

EARTO Innovation School

How RTOs Contribute to the EIT KICs and What Can Be Improved to Boost EIT's Impact?

5 July 2016



Representation of
North Rhine-Westphalia
Brussels

Agenda

12.00 – 12.30	Sandwich Lunch & Networking
12.30 – 12.35	Welcome - Muriel Attané, Secretary General, EARTO
12.35 – 12.45	Introduction on EIT - Martin Kern, Interim Director, EIT
12.45 – 13.00	EIT KICs Supporting Research-Driven Entrepreneurship <ul style="list-style-type: none">• Timo Haapalehto, Senior Scientist, VTT
13.00 – 13.10	Technology Transfer in Interregional Collaboration Structures <ul style="list-style-type: none">• Julia Schmalenberg, Technology Transfer, Fraunhofer
13.10 – 13.20	EIT KICs Supporting Collaborations Between Knowledge Triangle Stakeholders <ul style="list-style-type: none">• Etienne Bouyer, Adjunct Director of the New Technology for Energy Program, CEA and Nora Benhabiles, Director External Collaborations and Industrial Partnerships, CEA
13.20 – 14.00	Discussion & Closing – Muriel Attané, Secretary General, EARTO

EARTO Vision: Technology for a Better World

EARTO Moto: Impact Delivered!



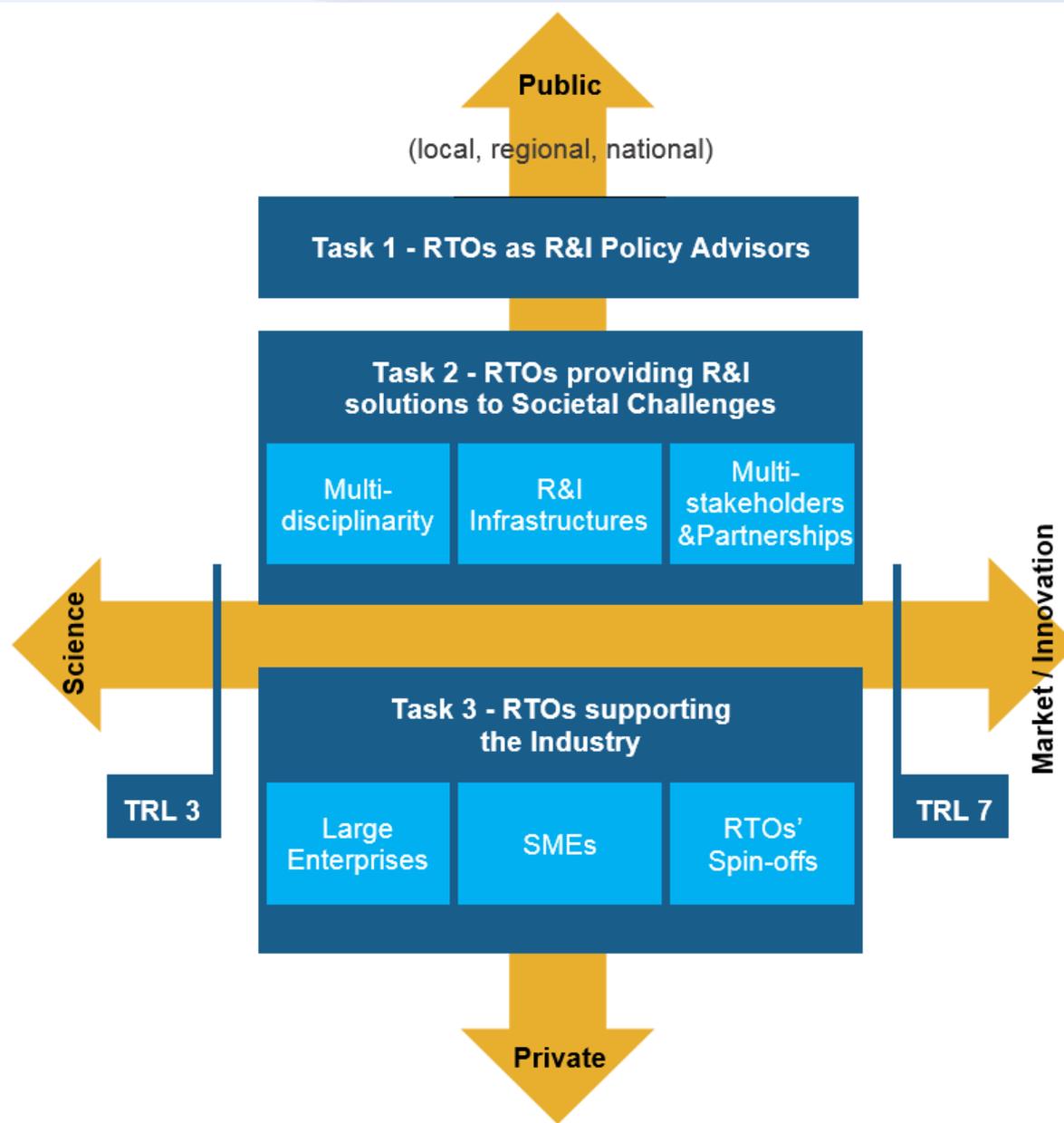
23 COUNTRIES

350 RTOs

NETWORK
150 000
RESEARCHERS
ENGINEERS &
TECHNICIANS
SHARING IDEAS
& INFORMATION

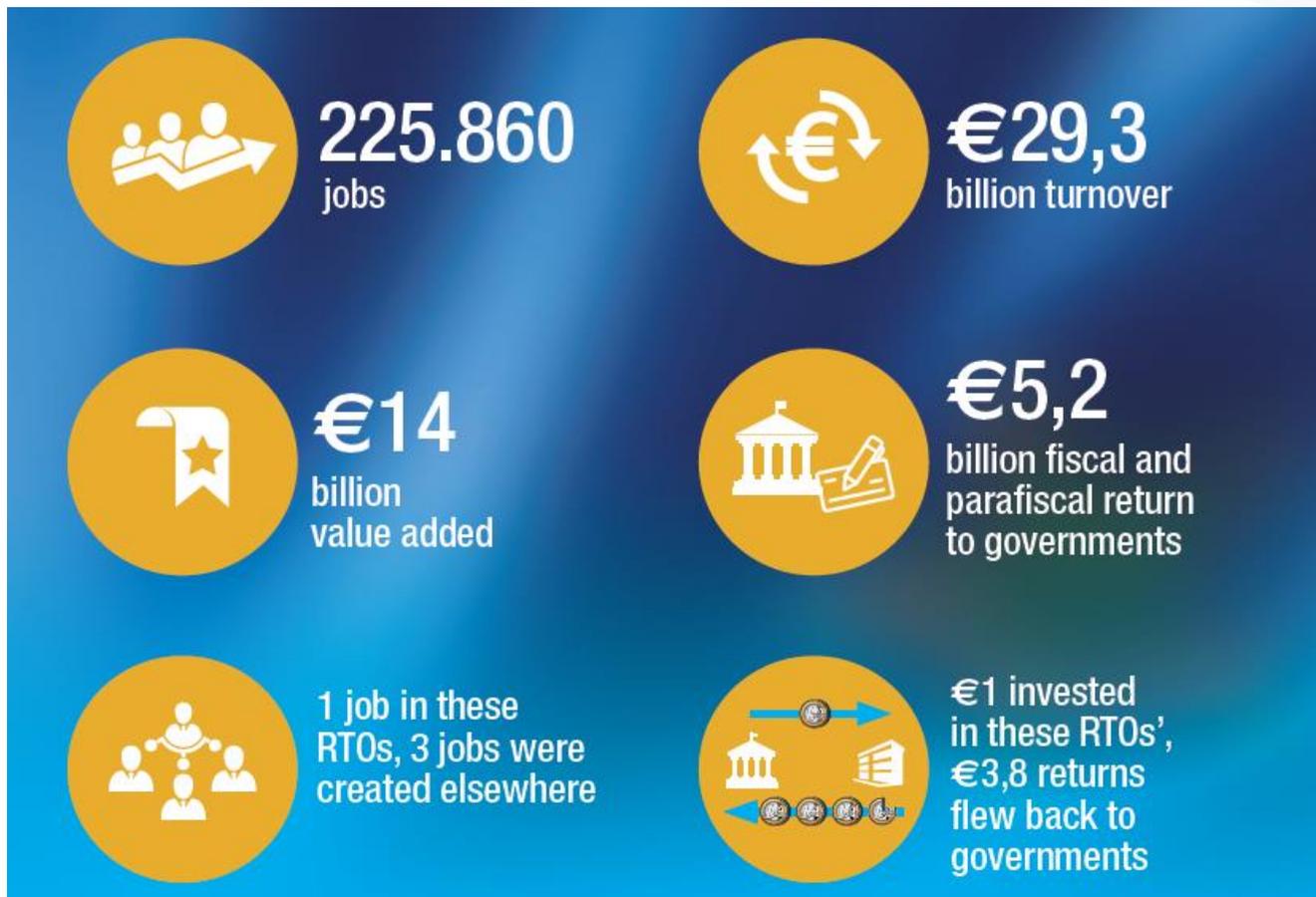


Understanding European RTOs

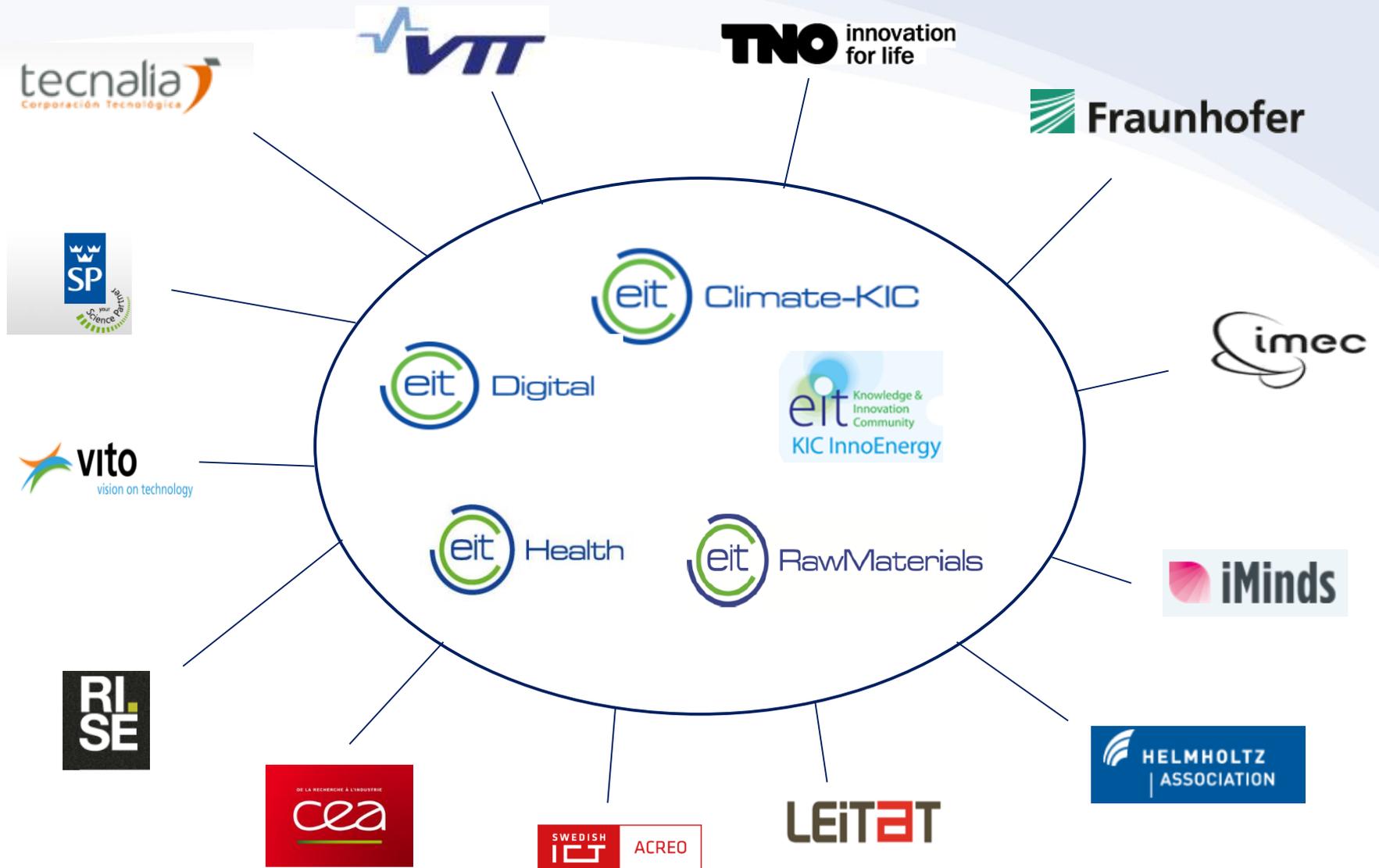


Economic Footprint of 9 EARTO members in one year (2014)

The aggregated economic effect of 9 European RTOs from their Core-Activities and generated through Contract Research and Spin-offs resulted in 2014 in:



RTOs involved in all EIT KICs



EARTO Innovation School

Module 5: How RTOs Contribute to the EIT KICs and What Can Be Improved to Boost EIT's Impact?

Introduction on EIT

Martin Kern, Interim Director, EIT



European Institute of
Innovation & Technology

The EIT is a body of the European Union



Making innovation happen!

EIT's mission, priorities & achievements



Martin Kern
EIT Interim Director

EARTO Innovation School
Brussels, 5 July 2016

EIT Awards 2016

EIT VENTURE AWARD

Florian Schneider

(Co-founder and COO)

Nerdalize

- **The idea:** Nerdalize heats houses with computing power. By placing powerful servers in the form of a radiator in people's homes, we heat the home with the heat the servers produce. This means the home owner saves on heating, and companies and researchers using computing power save 30-50% on their computing jobs.

• **EIT Community connection:** Part of the Climate-KIC Accelerator programme at the Dutch Co-Location Centre



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EIT INNOVATORS AWARD

Norbert Kuipers

**Water and Energy for Climate Change
(WE4CC)**

- **Project aim:** To use membrane distillation and desiccant recovery systems to turn low-grade waste heat or renewable solar PVT heat into high-quality water and indoor air.
- **EIT Community connection:** Climate-KIC

EIT CHANGE AWARD

Allen Mohammadi

(CEO and Co-founder)

Hippogriff AB

(main product: Complex
Disease Detector)

- **The idea:** Complex Disease Detector (CDD) is an accurate, non-invasive and inexpensive tool for the screening and early diagnosis of heart disease. It uses a patient's medical data and offers a decision support tool to doctors, while also helping patients to discover if they suffer from heart disease, even if they show no symptoms.

• **EIT Community connection:** KIC InnoEnergy Master School ENTECH Programme (KIT and Uppsala University 2013-2015)

Climate-KIC Berlin Accelerator: Green Garage



**1st CleanTech
Incubator Germany**



**More than 70 scalable start-ups in Germany
supported
Focus on energy, mobility, agriculture & water**



Offers extreme **water saving** and **highly efficient farm systems** for commercial vegetable and fish production in urban areas.

Winner of Cleantech Open Silicon Valley 2013

1.6 Mio EUR Investment

Big customer in Switzerland



Sells **smart thermostats** that regulate the heating in the household according to the location data of inhabitants.

32 Mio EUR Investment

Successful internationalisation

Competitor to Google's start-up Nest



European Institute of Innovation and Technology

Our vision is to become the leading European initiative that empowers innovators and entrepreneurs to develop world-class solutions to societal challenges, and create growth and skilled jobs.

- 1st EU initiative bringing together the three sides of the 'knowledge triangle': business (companies and SMEs), education institutions and research centres.
- aim to increase the cooperation and integration between higher education, business and research to facilitate the transition from:



**student to
entrepreneur**

idea to product

lab to customer



The European innovation paradox

Excellent European research base, dynamic companies and creative talent



Good ideas are too rarely turned into new products or services!



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Innovation & Technology

EIT – an integral part of

HORIZON 2020



The EIT contributes to H2020 by addressing societal challenges via the integration of the knowledge triangle



H2020 has a budget of approx. € 80 billion for 2014 to 2020, out of which the EIT has been allocated € 2.4 billion



The EIT will further nurture synergies and complementarities across H2020 and its different initiatives



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Innovation & Technology

EIT Priorities 2014-2020

1

Fostering
growth and impact of
first 3 KICS

Climate-KIC
EIT Digital
KIC InnoEnergy

2

Creating
5 new KICs

2014

EIT Health
EIT Raw Materials

2016

EIT Food
EIT Manufacturing

2018

EIT Urban Mobility

3

**Sharing and
Disseminating**

EIT Community
good practices

Inc. EIT Regional
Innovation Scheme
(EIT RIS)



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Innovation & Technology

EIT Community across Europe

Climate-KIC

- Co-location Centre
- Regional Centre (RIC)

EIT Health

- Co-location Centre
- InnoStars

EIT Digital

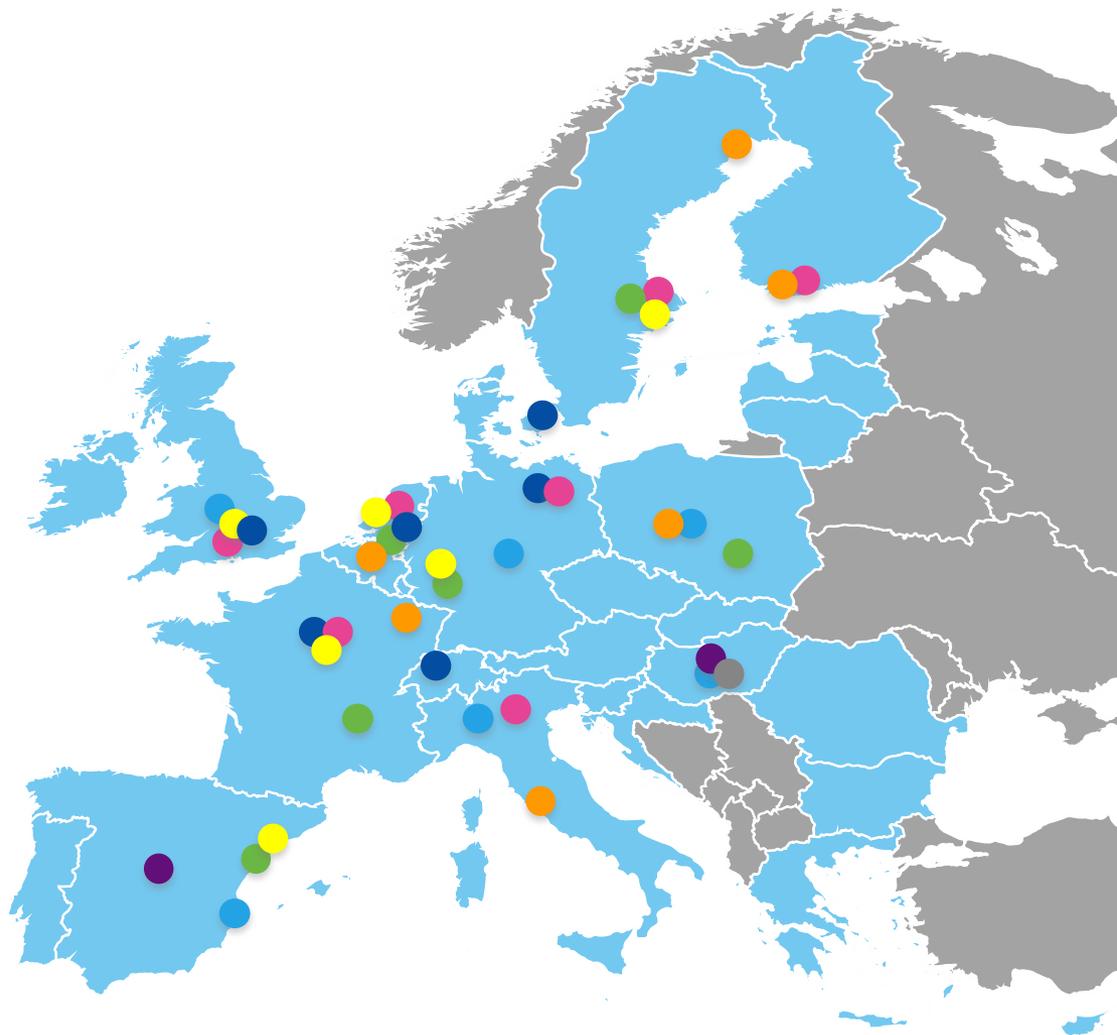
- Co-location Centre
- Associate Partner

EIT Raw Materials

- Co-location Centre

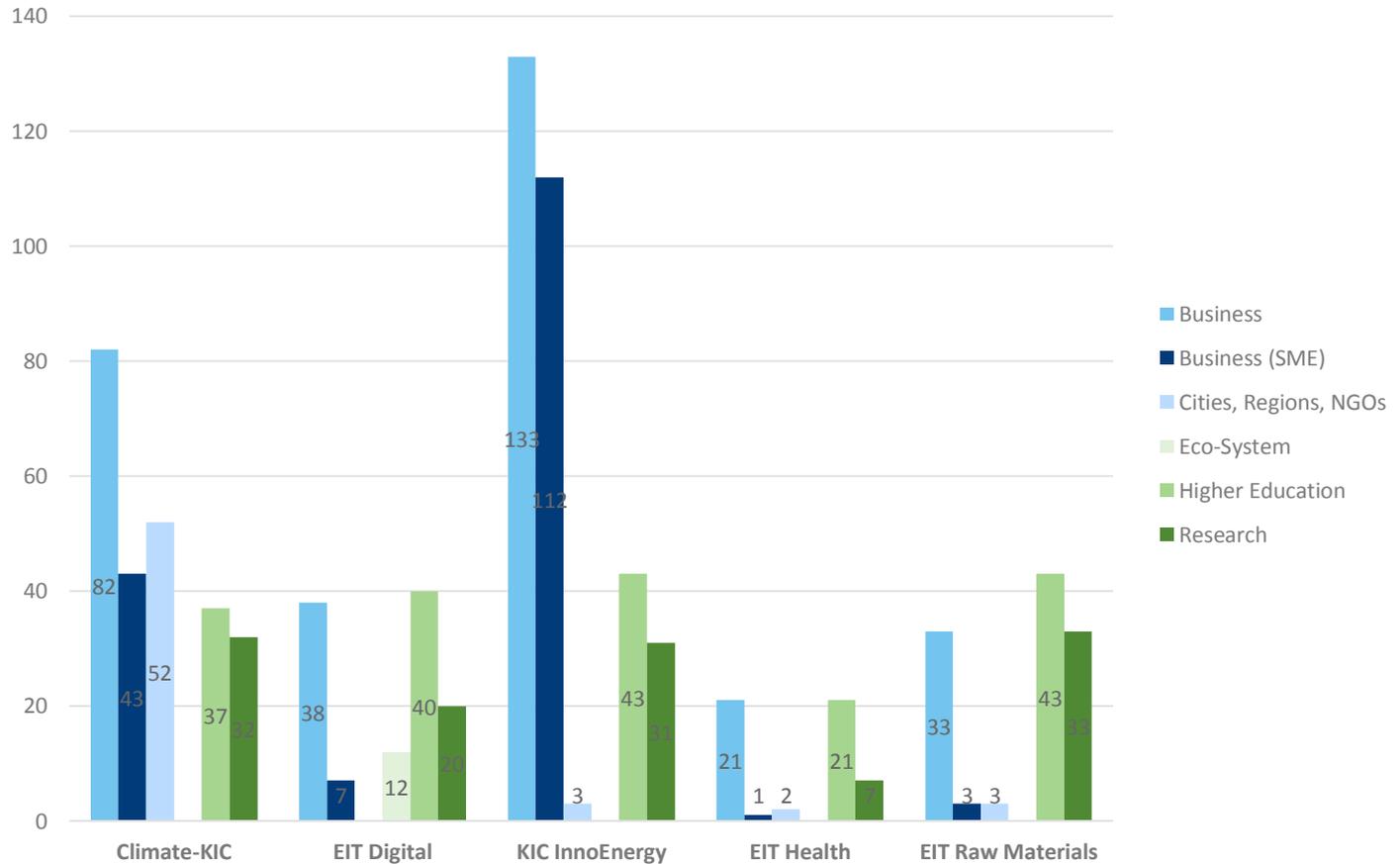
KIC InnoEnergy

- Co-location Centre



Overview of KIC Partners

Today, the EIT Community brings together more than **800 partners**:





Our strategy to boost innovation in Europe

Facilitate the development of European ecosystems where research, business and education come together to find sustainable solutions to societal challenges by:

- Creating interconnected knowledge and creativity hotspots
- Fostering talent: innovators, entrepreneurs and students
- Attracting investors



EIT KIC model

A business logic

- **High degree of integration:** each KIC is an independent legal entity, gathering world-class partners from across the knowledge triangle based on a contractual relationship/partnership with the EIT.
- **Long-term strategic approach:** each KIC is set up for a minimum of 7 years to eventually become sustainable.
- **Autonomy and flexibility:** to determine organisational structure and activities governed by a Board of KIC partner organisations.
- **Effective governance:** run by a CEO and a lean management team at central and Co-location Centre level all implementing the Principles of Good Governance.

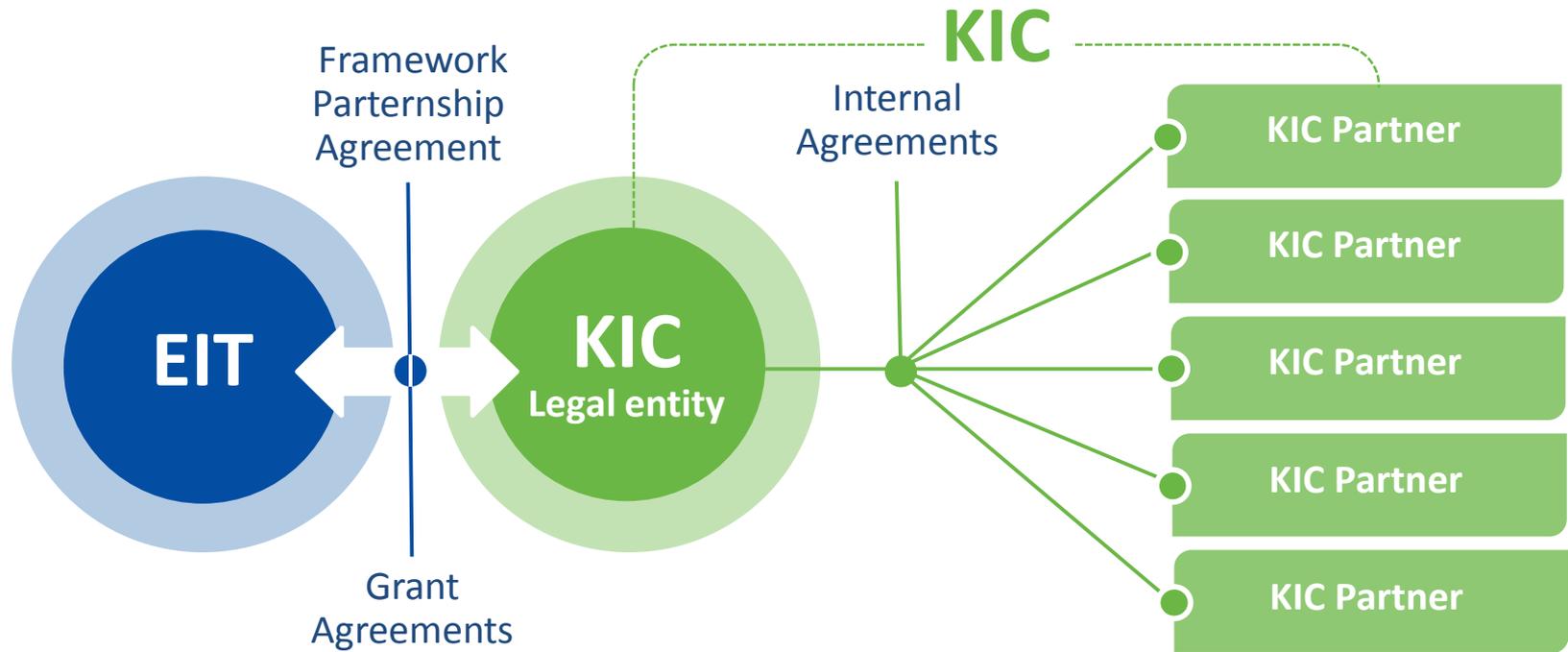


EIT KIC model

an investment logic

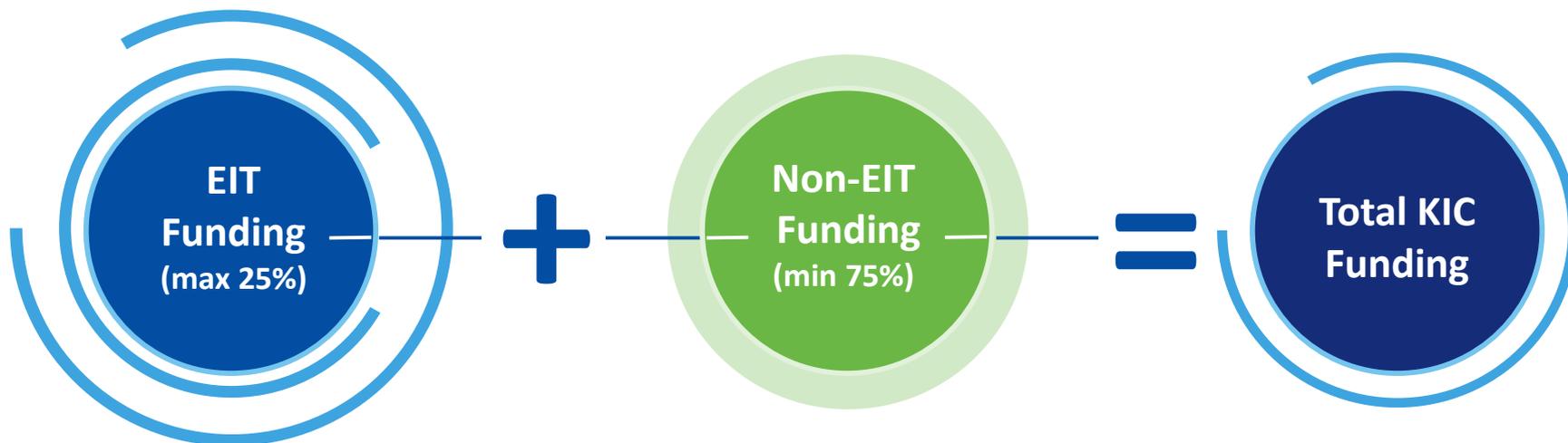
- **Smart funding & high degree of commitment of partners:** EIT funding to KICs is max. 25% of their total budget over time with 75% to be attracted from other sources, both public and private.
- **Culture:** KICs are shaped by strong entrepreneurial mindsets and cultures.
- **The Co-location model:** each KIC consists of world class innovation hotspots leveraging on existing European capacities and building pan-European networks.
- **Results & high impact oriented activities:** KICs implement a Business Plan with measurable deliverables, results and impact.

Engaging with KICs: contractual relations between the EIT and the KICs



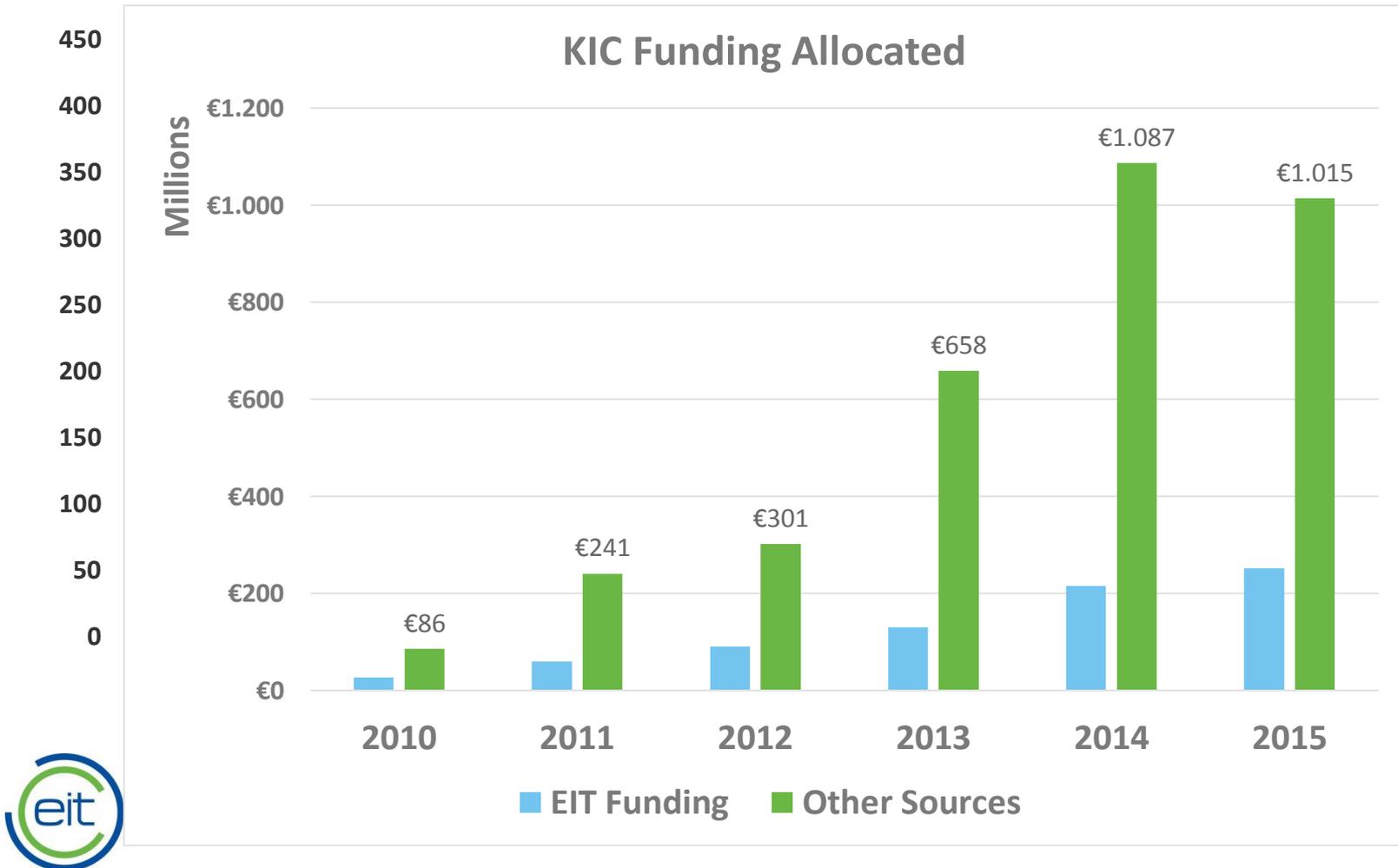
The long-term cooperation between the KIC and the KIC partners must be formalised through Internal Agreements

Financing: Leveraging and pooling resources



EIT Funding Evolution: 2010-2015

EUR million



EIT Community: 1st achievements

Climate-KIC, EIT Digital and KIC InnoEnergy have grown into thriving European innovation hubs:



24,162

Attractiveness of education programmes – more than 13 applicants per offered seat



181

number of start-ups created



486

number of graduates



478

number of knowledge transfers/adoption



903

number of business ideas incubated



142

number of new or improved products, services and processes launched



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Figures – November 2015

EIT's 2016 Call for KIC Proposals



EIT Food

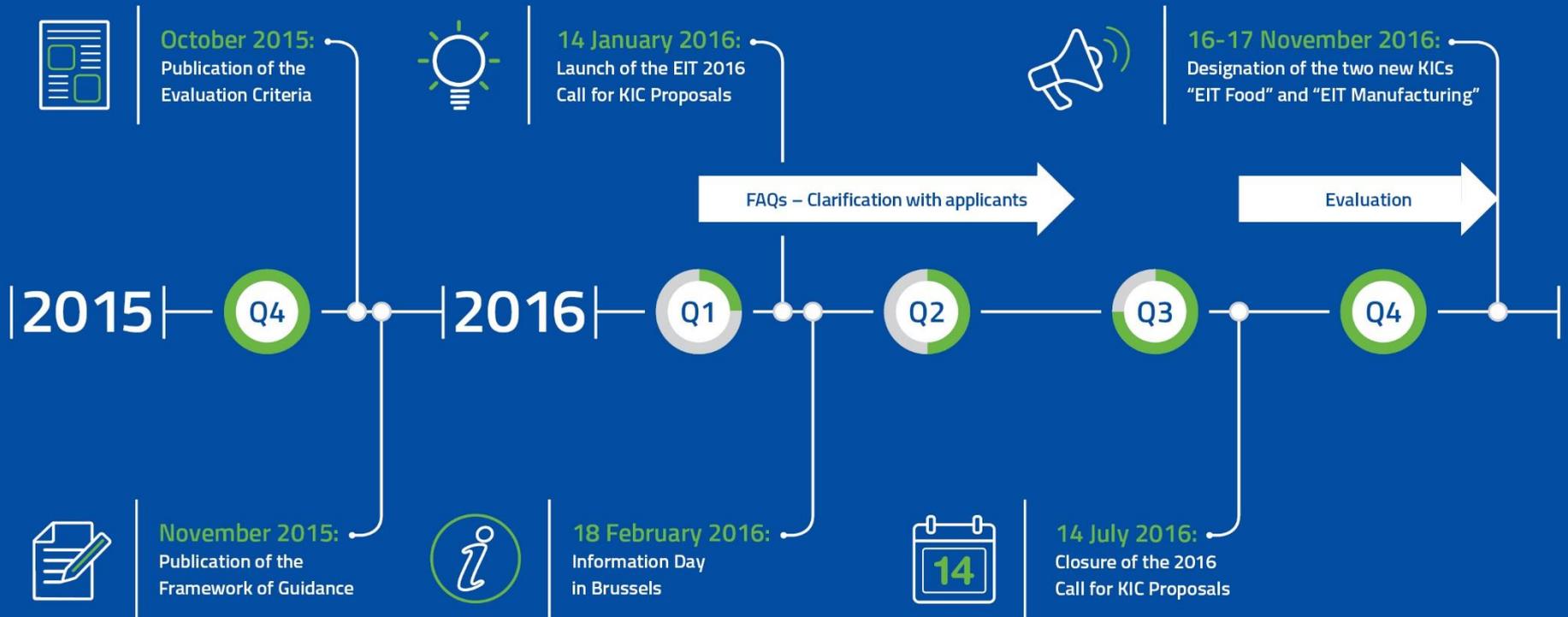
Food4future: sustainable supply chain from resources to consumers*



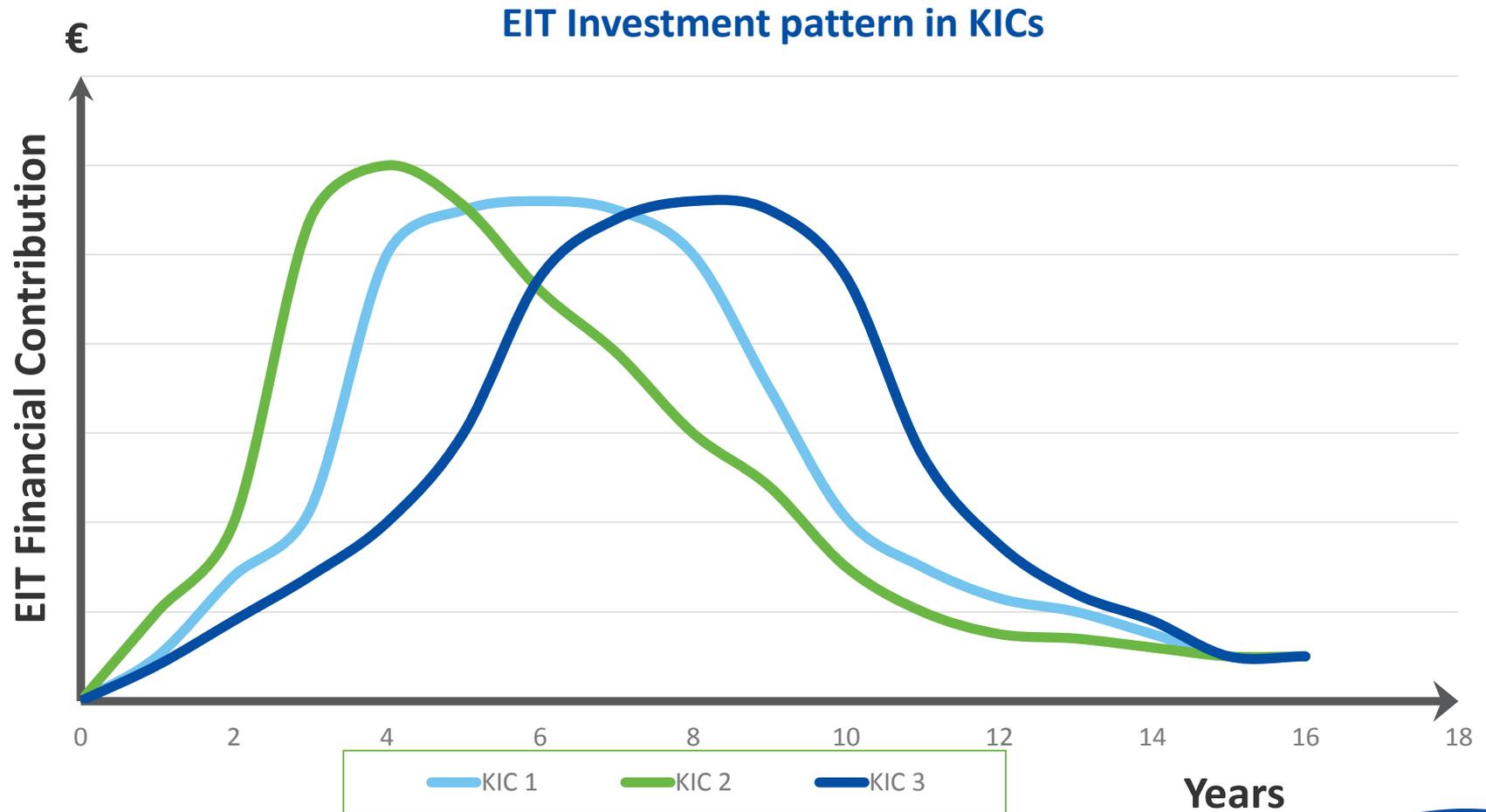
EIT Manufacturing

Added-value manufacturing*

2016 Call for KICs - Timeline



EIT Approach to Financial Sustainability



Future EIT Impact Fund



Objectives:

- Provide access funding to invest into the early stage development of innovative companies beyond current EIT support
- Leverage private sector capital and other EU funding tools
- Fill market gaps due to higher perceived risk or volatility

Benefits for start-ups from KICs:

- Access experts to evaluate the prospects of a technology/ business model; pre-screen more effectively than others
- Access customers: KIC partners as first customers for goods/ services of start ups (overcome a big hurdle)
- Access trade buyers: vast majority of exits will be trade sales, KICs can reach the entire value chain through their partnership networks



EIT Regional Innovation Scheme (EIT RIS): Strategic Objectives and Guiding Principles

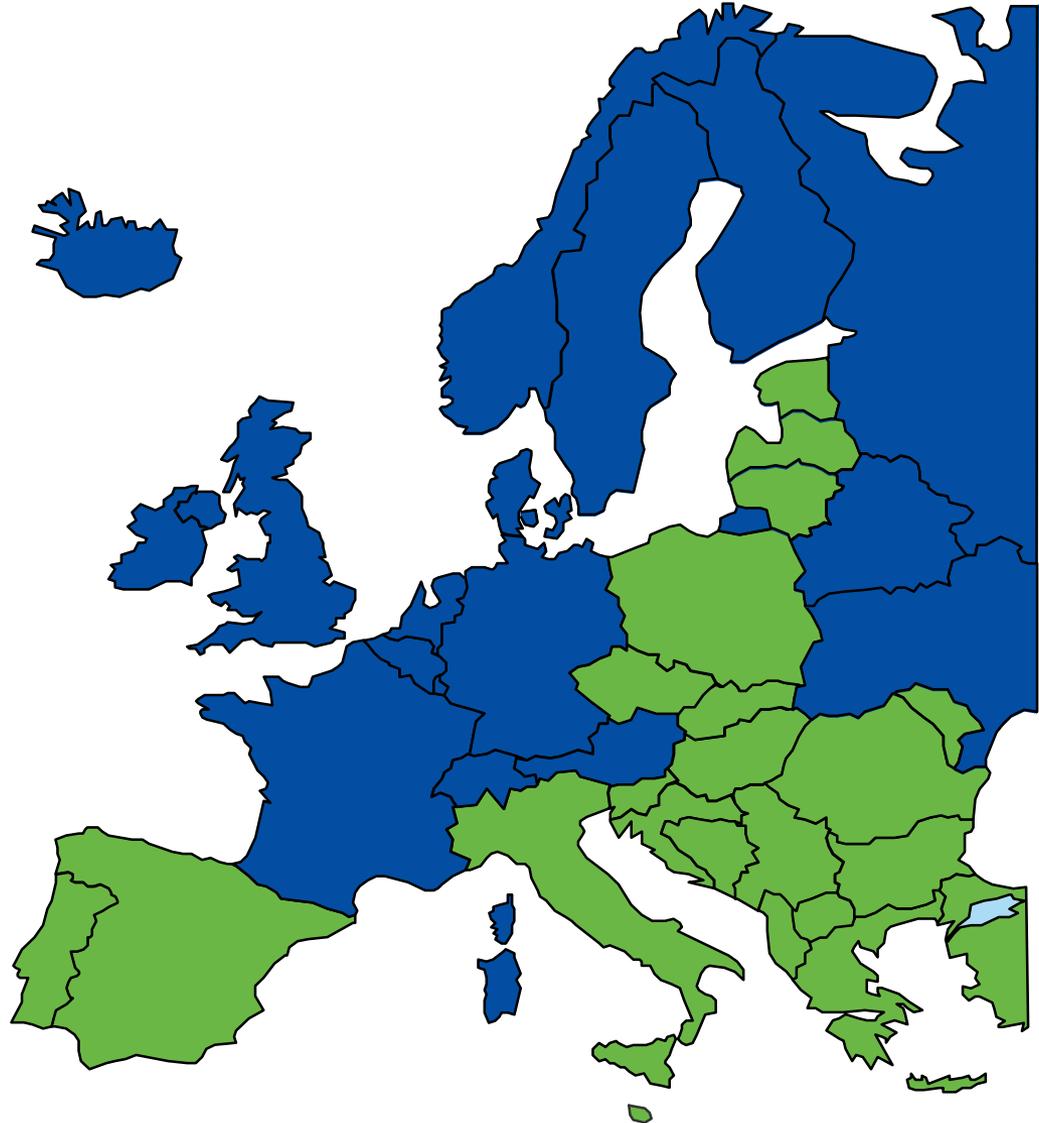
- Context: Widening participation in Horizon 2020 and EIT
- Structured outreach scheme aimed at increasing innovation capacity in Member States and regions not yet benefitting from the EIT and its KICs
- Based on a two-way engagement between KICs and selected partnerships from the wider European innovation community
- Based on key principles:



EIT Regional Innovation Scheme

Eligible countries:

- | | |
|-------------------|---|
| 1) Bulgaria | 15) Slovenia |
| 2) Croatia | 16) Spain |
| 3) Cyprus | 17) Romania |
| 4) Czech Republic | 18) Albania |
| 5) Estonia | 19) Bosnia and Herzegovina |
| 6) Greece | 20) Faroe Islands |
| 7) Hungary | 21) Former Yugoslav Republic of Macedonia |
| 8) Italy | 22) Moldova |
| 9) Latvia | 23) Montenegro |
| 10) Lithuania | 24) Serbia |
| 11) Malta | 25) Turkey |
| 12) Poland | |
| 13) Portugal | |
| 14) Slovakia | |



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Synergies and Complementarities



Overview of ongoing initiatives:

- European Fund for Strategic Investment (EFSI) – two pilots
 - EIT Raw Materials investment platform
 - Climate-KIC certified professionals initiative
- Horizon 2020 SME instruments/InnovFin – EIT Impact Fund
- EIT – European Commission Joint Research Centre
- EIT – Copernicus Programme and ESTEC/ESA cooperation
- Opportunities with other European Commission services and initiatives:
 - European Structural and Investment Funds (ESIF)
 - “Seal of Excellence”
 - Dissemination and exchange of information



Highlights: EIT Innovation Forum 2016 - INNOVEIT 25-26 April

- **Value added** to disseminate lessons from individual KICs – requires rebalancing of initial decentralised model
- Innovation happens at the **intersections of disciplines**: EIT to incentivise cross-KIC collaboration. Ongoing initiatives: synergies with other EU programmes/initiatives, EIT Alumni board, EIT Impact Fund
- EIT Community is building a **systematic approach** to build skills and expertise
- **Successful KIC-innovations** are driven by users and user-needs



"EIT is supporting great people who really make a change" @Moedas #EITawards #InnovEIT



RETWEETS
31

LIKES
24



10:09 AM - 26 Apr 2016





Innovate with us!



The EIT is a body of the European Union

eit.europa.eu

[@EITeu](https://twitter.com/EITeu)

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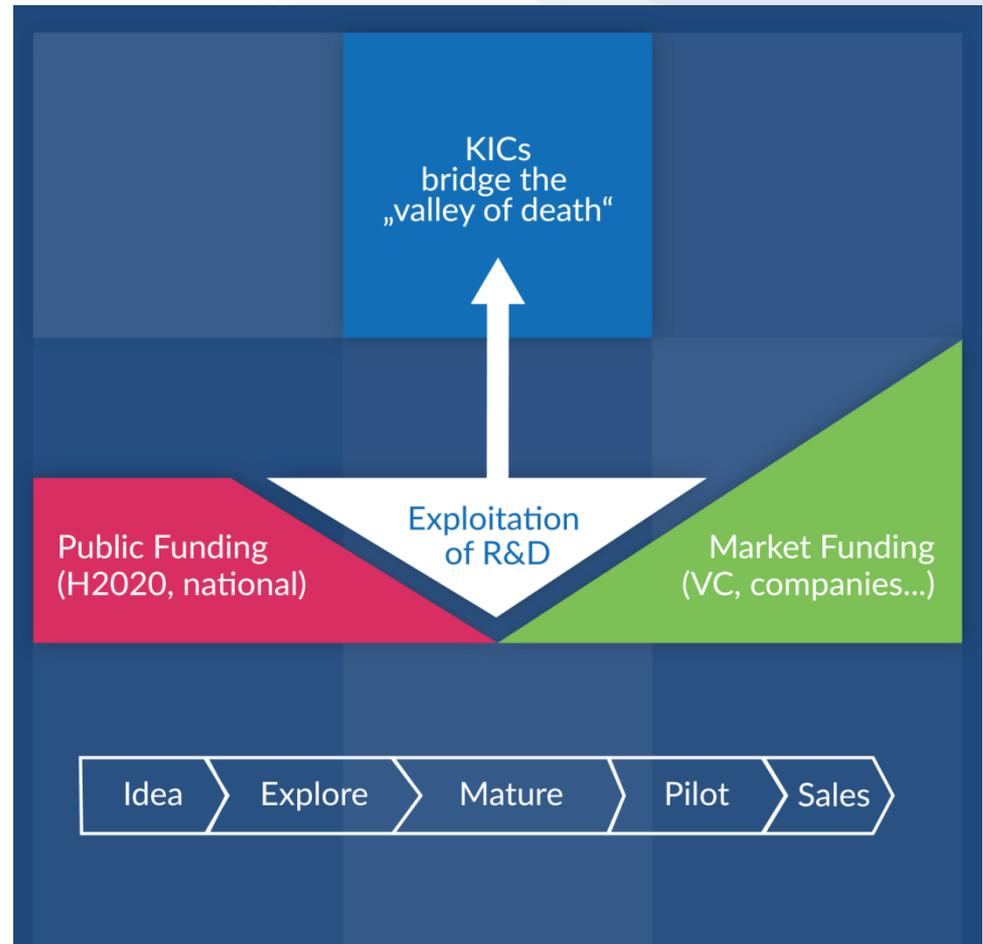
Module 5: How RTOs Contribute to the EIT KICs and What Can Be Improved to Boost EIT's Impact?

EIT KICs Supporting Research-Driven Entrepreneurship

Timo Haapalehto, Senior Scientist, VTT

KIC tasks on entrepreneurship

- Bridging the valley of death
- Market introduction of products and processes
- Educate entrepreneurs



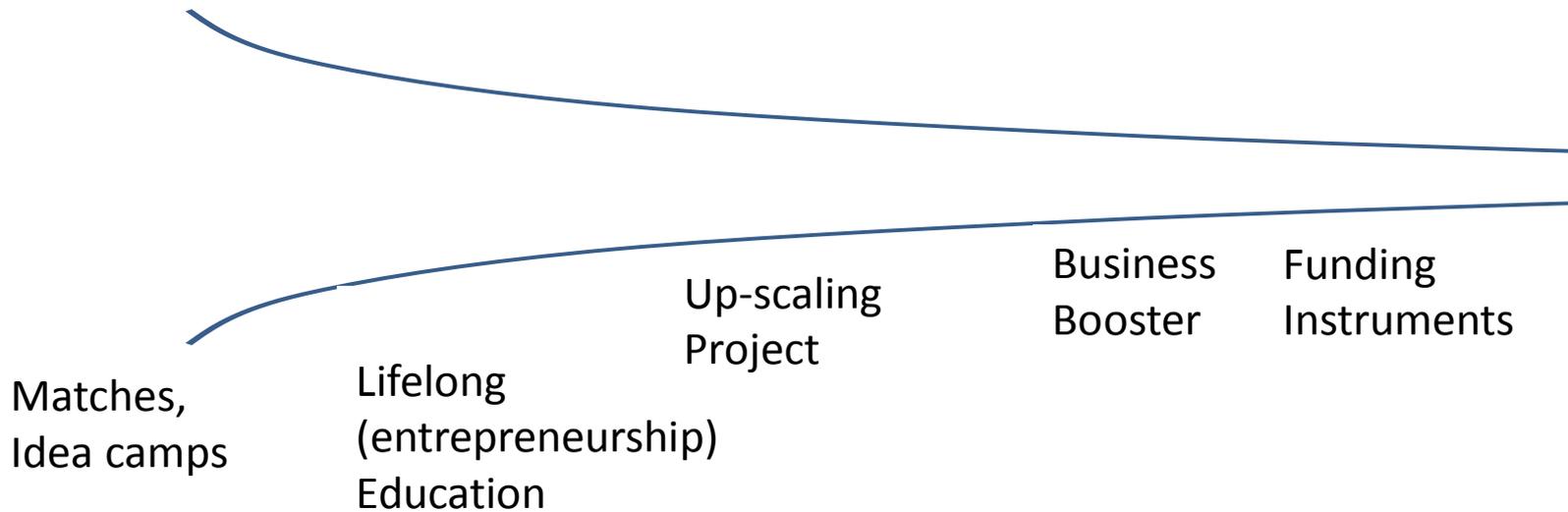
Business Development

The BD activities are targeting to support:

- Ideas in early business development stages (i.e. pre-incubation)
- Start-ups (i.e. incubation)
- Intrapreneurship (i.e. entrepreneurship originating from within existing companies)
- Partners' product/service development (i.e. upscaling projects)



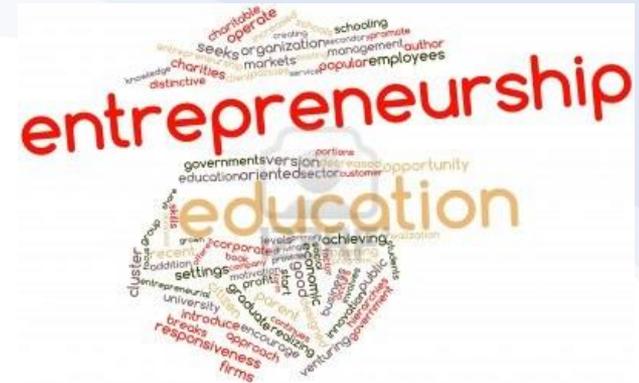
Funnelling business ideas



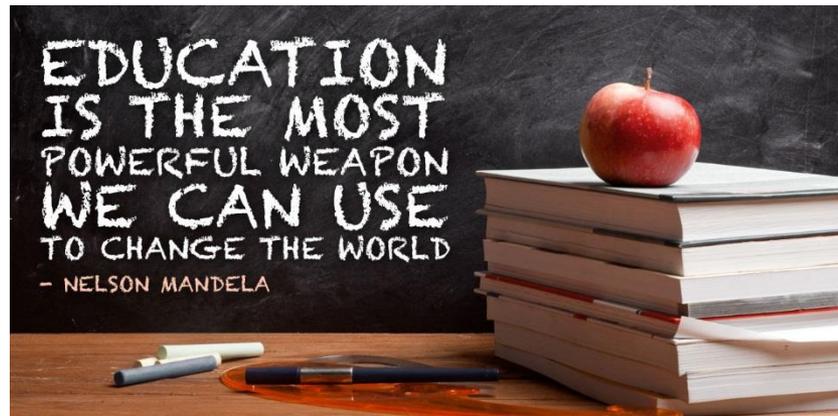
Education

Entrepreneurship education is offered:

- At Master and PhD -level
- As targeted Life-long learning (for example start-up or small company owners)
- At school level as wider society learning

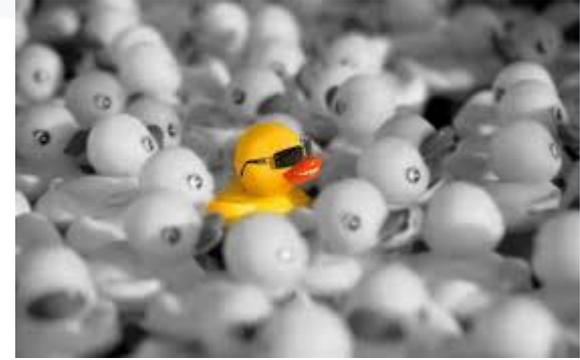


Also aim is to link education in product development and start-up support



Business Developers and Education Officers

- Most of the entrepreneurship support are organised at CLC level, because culture and business environment both are playing an important role
- KICs have hired business developers and education officers to support business creation
- BusDevs and EduOs are also in charge to create networks to complement KIC support, such as with Venture Capitalists, business angels



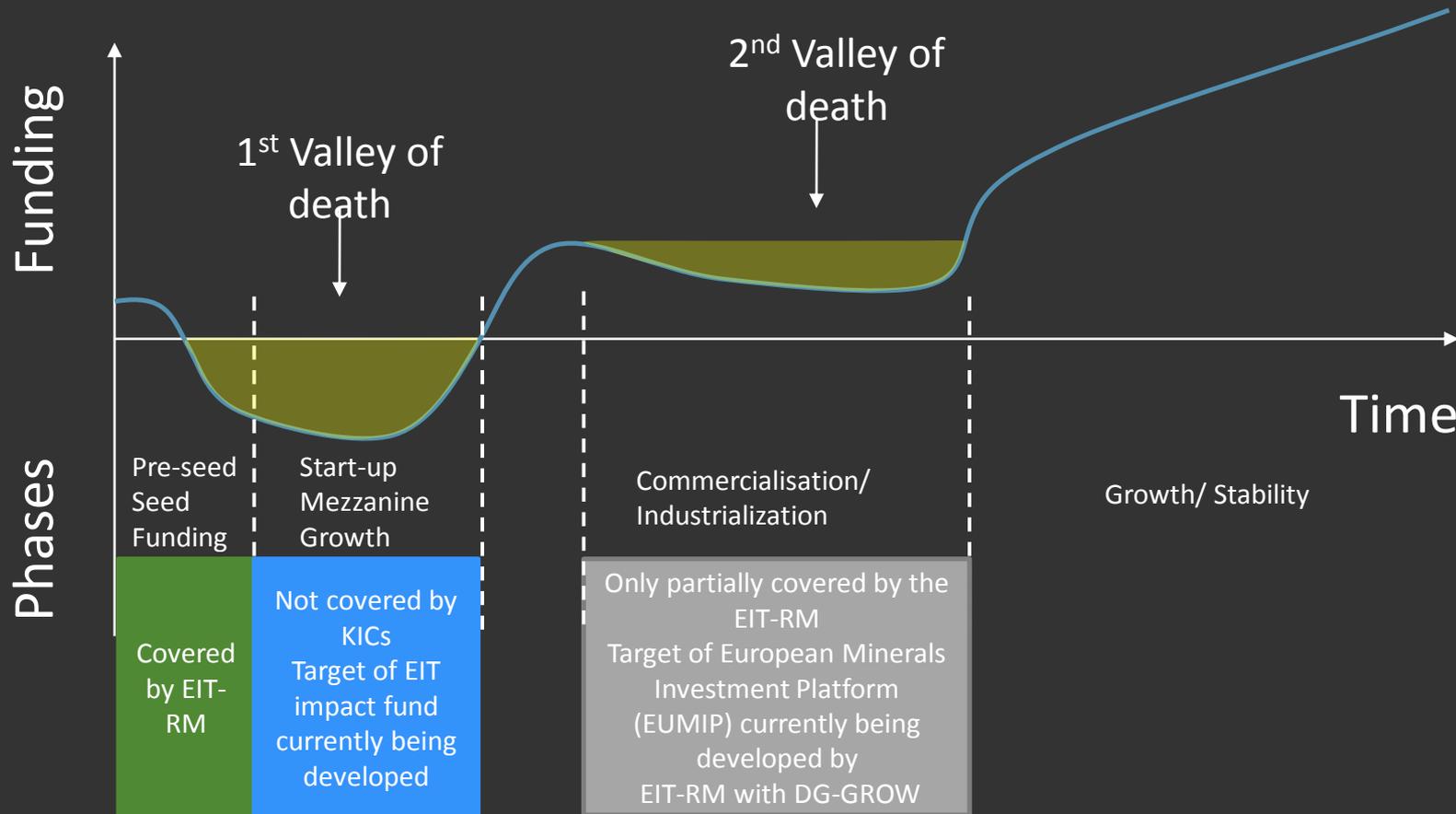
What KICs are funding?

- Idea generation towards new business
- Matchmaking (to find partners, customers, technologies, funding, etc)
- Business model/plan development
- Equity (very limited scale)
- Upscaling/product development (from TRL5 to TRL9)
- Various kinds of education





Investment platform to complement EIT RawMaterials



RawMaterials

Source of graph:
Dr. Eberhardt Gschwindt (EIB): "EIB Funding Possibilities",
5.12.2013

The EIT-RM can currently not fully cover both valleys of death

EIT in Short

- KICs offer broad set of support for new business creation and entrepreneurship
- Unique Selling Points:
 - Large consortiums; first customers, high quality partners, technology providers...
 - Entrepreneurship education integral part of services
 - European/global scale



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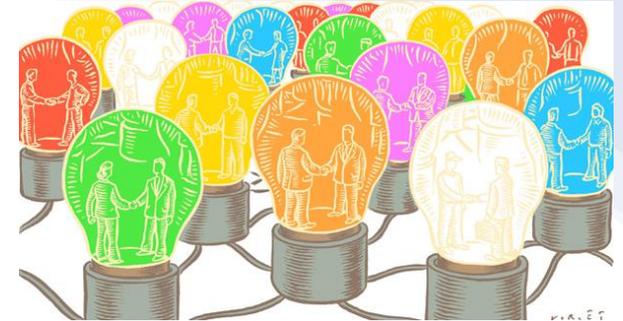
Module 5: How RTOs Contribute to the EIT KICs and What Can Be Improved to Boost EIT's Impact?

Technology Transfer in Interregional Collaboration Structures

Julia Schmalenberg, Technology Transfer, Fraunhofer EU Office

Technology Transfer in Interregional Collaboration Structures

- Innovation **networks are vital to boost technology transfers** across borders and enhance **innovation** along value-chains
- **Collaboration** of innovation actors within interregional networks **vary in degrees of intensity and stability**
- **Proximity** becomes a **key criterion** for sharing knowledge through collaboration across borders, especially in the spheres of...
 1. **Technological** proximity, e.g.. research in the same area
 2. **Sociocultural** proximity, e.g.. important to create trust
 3. **Institutional** proximity, e.g.. political framework



Technology Transfer in Interregional Collaboration Structures

- It's crucial to **identify “promising candidates”** for successful interregional collaboration in times of increasing international competition and a changing innovation framework
- We need to improve **policy and (network) management concepts** by means of:
 - **Strategy** in order to **define common objectives**: collaboration vs. competition
 - **Organization** of collaboration along value-chains, including type of network structure, processes, management
 - **The “right” distances** (technological, sociocultural, institutional) between collaboration partners

Technology Transfer in Interregional Collaboration Structures

Partner Network EIT Digital

» **Academia:**

- » Focus on education and research
- » Different levels of interest in technology transfer as additional revenue stream



» **Research institutions:**

- » Focus on research
- » Growing interest in technology transfer as additional revenue stream



» **Industry (main link to corporate technology!)**

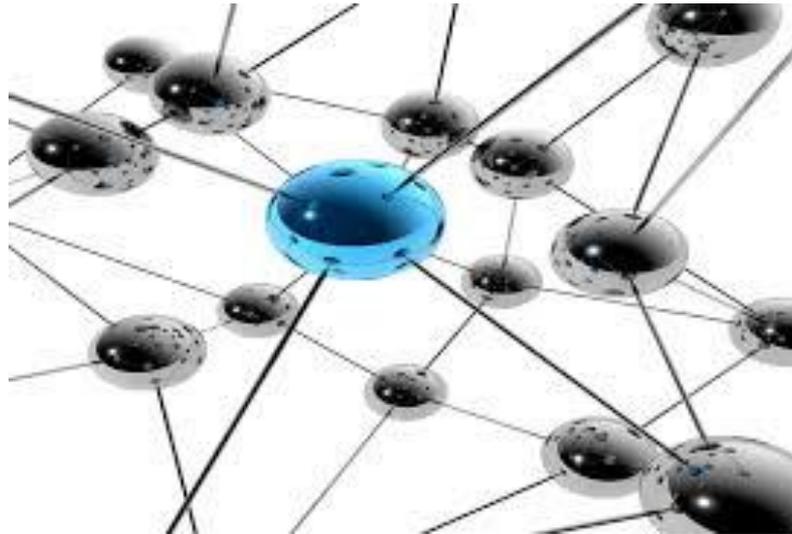
- » Focus on research and application
- » Interest in technology transfer for own products



All partners of EIT Digital are mainly technology providers

Technology Transfer in Interregional Collaboration Structures

How RTOs Contribute to the EIT KICs?

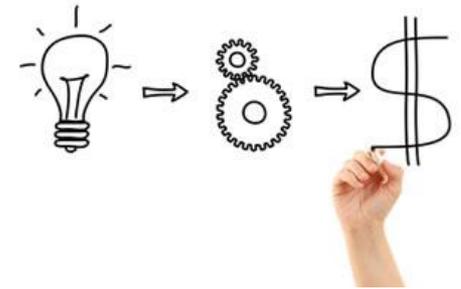


RTOs are the ideal focal point of (open) innovation network structures

Technology Transfer in Interregional Collaboration Structures

Technology Transfer units in EIT Digital

- » TT units at partner organisation
 - » Focus on commercialisation of in-house technology via spin-off
 - » Main expertise in transition from project setup to company setup
- » Independent TT unit (public money)
 - » Focus on start-up support
 - » Main expertise in early phases of company development



! Expertise on early stage companies

Technology Transfer in Interregional Collaboration Structures

What Can Be Improved to Boost EIT's Impact?



Make use of expertise and lessons learned from all KICs to set up corporate EIT structures to maximise output

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Module 5: How RTOs Contribute to the EIT KICs and What Can Be Improved to Boost EIT's Impact?

EIT KICs Supporting Collaborations Between Knowledge Triangle Stakeholders

**Nora Benhabiles, Director External Collaborations and
Industrial Partnerships, CEA**

&

**Etienne Bouyer, Adjunct Director of the New Technology
for Energy Program, CEA**

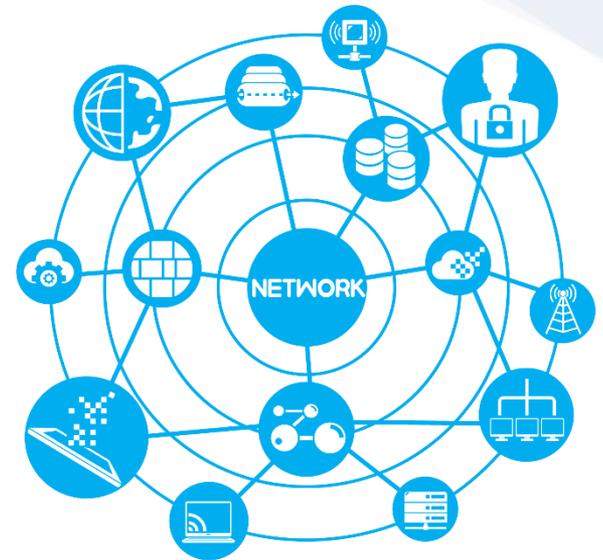
FEEDBACK

EIT HEALTH

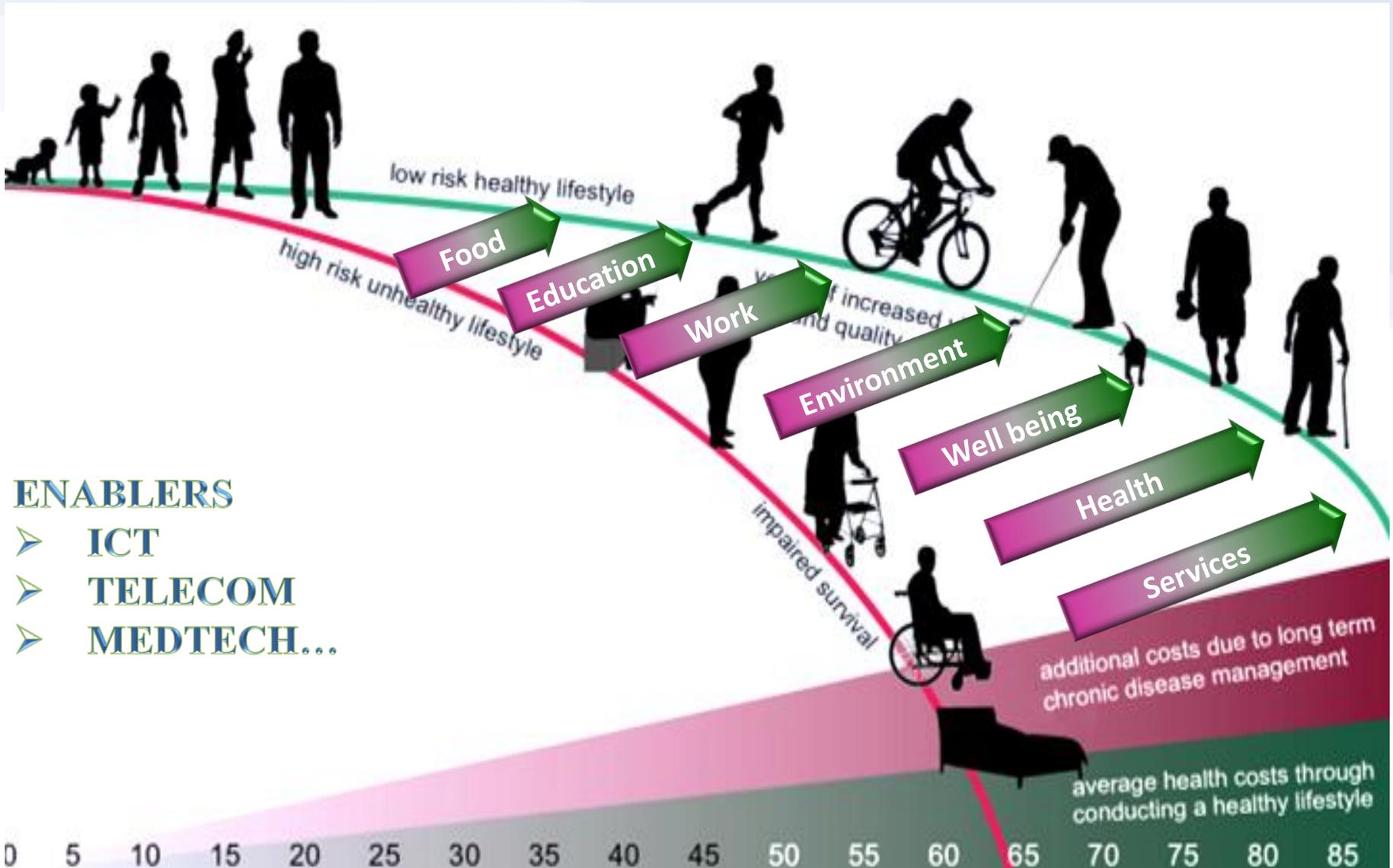


A Unique Innovation Network

- Strong match in term of value chain positioning, the KIC deployment activities and the RTO's mission
- How to use the KIC network together with the RTO's network to:
 - To efficiently transfer value to the industry ?
 - Not only regionally but having a structuring impact on the EU ecosystems
 - How to deploy successfully new prototypes, products?
 - How to impact the economic growth and the employment through the knowledge triangle...



THE HEALTH CONTEXT

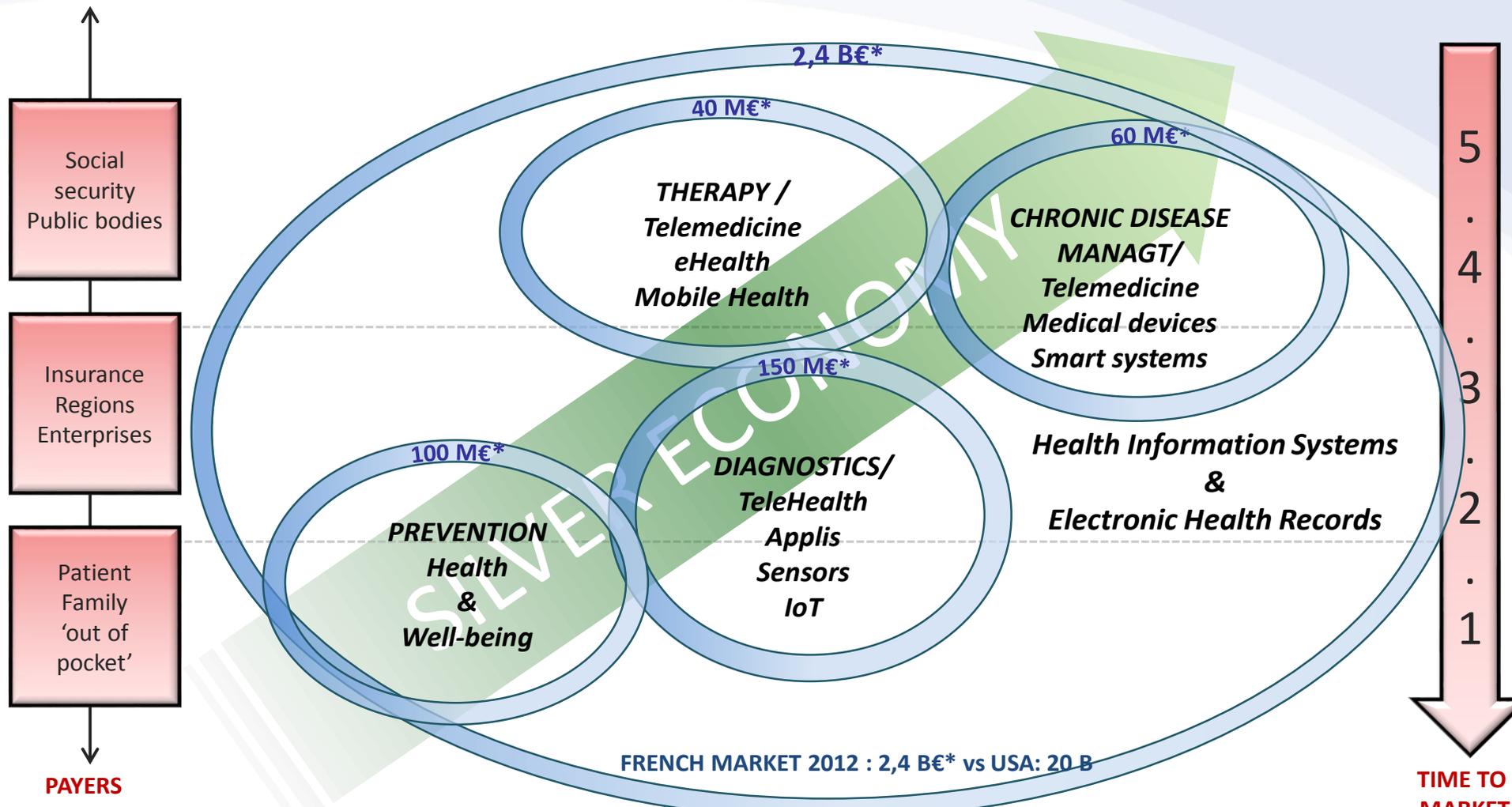


ENABLERS

- ICT
- TELECOM
- MEDTECH...

BEING AN RTO IN THE KIC HEALTH

WHAT ADVANTAGES IN TERMS OF VALUE CHAIN POSITIONNING?



ENABLERS: Universities, end users and professional associations, academics

Source: *Xerfi Research 2012; Medicen 2014

Feedback from 2 KICs

InnoEnergy (2009-now)

>15 labellised projects (running or closed)



Raw Materials (2014-now)

5 labellised projects (just started)

+ 15 submitted for evaluation



RawMaterials

RTO contribution: a bridge with industry

- RTOs have strong relationships with industry (start-ups, SMEs, large group): they drag with them industrials in projects close to the market. Keeping in mind that industrials are fueling the KIC !
- RTOs play a key role to broaden the number of active industrials (enlarge the network) within the KIC especially SMEs
 - rather small consortium is a reason of the attractiveness of KIC project (vs FP7/H2020) that are easier to drive
 - higher success rate for project proposal is a good motivation to join project consortia
- RTOs accompany SMEs building projects based on their know how of European instruments



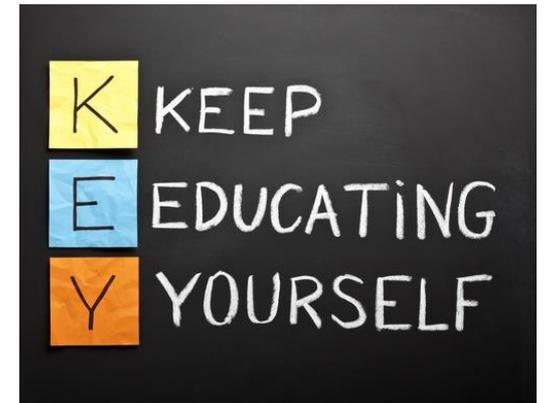
RTO contribution: couple innovation project with education activities

- RTOs host PhD and Master students in the frame of innovation projects
- Using KIC Master and PhD schools to feed innovation projects is a clear target



RTO contribution: transfer knowledge & know how to professional

- Education is not only a matter of high university degrees (Ph.D & Masters), life long learning is a crucial point involving active engineers and technicians. RTOs must deliver their part to accompany change
- Through the RTOs education institution & technological platforms this target could be fulfilled



Impact booster

Simplify and shorten the processes to serve KIC partners

- For application to innovation projects
- During the project life, limit reporting to the strict necessary

Impacts are probably more visible in SMEs or Start-ups

- Facilitate their integration into the KIC (become more inclusive than an exclusive « Club »), e.g. adjust the fees that could be progressive vs the company size and/or turnover

Be flexible/open in term of topics to attract other relevant industrial sectors under the KIC umbrella

“Education pillar” at large is essential to make true the innovation in the European economy

RTOs are in central position to contribute to link partners and to operationalize the KIC



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EARTO October Events 2016

12 October

- **Policy Event** “EU R&I Policy Supporting Europe’s Innovation Ecosystems: H2020 & Beyond - Keynote speech by Commissioner Moedas - BIP Info Place 14.30-17.30
- **Innovation Awards** – Keynote speech by Commissioner Katainen - BELvue Museum 17.30-21.00



13 October

- **EARTO-EBN-ERRIN High-Level Debate** “EU Regional Innovation Policies looking forward Post-2020: RIS3 & Simplification” – Committee of the Regions 09.00-10.45



Thank You for Your Attention!

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Views”



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