



**HAMAC**  
HELLENIC ASSOCIATION  
OF MOBILE APPLICATION COMPANIES



**ΣΕΚΕΕ**  
ΣΥΝΔΕΣΜΟΣ ΕΤΑΙΡΙΩΝ  
ΚΙΝΗΤΩΝ ΕΦΑΡΜΟΓΩΝ ΕΛΛΑΔΟΣ



# Greece 4.0 - The Challenge!



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# Industry 4.0

## 1st revolution

Water/Steam



## 2nd revolution

Electricity



## 3rd revolution

Automation



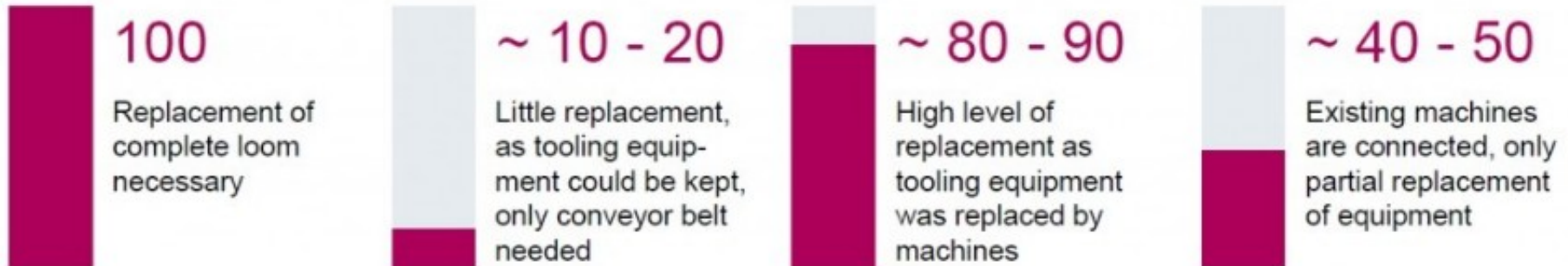
## 4th revolution

Cyberphysical systems



## Replacement of equipment

Percent of installed base





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# *Industry 4.0*

*is the fourth industrial revolution where the brainpower that has gone into creating apps for smartphones is creating applications for **smart factories**, **smart cities** and **smart ships**.*

David Gucza, Director, Siemens Drilling & Marine, U.S

# 2019: the number of mobile devices is **bigger** than the world population!

## GLOBAL DATA

Mobile connections, including  
licensed cellular IoT Nov 2019

9,359,464,393

▲ 5.5%



Unique mobile subscribers  
Nov 2019

5,163,768,505

▲ 2.5%



Revenue/year  
FY 2018

\$1.04T

▲ 1.9%



ARPU/month  
FY 2018

\$8.45

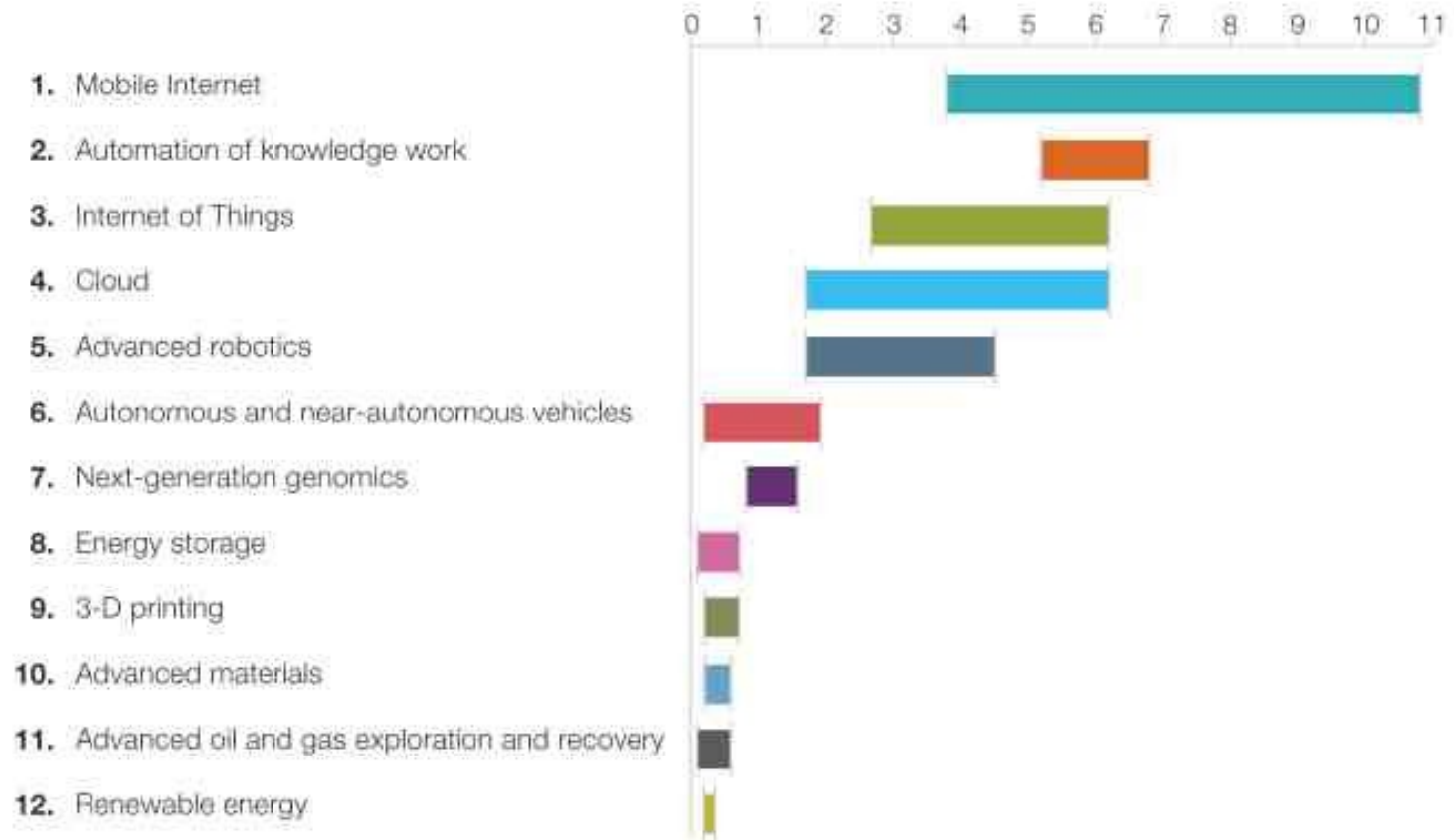
▼ -0.8%



Source: GSMA Intelligence 2019, current year-end data except interpolated subscribers and connections

# A gallery of **disruptive technologies**

Estimated potential economic impact of technologies across sized applications in 2025, \$ trillion, annual



SOURCE: McKinsey Global Institute



## #1 **Mobile Internet**

Increasingly inexpensive and capable mobile computing devices and Internet connectivity

Potential economic impact in 2025 across sized applications of  
**\$3.7 trillion–\$10.8 trillion**

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**10–20% potential cost reduction in treatment** of chronic diseases  
through remote health monitoring

### **Component technologies**

- Wireless technologies
- Small, low-cost computing and storage devices
- Advanced display technology, natural user interfaces
- Advanced, low-cost batteries

### **Key applications**

- Service delivery
- Worker productivity
- Additional consumer surplus from use of mobile-Internet services





## #2 Automation of knowledge work

Intelligent software systems that can perform knowledge-work tasks

Potential economic impact in 2025 across sized applications of  
**\$5.2 trillion–\$6.7 trillion**

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Additional labor productivity could equal the output of **110 million–140 million** full-time workers

### Component technologies

- Artificial intelligence, machine learning
- Natural user interfaces
- Big-data technologies

### Key applications

- Smart learning in education
- Diagnostics and drug discovery in health care
- Discovery, contracts/patents in legal sector
- Investments and accounting in finance sector



### #3 Internet of Things

Networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization

Potential economic impact in 2025 across sized applications of  
**\$2.7 trillion–\$6.2 trillion**

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Offers potential to drive **productivity across \$36 trillion** in operating costs of key affected industries: manufacturing, health care, and mining

#### Component technologies

- Advanced, low-cost sensors
- Wireless and near-field communication devices—eg, RFID (radio frequency identification tags)

#### Key applications

- Process optimization, especially in manufacturing and logistics
- Efficient use of natural resources—eg, smart-meter and smart-grid control of water and electricity
- Remote health-care delivery, sensor-enhanced business models





#### #4 Cloud

Use of computer hardware and software resources to deliver services over the Internet or a network

Potential economic impact in 2025 across sized applications of  
**\$1.7 trillion–\$6.2 trillion**

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**15–20% potential productivity gains** across IT infrastructure, application development, and packaged software

##### Component technologies

- Cloud-management software—eg, virtualization, metering
- Data-center hardware
- High-speed networks
- Software/platform as a service (SaaS/PaaS)

##### Key applications

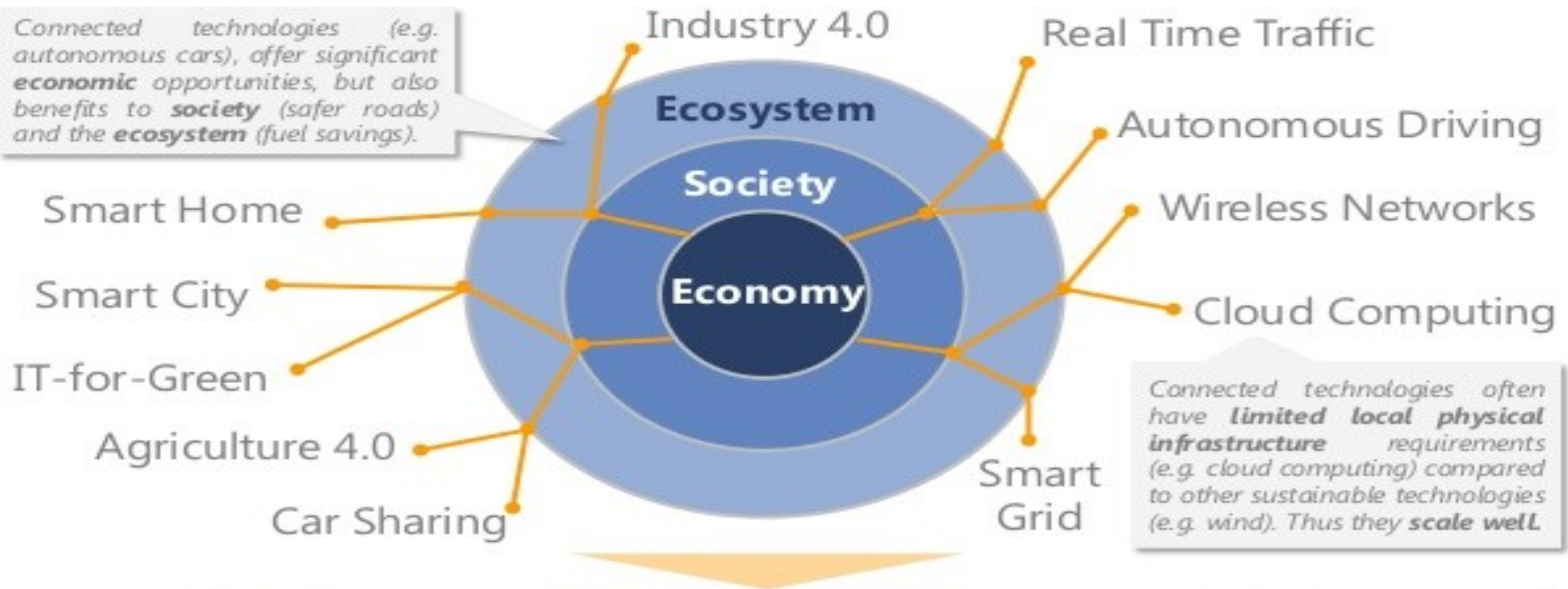
- Cloud-based delivery of Internet services and applications
- Enterprise IT productivity

# New ecosystems emerge

## A Connected technologies as a catalyst for sustainability

High scalability due to limited infrastructure requirements

Connected technologies (e.g. autonomous cars), offer significant **economic** opportunities, but also benefits to **society** (safer roads) and the **ecosystem** (fuel savings).



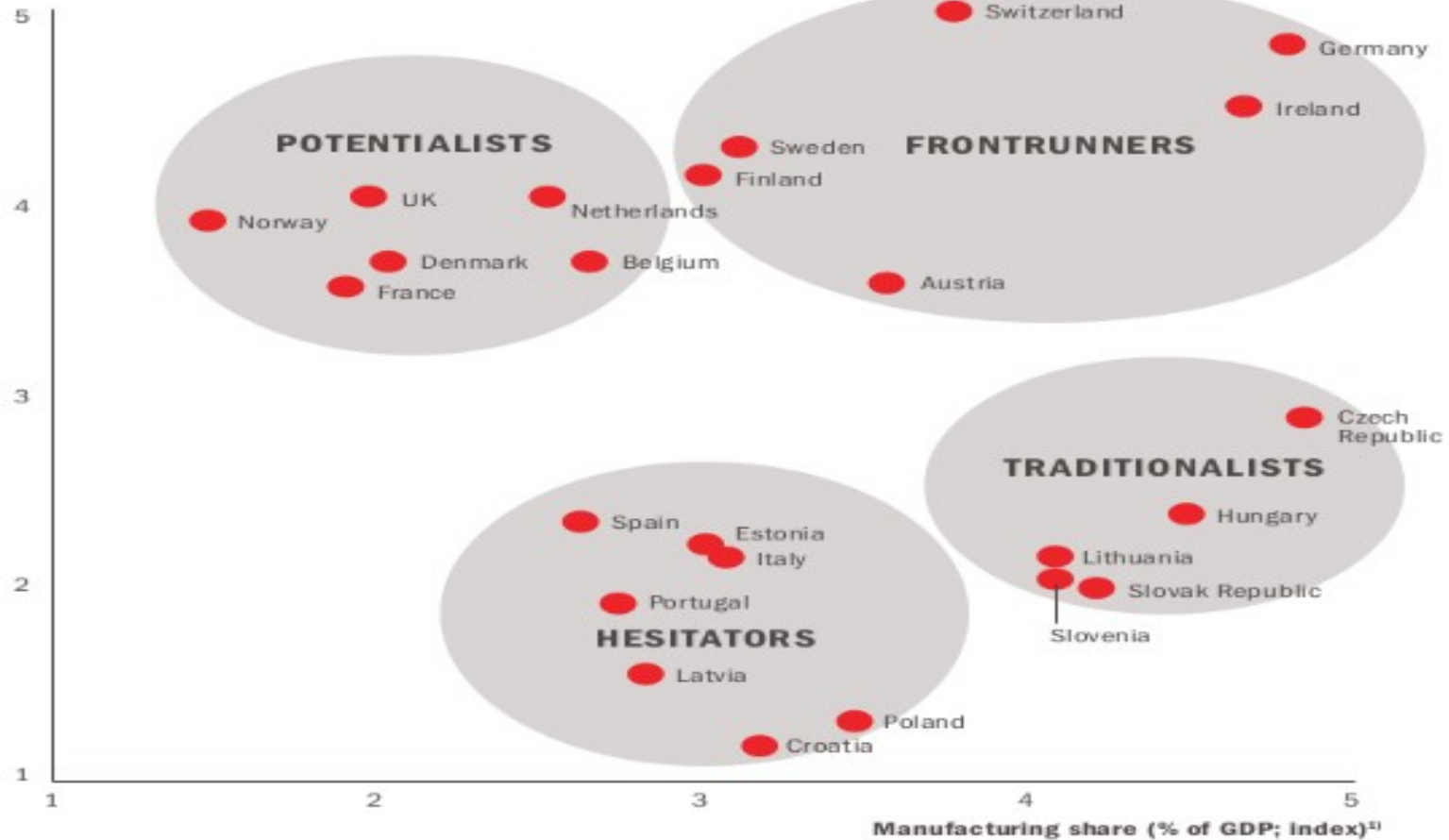
From **optimised processes** to **improved decision making** – connected technologies are a **driver for sustainability**. They also offer high potential **scalability** of sustainability effects.



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# Where is Greece?

RB Industry 4.0  
Readiness Index<sup>1,2)</sup>





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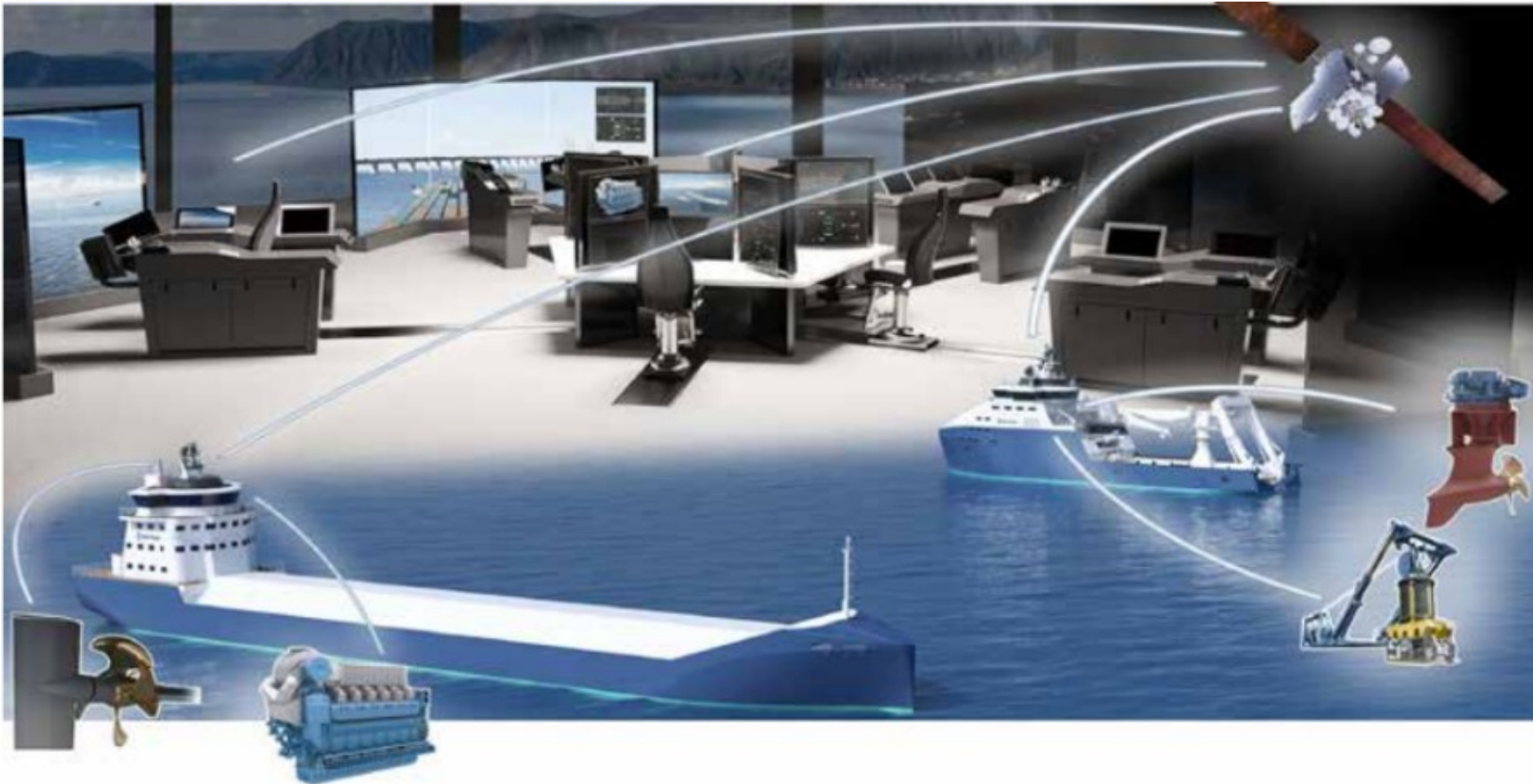
# Ελλάδα 4.0

- Agrofood
- Life Sciences & Health - Pharma
- Information and Communication Technologies
- Energy
- Environment and Sustainable Development
- Transport and Logistics
- Materials - Construction
- Culture - Tourism - Cultural & Creative Industries



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# Marine & Logistics 4.0

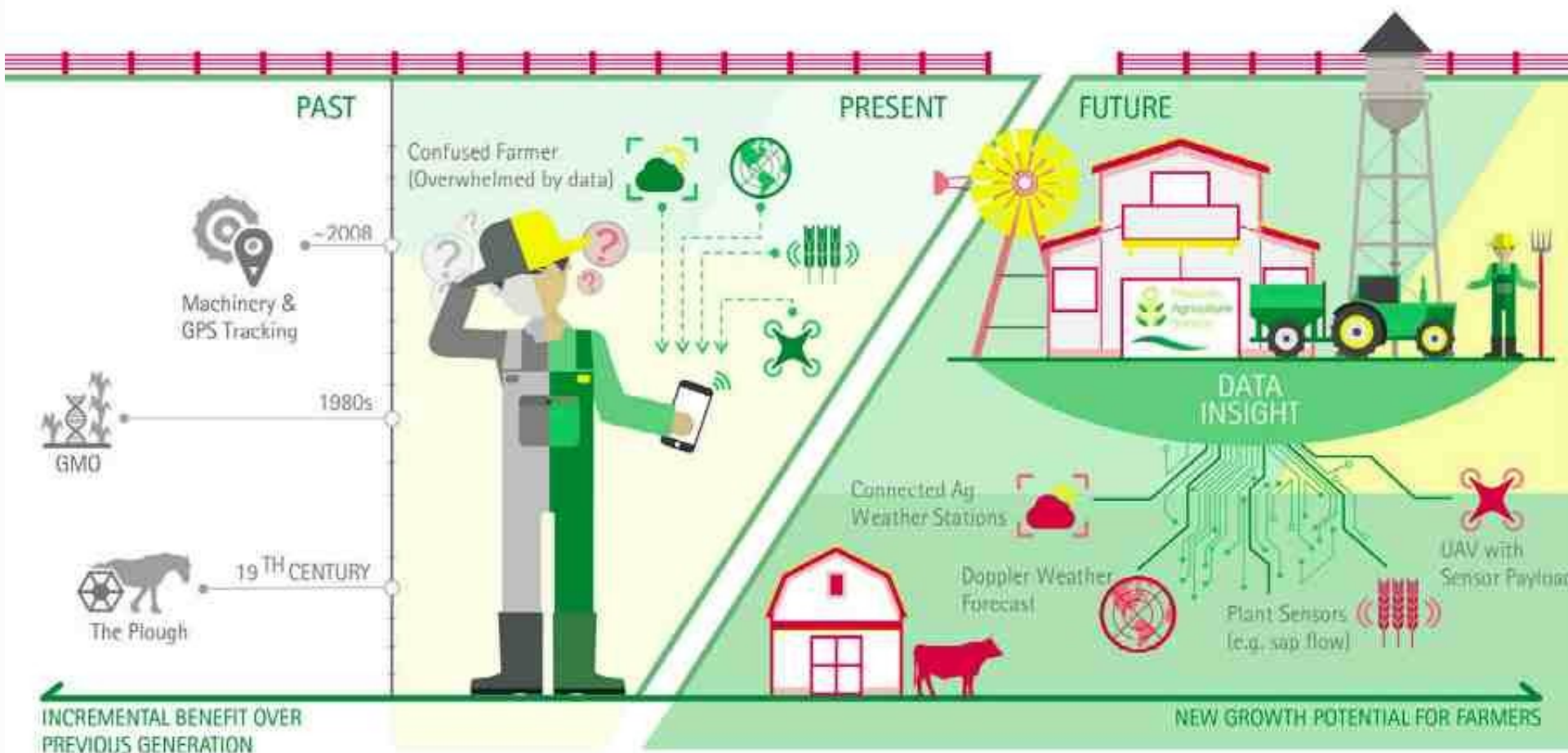






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# Agro-Food 4.0

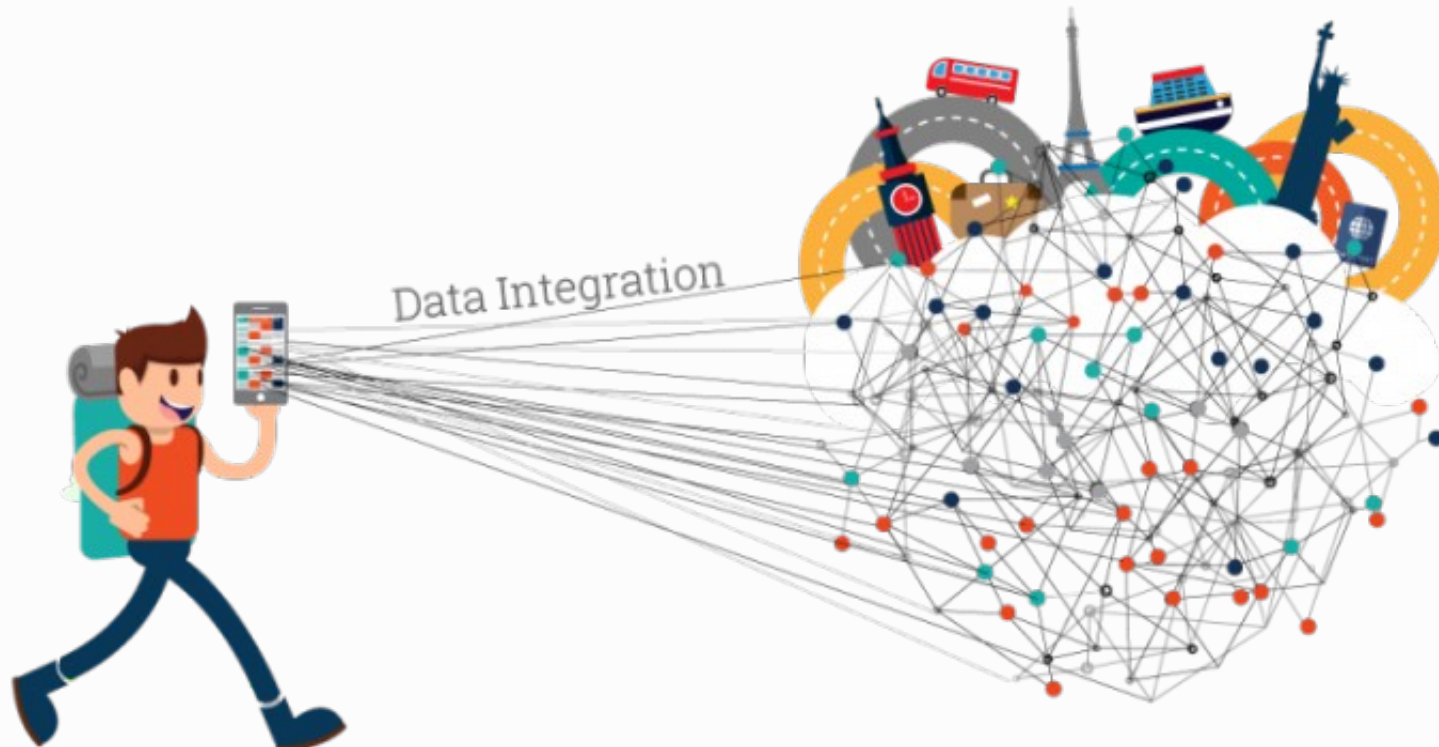






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# Tourism 4.0





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# Health 4.0





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# mGov 4.0



# Greece Scales Up!





# Need for Strategy and Speed

## DIGITAL STRATEGY

### DIGITAL GOVERNANCE

PROCESS GOVERNANCE – DATA GOVERNANCE – TECHNOLOGY GOVERNANCE

### SKILL AND CAPABILITY

LEADERSHIP – SKILL DEVELOPMENT – ORGANIZATION ALIGNMENT

#### PRODUCT AND PROCESS

SMART PRODUCTS

**SMART INNOVATION**  
SMART PRODUCT LIFECYCLE  
MANAGEMENT

**SMART FACTORY /**  
SMART PRODUCTION

**SMART SUPPLY CHAIN**  
DIGITAL, INTEGRATED AND  
INTERCONNECTED

**SMART SERVICES**  
DIGITAL AFTERSALES  
SERVICES

**SMART SALES**  
DIGITAL MARKETING  
AND SALES

#### INFRASTRUCTURE AND TECHNOLOGY



**BIG DATA AND  
ANALYTICS  
PLATFORM**



**CLOUD SERVICES  
INFRASTRUCTURE**



**CONNECTIVITY AND  
SECURITY**



**ARCHITECTURE AND  
APPLICATION  
INTEGRATION**

#### PLAYERS AND ECOSYSTEM



**COMPANY**



**CUSTOMERS**



**SUPPLIERS**



**PARTNERS**



**SOCIAL MEDIA  
AND CROWD**

#### ENABLERS



**SENSORS**



**MOBILE  
DEVICES**



**ROBOTICS**



**M2M**



**3D PRINTING**

## DIGITAL ENABLED BUSINESS MODEL

- ✓ Established in Athens in 2010, by **32** companies – today **70+** which develop **innovative** applications and services to **mobile devices**
- ✓ Its members have a global presence in **40+** **countries**





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# HAMAC members





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# HAMAC Objectives

Growing the  
ecosystem

Going global

Access to  
capital

Enhancing  
innovation and  
entrepreneurship  
policies

## Market Key Players

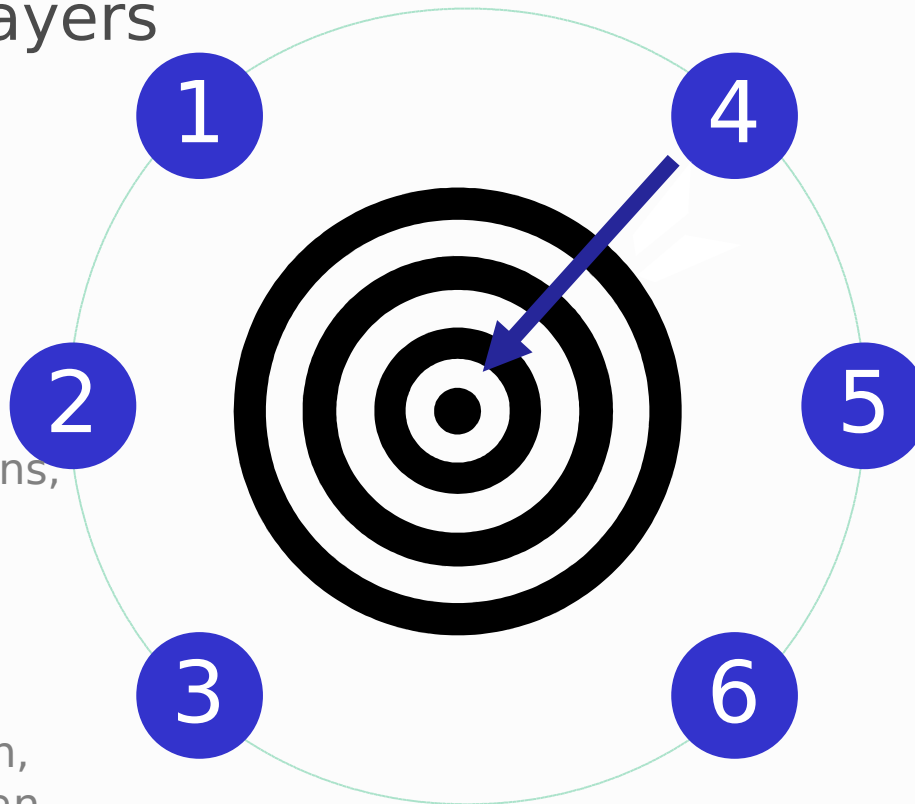
Banks – Telcos –  
Mobile Vendors

## Institutional

Enterprise Greece,  
Municipality of Athens,  
Attica Prefecture

## Chamber

Greek- American,  
Chinese, German,  
etc



## Academic

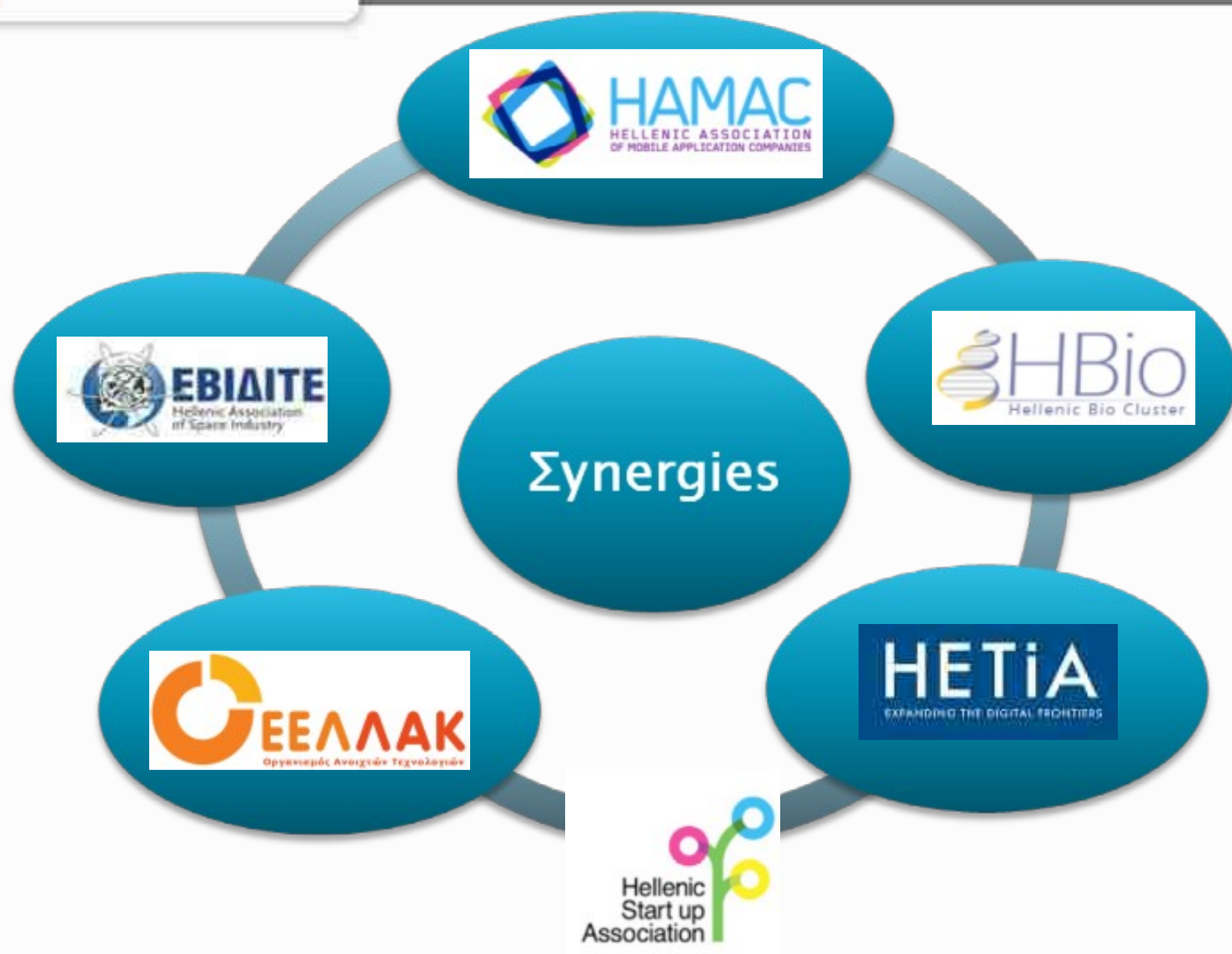
AUEB, ELTRUN,  
Piraeus University  
etc

## Associations

Σynergies, GRECA,  
SEV, IPE,  
SEPE Coralia,  
etc

## Industries

Shipping,  
Logistics,  
Tourism,  
etc



# Greece: 7 years @MWC









# Mobile mini MBA – 6 courses



A HAMAC initiative, in cooperation with ELTRUN, Samsung Hellas and INNOVATHENS powered by Samsung

# InnovAthens - Σynergies





JOIN THE  
**MOBILE**  
**★**  
**★**  
**REVOLUTION**  
**★**  
**NOW!**





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General Manager

**HAMAC**



: Hellenic Association of Mobile Application Companies



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