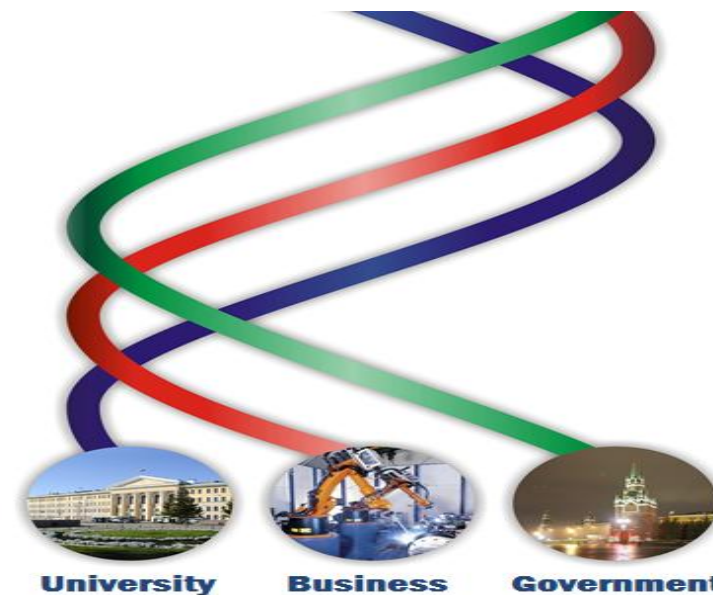




Triple / Quadruple Helix interactions as a tool for Digital Transformation, Networking, Collaborations and convergences in the Balkans



Prof. Panos H. Ketikidis, PhD

About the Speaker

Vice President

University of York Europe Campus, CITY College

Chairperson of SEERC

South East European Research Centre

President

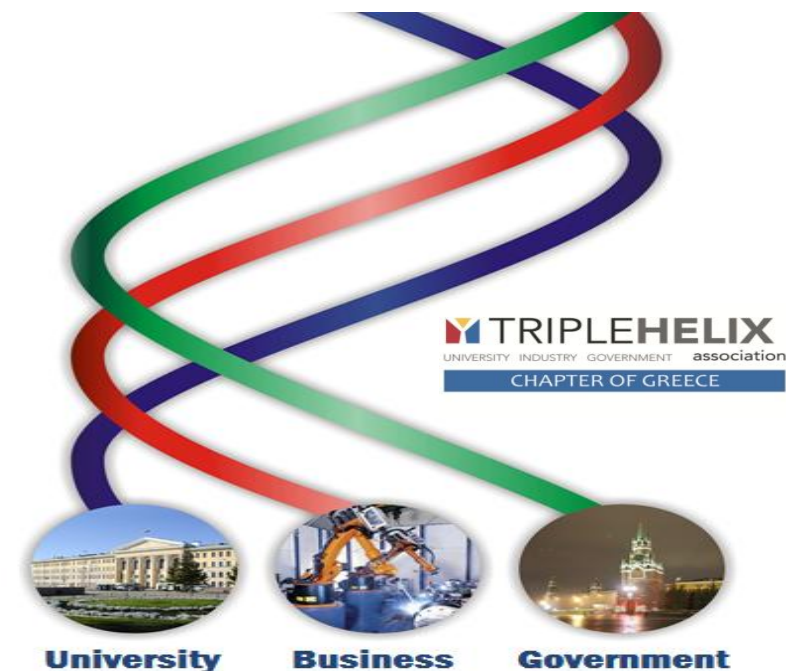
Triple Helix Association - Chapter of Greece

Executive Board Member of EBAN

European Trade Association for Business Angels

Co-Founder of HeBAN

Hellenic Business Angel Network

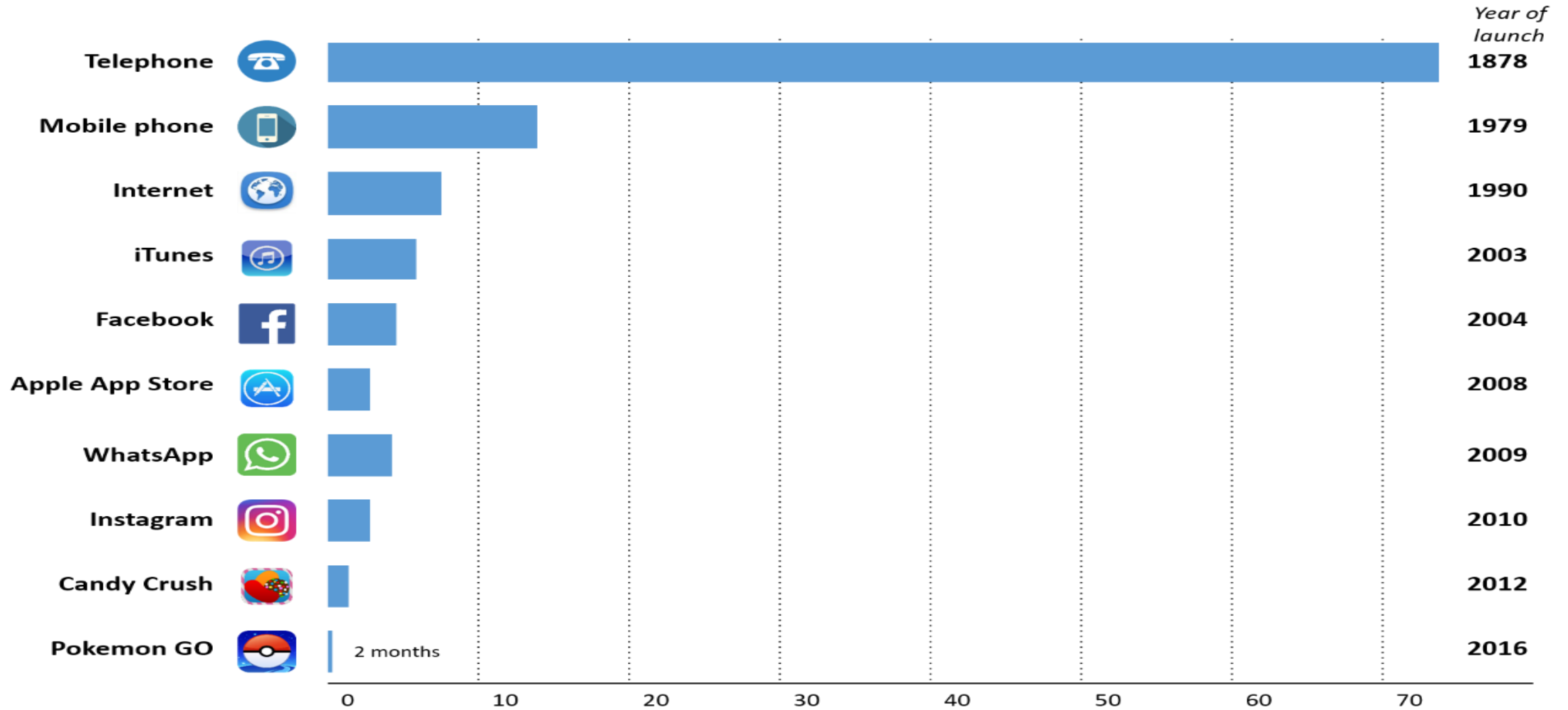


Overview

- ❑ Define Digital Transformation ?
- ❑ Issues and Challenges ?
- ❑ How to create a knowledge intensive region?
- ❑ Triple/Quadruple Helix?
- ❑ University Business Collaborations (UBC)
- ❑ The case of SEERC
- ❑ Key Takeaways

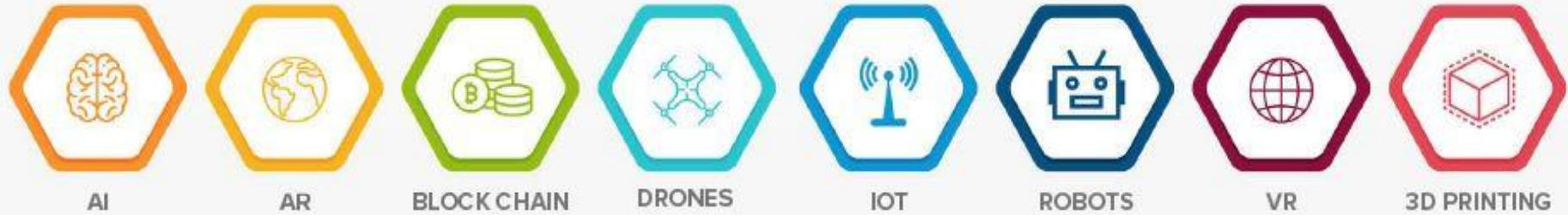


How many years did it take for these innovations to reach 100 million users?

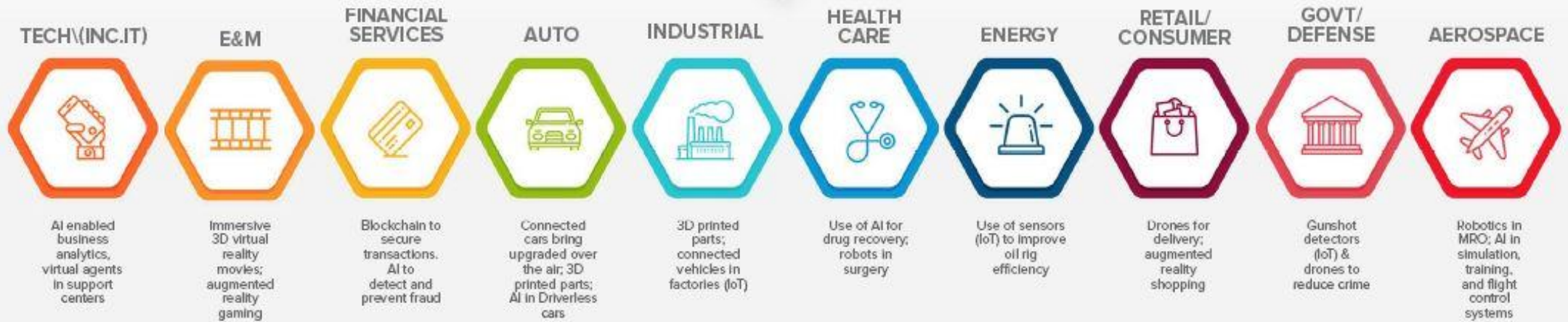


8 ESSENTIAL EMERGING TECHNOLOGIES

The Essential Eight impact is being felt across multiple sectors.




SECTOR APPLICATIONS




Source and graphic thanks to PWC

Antonio Grasso - @antgrasso

WHAT IS **SMART** AND WHAT IS **SPECIALISATION**?

- 
1. Place **evidence based**
 2. Not top down decision, but **bottom up** partnership approach
 3. **Global perspective** on potential advantage & potential for cooperation
 4. Source in **Knowledge, services, technologies, talent and investors**

- 
1. **Priority setting** in times of scarce resources
 2. **Excellence** in something specific
 3. Accumulation of **critical mass**
 4. Not necessarily focus on a single sector but **cross sectorial approach**

Definition: Digital Transformation

David Terrar (2018) at Agile Elephant defines digital transformation:

“Digital transformation is the process of shifting your organization from a legacy approach to new ways of working and thinking using digital, social, mobile and emerging technologies”

So, Digital transformation is **NOT** only technology !!! Or a software upgrade or a supply chain improvement project.



The Greek Ministry of Digital Governance recently presented a Digital Transformation “bible” for the years 2020-2025



Safe, fast, and reliable access to the Internet for all



A digital state offering better digital services to the citizens for all life events



Development of digital skills for all citizens



Facilitate the transformation to digital enterprise



Support and strengthening of digital innovation



Making productive use of public administration data



Incorporating digital technologies to all economic sectors

350 pages –
Presents 400 projects

digitalstrategy.gov.gr

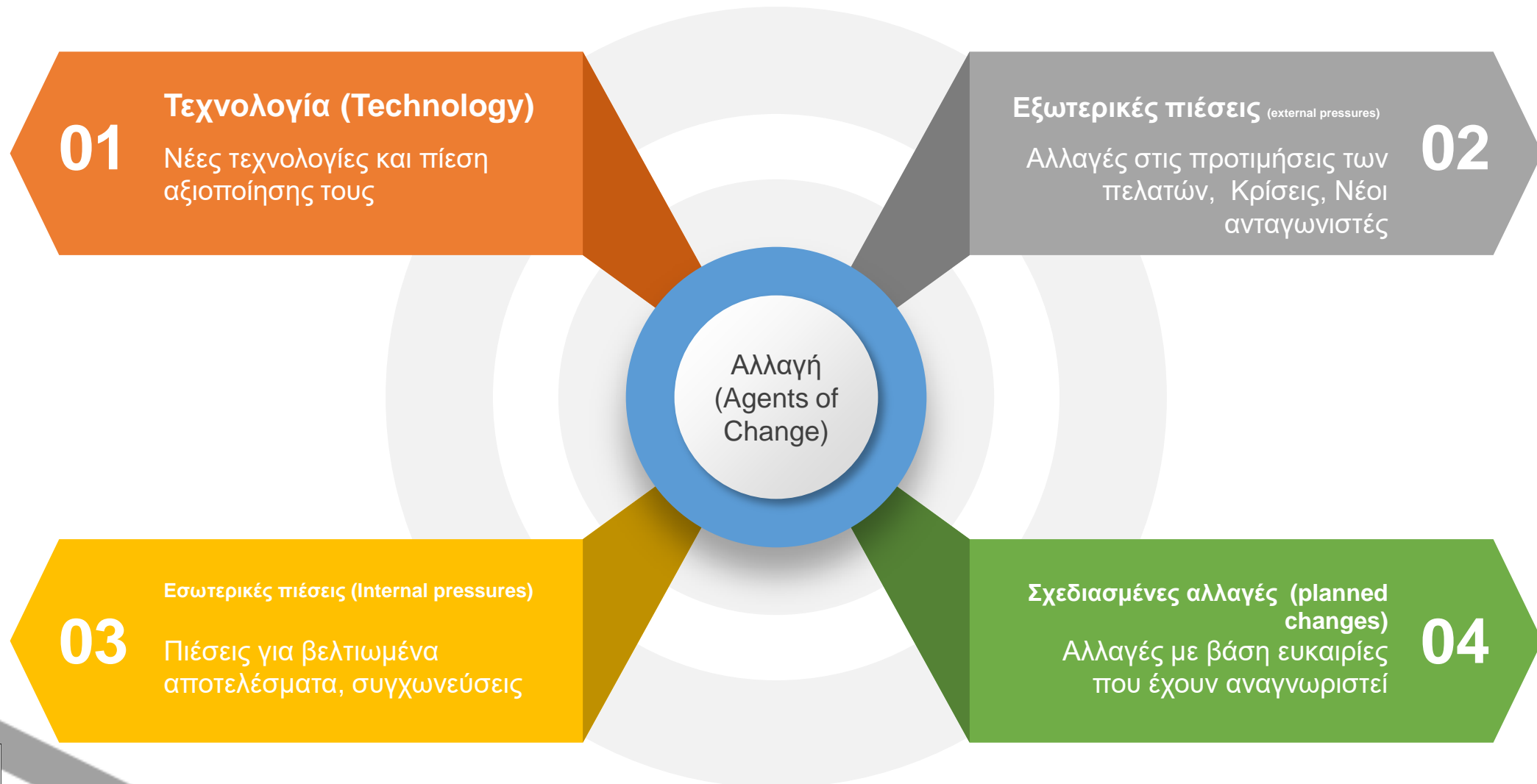
Digital Transformation (4) steps & Evaluation

Απαραίτητα βήματα για τον ψηφιακό μετασχηματισμό



Και.. Αξιολόγηση... and Evaluation

Agents of Change - Παράγοντες αλλαγής



How to create a knowledge intensive region ?

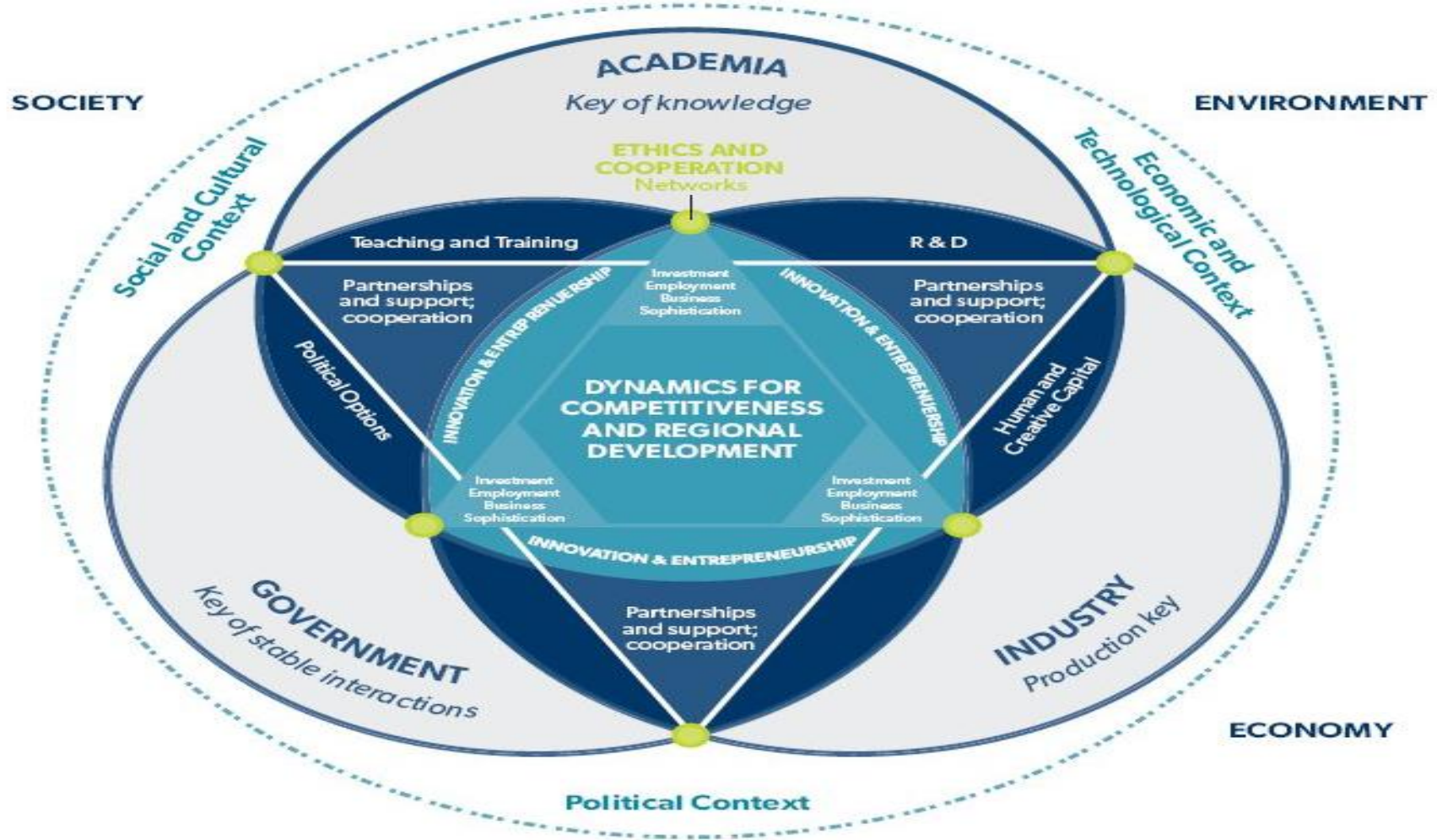


The answer lies in the triple/quadruple helix **composed of Universities, Business, Government and Society** (Triple Helix /Quadruple Helix)

... and in the catalytic role played by local authorities.

What is Triple/Quadruple Helix ?

Farinha and Ferreira's Triple Helix Triangulation model²



➤ The Dublin Declaration of Innovation

Open Innovation to help achieve a sustainable economy and society and pave the way for future innovation policies.

- There are 5 key elements in the new Open Innovation process:
 - **Networking;**
 - **Collaboration:** involving partners, competitors, universities, and users;
 - **Corporate Entrepreneurship:** enhancing corporate venturing, start-ups and spin-offs;
 - **Proactive Intellectual Property Management:** creating new markets for technology;
 - **Research and Development (R&D):** achieving competitive advantages in the market

➤ Based on the

Quadruple Helix Innovation

“stimulating collaboration between citizens, businesses, universities and governments and for moving from the European Research Area towards European innovation eco-systems.”

Quadruple Helix Model !!! So, what do we want ?

➤ Academia

- ❖ Showcase ideas and **ensure implementation in practice**
- ❖ Interaction with civil society, business and government provides guidance on market needs and reality check on ideas

➤ Business

- ❖ Develop a new innovation
- ❖ Opportunity to tap into **academic knowledge to solve technical problems**
- ❖ Practical example cooperating with civil society contributing for the triple bottom line

➤ Government

- ❖ Opportunity to adapt regulations to accommodate new developments
- ❖ **Inspiration for policy priorities**, including need for subsidies in order to optimise impact on development and job creation
- ❖ Opportunity to **solve societal challenges** and ensure optimised public spending

➤ Civil Society

- ❖ Collaboration with the various players and learning opportunity
- ❖ Ability to scale **societal impact of new ideas**
- ❖ Ability to launch new product or service



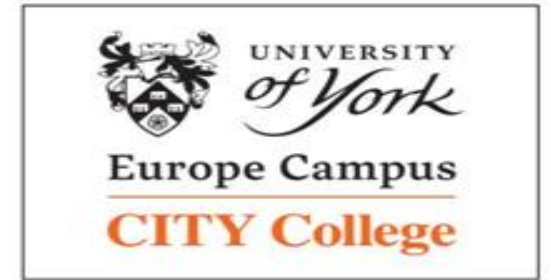
Because we want all these benefits ...

| Type of benefit | Explanation |
|---------------------------------|---|
| Benefits for students | Factors that benefit students, including: <ul style="list-style-type: none">• Improving the learning experience of students,• Increasing skills and graduate development,• Improving the employability of future graduates. |
| Benefits for business | Factors that benefit business, including: <ul style="list-style-type: none">• Improves the performance of business. |
| Benefits for society | Factors that benefit society, including: <ul style="list-style-type: none">• Increasing local employment,• Benefitting the local industry,• Increasing local GDP and disposable income,• Creating a variety of range of social and recreational benefits,• Improving regional productivity. |
| Benefits for HEIs | Factors that benefit HEIs, including: <ul style="list-style-type: none">• Achieving the mission of the HEI. |
| Personal benefits for academics | Benefits that relate to the personal benefits for the academic, including: <ul style="list-style-type: none">• Increasing the academics reputation in the field,• Being vital for personal research,• Increasing chances of promotion and employability,• Improving the standing within the HEI. |

The case of the South East European Research Centre

SEERC

How does SEERC respond to the Quadruple Helix challenges ?



University of York Europe campus, CITY College and its research centre, **the South East European Research Centre (SEERC)** work closely with the **Quadruple Helix** in all the Balkan countries to promote **Research, Innovation and Entrepreneurship**

The South East European Research Centre

Since 2004 - International, multidisciplinary, non-profit ... In Thessaloniki !



MISSION:

Support the development of SEE by conducting basic and applied research, in, and for the region

4 RESEARCH TRACKS:

- Enterprise, Innovation & Regional Development
- Information & Communication Technologies
- From Synapses to Society: Psychology in a Multi-cultural World
- Language and Society: Linguistics, Education, Literature and Translation

SEERC

HOW ? by Building Knowledge Capacity in SEE

Research

Conduct Applied & Policy relevant research

Undertake Research projects of importance for the region

Build & Develop international multidisciplinary research groups

Networking

Act as a "Hub" for the region

Conferences

Workshops

Publishing

Promote independent objective analysis and public discussion

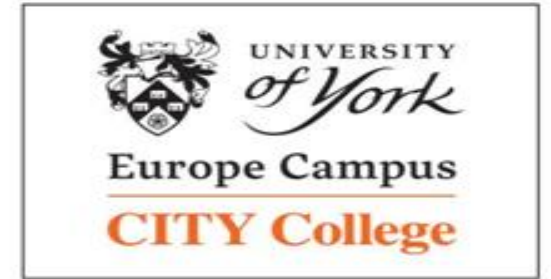
Disseminate findings to policy makers, NGO and INGO leaders, scientific community, general public

Doctoral programme

To increase the number of highly trained researchers in the region



WBC-RRI.NET: Promoting Responsible Research and Innovation in the Western Balkan Countries



Scope: Anchor Activities in **5 Western Balkan Countries (WBC)** involving the **Quadruple Helix stakeholders** in defining and implementing action plans that tackle:

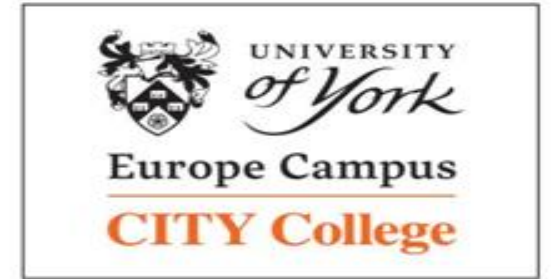
- **In Vojvodina, Serbia:** Open Access with a focus on **ICT and Health**
- **In Republic Srpska, BiH:** STEM education with a focus on **ethics and gender**
- **In Montenegro:** **Public engagement and citizen participation** in defining research and innovation agendas
- **In Kune-Vain-Tale, Albania:** Environmental sustainability and public engagement
- **In Skopje, North Macedonia:** STEM education and gender equality

The project aims to facilitate:

- WBC defining **inclusive Smart Specialization Strategies**
- WBC participation at the **European Research Area**.

See our first Policy Brief [here](#).

Facilitating ICT research and WBC participation to EU Framework R&I Programs



ICT-WEB PROMS: Promoting ICT research in the WBC

ICT-KOSEU: Facilitating ICT research and innovation and promoting Kosovo researchers' participation in the EU Framework Programs

PHDICTKES: Creation of the National School for ICT (PhD) Doctoral Studies



Promoting entrepreneurship and early-stage investment

VIBE: Creation of a Balkan Venture Forum (BkVF)

RRISstart: Promoting impact investment in start-ups using the Responsible Research and Innovation framework

iCBA: Intelligent Cross-Border Accelerator for Innovative ICT-enabled start-ups (Greece – North Macedonia)

TraCCE: Open access training program on Creative & Cultural Entrepreneurship.

Enhanced impact on our immediate and wider region

Thessaloniki / Central Macedonia

- Cooperation with all the main Academic and research institutions
- Cooperation with industry and industry representing organizations
- Cooperation with local government (City, Region, Agencies)

South East Europe

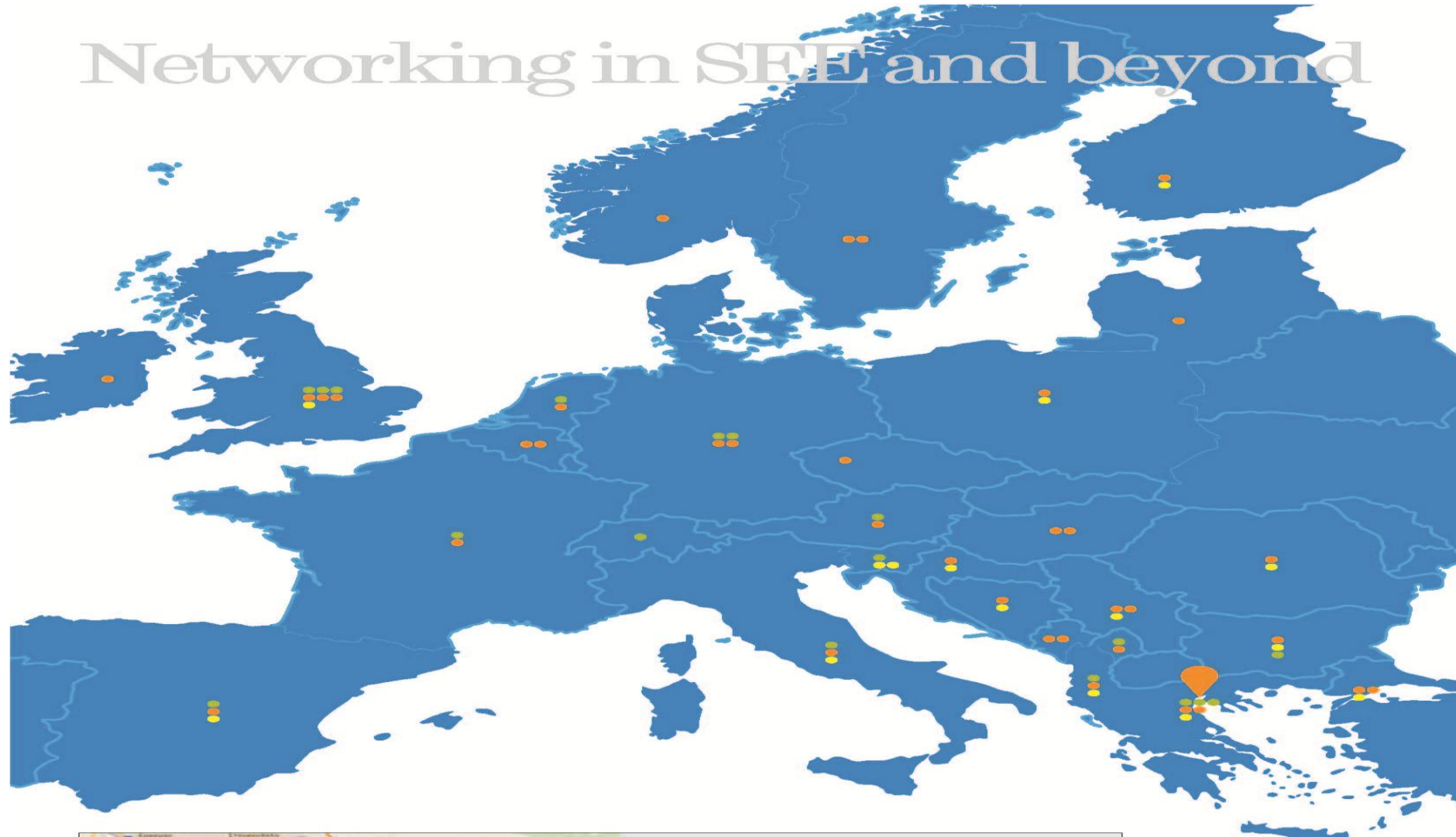
- Capacity building through our PhD holders
- Capacity building through externally funded projects
- A wide network of cooperation in all SEE countries (**Academia, Industry, Government**)

European Union

- A trusted partner for project implementation across a wide network. Examples include the **European Science Foundation; Universities: like NTNU in Norway, KIT in Germany, Groningen in the Netherlands, UA Barcelona and Sapienza in Rome; Companies: like SAP, Tata Steel and Telefónica.**

SEERC's Network & Partnerships

Networking in SEE and beyond

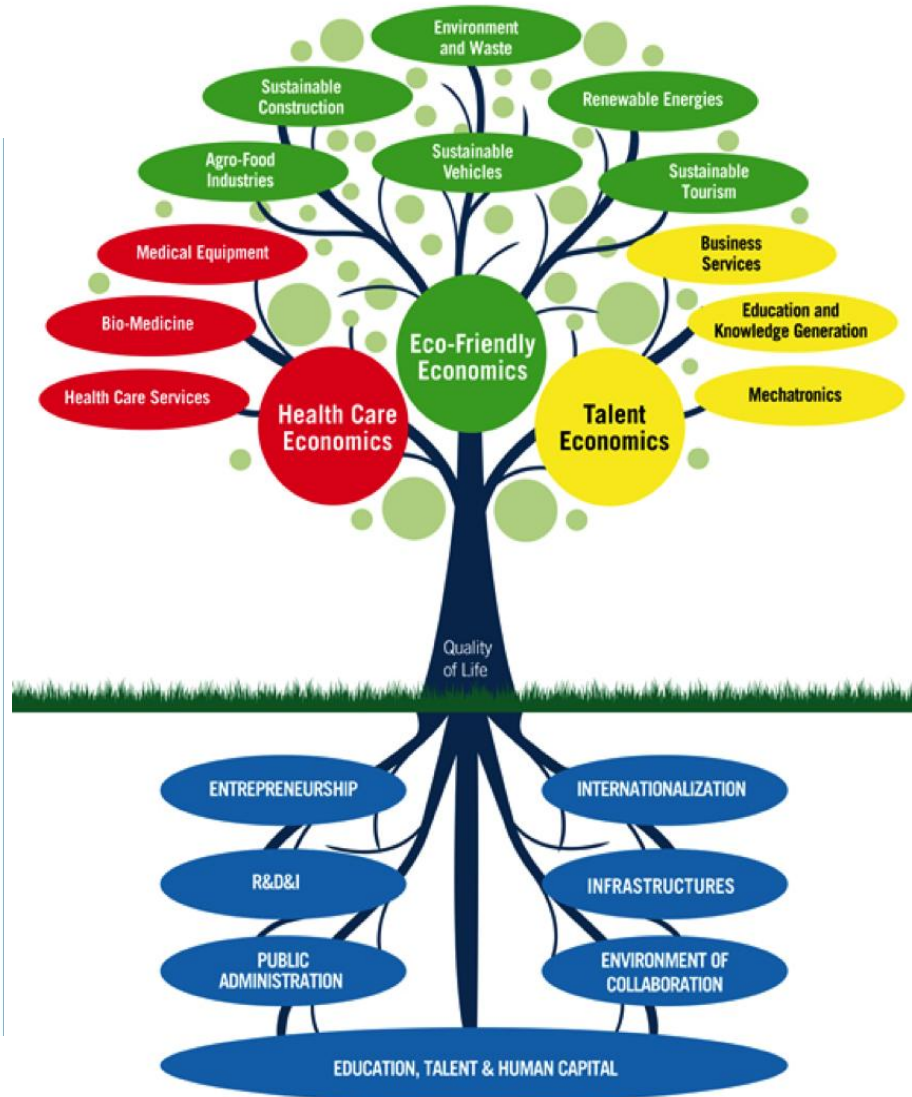
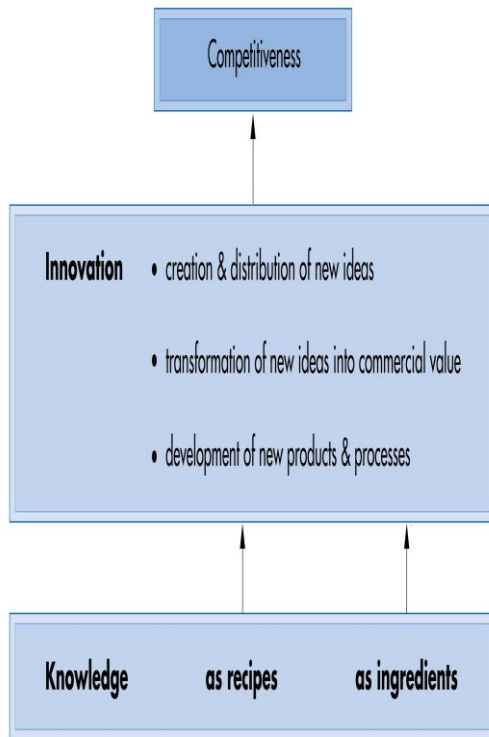


- Industry
- Academia
- Government

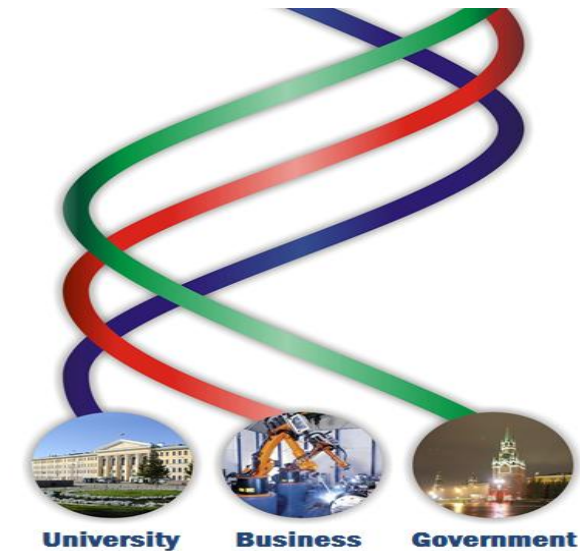
Key Takeaway

Smart Balkans & competitive countries

Relationships between Competitiveness, Innovation and Knowledge



✓ **Quadruple Helix Interactions will provide the root to develop Networks and Partnerships that will improve the technological ecosystems in the Balkans, for sustainable growth.**



EU countries - Digital Transformation initiatives



Γερμανία - "Industrie 4.0"

Πρωτοβουλία της Κεντρικής Κυβέρνησης με τη συμμετοχή σημαντικών βιομηχανιών και εταιρειών τεχνολογίας (hi-tech start-ups). Αναπτυγμένα εργαλεία περιλαμβάνουν τόσο την άμεση χρηματοδότηση όσο και φορολογικά κίνητρα.



Γαλλία - "Industrie du Futur"

Πρωτοβουλία της κεντρικής Κυβέρνησης που έχει αναπτύξει κίνητρα για να ενισχύσει τα δημοσιονομικά οφέλη από τις ιδιωτικές επενδύσεις. Τα κίνητρα περιλαμβάνουν φορολογικές πιστώσεις για δαπάνες έρευνας και ανάπτυξης, άμεση χρηματοδότηση έργων: "Industrie du Futur" και "Invest for the future".



Βέλγιο - Φλάνδρα - Visie 2050 / Βαλλωνία - Marshall plan 4.0 | Made different - factories of the future

Στρατηγικά πλάνα οικονομικής ανάπτυξης που καλύπτουν πολλαπλές περιοχές όπως βιομηχανία, τηλεπικοινωνίες και ψηφιακή οικονομία, εκπαίδευση, ψηφιακός μετασχηματισμός της δημόσιας διοίκησης κ.α.



Δανία - MADE: Manufacturing Academy

Εθνική πρωτοβουλία που έχει ως αποτέλεσμα τη συνεργασία μεταξύ ΜμΕ και μεγάλων επιχειρήσεων, 5 πανεπιστημίων, 3 τεχνολογικών κέντρων, του συνδέσμου βιομηχανίας της Δανίας και 3 επιπλέον ιδρυμάτων, με στόχο την ανάπτυξη λύσεων υψηλής τεχνολογίας.



Ηνωμένο Βασίλειο - CATAPULT: High value manufacturing

Στρατηγικό πλάνο συνεργασίας βιομηχανίας & πανεπιστημίων με έμφαση στη χρηματοδότηση έργων και την εφαρμοσμένη έρευνα, εστιασμένη στον κλάδο μεταποίησης και τους δημιουργικούς κλάδους.



Ισπανία - "Industria Conectada 4.0"

Διαμόρφωση εθνικού στρατηγικού σχεδίου για την υποστήριξη των επιχειρήσεων στο ψηφιακό μετασχηματισμό.



Αυστρία - "Industrie 4.0"

Δημιουργία εθνικής πλατφόρμας Industrie 4.0, που λειτουργεί ως παρατηρητήριο, μέσο δικτύωσης και κέντρο παροχής συμβουλών για την ανάπτυξη στρατηγικής υιοθέτησης νέων τεχνολογιών και επίλυσης θεμάτων.



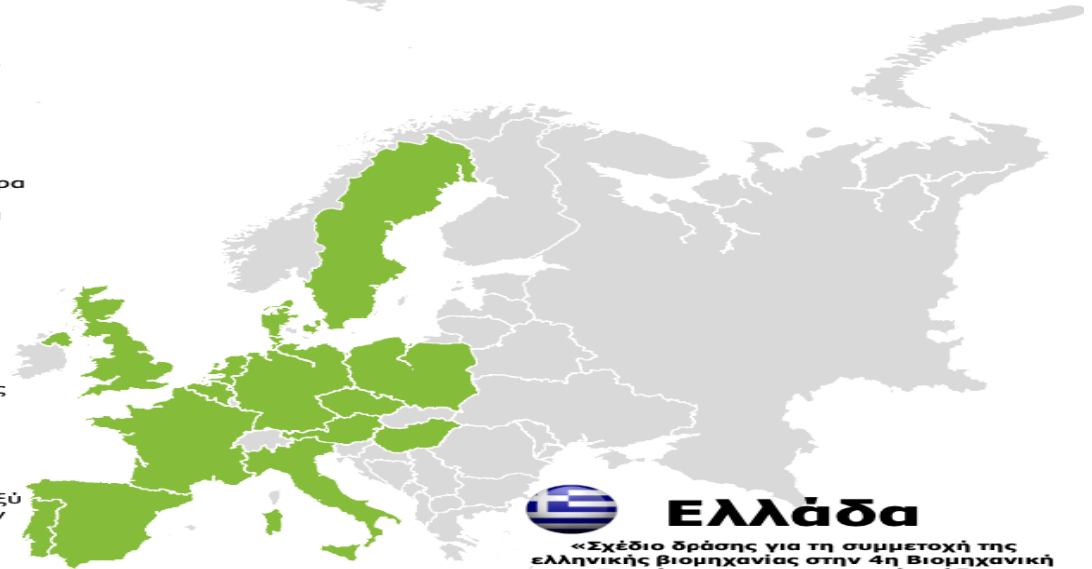
Πορτογαλία - "INDUSTRIA 4.0"

Το πρόγραμμα Industria 4.0 της Πορτογαλίας, αποτελεί πρωτοβουλία της Κυβέρνησης με κύριο στόχο την επιτάχυνση της υιοθέτησης νέων τεχνολογιών από την επιχειρηματική κοινότητα.



Πολωνία - "Future Industry Platform"

Το σχέδιο παρέχει βιομηχανική χρηματοδότηση για μια περίοδο 25 ετών και επιδιώκει μια ατζέντα επανεπενδύσεων μέσω νέων εταιρικών σχέσεων, μέτρων υποστήριξης για εξαγωγές και ολοκληρωμένη περιφερειακή ανάπτυξη.



Ελλάδα

«Σχέδιο δράσης για τη συμμετοχή της ελληνικής βιομηχανίας στην 4η Βιομηχανική Επανάσταση» - σε αρχικό στάδιο



Σουηδία - "SMART INDUSTRY"

Διαμόρφωση στρατηγικής για την ενίσχυση της ανταγωνιστικότητας των σουηδικών βιομηχανιών στο πλαίσιο του ψηφιακού μετασχηματισμού.



Ολλανδία - "Smart industry"

Πλάνο συνεργασίας μεταξύ της μεγαλύτερης ένωσης τεχνολογικών εταιρειών (FME), της Οργάνωσης για Εφαρμοσμένη Επιστημονική Έρευνα (TNO), του υπουργείου Οικονομικών, του Συνδέσμου Βιομηχανών και του Εμπορικού Επιμελητηρίου της χώρας.



Ιταλία - Εθνικό σχέδιο Industria 4.0

Η Ιταλική Κυβέρνηση ανακοίνωσε το Φεβ 2017 ένα νέο εθνικό σχέδιο ονομαζόμενο «Industria 4.0», που στοχεύει στην τόνωση επενδύσεων σε νέες τεχνολογίες και καινοτομία καθώς και στην προσέλκυση ξένων επενδυτών. Δίνει ιδιαίτερη έμφαση στην ανάπτυξη δεξιοτήτων σε όλα τα επίπεδα εκπαίδευσης.



Τσεχία - "Průmysl 4.0"

Διαμόρφωση εθνικής στρατηγικής που εστιάζει στη δημιουργία κοινωνικού και επιχειρηματικού περιβάλλοντος που προσαρμόζεται στις νέες τεχνολογίες.



Ουγγαρία - "IPAR 4.0 National technology platform"

Δημιουργία πλατφόρμας για την ενίσχυση του βιομηχανικού μετασχηματισμού.

THANK YOU

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