

SUMMARY

Roundtable on innovation smart projects of Universities and Companies of Rome

Chairman: Gianluca Fabbri Link Campus University of Rome

09h30: Welcoming at Campidoglio, Sala del Carroccio

09h 35: Presentation of the Chinese Cities and Chinese Delegation

(NDRC, Haikou Hainan Province, Weinan Shaanxi Province, Liuzhou Guangxi province, Yantai Shandong Province, Kunming)

10h 10: *R&D Innovation Projects in Rome: Smart agriculture, Smart tourism, Smart building*, Gianluca Fabbri, Head of the Smart Grid and Mobility Unit, Link Campus University of Rome

10h 20: *The New Convention Bureau of Rome and Lazio – The Smart Mice Platform project*, Paolo Novi, CEO, CBRL

10h 30: Smart City Projects in Reggio Emilia, Vice Mayor of Reggio Emilia

10h 40: *Activities at the National Research Council*, Alessandro Pecora CNR

10h 50: *Vento d'Italia: the digital project to welcome Chinese tourists in Italian cities*, Elisa Morsicani, CEO Italian lifestyle srl

11h 00: Photo - Break



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Presentation of SMEs of Rome

11h 15: Presentation of SKYLABSTUDIOS - Innovative projects at SKYLABS Marco Piastra, CEO

11h 25: Presentation of SETEL, Eduardo De Francesco, CEO

11h 35: Presentation of HEALTHIA, Enrico Mallone, CEO

11h 45: Presentation of OMNITECH IT TBC, Luis Cartin

11h 55: Presentation of IS CLEAN AIR, Giuseppe Spanto, CEO

12h 05: The China-EU Institute of Clean and Renewable Energies, Enrico Bocci, Università Marconi

12h 15: Discussion

12h 45: End of roundtable





ROMA



Encouraging and developing joint R&D activities between Italy and China

鼓励并发展中意联合研发活动

China-Italy Projects
Matchmaking Session



中意项目媒介培训课程

*R&D Innovation Projects in Rome: Smart agriculture,
Smart tourism, Smart building*

Eng. Gianluca Fabbri, PhD², 博士²

September 18 2017

Roundtable on innovation smart projects of Universities and Companies of Rome
Rome, Campidoglio Sala del Carroccio



- 1. Research activities at Link Campus University**
- 2. Example of three projects:**
 - AGRIDRONE VISION – Precision Agriculture**
 - ePOP-ZEB – Smart Building**
 - SMART MICE PLATFORM – Smart Tourism**
- 3. Conclusions**





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

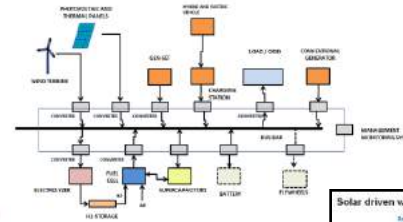


- **CEO of DINESTO Srl – Innovative Start Up Spin Off ENEA – POMOS**
- **Head of the Smart Grid & Mobility R&D Unit at LINK CAMPUS UNIVERSITY in ROME**
- **Director of the OPENCITY-IOT-SMARTLAB Scientific Laboratory**
- **Expert Evaluator for the EUROPEAN COMMISSION**
- **Lecturer and Academic expert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



第四届中意创新论坛

The 4th China-Italy Innovation Forum

2013年11月 中国 北京 November, 2013 Beijing, China

Italian Minister of Research and University : Maria Chiara Carrozza
Chinese Minister of Science and Technology : Wan Gang



Italian Minister of Research and University : Stefania Giannini



ITALY - CHINA
SCIENCE, TECHNOLOGY & INNOVATION WEEK
25-27 OTTOBRE 2016
BERGAMO - BOLOGNA - NAPOLI





05-04-2015 China-Italy Projects
Beijing Jiao Tong University



04-04-2015 China-Italy Projects Match Making Session
Beijing International Convention Center



18-05-2015 “Innovation and Smart Cities”,
Tianjin Meijiang Convention and Exhibition Center
Tianjin Investment and Trade Fair PECC

Jinghai County, Binhai new Area, Nsp, University



10-06-2015 China_EU Industrial Cooperation and Investment
Fair Liu Zhou





**03-2015 China Summit
Shanghai Jiao Tong University
SJTU Advanced Industrial Technology Research Institute**

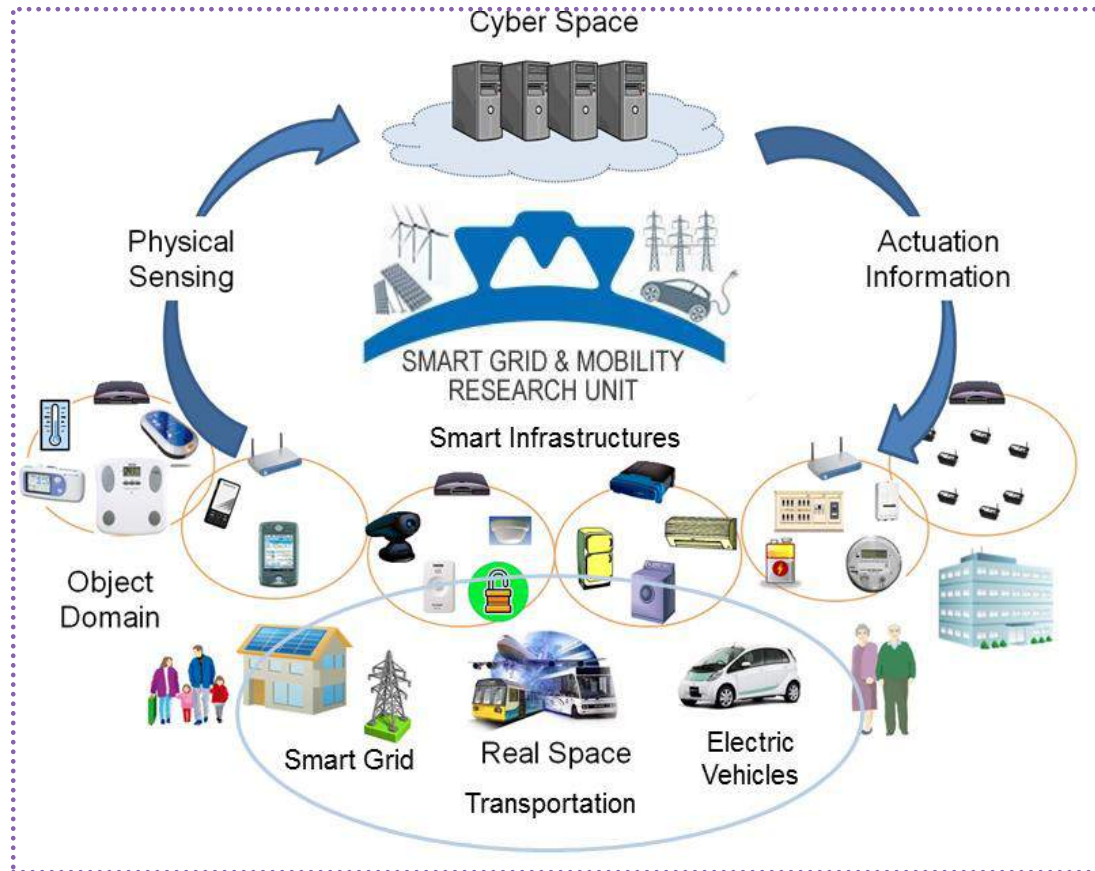


**IEEE International Conference on Computer Science and Information
Technology IEEE ICCSIT Chengdu**

DEMO THE WORLD INNOWAY



Head of the SMART GRID AND MOBILITY RESEARCH UNIT



POSTGRADUATE EXECUTIVE MASTER'S PROGRAMMES

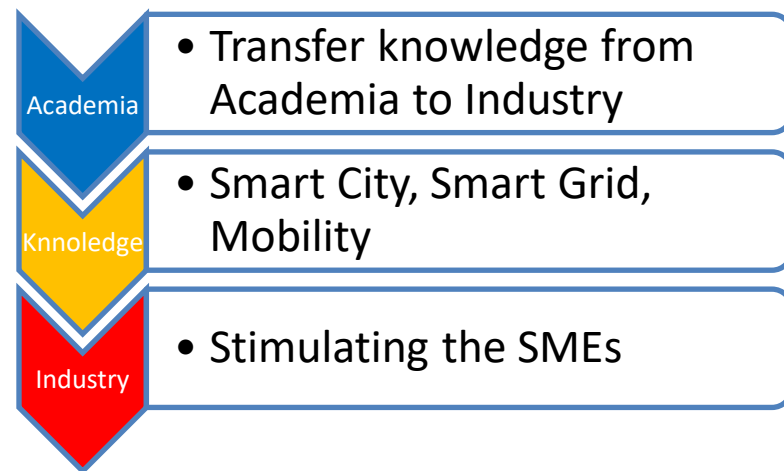
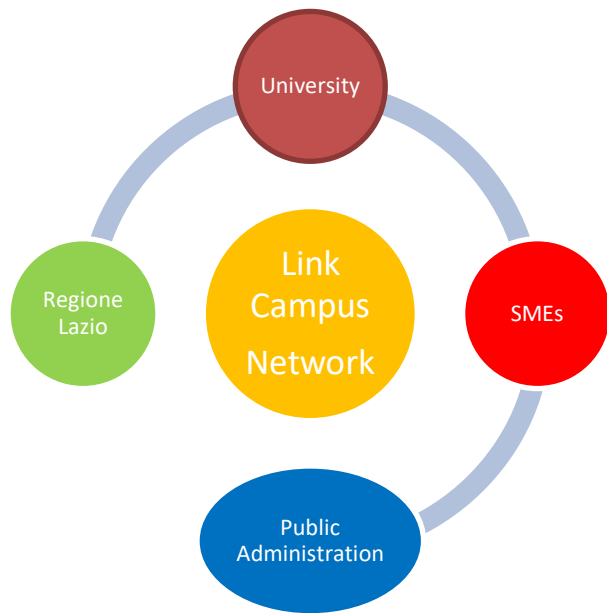
**Master in
JOINT ENERGY AND
ENVIRONMENT
MANAGEMENT**

**Master in
SUSTAINABLE
MOBILITY AND
TRANSPORT**



Technological Transfer at the Smart Grid and Mobility Unit

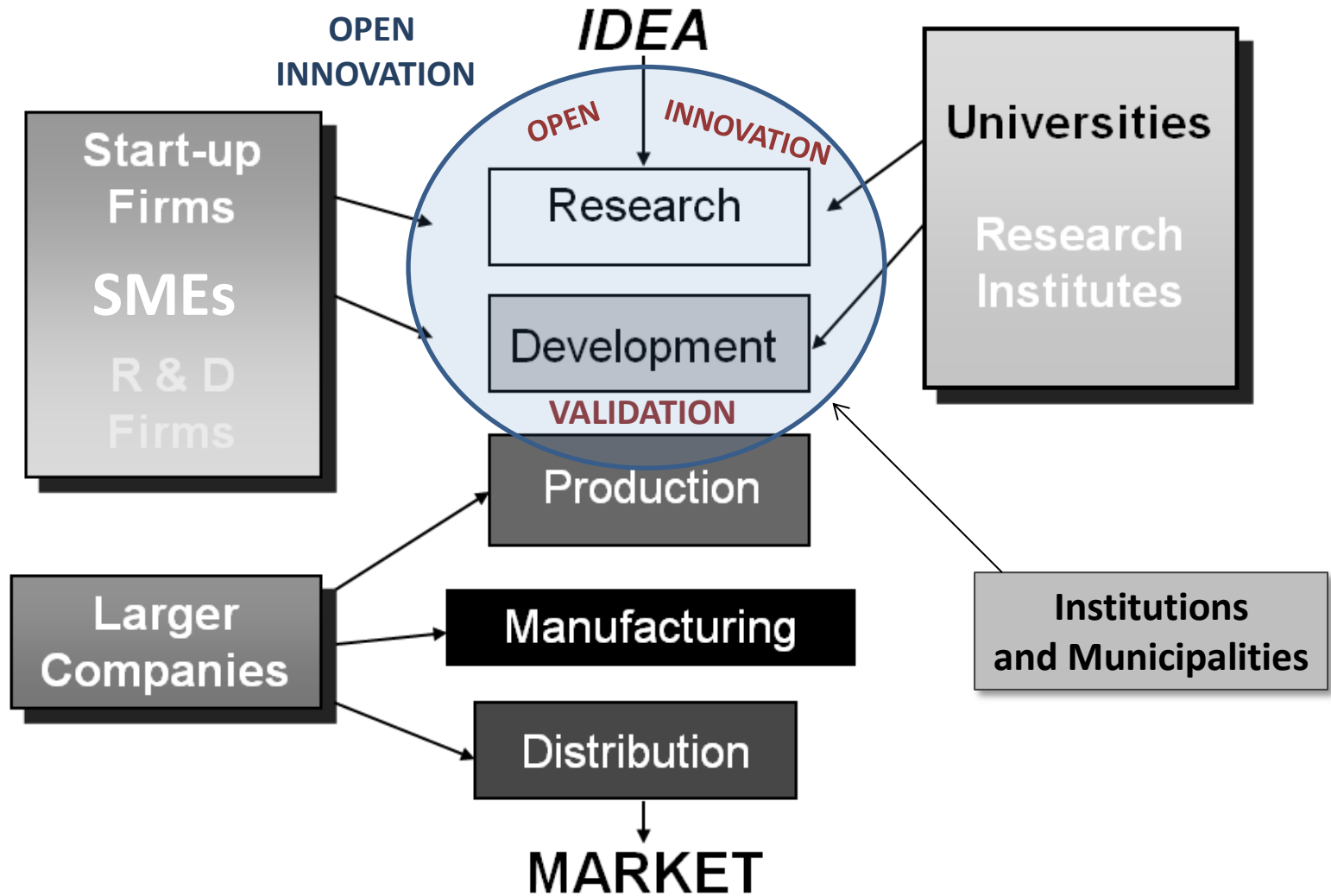
The Unit acts as a connection point for the interaction of different subjects (Academia, industries, Lazio Region, Municipalities, Public administration), which constitute a network of subjects interested in the sector of Smart City, Smart Grid and Sustainable Mobility.



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.



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



A wide-angle photograph of a university courtyard. The courtyard is paved with reddish-brown bricks and features a central stone fountain. The surrounding buildings are multi-story, light-colored structures with arched windows and doorways. The sky is blue with scattered white clouds. A blue banner with the text 'DISCOVER US' is overlaid across the middle of the courtyard.

UNIVERSITÀ DEGLI STUDI
LINK CAMPUS UNIVERSITY

DISCOVER US

unilink.it
linkinternational.eu



Link Campus University is a private University in Rome which stands under the Italian University's Regulation. Its imprint is international due to its history and its calling.

Link Campus University combines the English system's educational strategies with the Italian's culture and didactical method.

Most of the degree courses are taught in English, with the exception of some that are held in Italian.

Link Campus University has an extended network with international Universities and companies.



Digital Administration and Social Innovation Center: Application of new technologies and production processes, administration and consumption with the aim to bring innovation and optimization.

Innovate using digital technologies as a catalyst capable of accelerating developments and evolutions of economic activities.



MAIN TOPICS

Smart City & Social Innovation

Innovation and User Experience
Design

eHealth & Inclusion (eHI)

Serious Games & Hybrid Learning

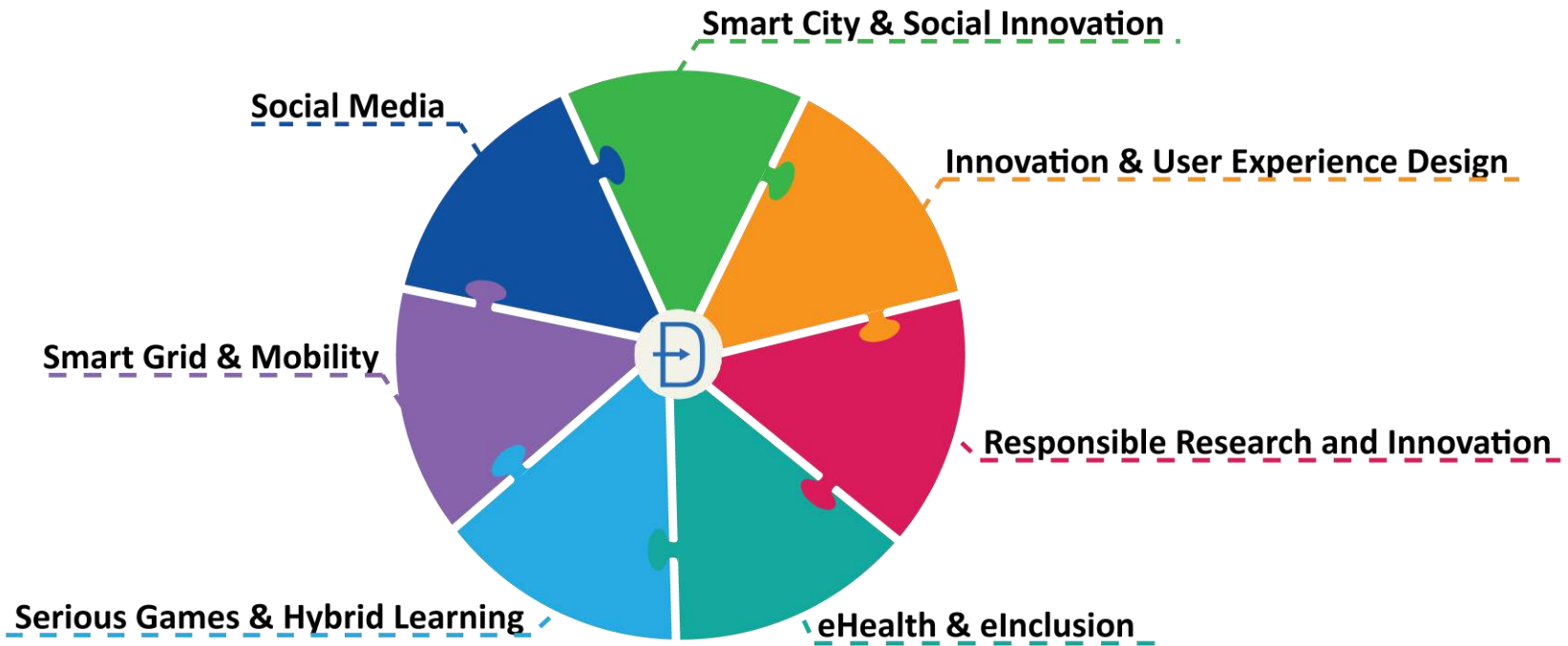
Smart Grids and Mobility





DÀSIC

MAIN UNITS

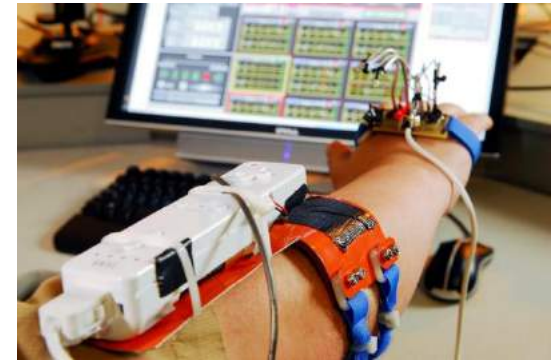
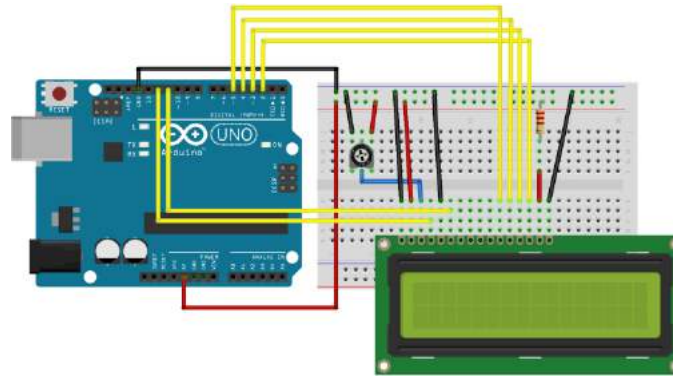


Fab Lab

Open Source Electronics and Internet of Things

Smart Connected Objects

3D Printings Actuators and Sensors









RESEARCH PROJECTS AT LINK CAMPUS



ONGOING PROJECTS



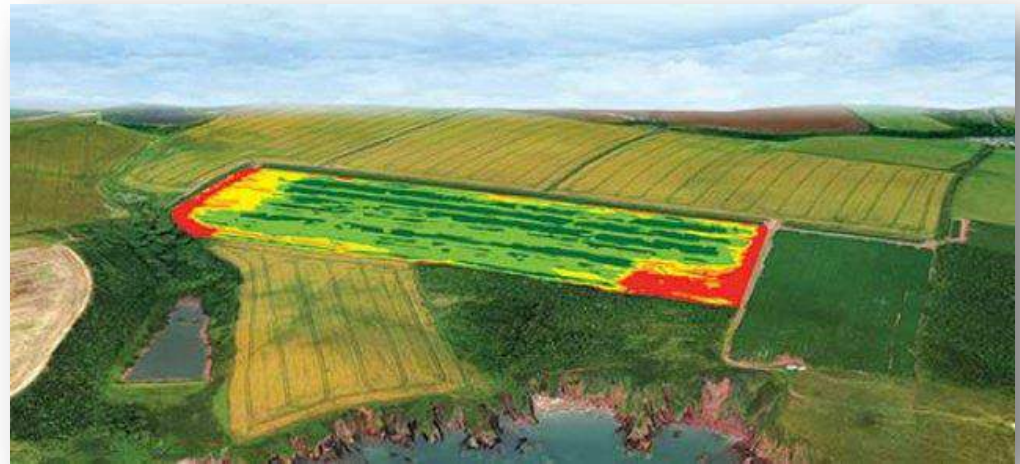
NEW PROJECT PROPOSALS





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.





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**



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



**DRONES
PLATFORM**



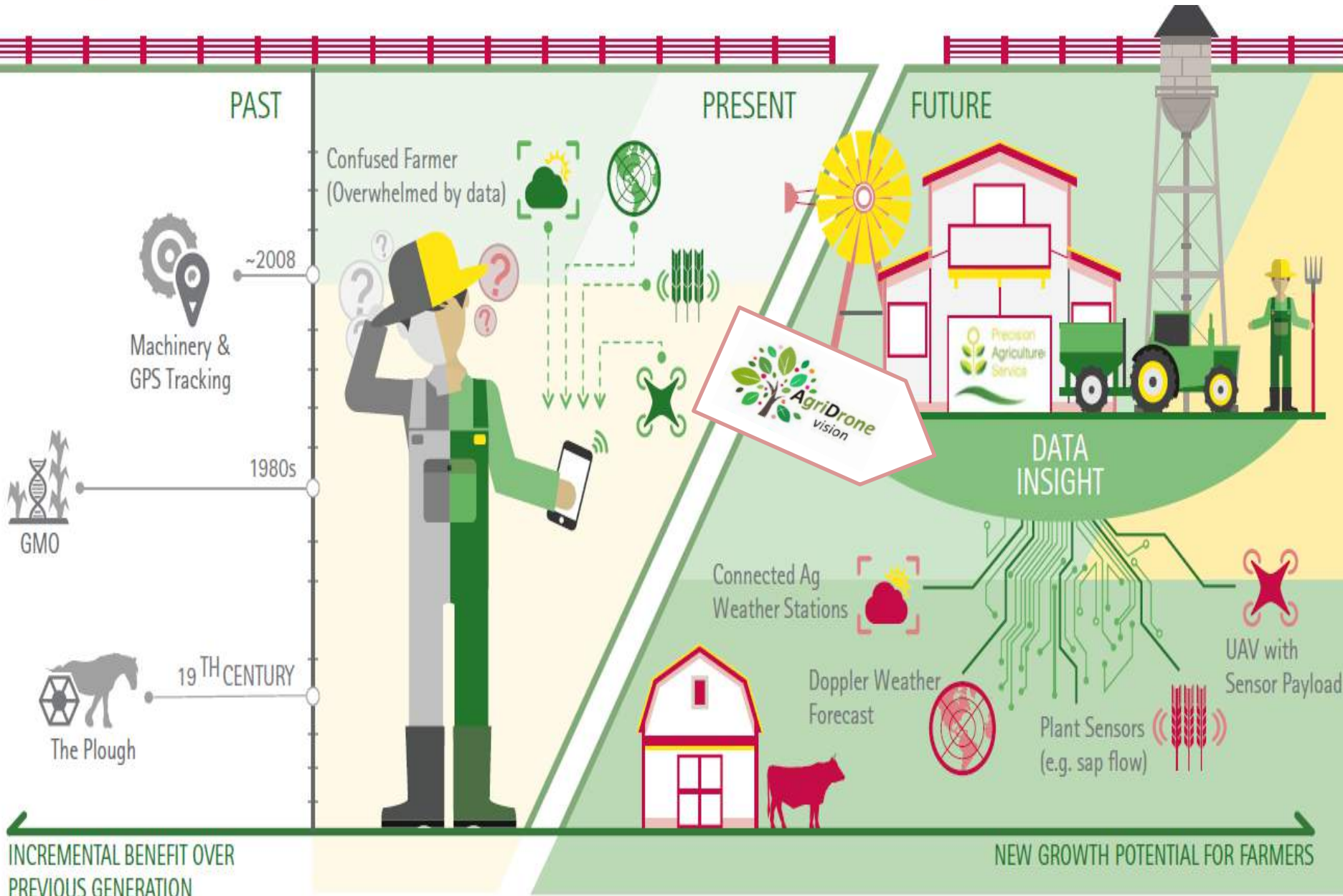
**SENSORS
PLATFORM**



**MONITORING
SYSTEM**



THE EVOLUTION OF (PRECISION) AGRICULTURE



MARKET

Global
market in
2017:
\$3.3B

Global
market in
2020:
\$4.6B

Annual
Grow Rate :
+12%

EU
market in
2020:
€1.0B

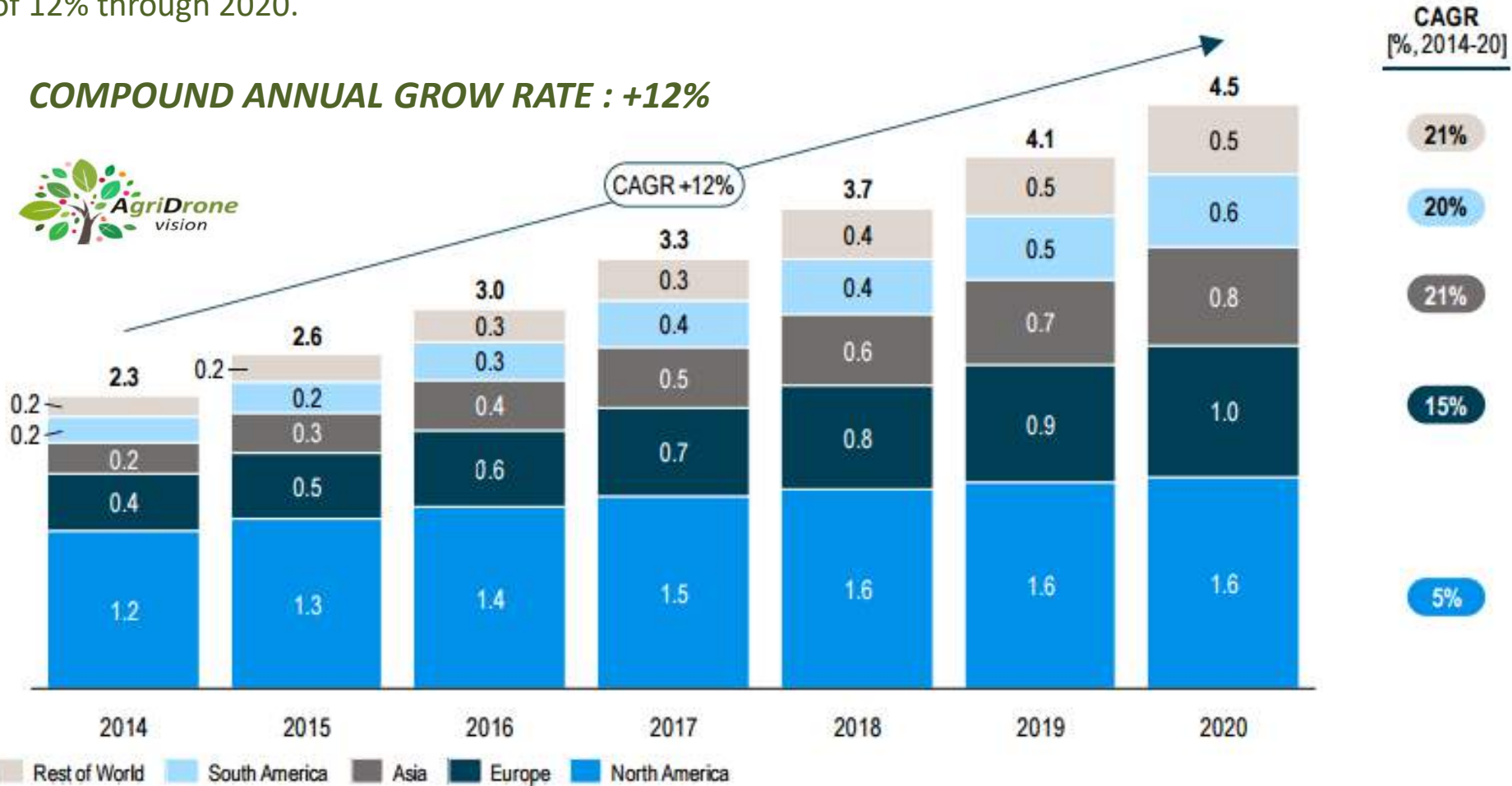
Crop consultants widely used for specialized services

GLOBAL MARKET DEVELOPMENT OF PRECISION AGRICULTURE 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)



ePop-zeb

ePop zeb



IONMOTE



CE.R.S.I.T.E.S.
CENTRO DI RICERCA E SERVIZI PER
L'INNOVAZIONE TECNOLOGICA SOSTENIBILE



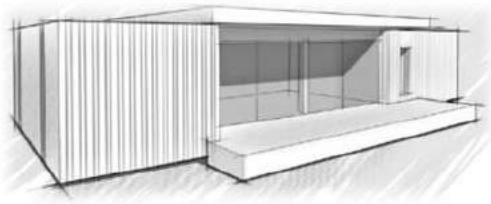
SAPIENZA
UNIVERSITÀ DI ROMA



“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”



SUBSYSTEM A

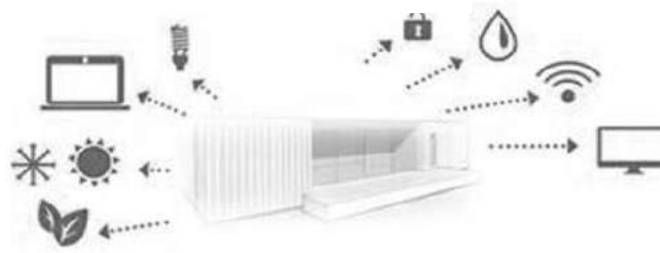


ePOP HOUSE

- 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**

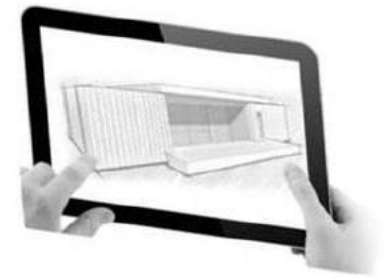
SUBSYSTEM B



Smart Platform

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

SUBSYSTEM C



Tool BIM

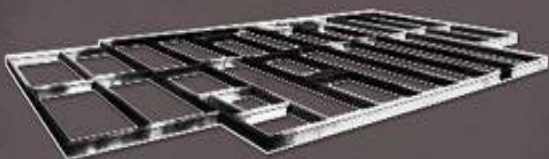
- Progetto preliminare 3D, simulazioni
- Progetto definitivo, esecutivo
- Logistica e cantiere
- Gestione impianti di controllo
- Database per smontaggio e riuso
- Schede componenti, Virtual reality
- Manutenzione

**Augmented Reality Platform
for Building Innovation
Management**



FONDAZIONE SU PALI

app. di legno
 per strutture senza tralicci (10)
 larghezza massima 14,00 m
 Costo 2024 maximo 1 - 3 € / mq
 spessore 27 cm
 larghezza 27 cm



COIBENTAZIONE INTEGRATA



Materiali: Isolamento Pignone 200
 Intonaco intonaco a 2 strati
 Spessore: 100 mm
 Densità: 100 kg/m³
 Area: dalla 2% di coperto sopra
 alla 11% (max) 3 - 5 m²/mq
 Soluzione del sistema di energia per riscaldamento pari al 50%

TOOL BIM

Progetti preliminari 3D, simulazioni
 Progetti definitivi, esecuzioni, logica e cantiere
 Gestione impianti di controllo
 Database per smartgrid e case
 Schede compatibili, Virtual reality

LEGGERO

Blocco in EPS
 Dimensioni 1,5 x 1 x 0,7 m
 Densità 100 kg/m³
 Gestibilità 1 persona

FACILE & VELOCE

Manuale leggero facile gestione
 Manuale cantiere
 Prontuario necessario di materiali speciali
 Ampio 70x1000
 Ampio 70x1000

MODULARITA' RICICLABILITA'

Modularità della cellula
 Moduli e sistemi di connessione
 Ampio 70x1000
 Ampio 70x1000

ENERGIA SOLARE

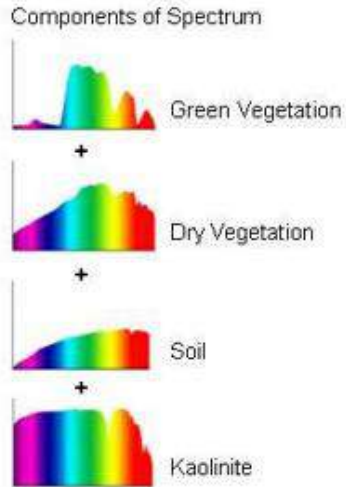
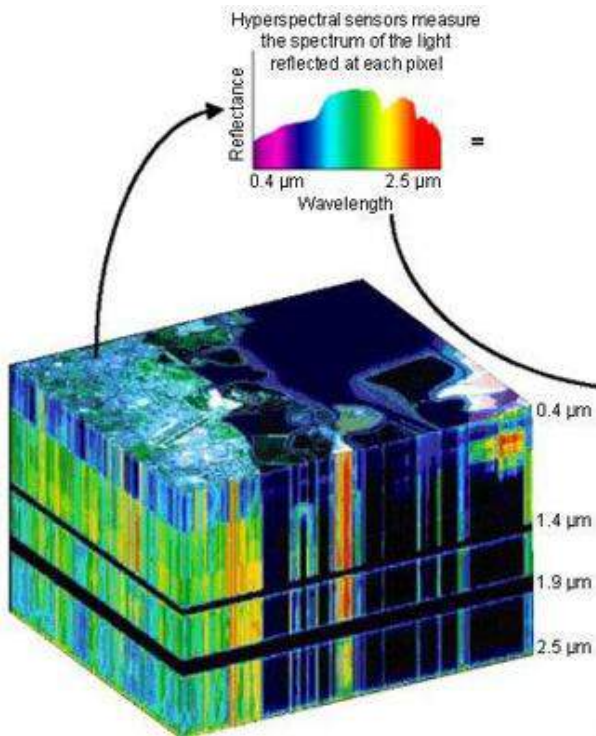
10% di riduzione
 Riduzione dei costi per riscaldamento
 Riduzione di emissioni CO2
 Riduzione di inquinamento atmosferico
 Riduzione di inquinamento acustico
 Riduzione di inquinamento luminoso
 Riduzione di inquinamento termico

DOMOTICA SMART

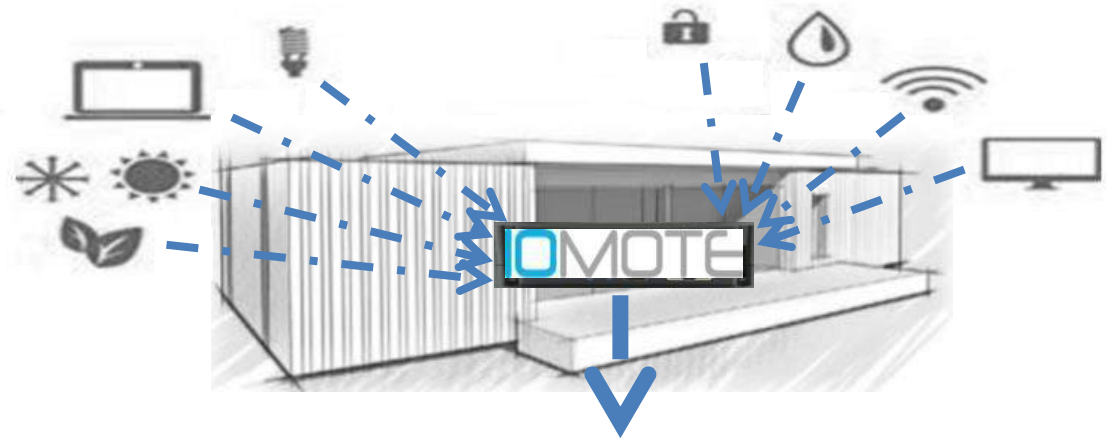
smart green safe solutions

COMFORT ELEVATO

Qualità di vita elevata
 Riduzione dei costi per riscaldamento
 Riduzione di emissioni CO2
 Riduzione di inquinamento atmosferico
 Riduzione di inquinamento acustico
 Riduzione di inquinamento luminoso
 Riduzione di inquinamento termico



NEW MATERIAL



GV IoT platform



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

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



CER.S.I.T.E.S.
CENTRO DI RICERCA E SERVIZI PER
L'INNOVAZIONE TECNOLOGICA SOSTENIBILE
SAPIENZA
UNIVERSITÀ DI ROMA

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ROMA

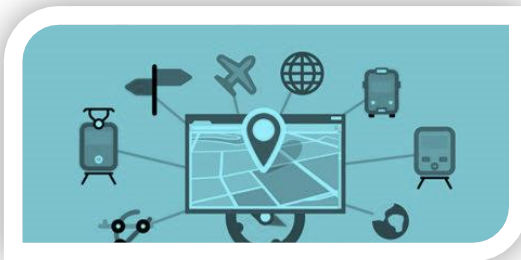


Innovative Integrated Digital Platform dedicated to the development of the MICE (Meeting, Incentive, Conference, Exhibition) industry in Rome and in the Lazio Region. The Smart Mice Platform integrates innovative specific functionalities, modules and operational tools allowing a more effective territorial marketing actions.



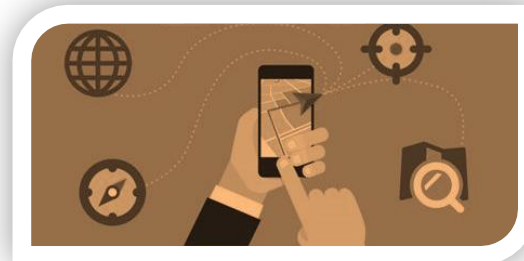


PLATFORM



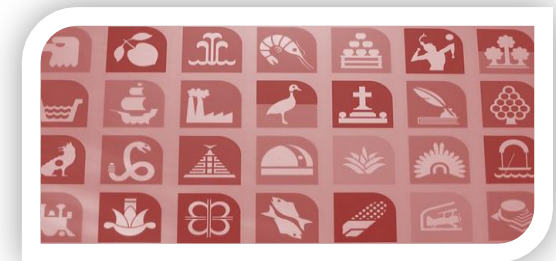
- Front-End
- Back-End
- Moduli Funzionali

DIGITAL APPLICATION



- QR Code We Chat
- Virtual Tour 360
- Augmented Reality
- Virtual Reality

CONTENTS AND FUNCTIONS



- Modulo PA, BBCC
- Modulo Turista MICE



INTERNATIONALIZATION ACTIONS

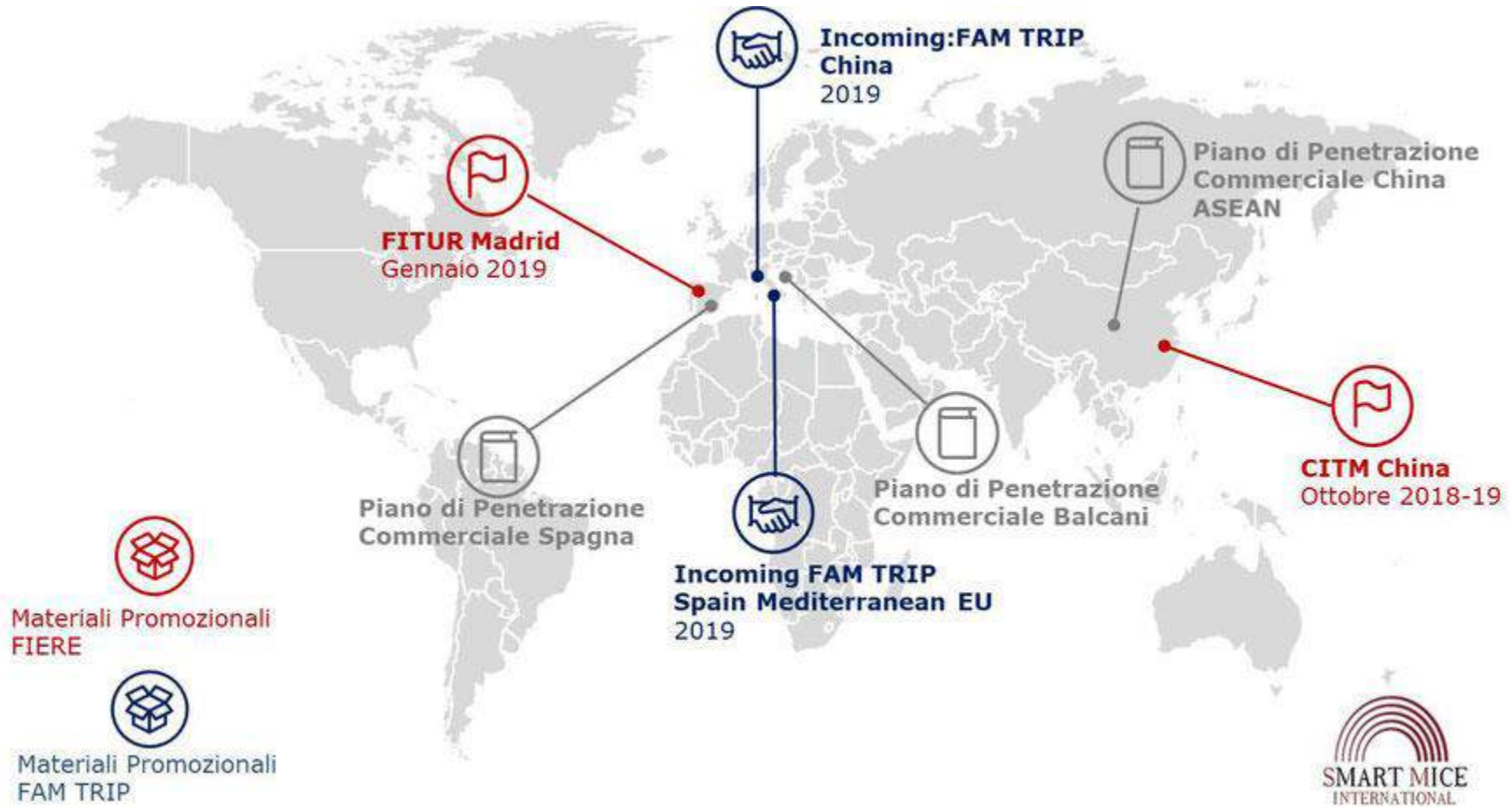
Asia, con riferimento alla Cina ed ai Paesi del Sud-est asiatico.



Europa: Mediterraneo allargato con particolare riferimento ai paesi del quadrante Centro-orientale ed ai Balcani.



INTERNATIONALIZATION ACTIONS



COOPERATION AND COLLABORATIONS PROPOSALS

合作与协作提议

Create business opportunities for Chinese and Italian companies and cooperation R&D project proposals for SMEs, universities, research centres and municipalities.

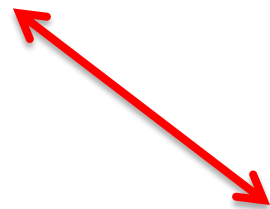
为中意双方企业创造更多业务机会，为中小型企业、高校、研发机构和政府机构提供更多研发项目提议。



Best practices : Replication of successful projects in China

最佳实践：复制中国的成功项目





Italian and Chinese Partnerships

中意合作伙伴

Shared actions and Initiatives

共同的行动与方案

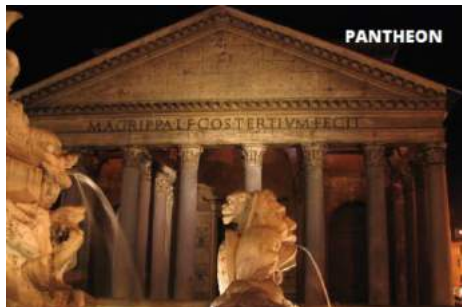
Integrated Innovation Project

一体化创新项目



WELCOME IN ROME !!!!

ROMA





REGIONE
LAZIO



ROMA



Encouraging and developing joint R&D activities between Italy and China

鼓励并发展中意联合研发活动

China-Italy Projects
Matchmaking Session



中意项目媒介培训课程

THANK YOU FOR YOUR ATTENTION !!!

Contacts: Gianluca Fabbri e-mail: g.fabbri@unilink.it

