPORT: *Cost 0.8 M€.*
DINESTO: *Spin Off Innovativo Cost: 150.000 €.*

52 M€

31 M€

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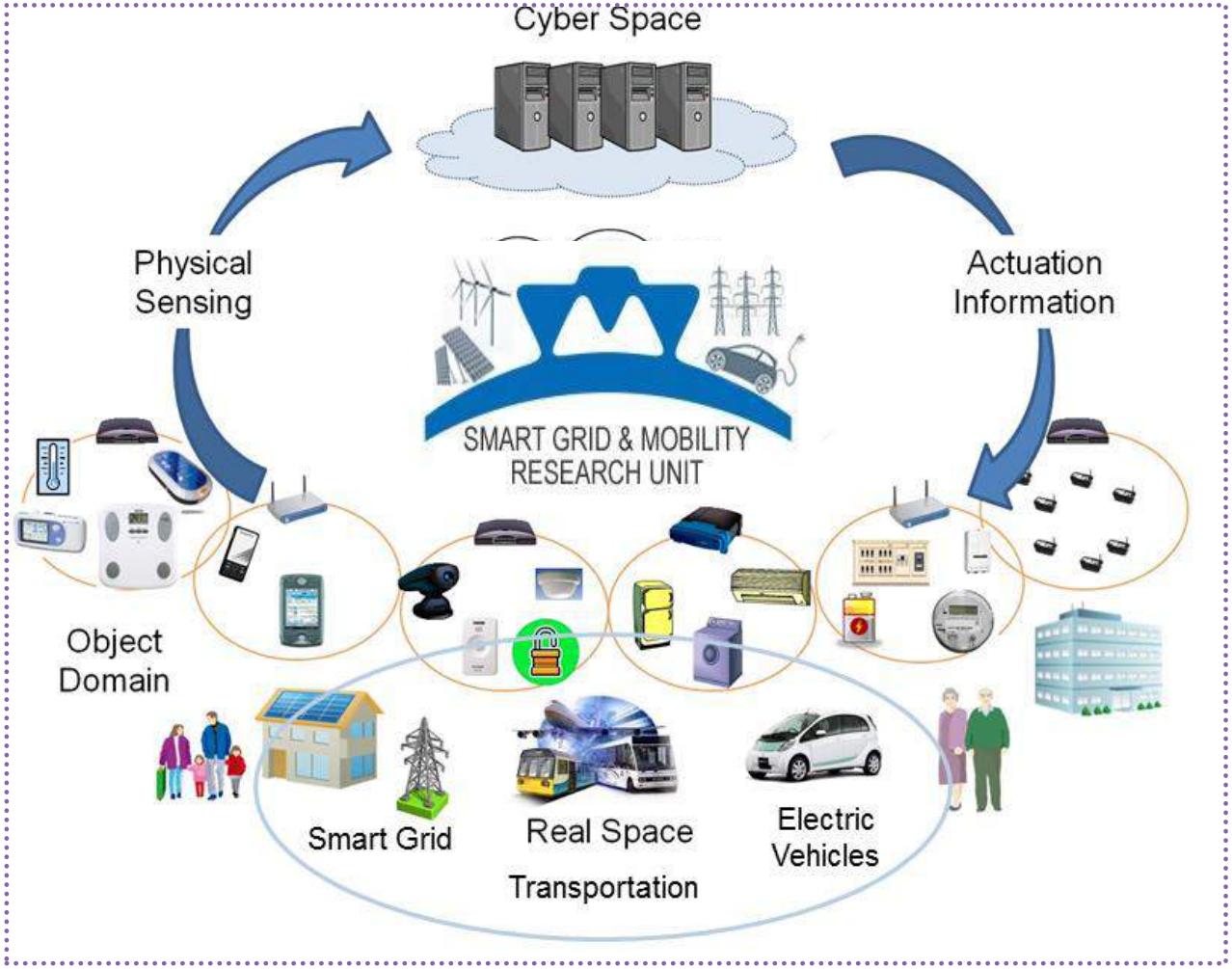
SMART GRID AND MOBILITY RESEARCH UNIT



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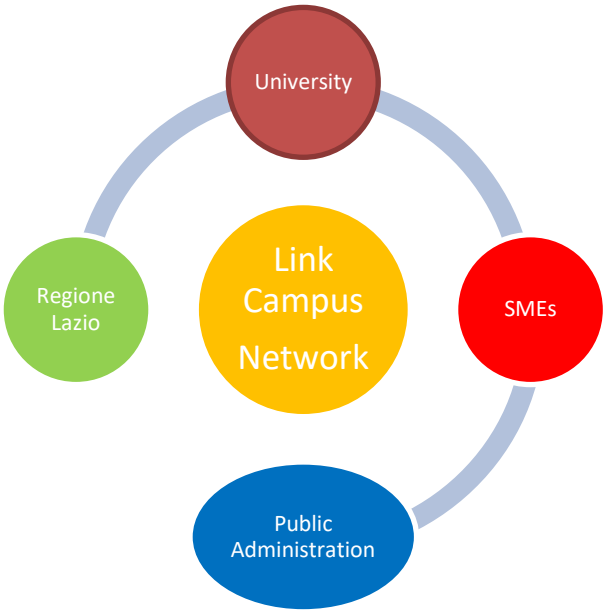
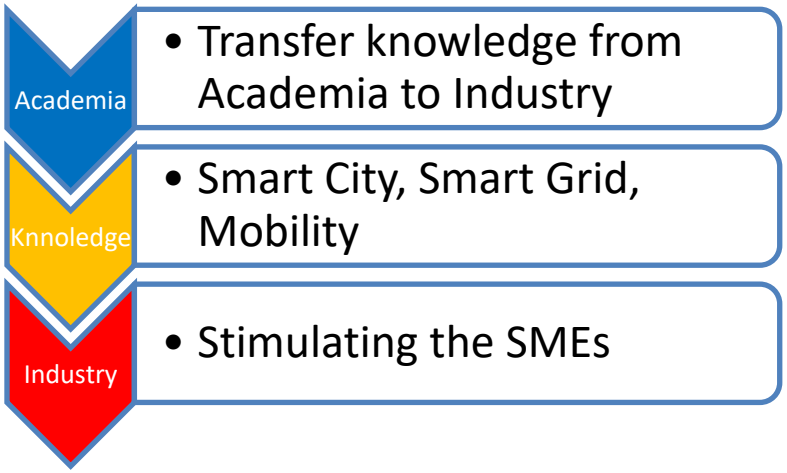
Technological Transfer at the Smart Grid and Mobility Unit

The Unit acts as a connection point for the interaction of different subjects (Academia, industries, Lazio Region, Municipalities, Public administration), which constitute a network of subjects interested in the sector of Smart City, Smart Grid and Sustainable Mobility.



SMART GRID & MOBILITY RESEARCH UNIT



The main aim of the Unit is the **Transfer of Knowledge** from the academia to the industry, stimulating the Small and Medium Enterprises involved in the research sectors.

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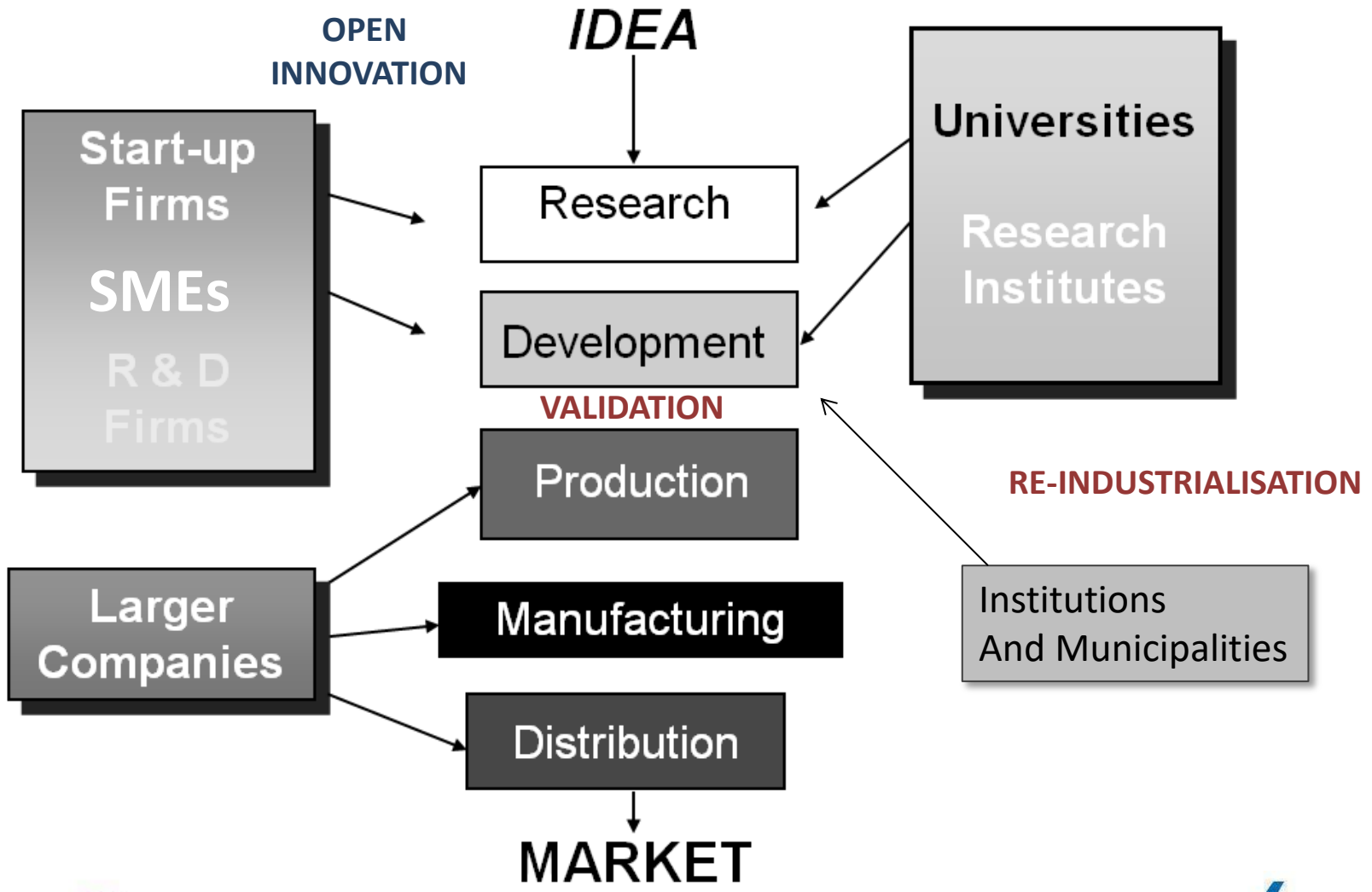
SMART GRID & MOBILITY RESEARCH UNIT

Construction of Public and Private Partnerships and Networks for complex collective R&D Projects



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Main partner companies

Main partner companies

Main partner companies

ONGOING PROJECTS

dHOME

SMART TUNNEL

HOME CARE4ALL

FI-WARE

e-IMPACT
E - FREIGHT IMPLEMENTATION ACTION

logicos

Exhi+
Exhibition Plus

smart

ART OBLIVION

BREAK-in the DESK

SPAC3

tivibuy

DECODE

AgriDrone vision

ePop zeb

SMART MICE INTERNATIONAL

Open City
IoT smartlab

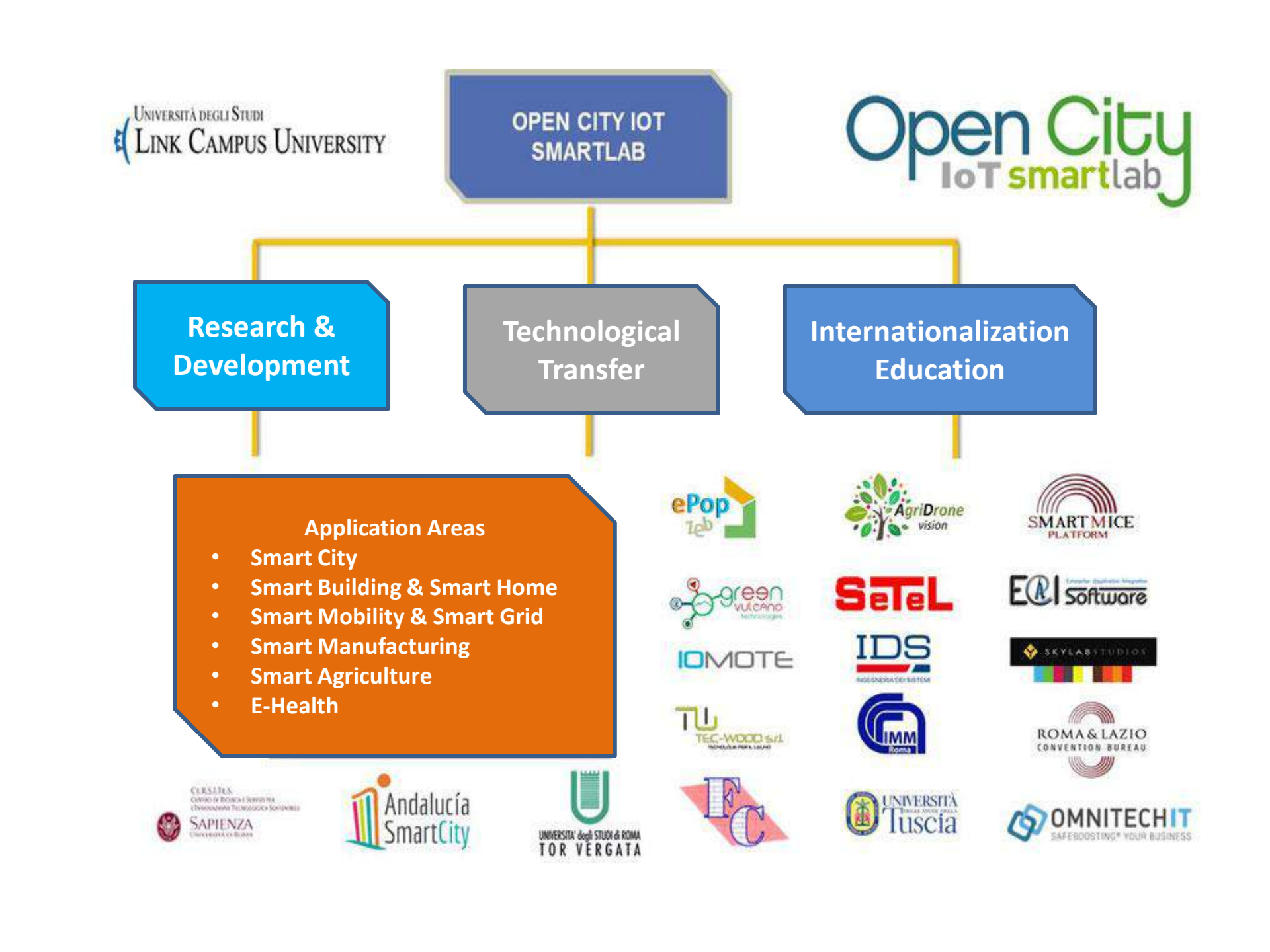
LINK CAMPUS University

Open City
IoT smartlab

The Open City IoT Smart Lab is a laboratory dedicated to research in the field of Smart City and IoT.

Primary objectives

- Organization of conferences, events and seminars
- Strategic alliances with highly innovative companies and universities for the implementation of joint research activities
- Internationalization and dissemination of scientific results.


Università degli Studi
Link Campus University
OPEN CITY IOT SMARTLAB
Open City
IoT smartlab
Research & Development
Technological Transfer
Internationalization Education
Application Areas
Smart City
Smart Building & Smart Home
Smart Mobility & Smart Grid
Smart Manufacturing
Smart Agriculture
E-Health
ePop
AgriDrone vision
SMART MICE PLATFORM
green VULCANO
SeTeL
ECI Software
IOMOTE
IDS
SKYLAB STUDIOS
TEC-WOOD S.r.l.
IMM Roma
ROMA & LAZIO CONVENTION BUREAU
CERSITAS
Sapienza
Andalucía SmartCity
Università degli Studi di Roma Tor Vergata
FC
Università della Tuscia
OMNITECHIT
SAFEBOOSTING® YOUR BUSINESS

Unione europea

REGIONE LAZIO

FONDO EUROPEO DI SVILUPPO REGIONALE 2014 2020 POR PROGRAMMA OPERATIVO REGIONE LAZIO

The laboratory was born thanks to the participation to three regional projects for a total budget of 3.6 M€ in 18 months

Agridronevision

OBJETO: Demostrar el impacto en términos de reducir la emisión de gases de efecto invernadero y de protección del suelo en viticultura, mediante la aplicación de técnicas avanzadas de precisión, combinada con el uso de drones y sensores aéreos y terrestres.
SE BUSCA: Productores de maquinaria agrícola, Empresas de IoT, Empresas de drones, universidades, Productores vitivinícolas.
PROGRAMA: LIFE (fecha límite del concept note junio 2019)
PROGRAMA: FTI (fecha límite del proposal 21 febrero 2019, 23 Mayo 2019, 22 octubre)

ePOP-ZEB Zero emission building

OBJETO: Integración de soluciones constructivas innovadoras relativas a estructuras de madera modulares, energía renovable y TIC que contribuyan al objetivo de Energía Zero.

SE BUSCA: Arquitectos, Municipalidades, Universidades, Empresas de IoT o pymes domóticas.
PROGRAMA: LIFE (fecha límite del concept note junio 2018)
PROGRAMA: FTI (fecha límite del proposal 21 febrero 2019, 23 Mayo 2019, 22 octubre)

Smart city planning by systemic approach

OBJETO: Introducir el concepto de “sistema” en la planificación de una ciudad inteligente, de forma que la ciudad puede asimilarse a un sistema complejo subdividido en los subsistemas principales básicos en base a los cuales puedan identificarse los componentes de inteligencia de la ciudad..

SE BUSCA: Urbanistas, Universidades, Proveedores de tecnología, etc.

PROGRAMA: *Pendiente*

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CLOSE TO MARKET INNOVATIONS

The Fast Track to Innovation (FTI) is a fully-bottom-up innovation support programme promoting **close-to-the-market** innovation activities open to industry-driven consortia that can be composed of all types of participants.

CREATE NEW MARKETS

It can help partners to **co-create and test breakthrough products**, services or business processes that have the potential to revolutionise existing or create entirely new markets.

ANY AREA OF TECHNOLOGY

FTI provides funding for bottom-up proposals for close-to-market innovation activities in any area of technology or application.

TRANSDISCIPLINARY AND CROSS SECTORIAL COOPERATIONAL

Possibility for all kinds of innovation actors to work together and deliver innovation onto the market and/or into society with trans-disciplinary and cross-sectoral cooperation.

FTI's aim is to:

- ***reduce time from idea to market,***
- ***stimulate the participation of first-time applicants to EU research and innovation funding***
- ***increase private sector investment in research and innovation.***

Proposals for funding must be submitted by consortia comprising between three and five legal entities established in at least three different EU Member States.

Actions are to be 'business-driven' because they are intended to give breakthrough innovation ideas the last push before shaking up the market.

Three to five legal entities in three different EU states

Substantial industry involvement in FTI actions is mandatory to ensure quick market take-up ('quick' meaning within a three-year period after the start of the FTI-action). This industry involvement implies:

- either the **allocation of at least 60% of the budget to industry participants** in the consortium,
- or the **presence of a minimum number of two industry participants** in a consortium of three or four partners,
- or of three industry participants in a consortium of five partners.

On average, there were about 333 proposals per cut-off date in 2015-2016.

Less than 5% (15-16 proposals) per cut-off date were selected for funding.

Deadline of cut-offs *All deadlines are at 17.00.00 Brussels local time*
21 February 2018
31 May 2018
23 October 2018
---
21 February 2019
23 May 2019
22 October 2019
---
19 February 2020
09 June 2020
27 October 2020

EU funding levels:
70% of the eligible costs

Maximum EU contribution:
EUR 3 million

Time-to-grant for participants is targeted to be **six months at most**.
As for other innovation actions, EU funding levels are fixed at 70% of the eligible costs.
The maximum EU contribution per action amounts to EUR 3 million.

The LIFE programme is the EU's funding instrument for the **environment and climate** action.

The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental and climate policy and legislation by co-financing projects with European added value

The European Commission (**DG Environment and DG Climate Action**) manages the LIFE programme.

The Commission has delegated the implementation of many components of the LIFE programme to the Executive Agency for Small and Medium-sized Enterprises (**EASME**).

Date or period	Activity
18 April 2018	Call publication
12/14 June 2018	Deadline for applicants to submit concept notes to the Contracting Authority
October 2018	Notification to the applicants, shortlisted applicants invited to submit full proposal
End January 2019	Deadline to submit full proposals
January to June 2019	Evaluation and revision of the proposals
July - September 2019	Signature of individual grant agreements
1 July 2019	Earliest possible starting date

LIFE Environment & Resource Efficiency will co-finance action grants for **pilot and demonstration projects** to develop, test and demonstrate **policy or management approaches**, **best practices** and **solutions**, including development and demonstration of **innovative technologies**, to environmental challenges, suitable for being replicated, transferred or mainstreamed, including with respect to the link between the environment and health, and in support of resource efficiency-related policy and legislation.

They are particularly looking for **close-to-market** projects that:

- Propose a new, demonstrative solution able to bring clear environmental and/or climate benefits e.g. in the fields of waste management, circular economy, resource efficiency, climate change mitigation, and water
- Have a level of technical and business readiness allowing them to implement their solution in close-to-market conditions (i.e. at industrial or commercial scale) during the project duration.

The LIFE programme can provide up to **60% co-financing** to such projects.

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PROJECT 1

AgriDrone vision

Unione europea

REGIONE LAZIO

SeTeL

IDS INGEGNERIA DEI SISTEMI

WeDIBAF Department for Innovation in Biological, Agrofood and Forest systems

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IMM Roma

The **Agridrone Vision** project focuses on the development of **an Innovative Integrated System for Precision Farming**.

The system integrates innovative technologies like autonomous aerial and terrestrial drones platform, monitoring system and dedicated software and a multi sensors platform.

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1.2 M€ in 18 months

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BUSINESS OPPORTUNITIES IN PRECISION FARMING

- In recent years the agriculture industry has faced major challenges.
- Driven by a growing population and economic growth especially in developing countries, the global demand for agricultural products is rising.
- At the same time supply capabilities are shrinking due to reduced land availability and climate changes.
- In addition, the industry encounters increased governmental food regulations targeting a more sustainable, secure and transparent agriculture industry.
- Enabling the agriculture industry to meet tomorrow's challenges, Precision Farming has evolved into the catchphrase for various methods and practices.

https://agridronevisual.jimdo.com/

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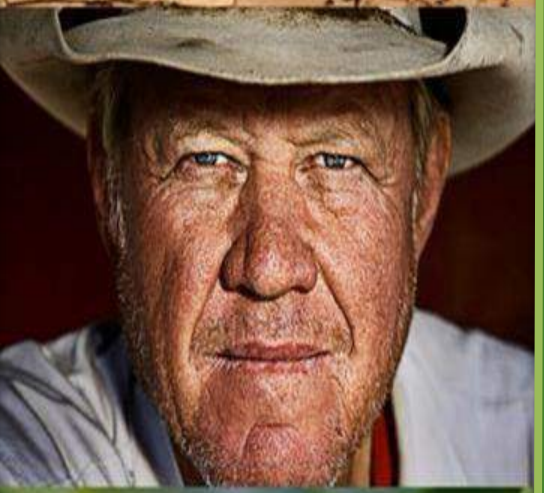
AGRIDRONEVISION SOLUTION

- We provide **data analytics** for precision agriculture
- Use of aerial and terrestrial **drones**
- Allows precise monitoring of **crop health**
- Integration of HW/SW solutions for rate variable agricultural machines
- Current focus on **vineyards, olive groves and kiwi**

AgriDrone vision

PROBLEM



- Food demand will increase 70% by 2050
- Farming is still very inefficient:
  - Yield per hectare can vary 400% within single field
  - $20B in fertilizer is wasted each year
  - 10-20% yield increase potential in EU and US crops
  - Diseases cause $33B in crop loss despite $12B spent on pesticides

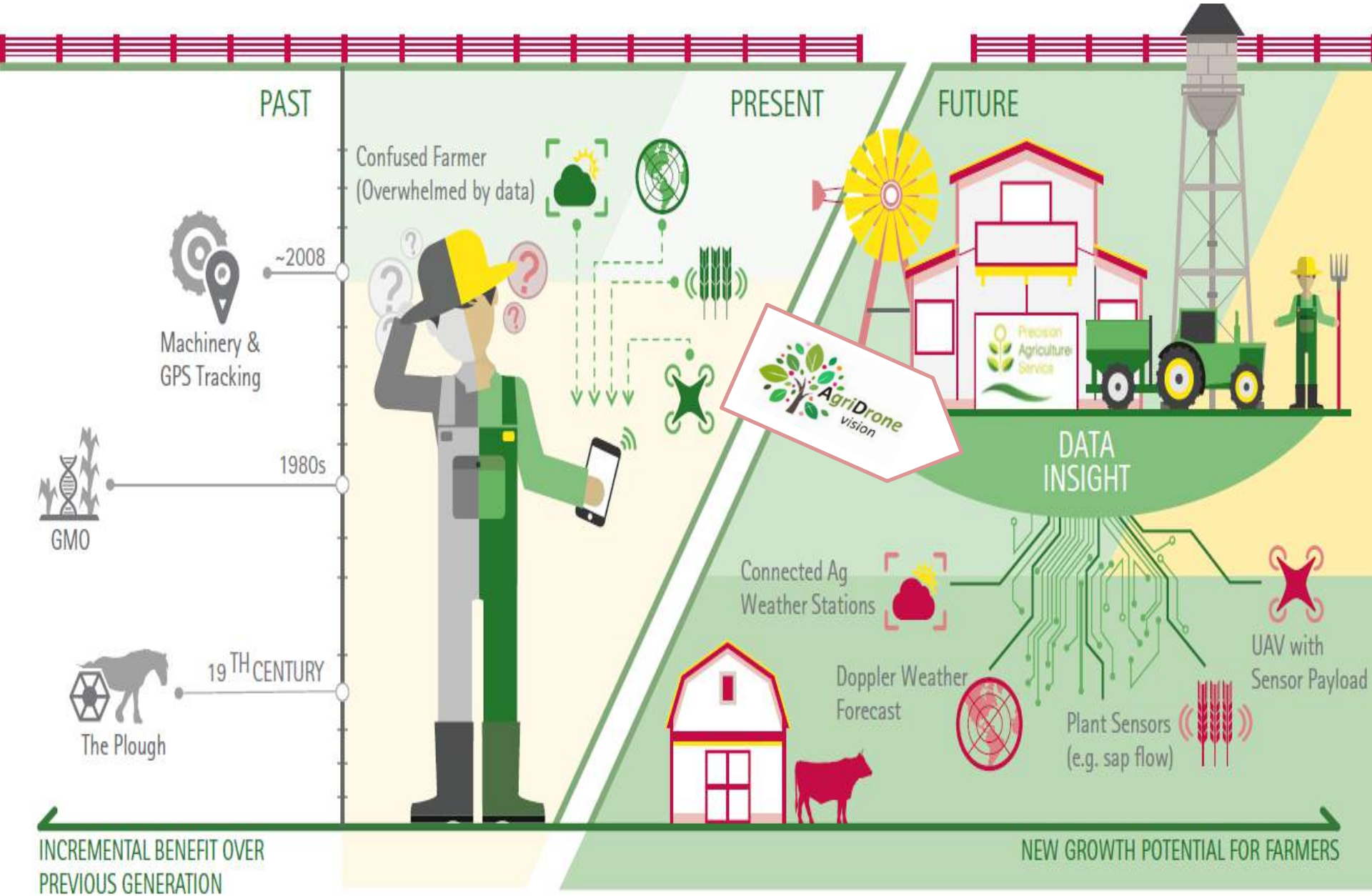
TECHNOLOGY

AgriDroneVision Integrates innovative technologies:

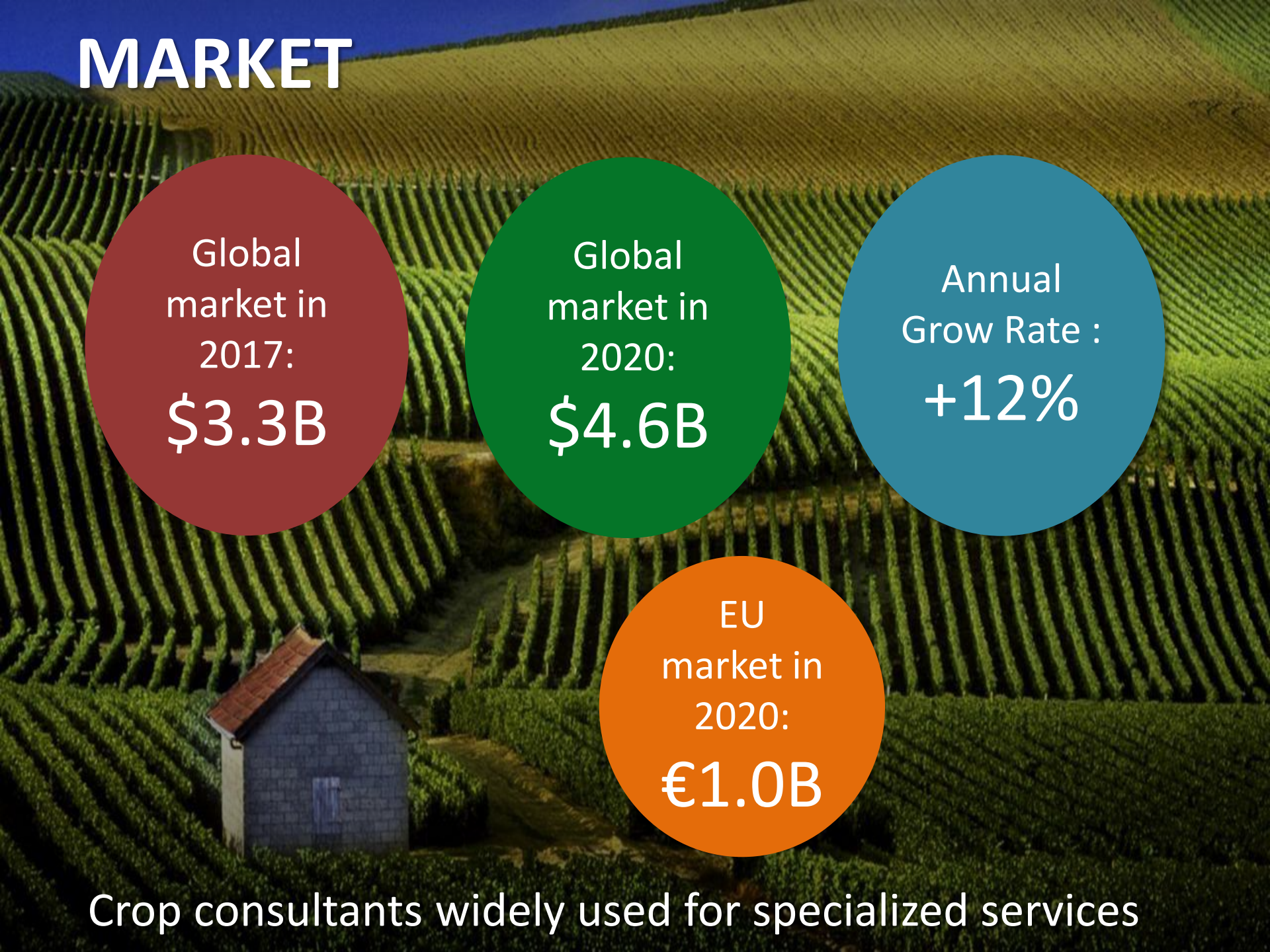
- **Autonomous Aerial and Terrestrial Drones platform**
- **Monitoring system and dedicated software**
- **Multi sensors platform**

Main focus on high quality imaging data

THE EVOLUTION OF (PRECISION) AGRICOLTURE



MARKET

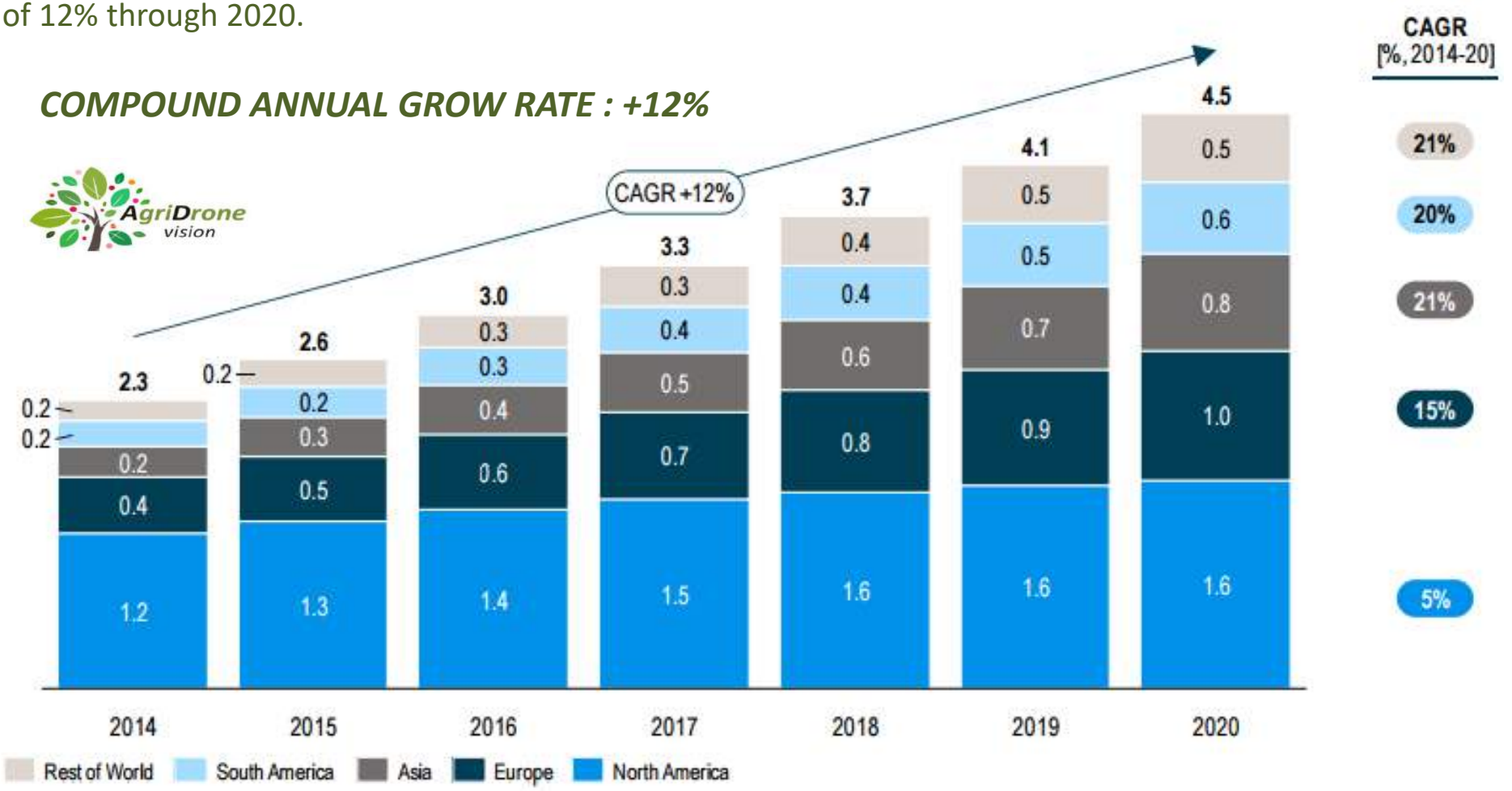


Crop consultants widely used for specialized services

GLOBAL MARKET DEVELOPMENT OF PRECISION AGRICOLTURE 2014-2020 (bilion euros)

The market for Precision Farming is a growth market.
Including hardware and software, it amounts to EUR 2.3 bn in 2014 and is expected to grow with a CAGR of 12% through 2020.

COMPOUND ANNUAL GROW RATE : +12%



The Precision Farming market's potential is highlighted by a comparison with the global agricultural equipment market, which is growing at a far slower pace with a CAGR of 4% to 2.4 million vehicles in 2020.

VISION

Leading platform for crop-specific data analytics

- Establish leadership position early in vineyards, olive groves and kiwi
- Offer set of diagnostic software and decisional tools
- Scale **Agri DroneVision** technology to other crops
- Integrate with other data platforms (weather, ground sensors, farm inputs)

LIFE-WinegRover

LIFE Environment and Resource Efficiency

LIFE multiannual work programme for 2018-2020

AgriDrone Grapes

PROPOSAL FOR THE CONCEPT NOTE

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“Pilot projects" means projects that apply a technique or method that has not been applied or tested before, or elsewhere, and that offer potential environmental or climate advantages compared to current best practice and that can subsequently be applied on a larger scale to similar situations;

“Demonstration projects” means projects that put into practice, test, evaluate and disseminate actions, methodologies or approaches that are new or unknown in the specific context of the project, such as the geographical, ecological, socio-economic context, and that could be applied elsewhere in similar circumstances;

Quantification of environmental benefits

The improved performances/advantages introduced by the proposed solution must be quantified in terms of the expected environmental benefits. **KEY IMPACT & PERFORMANCE INDICATORS**

The **LIFE AGRIDRONEGRAPES** Project

The **LIFE WINEgROVER** Project objective is to demonstrate how the application of advanced techniques in precision farming for viticulture, combined with the use of different drones and sensors, can have an important effect in terms of reducing greenhouse gases and soil protection.

Moreover the use of a **terrestrial drone (rover)** will improve the land use thanks to the possibility to exploit the space limits of lands with **slopes** (ideal for wines of excellent quality but little exploited due to soil difficulties and dimensions).

The project regards the realization of **Pilot Plants in 3 different sites in Italy, Spain and Portugal** having different characteristics.

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The **LIFE AGRIDRONEGRAPES** Project

[unique agricultural heritage designed by FAO]

Specific objectives of the project

1) Verify and demonstrate the effective potential of precision farming techniques for viticulture in terms of **energy saving** and **greenhouse gas reduction**.

2) Analyze the efficiency of the innovative system, enhanced by precision farming devices which **reduce CO2 emissions** and comparing the results with **traditional methodologies**.

3) Examine the suitable scenarios for the diffusion of such techniques in different Italian, Spanish and Portuguese agricultural contexts.

4) Assess the threshold of economic convenience and environmental benefits.

5) Assess through analytical models based on “ground, machine, climate” data and Life Cycle analysis (LCA) the long term effects of the experimented technologies introduced.

Specific objectives of the project

6) Diffuse what examined and proven by tests, not only in the pilote sites, to encourage the diffusion of such technologies and techniques in Europe (targeted countries: France, Romania, Greece, Germany).
7) Define and disseminate standards of intervention for the application of Precision Agricolture in the various phases of the vine production cycle and in all production systems (conventional, organic and biodynamic), replicable also at European level;
8) Improve consumer health protection: creating growth and development conditions suitable for crops in order to detect improvements in terms of endurance, healthiness and plant production.
9) Enter the market with a new product **GO TO MARKET PROJECT**

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Examine the suitable scenarios for the diffusion of innovative techniques in different Italian, Spanish and Portuguese agricultural contexts.

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Grapes

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Brumi®

UNIVERSITÀ DEGLI STUDI DELLA Tuscia

DIBAF
Department for Innovation
in Biological, Agrofood and Forest systems

INOVA+

Andalucía SmartCity

Casa Maschito

VASSALLO
FATTORIA DI SICILIA

SYMINGTON
Family Estates

dimobe S.L.
Bodega A. Muñoz Cabrera

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Open City
IoT smartlab

SOLUTION:PRECISION AGRICULTURE

By generating detailed **insights**, farmers can make **model-based decisions** guided by **hardware and software expert systems** that will **optimize yield** and boost revenue while **minimizing expenses** and the chances of crop failure

PRECISION FARMING DEFINITION

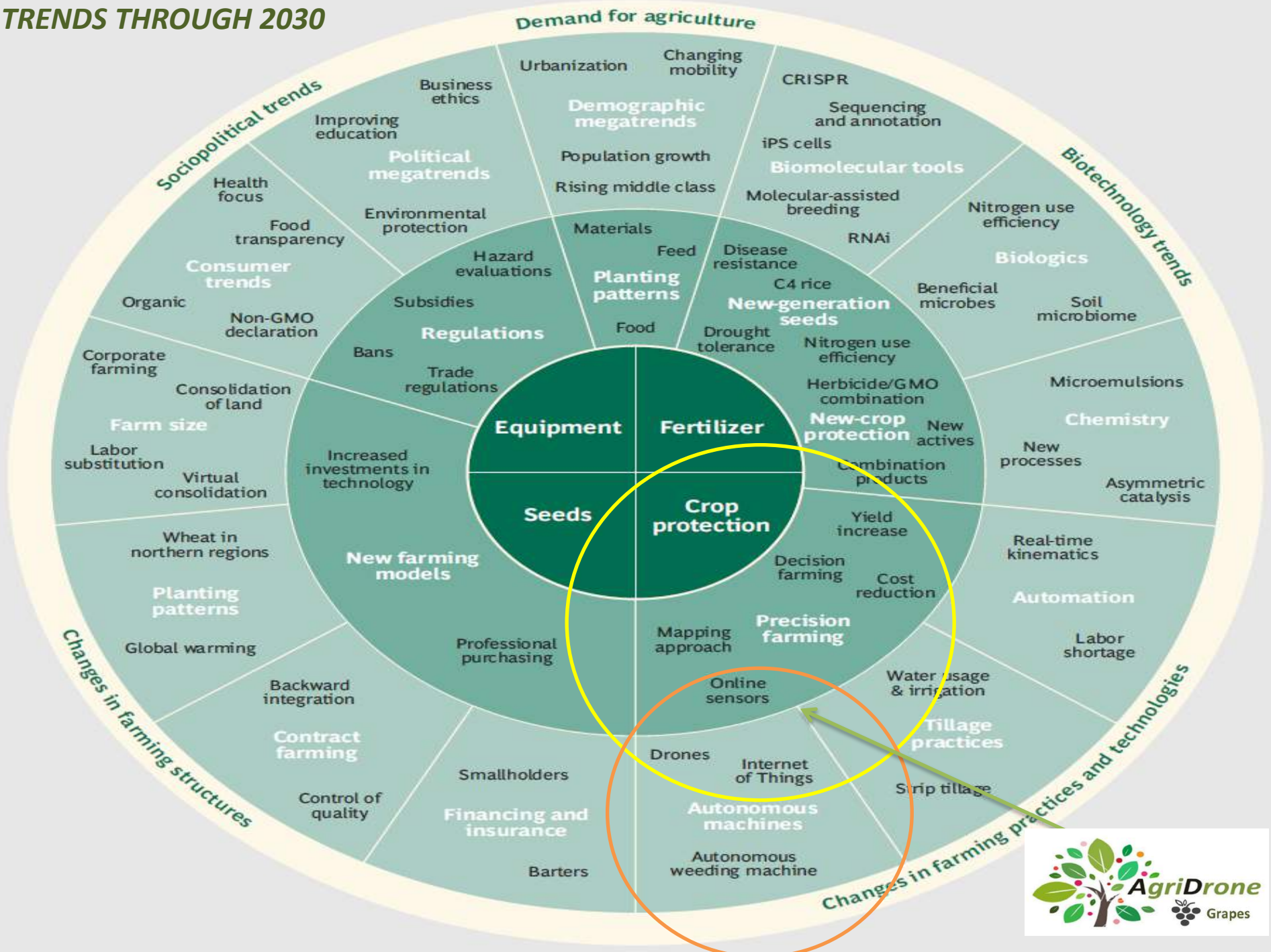
Based on our market understanding we derived a comprehensive definition for Precision Farming.

Precision Farming involves a broad range of technologies that can be clustered into robotics and automation technology, imagery and sensors, digitization and big data as well as bio-engineering.

All of these technologies are interlinked via connectivity.

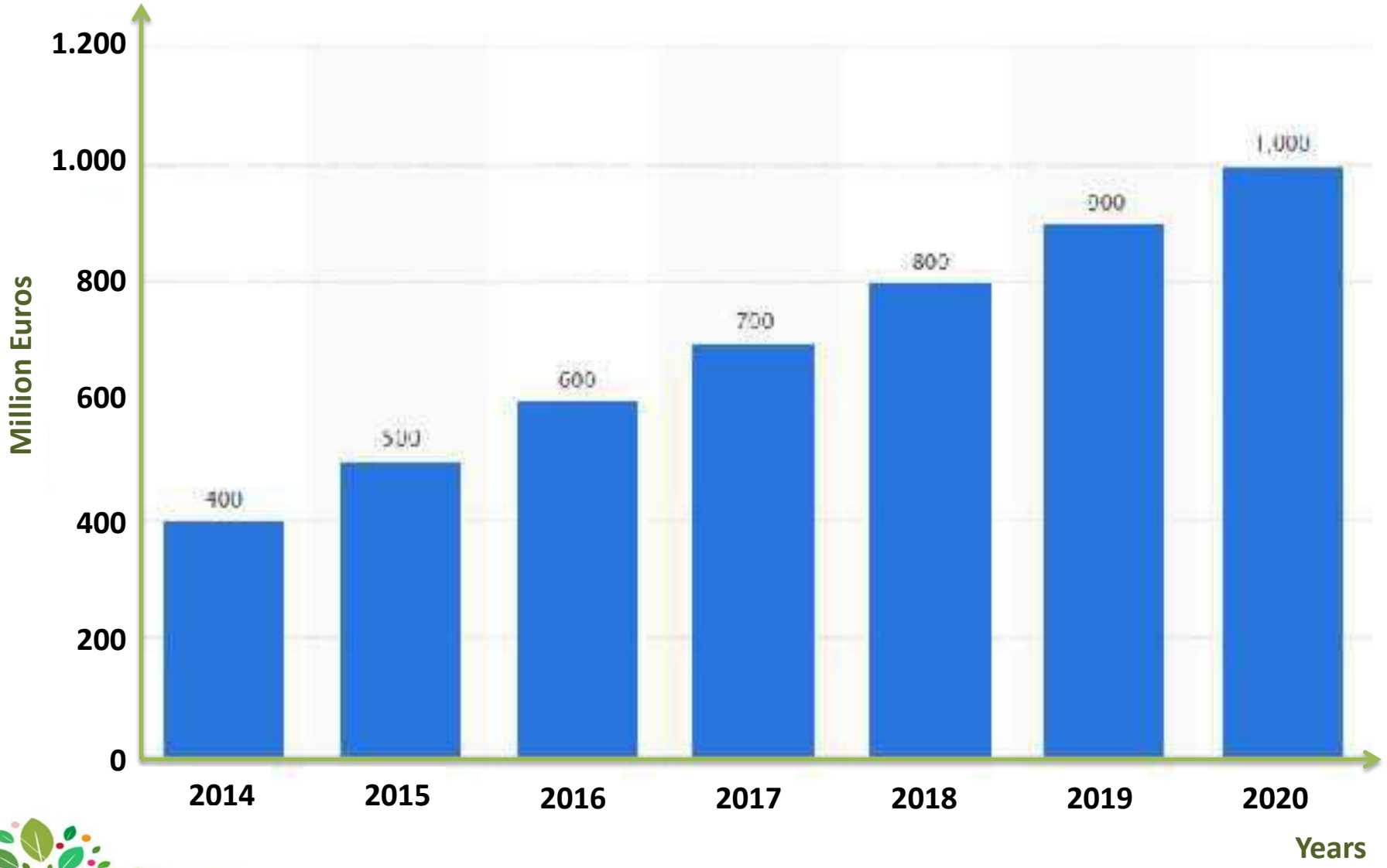
- **Robotics and automation technology:** Autonomous operations are enabled by automated steering technology and high precision positioning systems as well as integrated electronic communication systems
- **Imagery and sensors:** Data for evaluation purposes of soil and crop health, etc. is collected via sensors, remote sensing systems and geo-mapping
- **Digitization and big data analysis:** Data is analyzed in order to improve climate and soil predictions, performance optimization of equipment as well as remote control in field monitoring
- **Bio-engineering:** Seeds and chemicals are selected based on external conditions and evolution of seeds to enforce resistance to specific farm and/or climate conditions

TRENDS THROUGH 2030



AgriDrone Grapes

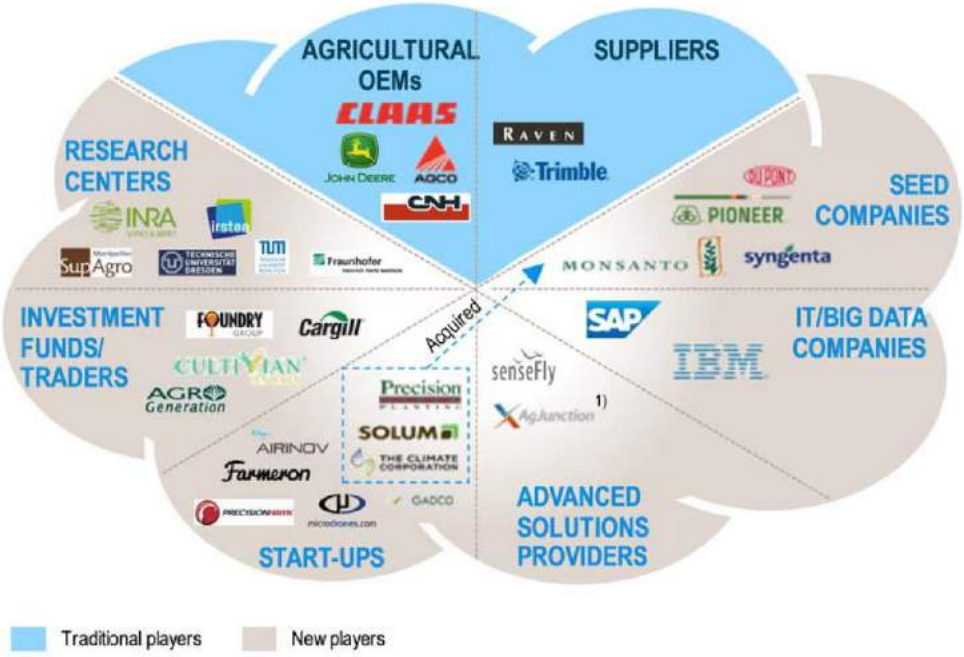
EUROPEAN MARKET ESTIMATION OF PRECISION AGRICOLTURE 2014-2020 (million euros)

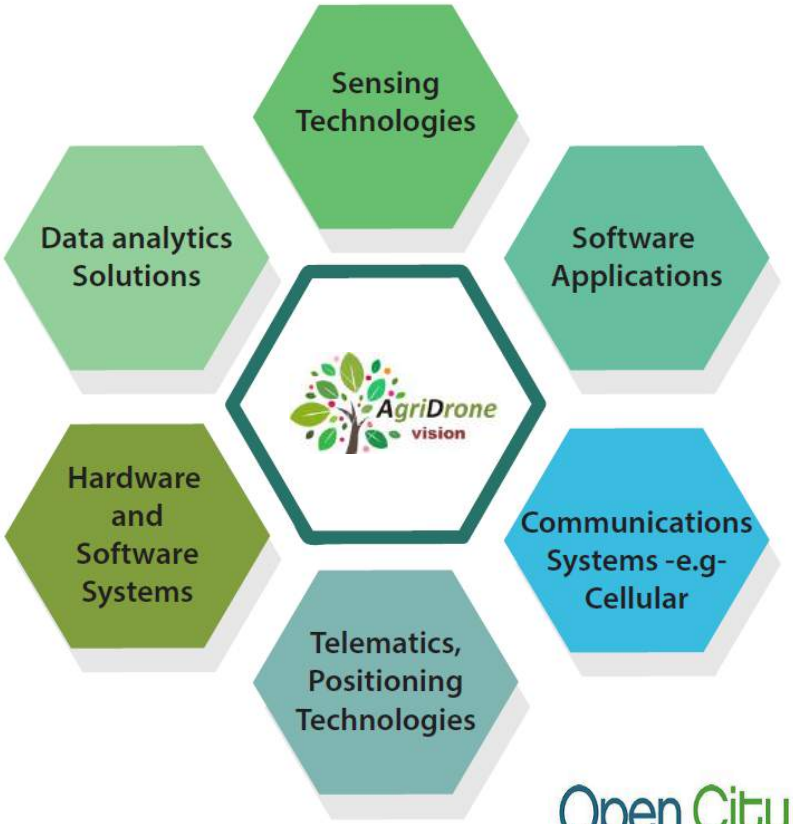


AgriDrone
Grapes

IMPACT OF TECHNOLOGY ON MARKET PLAYERS

Traditionally the market for agricultural equipment and business solutions has been dominated by agricultural OEMs and suppliers.
In recent years the (r)evolution of technology such as data analytics and software solutions has offered completely new market opportunities for non- traditional players.
The main market players for Precision Farming technologies can therefore be segmented into eight categories.





THE PLAYERS

The current market is still dominated by traditional companies but new, disruptive players are increasingly entering the market and strengthening their market position. Each type of market player has a dedicated offering:

1. **Agricultural OEMs:** Traditional agricultural OEMs offering both hardware (machinery sensors) and software solutions.
2. **Suppliers:** Traditional suppliers providing a broad portfolio of advanced components (auto-steering, planting, etc.) as well as spare parts for the original equipment and aftermarket.
3. **Seed companies:** Seed companies are increasingly moving upstream in the value chain and extending their offerings into advisory and insurance services.
4. **IT/big data companies:** Large global IT infrastructure providers are beginning to offer big data analysis and software solutions for Precision Farmi g technologies.
5. **Advanced solutions providers:** These providers offer high-tech solutions like drones, sensors and control systems that support the application of Precision Farming technologies.
6. **Start-ups:** The start-up scene concentrates on the development of smart devices and apps.
7. **Investment funds/traders:** Private fund/trading companies focus on farmland investments and commodity financial trading.
8. **Research centers:** Universities and research centers publish studies and develop prototypes of future applications.

TECHNOLOGY ROAD MAP

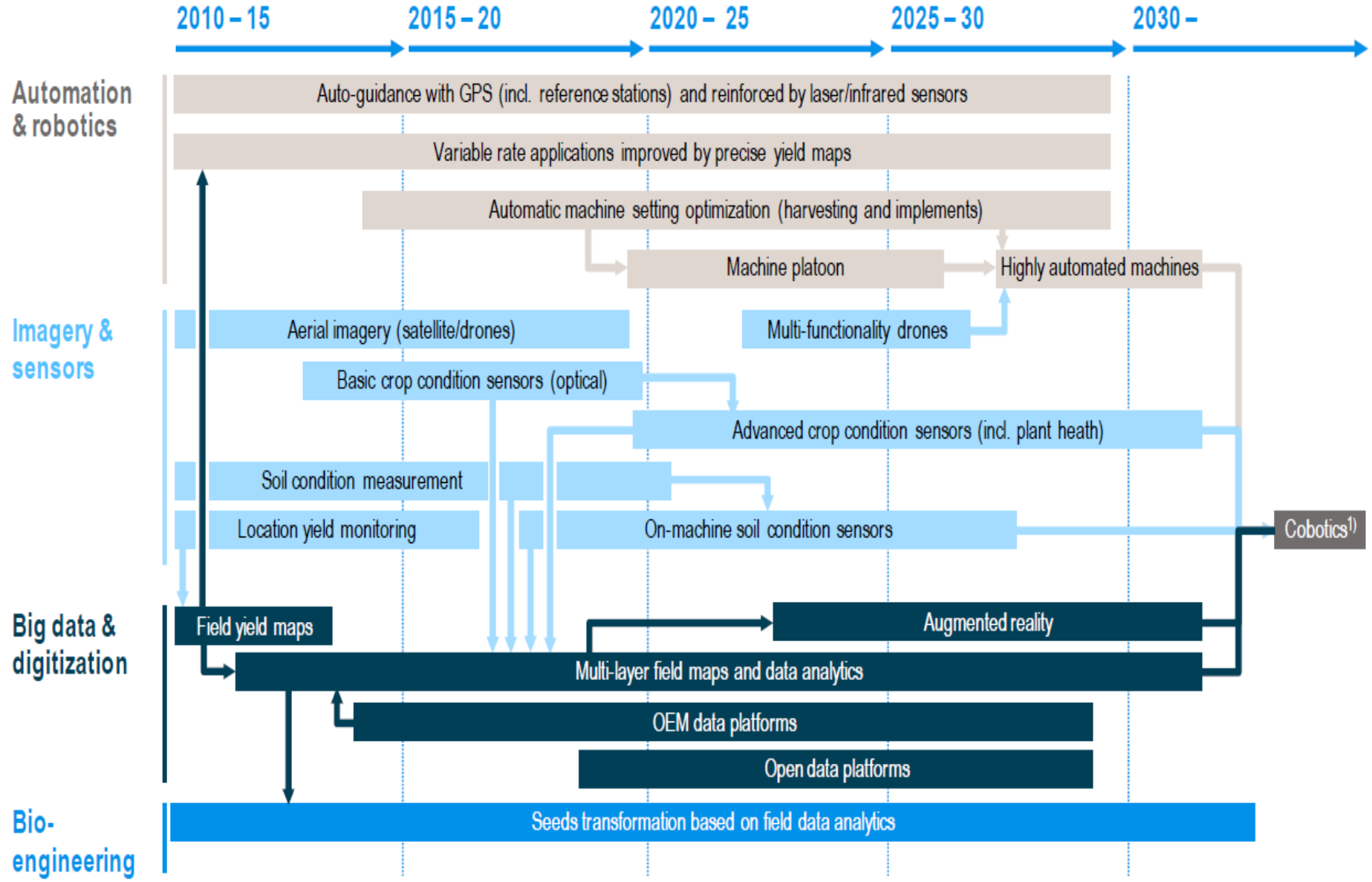
- New players will increasingly strengthen their position and find their niche in the market.

- New players have the chance to co-develop or combine single technologies, occupy strategic control points in the value chain and benefit from the new value pockets.

- To identify the most promising technologies we developed a technology roadmap through 2030 of all major Precision Farming technologies.
-
- The technology roadmap predicts all developments driven by enhanced connectivity.

- Farming processes will be further automated, the application of imagery and sensors will increase, big data and digitization will become more important and bio-engineering will be further developed.

TECHNOLOGY ROAD MAP



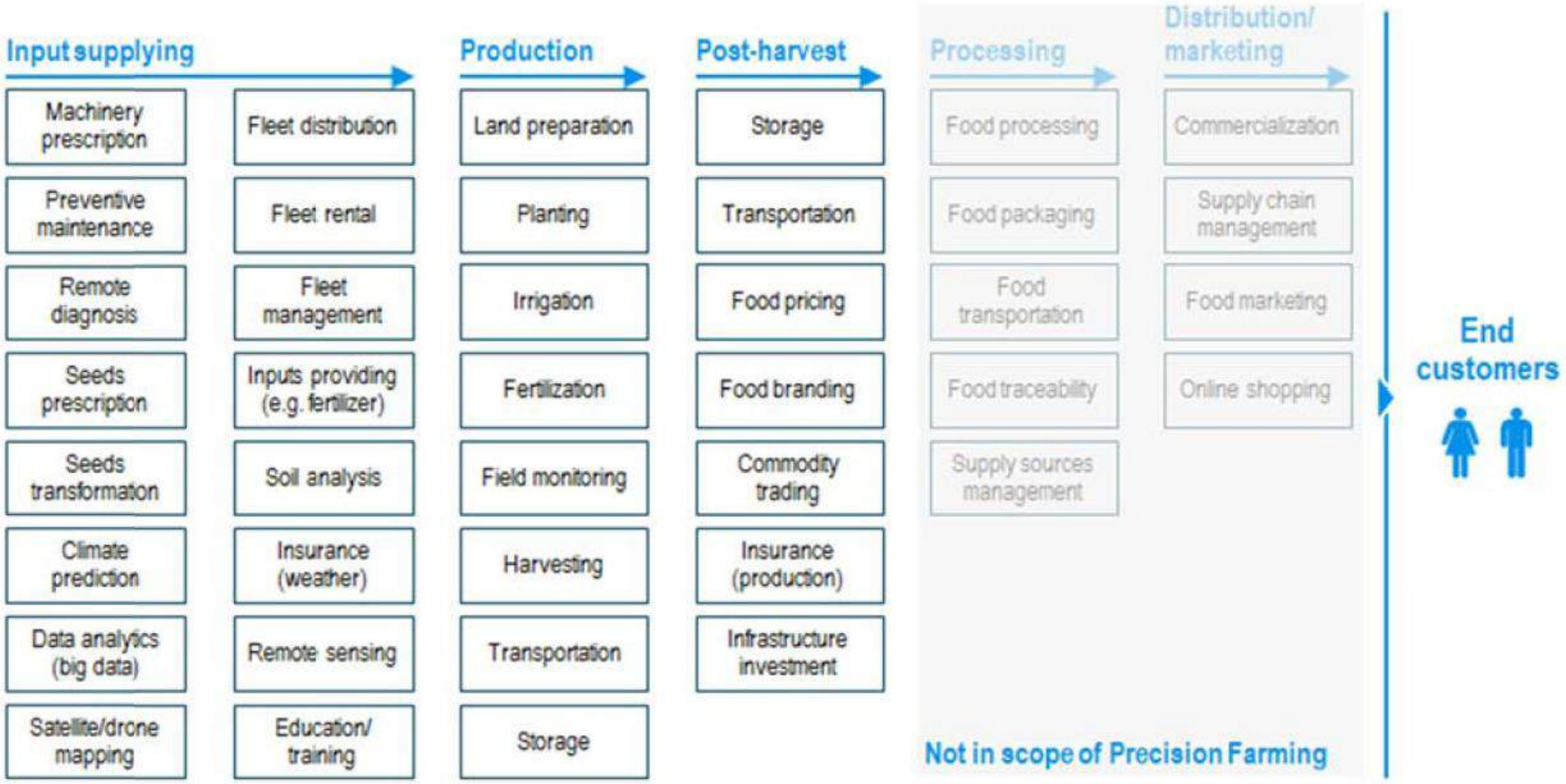
1) Collaboration of humans and machines

NEW BUSINESS OPPORTUNITIES ARISE ON THE VALUE CHAIN

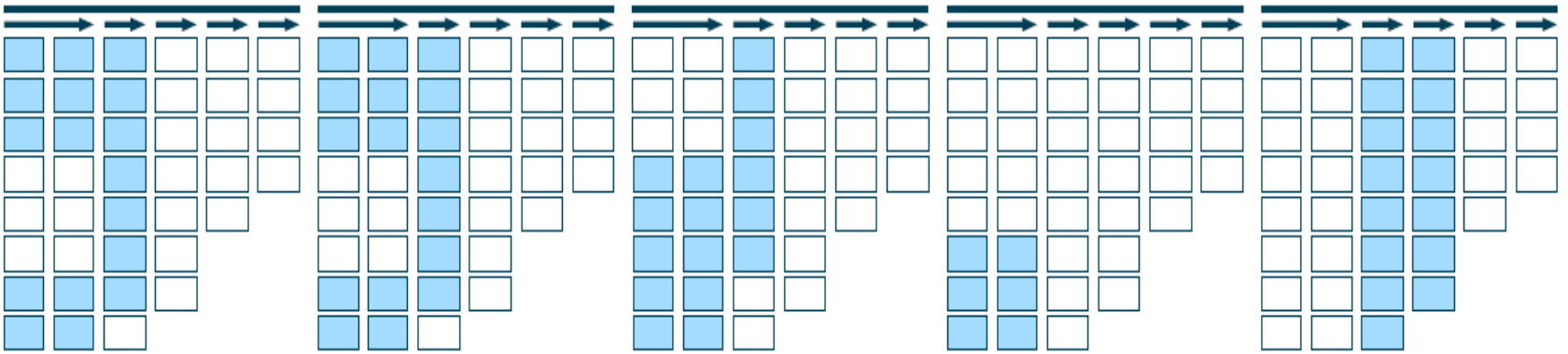
Strategic control points along the agricultural value chain:

1. ***Input supplying***
2. ***Production***
3. ***Post-harvest***
4. Processing
5. Distribution/marketing

It will be key to occupy the right strategic control points to guarantee success and sustain an attractive market positioning.



FIVE NEW BUSINESS OPPORTUNITIES IN THE PRECISION FARMING VALUE CHAIN



	1 Integrator	2 Service provider for machine-related activities	3 Service provider for seeds-related activities	4 Service provider for business intelligence	5 Private investor and commodity trader
Description	> Co-creator of an **open ecosystem** through partnership > Provider of B2B/B2C **software solutions**, advices and/or **physical products**	> **Concentrate on** machine-related **services/solutions** > **Maintain the central role of equipment** by streamlining data into a fully integrated information management system	> Offer **advisory services** on **seeds** choice/**prescription** > Offer a **fully integrated information management system** to maintain/grow the client base	> Act as an **intermediary** between clients and suppliers by offering data-driven **advice/ prescriptions** on equipment, seeds, chemical inputs...	> **Extend the supply chain** in order to access real-time production, demand, market data > **Invest** in and **exploit farmlands** with professional teams and advanced technologies
Value proposition	> **Enable "one-stop" solutions** with a fully completed and optimized decision-making process > Create an open **ecosystem**, optimizing resources and generating profits for each player	> Optimize **equipment utilization** and **reduce downtime** due to preventive maintenance/ better SCM > **Increase** farming operations **efficiency** with connected/automated machines	> Maximize **yield productivity** with the right seeds selection > **Monitor** seeds growth along production cycles and **alert** to dangers in real time > Enable **access to data** and provide value added services by data analytics	> Create **various business opportunities** based on data analytics/modeling on all smart devices > **Hold a neutral position as an advisor** and **establish trust** between clients and suppliers	> **Bring benefits** to investors by modern farming methods on rich farmland > Enable **utilization/ generalization** of advanced technologies

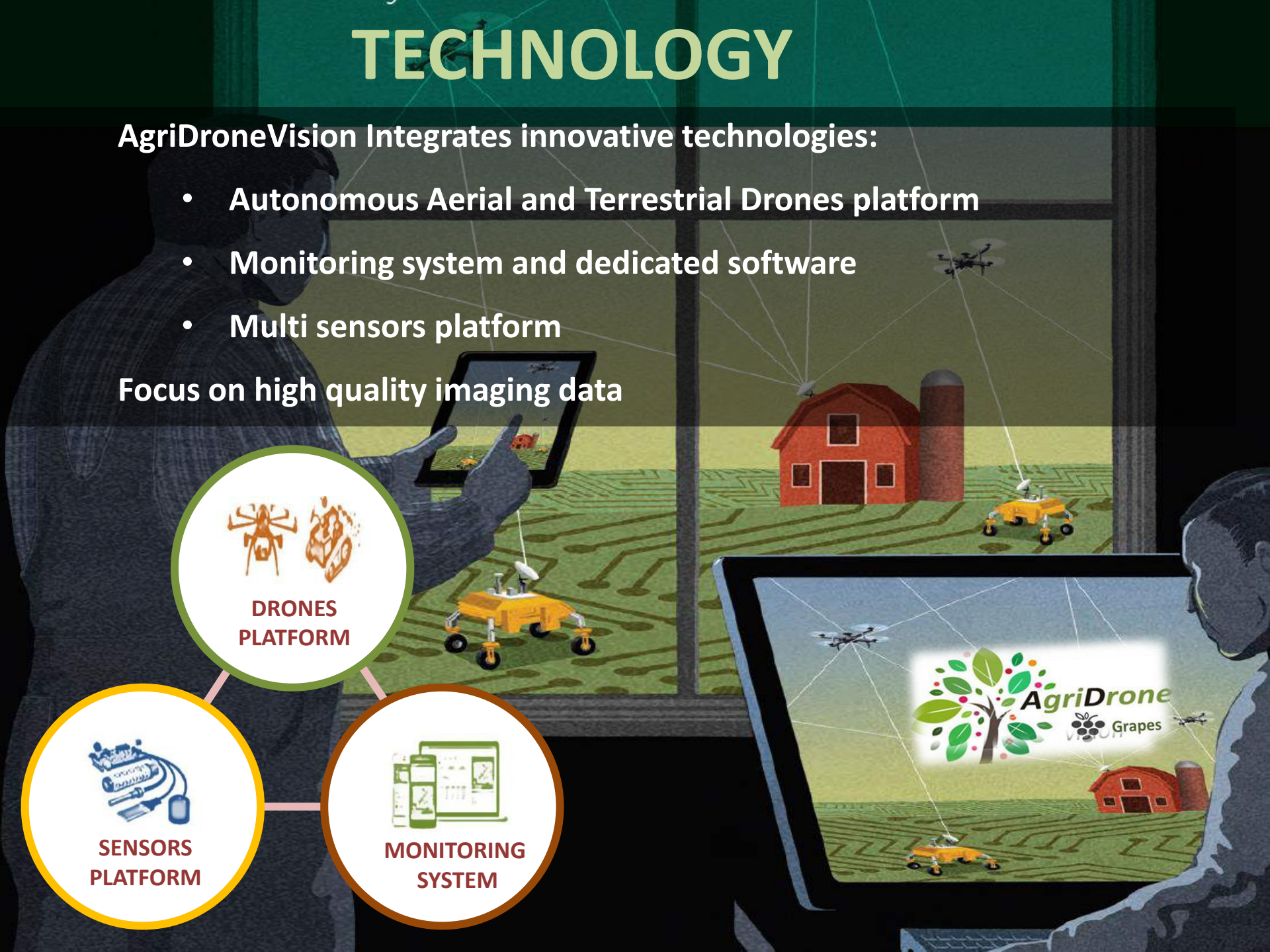
AgriDrone Grapes

TECHNOLOGY

AgriDroneVision Integrates innovative technologies:

- **Autonomous Aerial and Terrestrial Drones platform**
- **Monitoring system and dedicated software**
- **Multi sensors platform**

Focus on high quality imaging data



Validation on pilot sites in Italy, Spain and Portugal

Agridronevision

OBJETO: Demostrar el impacto en términos de reducir la emisión de gases de efecto invernadero y de protección del suelo en viticultura, mediante la aplicación de técnicas avanzadas de precisión, combinada con el uso de drones y sensores aéreos y terrestres.

SE BUSCA: Productores de maquinaria agrícola, Empresas de IoT, Empresas de drones, universidades, Productores vitivinícolas.

PROGRAMA: LIFE (fecha límite del concept note junio 2019)

PROGRAMA: FTI (fecha límite del proposal 21 febrero 2019, 23 Mayo 2019, 22 octubre)

SUMMARY

1. Introduction – The Open City IoT Smart Lab

2. Opportunities in Europe (LIFE & FTI Programs)

3. Example of projects in the Lazio Region:
   -AGRIDRONE VISION – Precision Agricolture
   -ePOP-ZEB – Smart Building

4. Conclusions

PROJECT 2

1.2 M€ in 18 months

"Innovative system integration of **modular wood-structure building solutions** toward Zero Energy goals including a Smart Platform oriented to the Energy Management, to the Life Cycle Assessment, to the Facility Management of the building, to represent all functional and physical features through the use of BIM (Building Information Modeling) technologies, from early design phase to all maintenance activities, until the final stage of recycling"

MARKET OF WOODDEN HOUSES IN ITALY

Edifici in Italia nel 2014:
3.000

Edifici in Italia nel 2015:
7.000

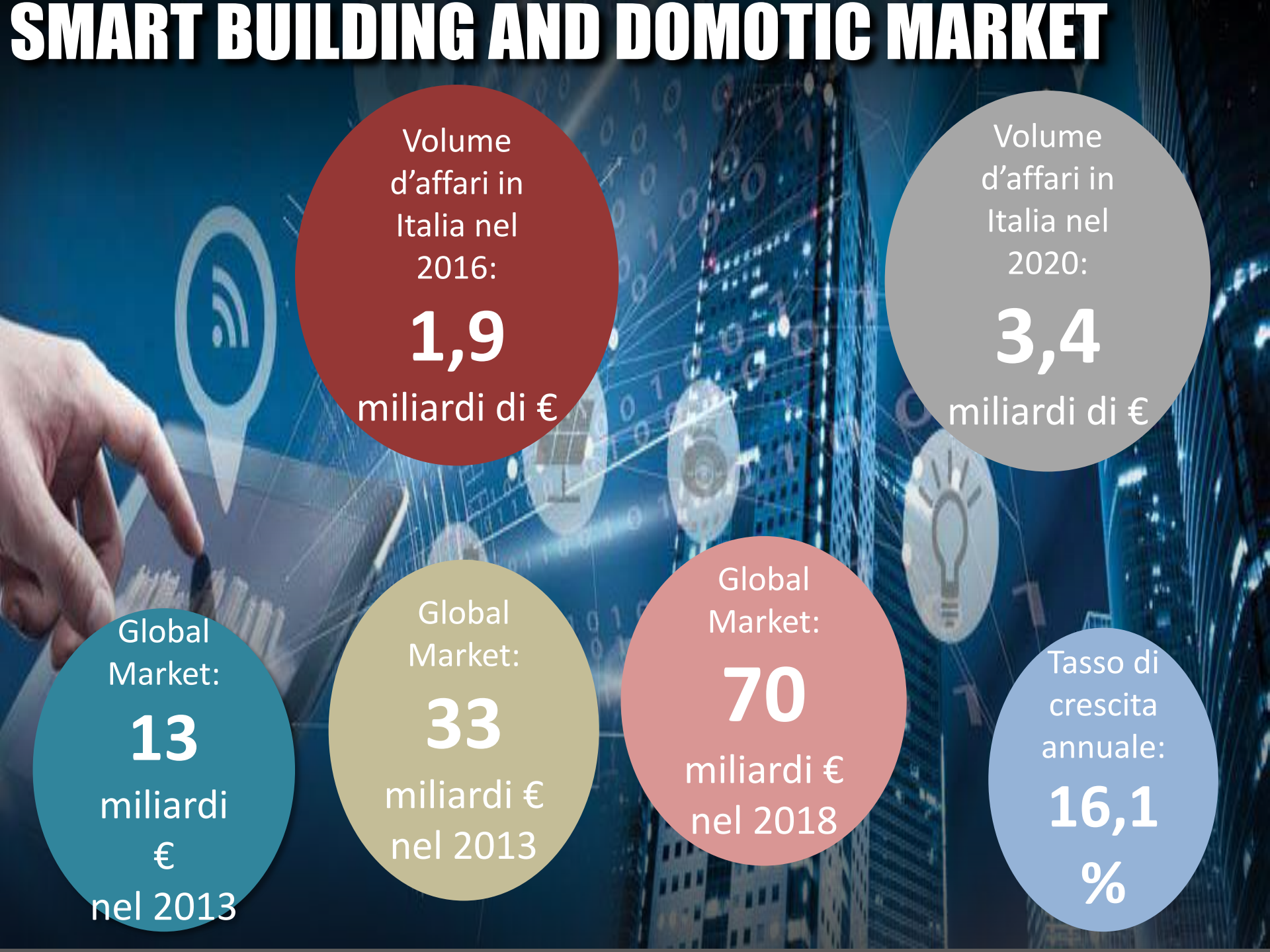
Italia 4° paese produttore in Europa

Global Market:
150 miliardi $

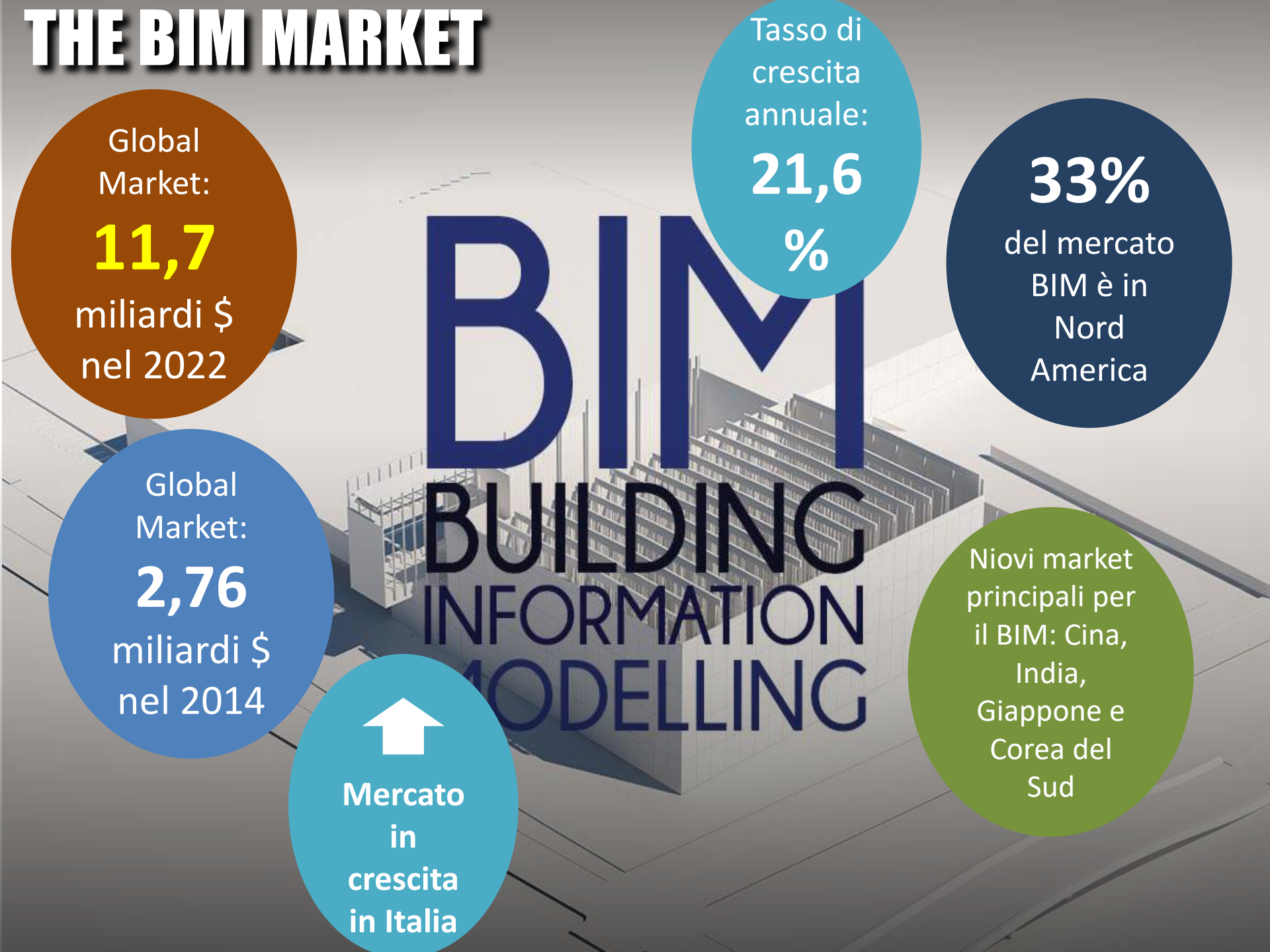
51%
degli edifici chiavi in mano

Tasso di crescita annuale:
19%

SMART BUILDING AND DOMOTIC MARKET



THE BIM MARKET



Global Market: **11,7** miliardi $ nel 2022

Tasso di crescita annuale: **21,6 %**

33% del mercato BIM è in Nord America

Global Market: **2,76** miliardi $ nel 2014

Mercato in crescita in Italia

Niovi market principali per il BIM: Cina, India, Giappone e Corea del Sud

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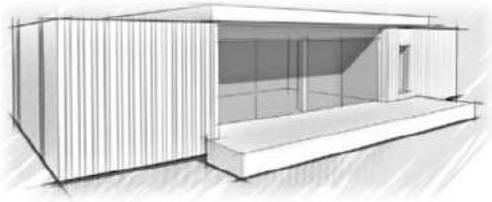
ePop zeb

SUBSYSTEM A

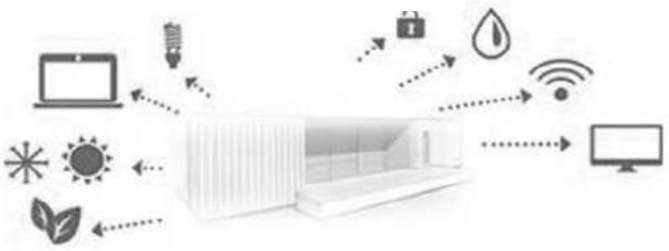


ePOP HOUSE

- ePop Zeb House
- ePop Zeb Active House
- ePop Zeb Smart House
- Kit Interni
- Kit Impianti
- Kit Off grid
- Kit Smart

Modular Sustainable Ecological Wooden House

SUBSYSTEM B



Smart Platform

- Gestione del clima
- Illuminazione
- Schermature solari
- Parametri ambientali e consumi di energia
- Scambio off grid energia
- Autodiagnosi dei materiali
- Monitoraggio continuo struttura

Monitoring and managing all Components and parameters of the house

SUBSYSTEM C

Tool BIM

- Progetto preliminare 3D, simulazioni
- Progetto definitivo, esecutivo
- Logistica e cantiere
- Gestione impianti di controllo
- Database per smontaggio e riuso
- Schede componenti, Virtual reality
- Manutenzione

Augmented Reality Platform for Building Innovation Management

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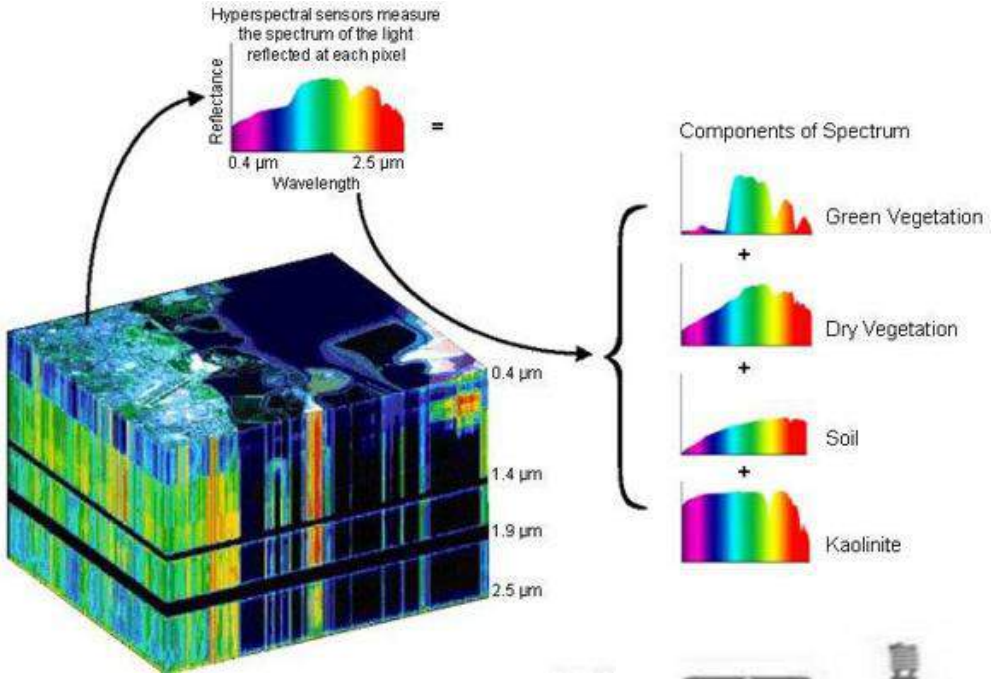
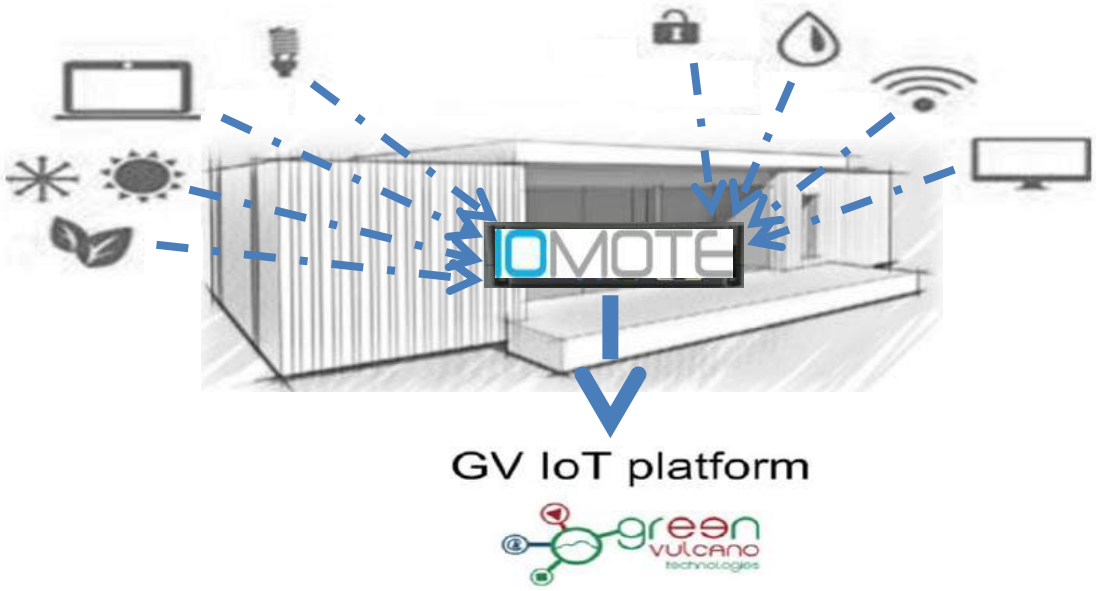
Quick assembly and disassembly



STUDIES ON NEW MATERIAL



DEVELOPMENT OF IOT PLATFORM

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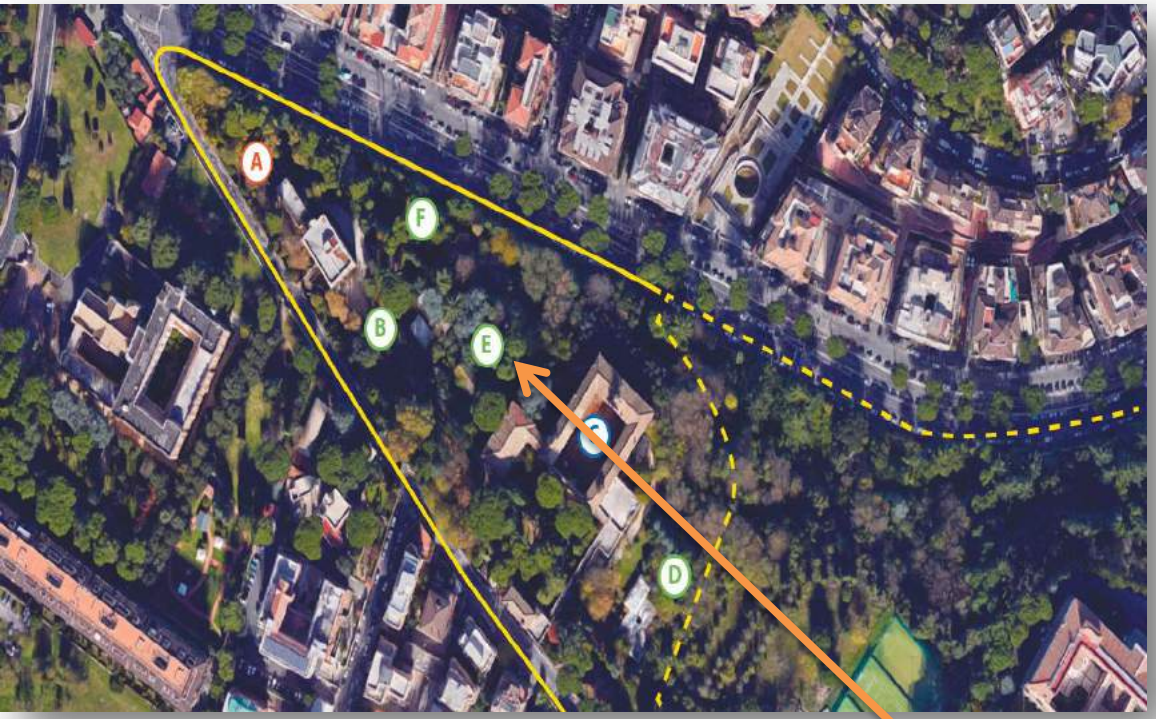
Open City IoT smartlab

RENDERING OF THE LABORATORY



UNIVERSITÀ DEGLI STUDI
LINK CAMPUS UNIVERSITY

The laboratory will be built with an innovative wooden modular building at the Link Campus University facilities

Open City
IoT smartlab

RENDERING OF THE LABORATORY

RENDERING OF THE LABORATORY

ePop-zeb

TEC-WOOD s.r.l.
TECNOLOGIE PER IL LEGNO

CE.R.S.I.TE.S.
CENTRO DI RICERCA E SERVIZI PER L'INNOVAZIONE TECNOLOGICA SOSTENIBILE
SAPIENZA
UNIVERSITÀ DI ROMA

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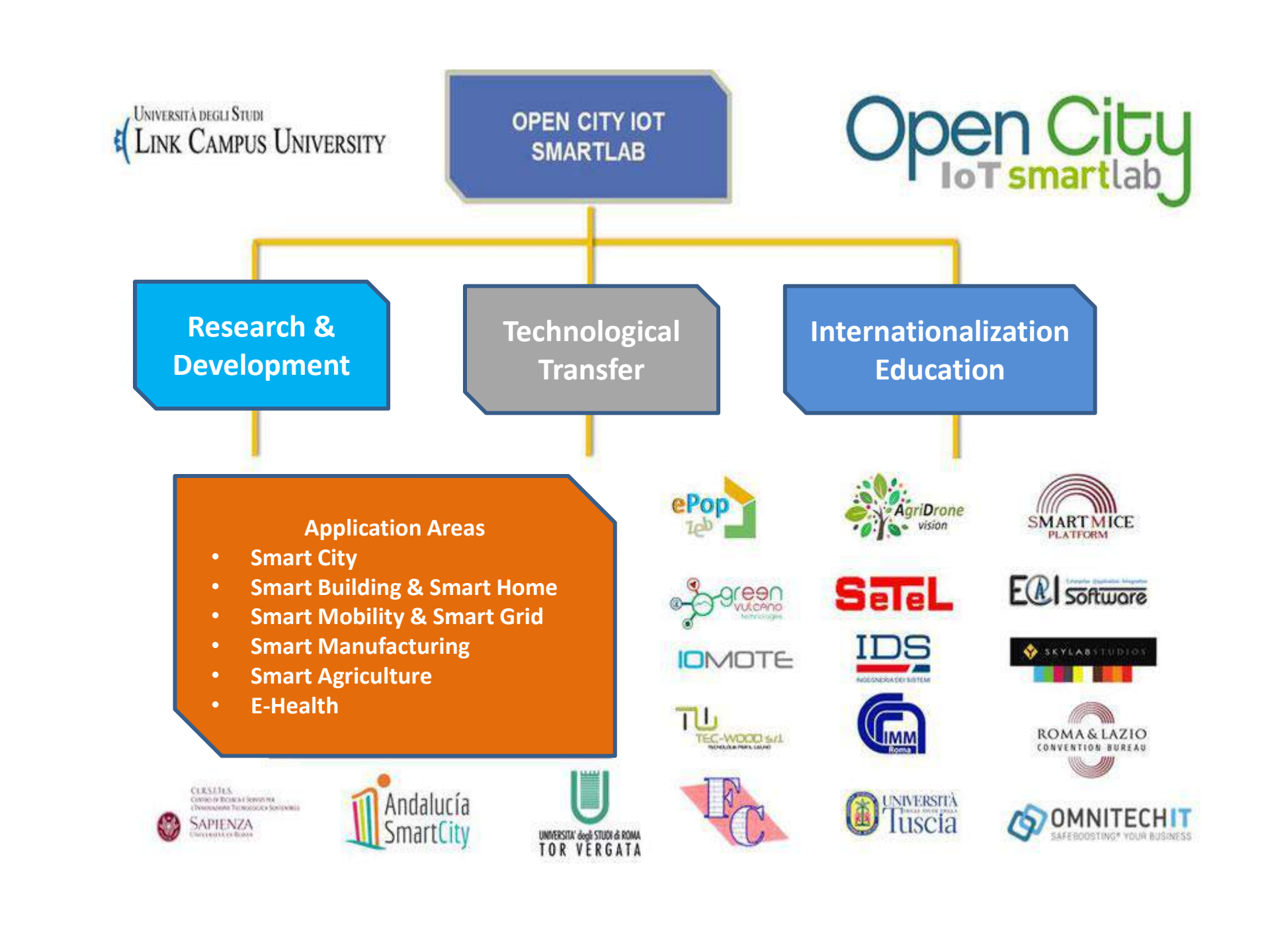
Open City
IoT smartlab

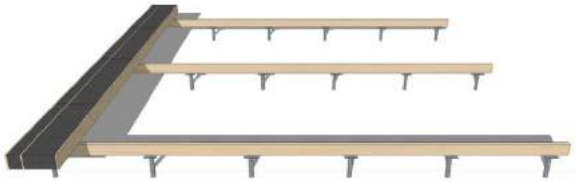
The Open City IoT Smart Lab is a laboratory dedicated to research in the field of Smart City and IoT.

Primary objectives

- Organization of conferences, events and seminars
- Strategic alliances with highly innovative companies and universities for the implementation of joint research activities
- Internationalization and dissemination of scientific results.


Università degli Studi
Link Campus University
OPEN CITY IOT SMARTLAB
Open City
IoT smartlab
Research & Development
Technological Transfer
Internationalization Education
Application Areas
Smart City
Smart Building & Smart Home
Smart Mobility & Smart Grid
Smart Manufacturing
Smart Agriculture
E-Health
ePop
AgriDrone vision
SMART MICE PLATFORM
green VULCANO
SeTeL
ECI Software
IOMOTE
IDS
SKYLAB STUDIOS
TEC-WOOD S.r.l.
IMM Roma
ROMA & LAZIO CONVENTION BUREAU
CERSITAS
Sapienza
Andalucía SmartCity
Università degli Studi di Roma Tor Vergata
FC
Università della Tuscia
OMNITECHIT
SAFEBOOSTING® YOUR BUSINESS

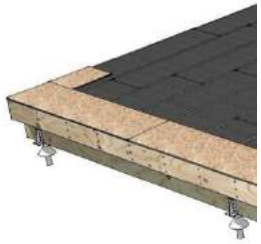
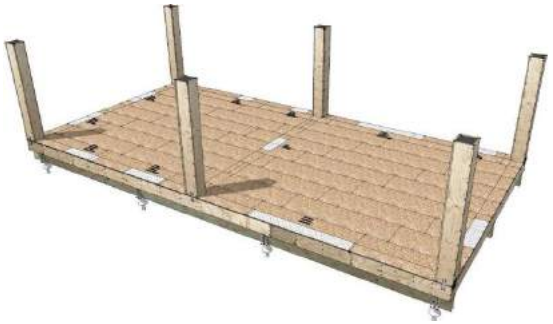
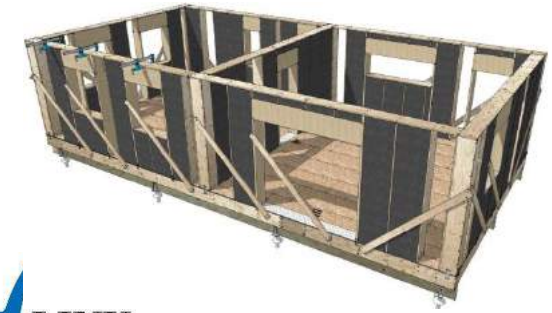
Quick assembly and disassembly: LEGO model







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Open City IoT smartlab

ePOP-ZEB Zero emission building

OBJETO: Integración de soluciones constructivas innovadoras relativas a estructuras de madera modulares, energía renovable y TIC que contribuyan al objetivo de Energía Zero.

SE BUSCA: Arquitectos, Municipalidades, Universidades, Empresas de IoT o pymes domóticas.
PROGRAMA: LIFE (fecha límite del concept note junio 2018)
PROGRAMA: FTI (fecha límite del proposal 21 febrero 2019, 23 Mayo 2019, 22 octubre)

Andalucía SmartCity

1º Reunión de trabajo "Cooperación Público-Privada para el desarrollo de Proyectos de I+D+i Internacionales"

Ayuntamiento de Málaga

Possible collaborations in the perspective of forthcoming international project calls

Gianluca Fabbri email: g.fabbri@unilink.it

6th November 2018, Malaga, Spain

THANK YOU FOR THE ATTENTION

Open City IoT smartlab

SeTeL

AgriDrone vision

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