

# Modernization of the Energy Sector

a pathway towards low-carbon energy and green economy



**Raymond C. Pilcher, P.G.**

**Rahul Bansal**

Workshop on CMM and AMM  
in the context of Sustainable  
Energy

Palais des Nations

Geneva

23 October 2017



# EIT Climate-KIC

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Climate-KIC is supported by the  
EIT, a body of the European Union

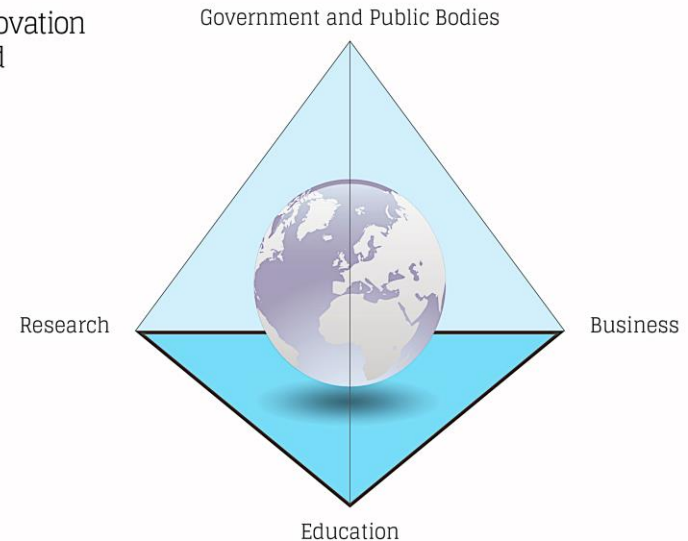
UNECE, Geneva- Oct 2017



European Institute of  
Innovation & Technology

- **EIT Climate-KIC** →  
*Climate change mitigation and adaptation*
- **EIT Digital** →  
*Future Information and Communication Technologies*
- **EIT Food** →  
*Sustainable Supply Chain from Resources to Consumers*
- **EIT Health** →  
*Healthy living and active ageing*
- **EIT Raw Materials** →  
*Sustainable exploration, extraction, processing, recycling and substitution*
- **EIT InnoEnergy** →  
*Sustainable energy*

The innovation  
pyramid



**€80-90 million pa**

# World's largest Climate PPP delivered €1.8b Climate Action...

## Mission:

We bring together, inspire and empower a dynamic community to build a zero carbon economy

## Vision:

To enable Europe to lead the global transformation towards sustainability



Imperial College  
London



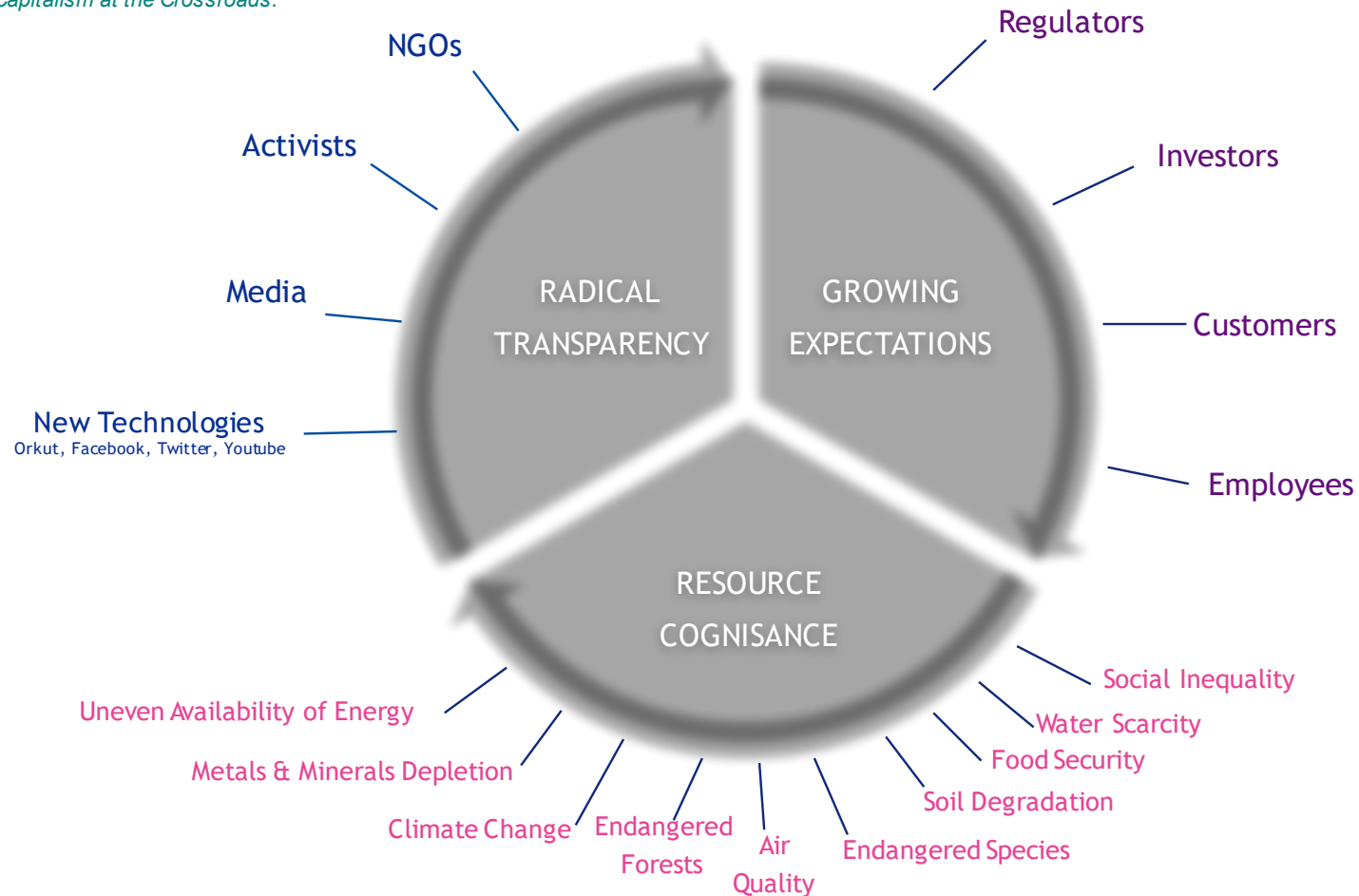
# Climate-KIC: Driving Climate Innovation

## Innovation Entrepreneurship Education



# Three Interconnected Tendencies

"We are in the midst of a tectonic shift: The industrial corporate model of the 19th century is dying and being replaced by the sustainable enterprise model of the 21st century. In this new world of declining resources, radical transparency, and increasing expectations, 'corporate social responsibility' will no longer be enough. The defining characteristic of the successful 21st century corporation will be its ability to embed sustainability in every fibre of its being. And, even more importantly, embedded sustainability will hold the key to future profit and value creation."—Stuart L. Hart, S. C. Johnson Chair in Sustainable Global Enterprise, Cornell University and author of *Capitalism at the Crossroads*.



# COP21 - beginning of the transition to a low carbon economy

## What does the deal mean?

- Nearly 190 countries pledged
- peaking GHG “as soon as possible”, moving to net zero emissions
- For the first time, virtually all nations on Earth have agreed to power the global economy with clean technologies.
- SDG – Time sensitive (scaling opportunity)

## What does it mean for Businesses?

### • ‘Tsunami’ of Creative Destruction

- Opens up a blue ocean of opportunities for the cleantech sector.
- Certainty of the agreement expected to unlock \$ trillions
- Developed countries committing \$100 billion a year by 2020
- +2 degrees is systemically uninsurable
- Resilient ‘shareholder value’



# Climate Innovation can kick start the new growth in the global economy... Post COP21

## INNOVATION

- Diffusing technology
- New business models
- Transfer of technology and knowledge to emerging economies
- Corporate pulling future into today e.g. Unilever, Tesla

## FINANCE

- Understanding climate risk
- Financing solutions, divestment and stranded assets
- Adapting existing capital to new business models
- Reporting Requirements on sustainability
- VC & Institutional Investor



“The world is expected to invest \$90 trillion dollars in infrastructure in cities, land use and energy over the next 15 years” – trained human capital will unlock this!



# Constant Innovation





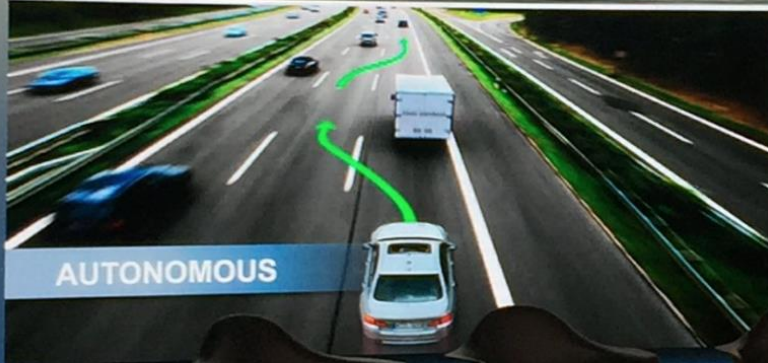
**NOKIA**  
Connecting People

 ***BlackBerry***

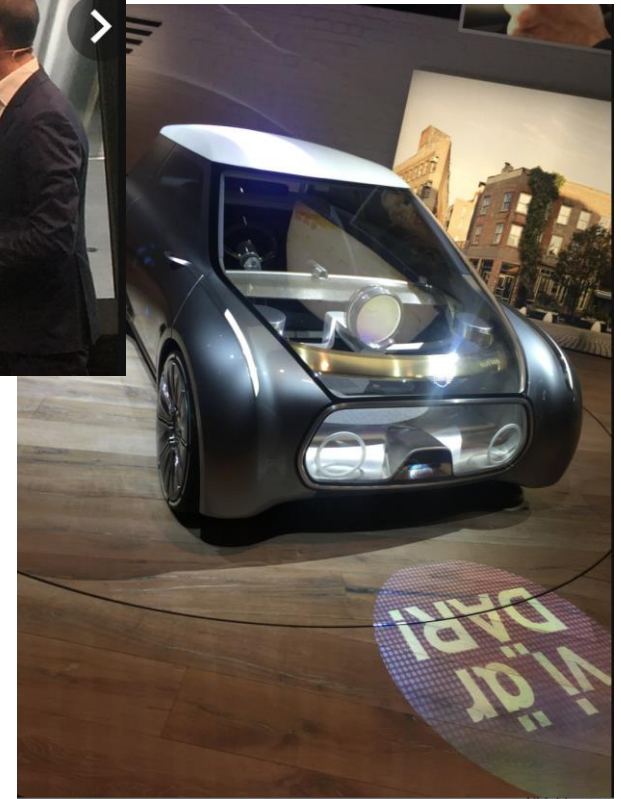
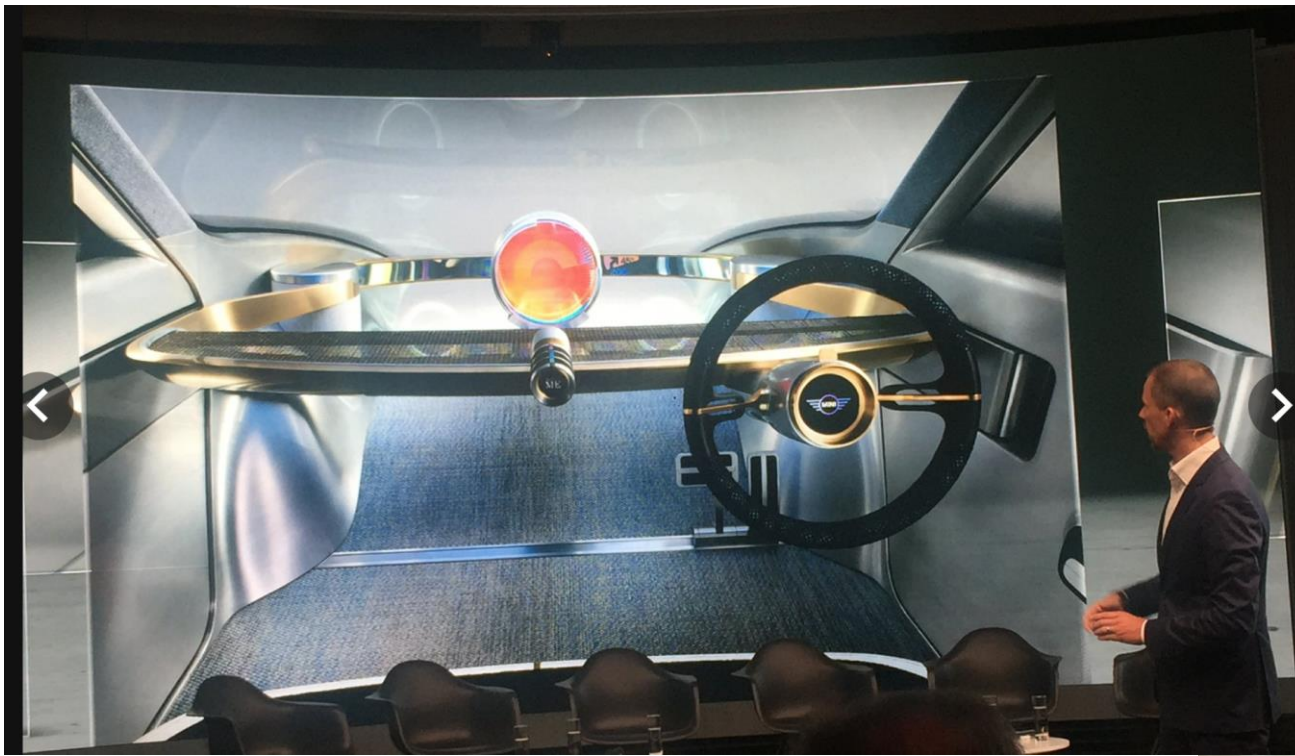
  
  [Advanced Search](#)  
[Language Tools](#)

\$90 billion

# FUTURE INDIVIDUAL MOBILITY. 4 KEY ASPECTS WILL BE THE MAIN DRIVERS.









# Technology Innovation



**IS Technology Innovation  
ENOUGH?**

think  
b.models!

  
  [Advanced Search](#)  
[Language Tools](#)

\$90 billion





**McDonald's**





think  
b.models!

**Printer** companies make more money by  
selling **cartridges**



**Razor** companies make more money by selling  
**blade**



**Apple: 25 Billion Songs Sold Through iTunes**

BY TODD HASELTON | FEBRUARY 6, 2013







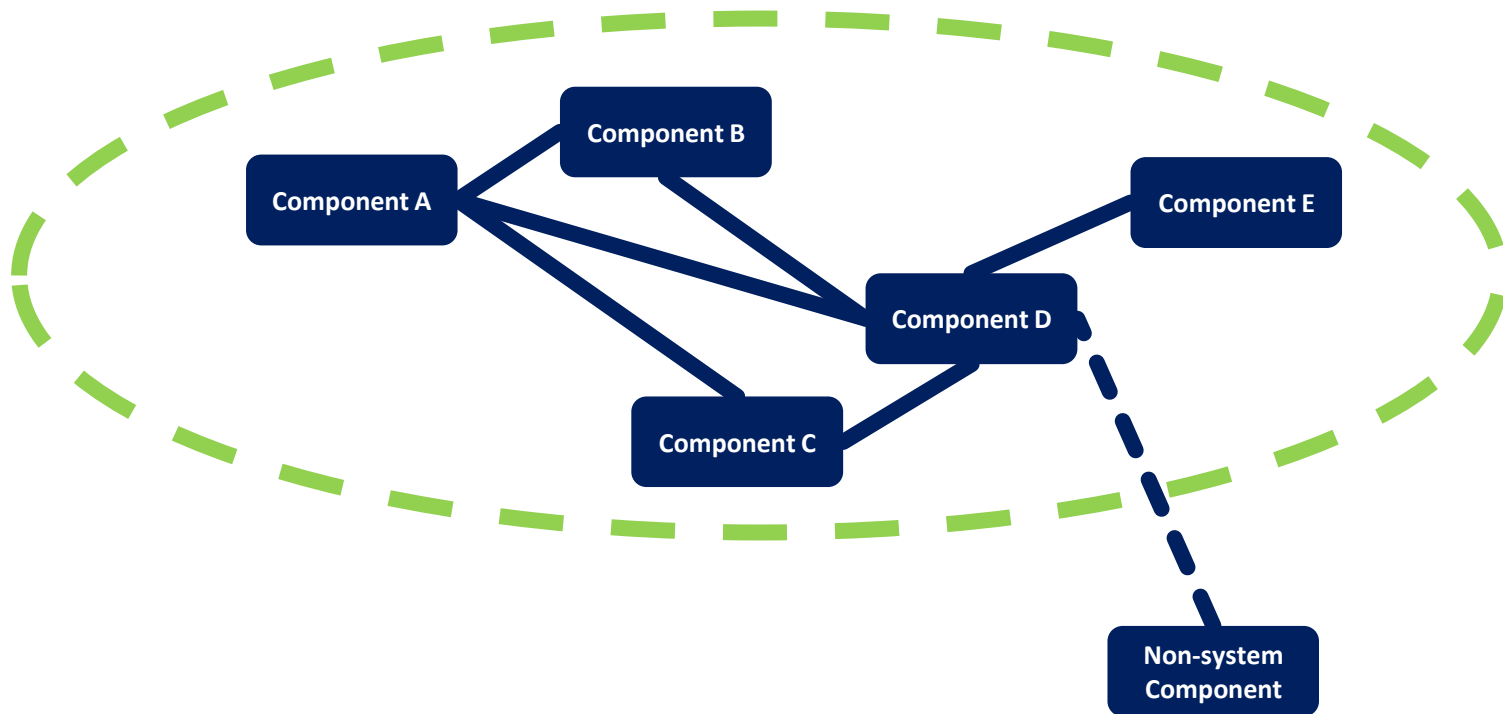
# Business Model Innovation

**application of new ideas  
to solve a valued need**

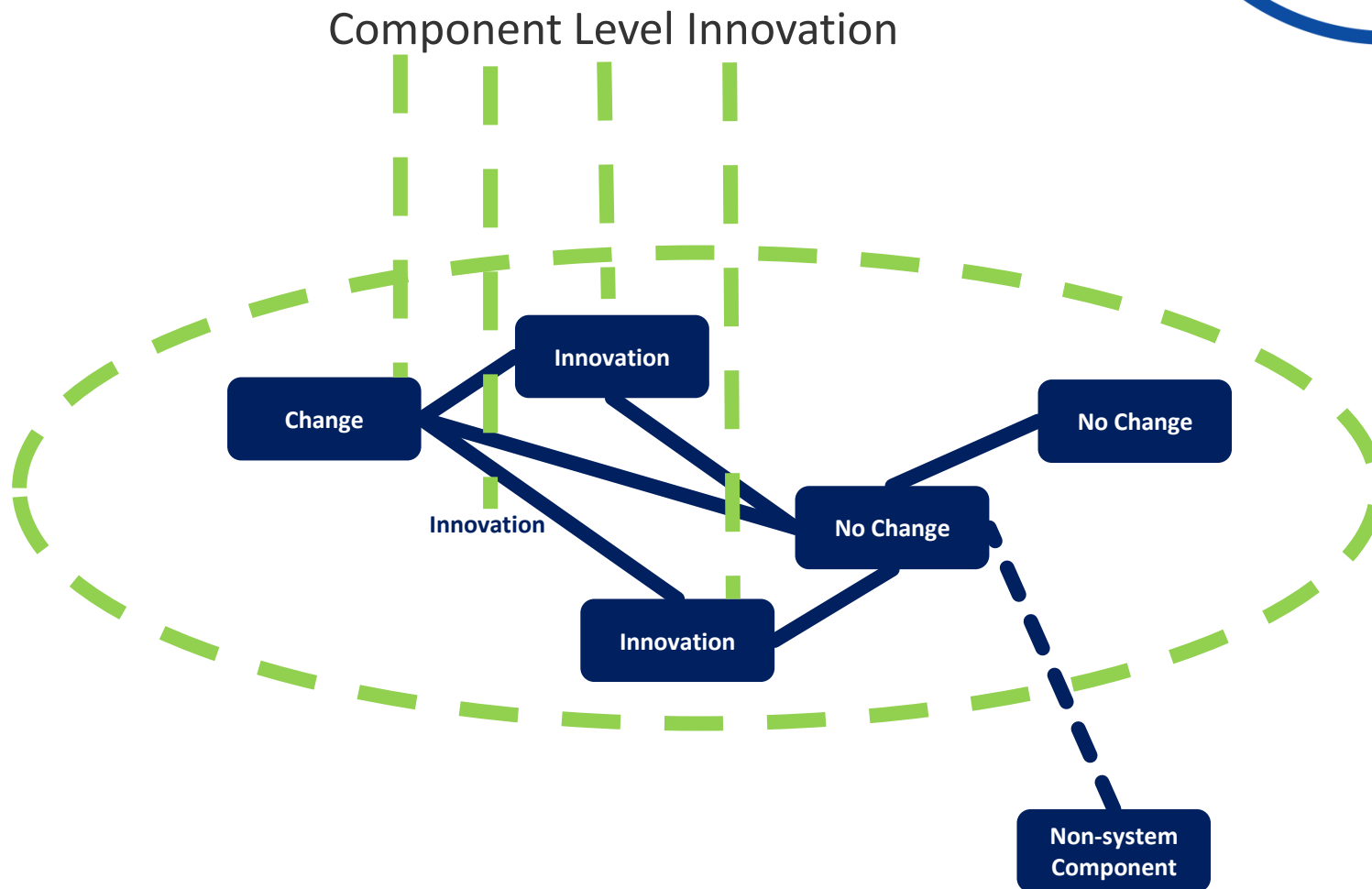
# Modernisation of Fossil fuel based Industrial Sites



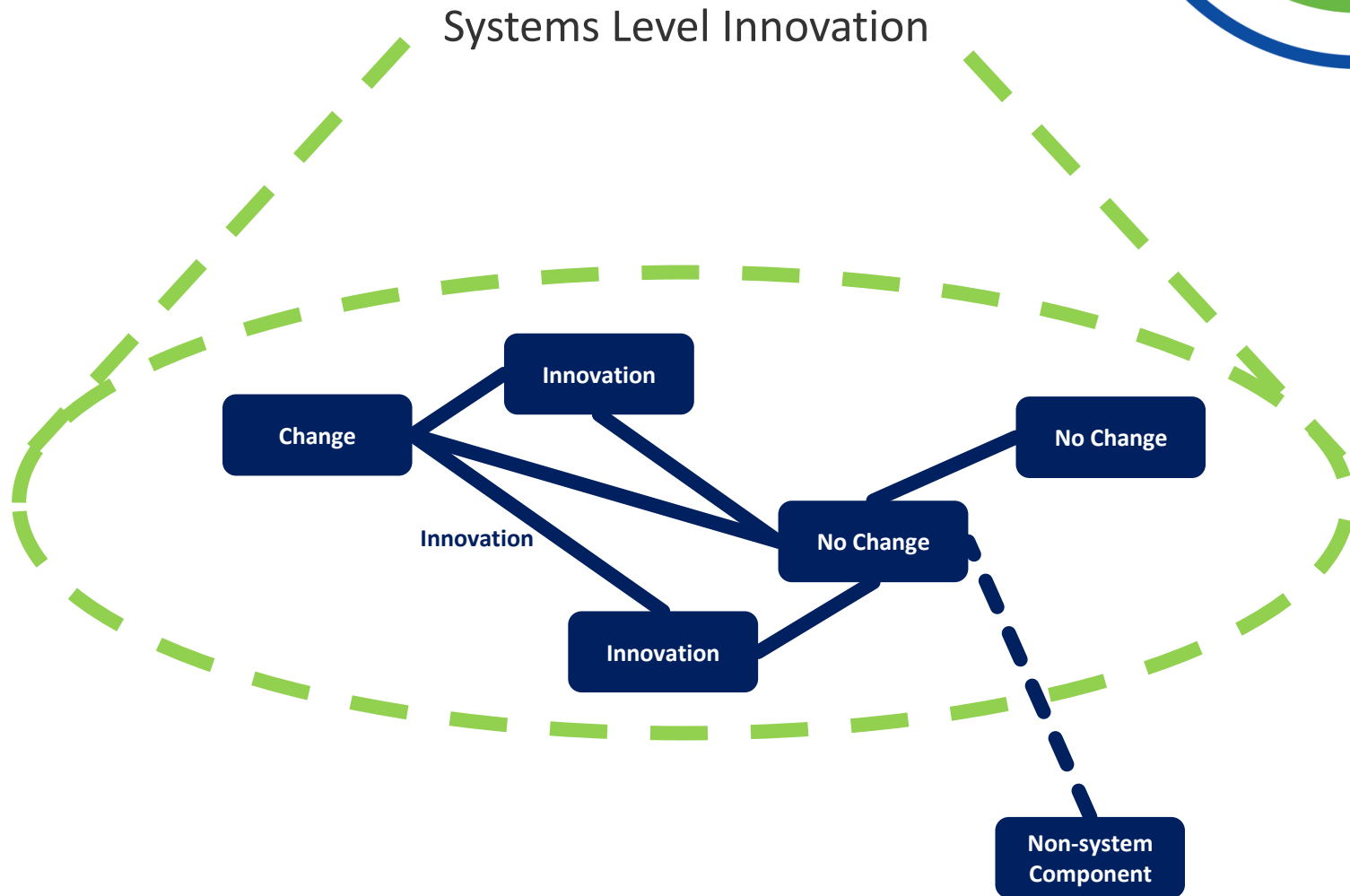
# Industrial Site



# Point Innovation



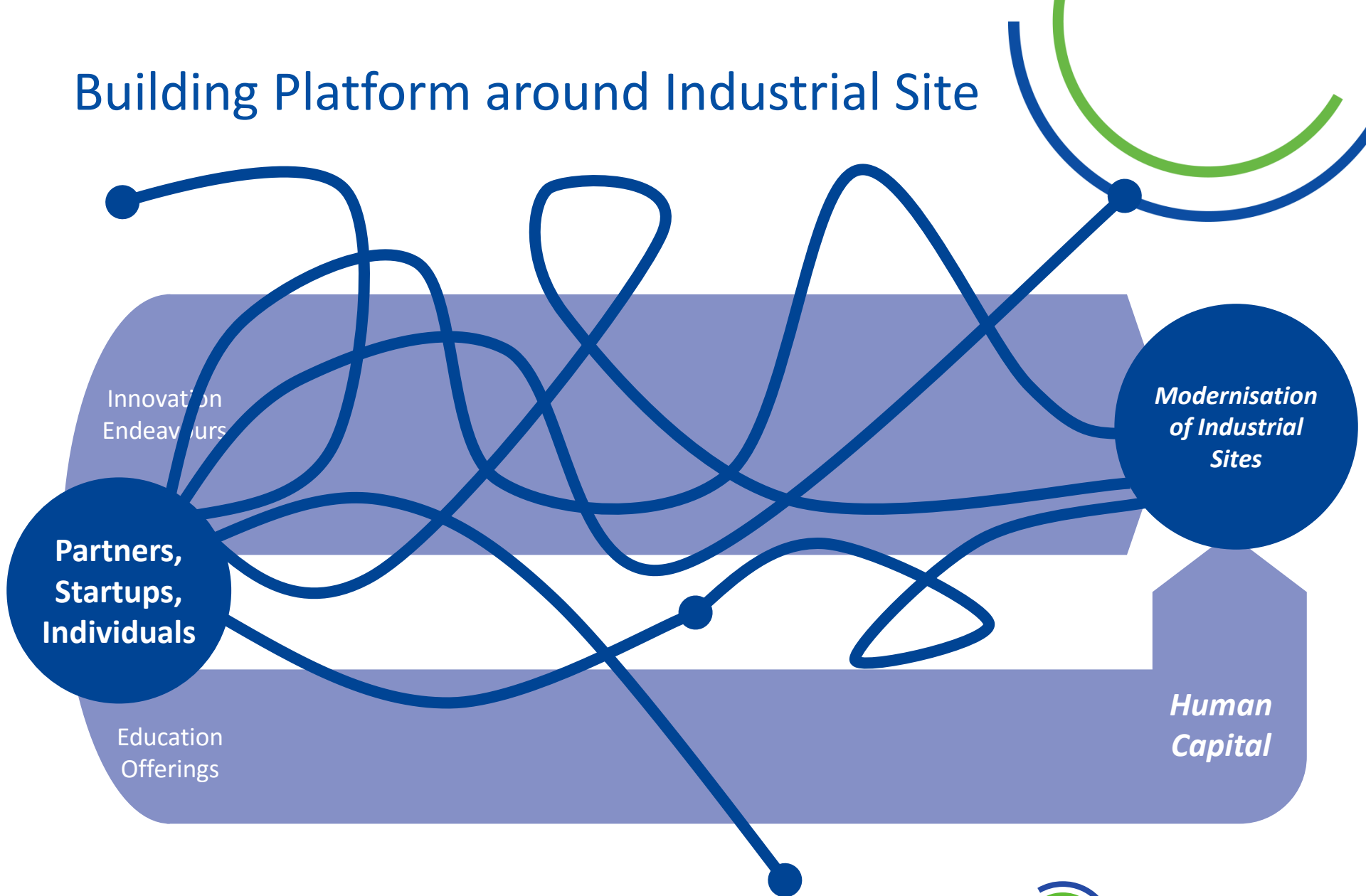
# Systems Innovation



# Building Platform around Industrial Site

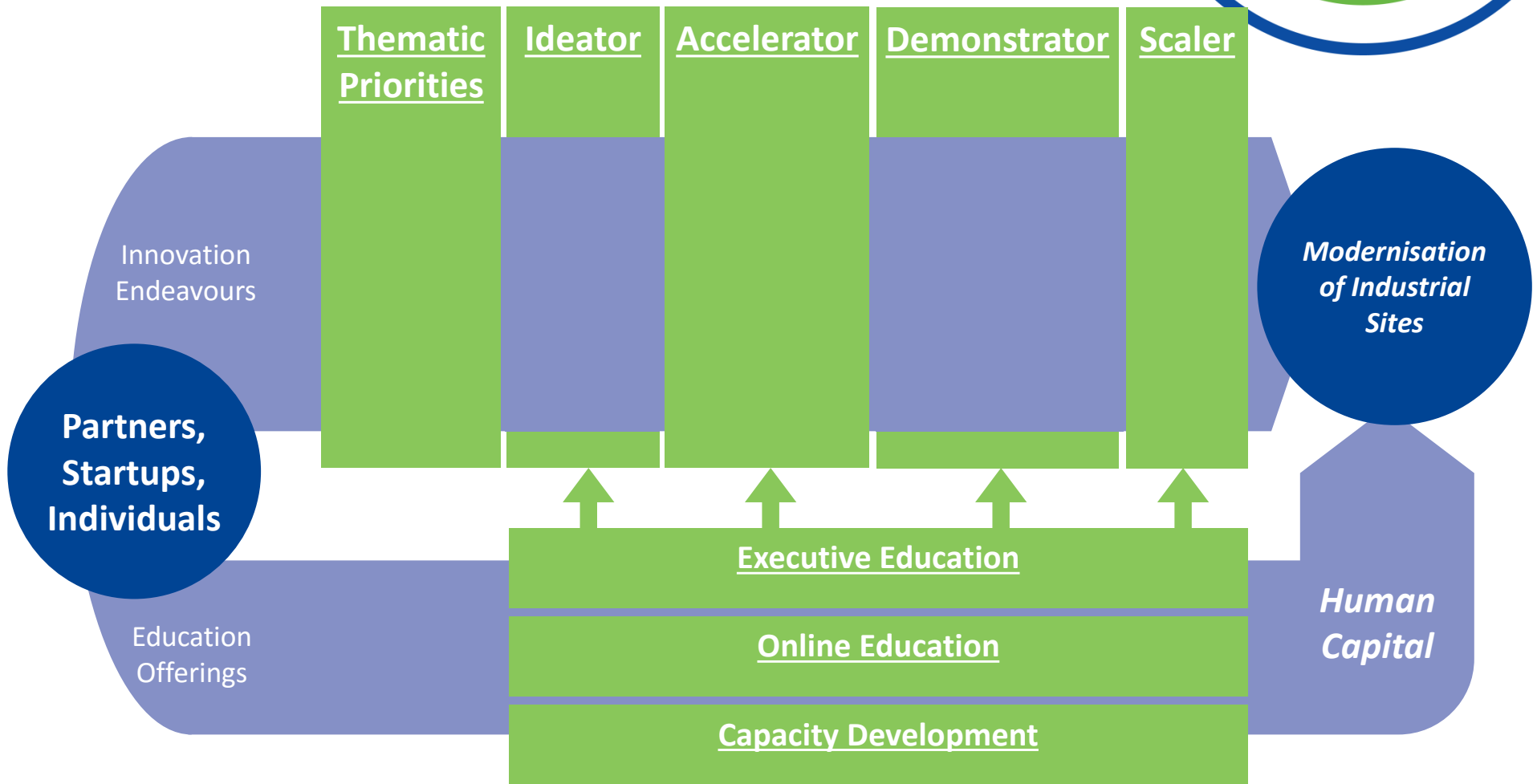


# Building Platform around Industrial Site





# Building Platform around Industrial Site



# Building Platform around Industrial Site

**Defining priorities**

**Ideator**

**Accelerator**

**Demonstrator**

**Scaler**

## Supporting the Innovation Framework

Climathon – 24hr ideation

Journey Summer School

Greenhouse pre-incubation

Climate Launchpad

Master classes, Short courses, Online and Professional/Executive Programmes

Pitch coaching, 1:1 coaching, Business mentoring

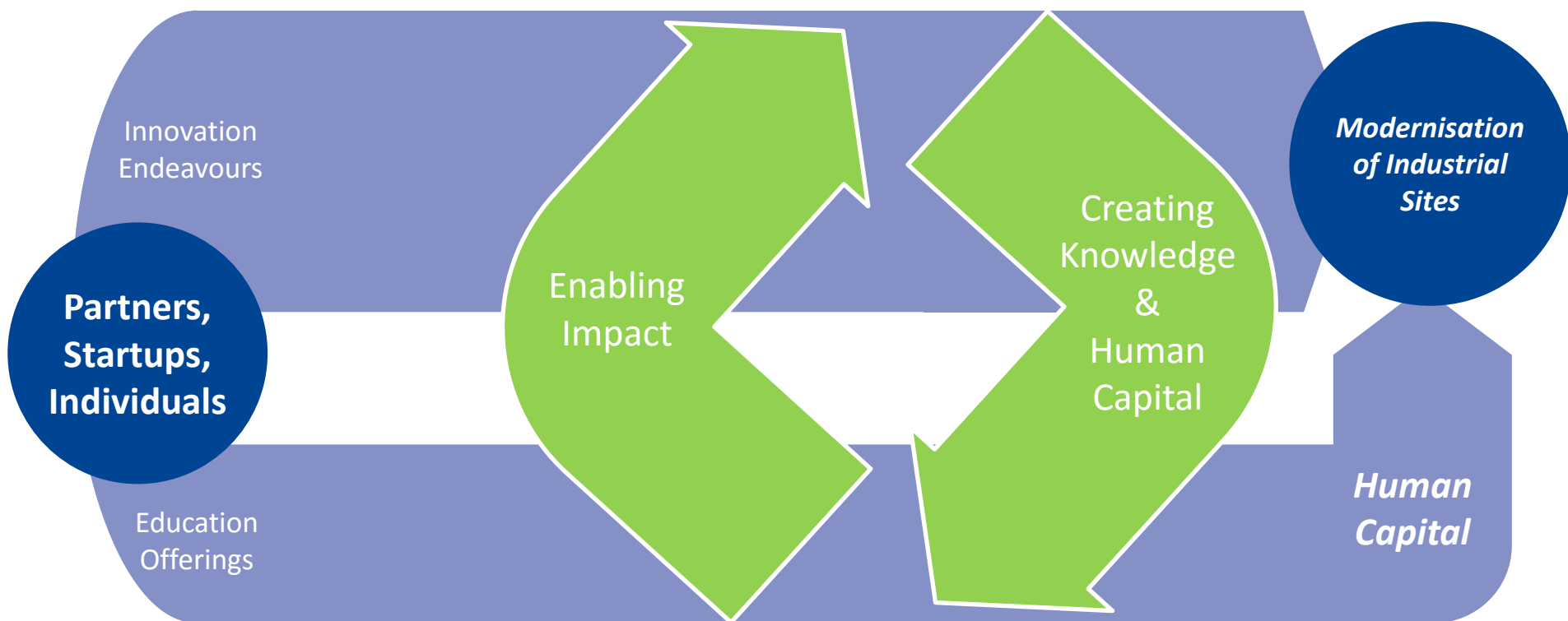
## Developing Europe's human capital

**Graduate School:** PhD and Masters Label programmes

**Business School:** Executive programmes, Professional certification, Pioneers-into-Practice

**Online Education:** Cross-KIC, MOOCs

# Building Platform around Industrial Site



## Example: Space Application

FULL, FREE AND OPEN  
ACCESS TO DATA

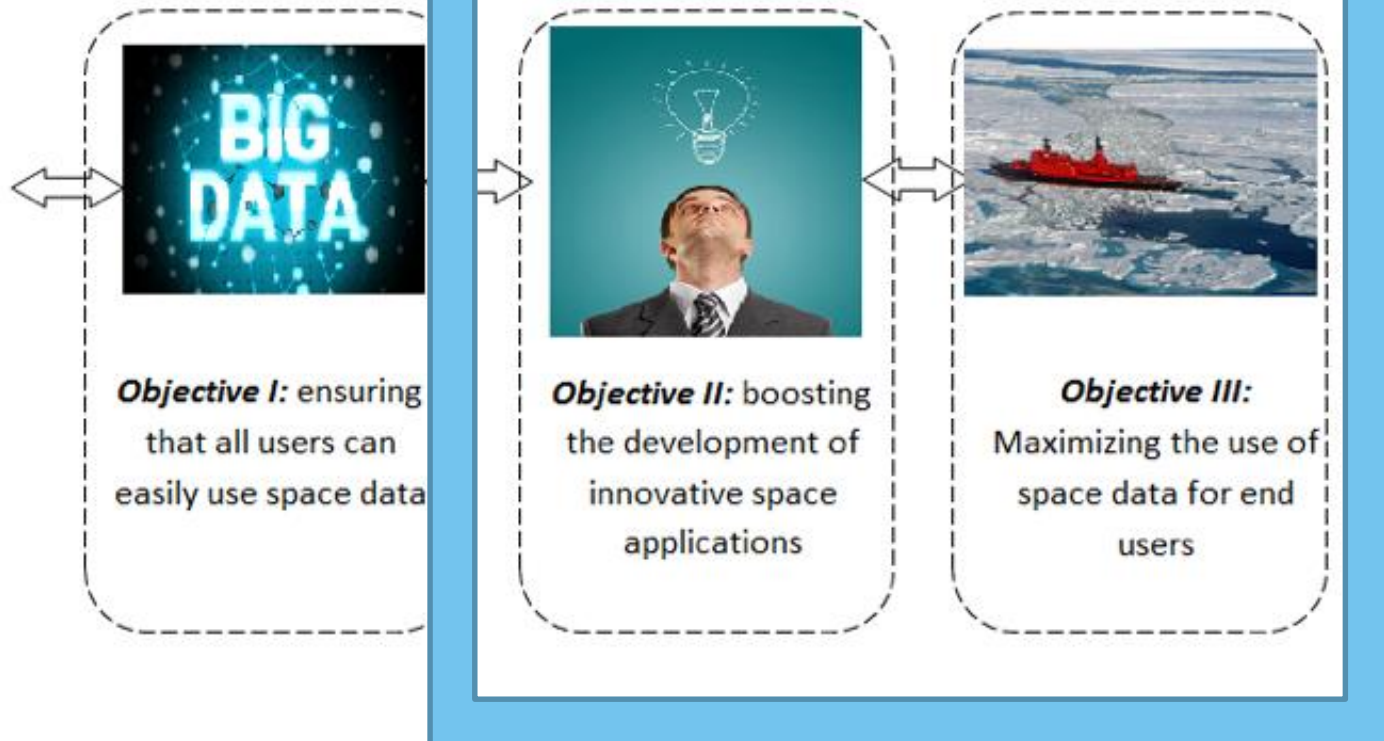


-  ATMOSPHERE MONITORING
-  MARINE ENVIRONMENT MONITORING
-  LAND MONITORING
-  CLIMATE CHANGE
-  EMERGENCY MANAGEMENT
-  SECURITY

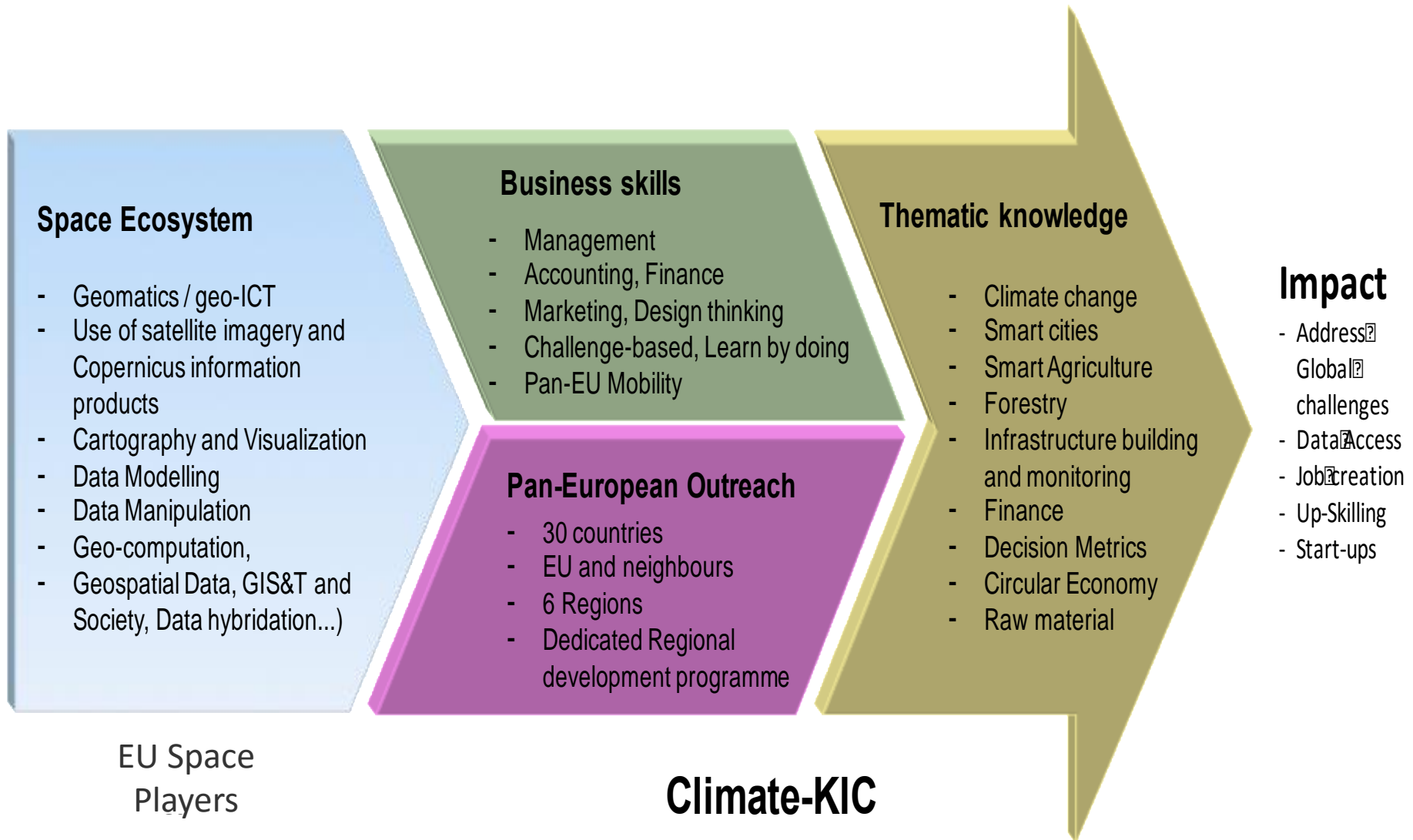
 **copernicus**  
Europe's eyes on Earth

 **copernicus**  
Academy

# Climate-KIC Focus



# Climate-KIC: multiplier impact on EU's Space Sector





## Example: Greening Cities

# Climathon – Global Impact



#Climathon

6 continents  
19 cities  
24 hours  
1 goal

## climate action!



#Climathon

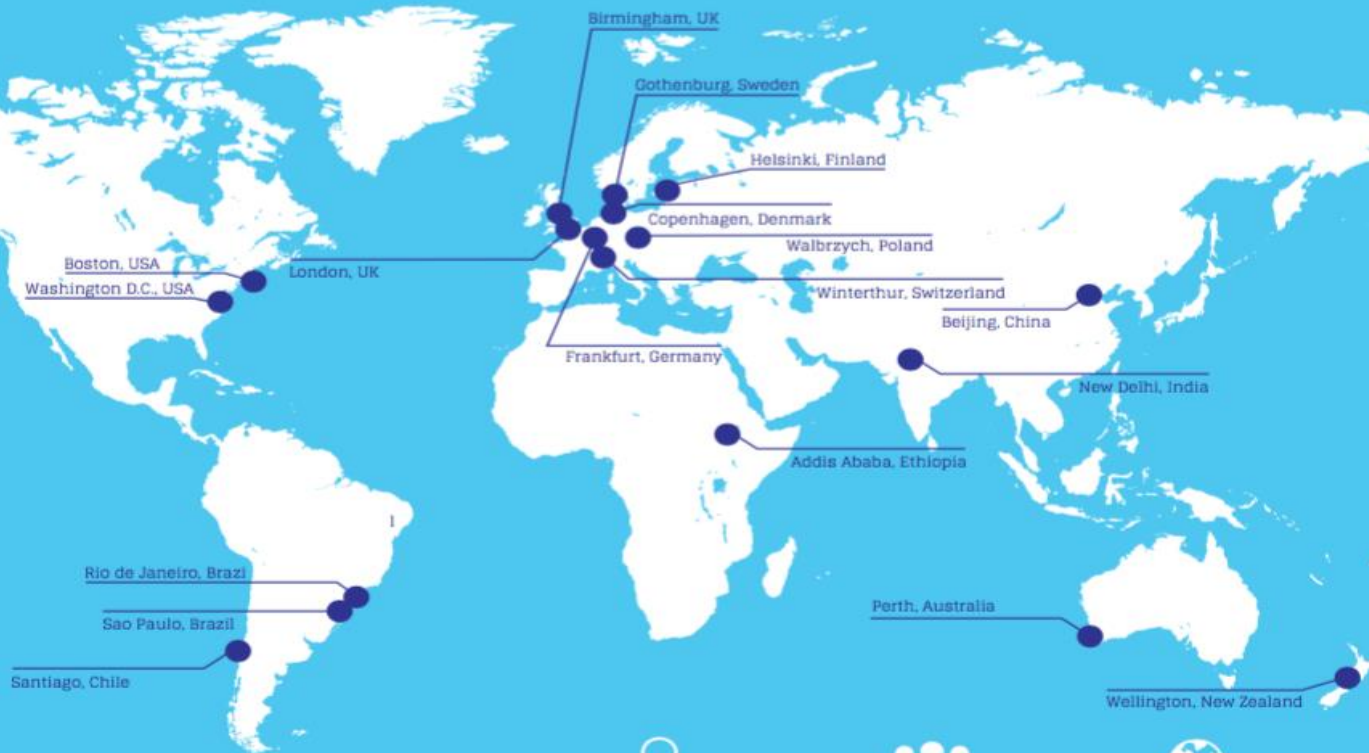
930  
Applications

5,279  
Posts

2.6 million  
Users reached

“ It was an extremely challenging yet very rewarding experience that pushes you out of your comfort zone. Everybody should participate in a Climathon! ”

Deepti Roy, Exchange student at TU Berlin from TERI University,  
New Delhi, India, Master in Climate Science and Policy



Citizens around the world take direct climate action by coming up with innovative solutions to local climate change challenges.



Students, start-ups entrepreneurs, big thinkers, technical experts and app developers meet simultaneously for a 24-hour marathon session.



Locations include major universities, research centres, government facilities and corporate offices around the world.



Results will be presented at COP21 in Paris by Climate-KIC and the winning teams

# Climathon

59 cities  
6 continents  
24 hours  
1 goal



#Climathon

Over 1500 ideas · 10,194 posts · 16.8m absolute reach



“EIT's Climate-KIC Climathon contributes greatly to train a new generation of entrepreneurs and innovators.”

*Tibor Navracsics,  
European Commissioner  
for Education, Culture,  
Youth and Sport*

# Drive climate action!



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[climate-kic.org](https://climate-kic.org)



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Cities



Countries



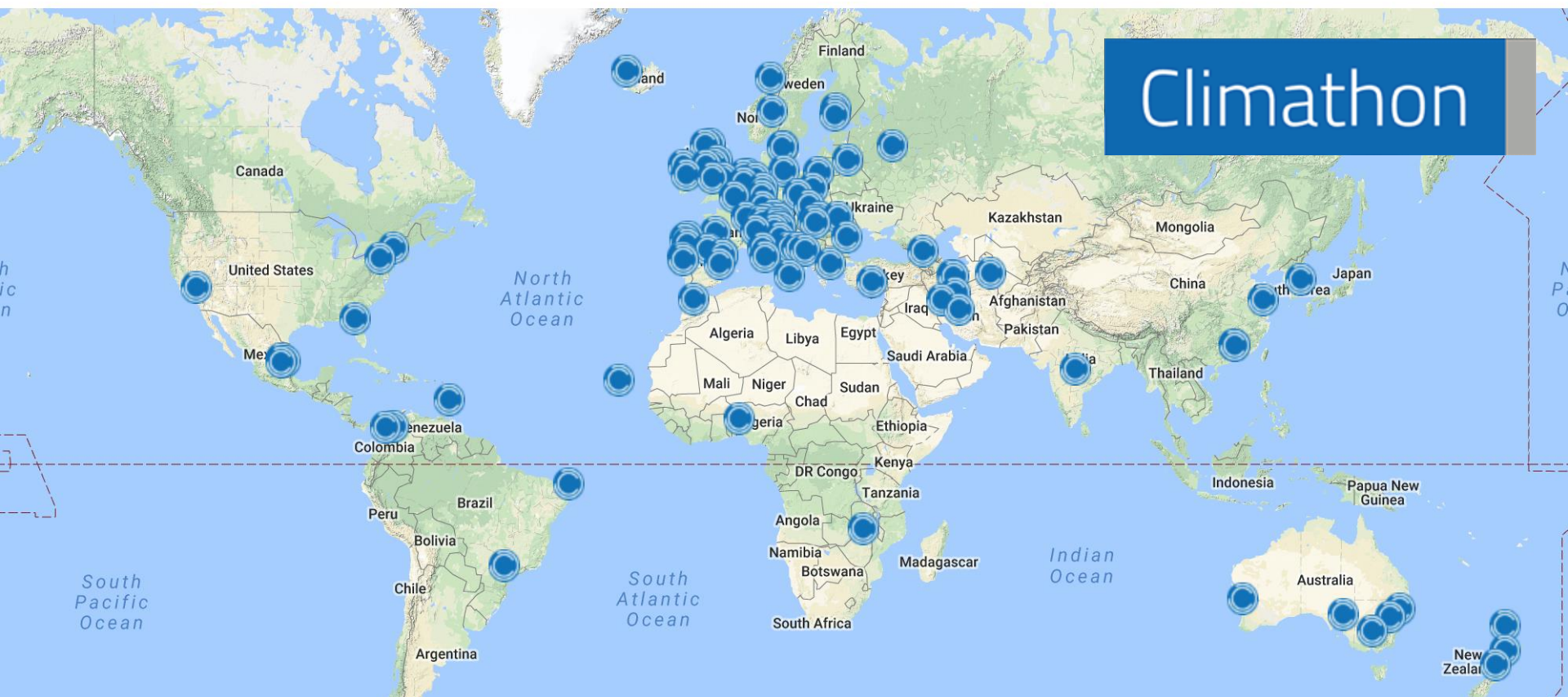
Continents



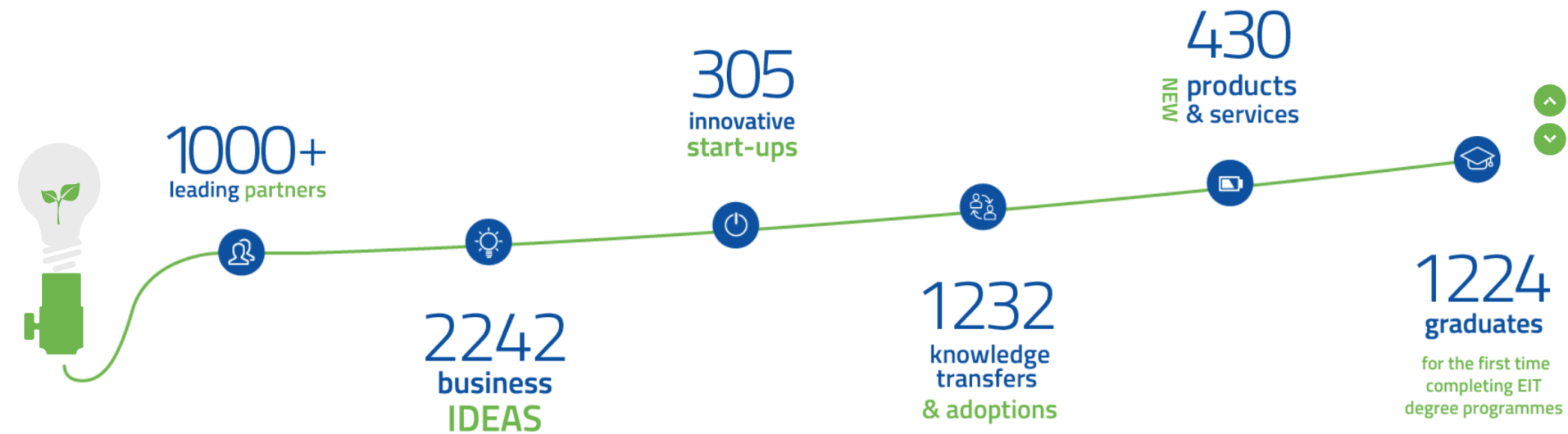
Participants



Ideas



# EIT Community



# External Recognition




Climathon!



50+ nationalities



Journey as Exemplar Case

A black and white portrait of Steve Jobs, looking directly at the camera with a slight smile. He is wearing his signature round glasses and has a short beard. His hand is visible near his chin.

Because the  
people who  
are crazy enough  
to think they can  
change the world  
are the ones  
who do.

**R.I.P. Steve Jobs**

**AppleGuider.com**

QuotesPics.com

**Rahul Bansal**

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