



# InnoEnergy's partnership for long term innovation

April 2018

# We are the most trusted Innovation Ecosystem for Sustainable Energy in Europe

400+ PLAYERS

18+ COUNTRIES





# **We are also the largest Business Accelerator for Sustainable Energy in Europe**

**230+ ASSETS**

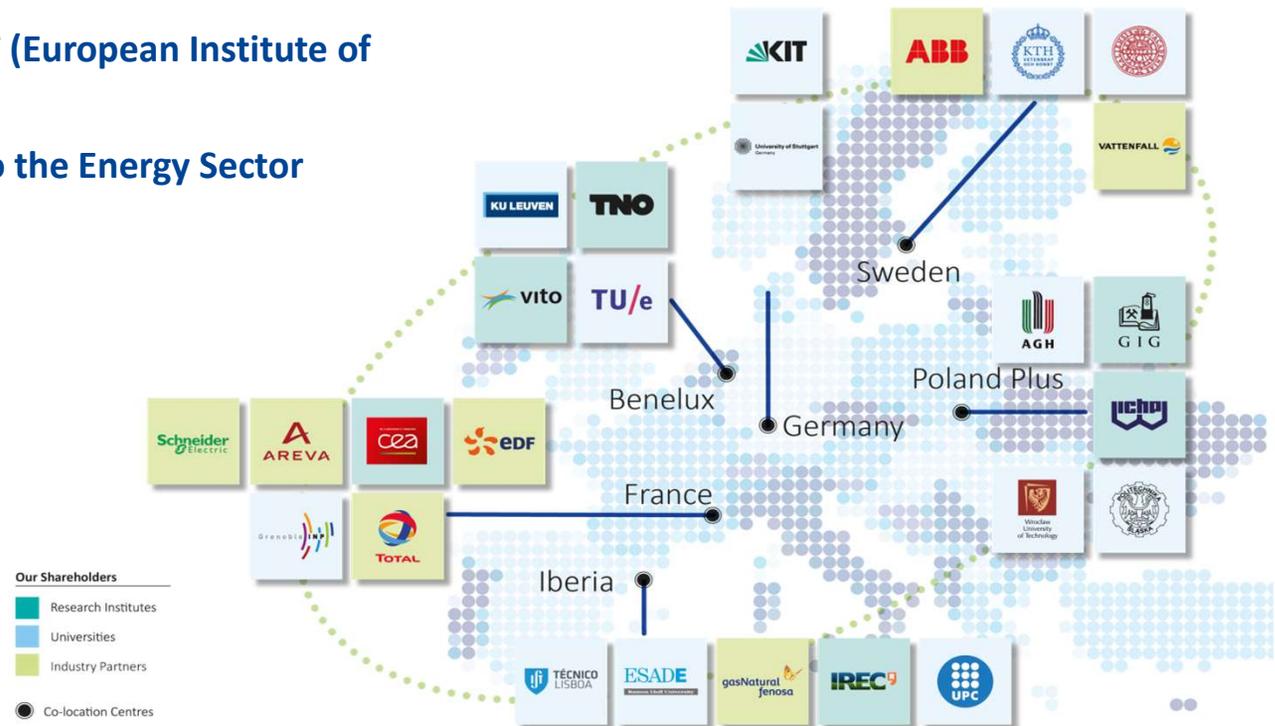
**90 ROL CONTRIBUTORS**

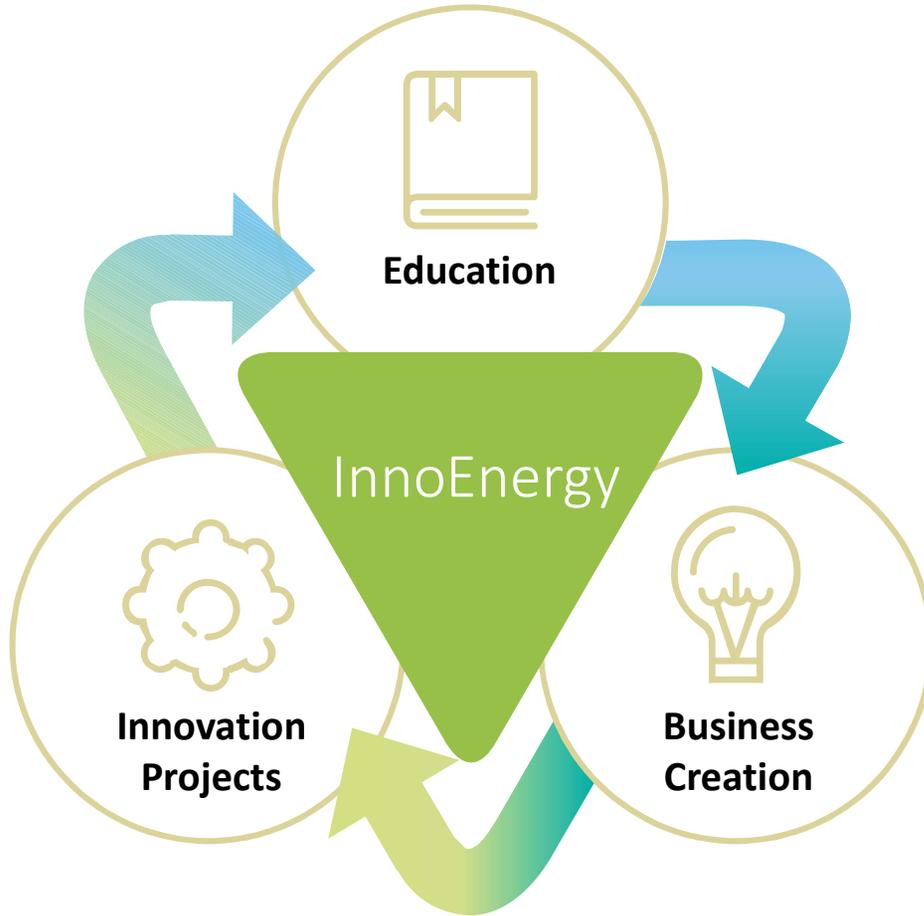
**460+ M€ INVESTED**

# About InnoEnergy

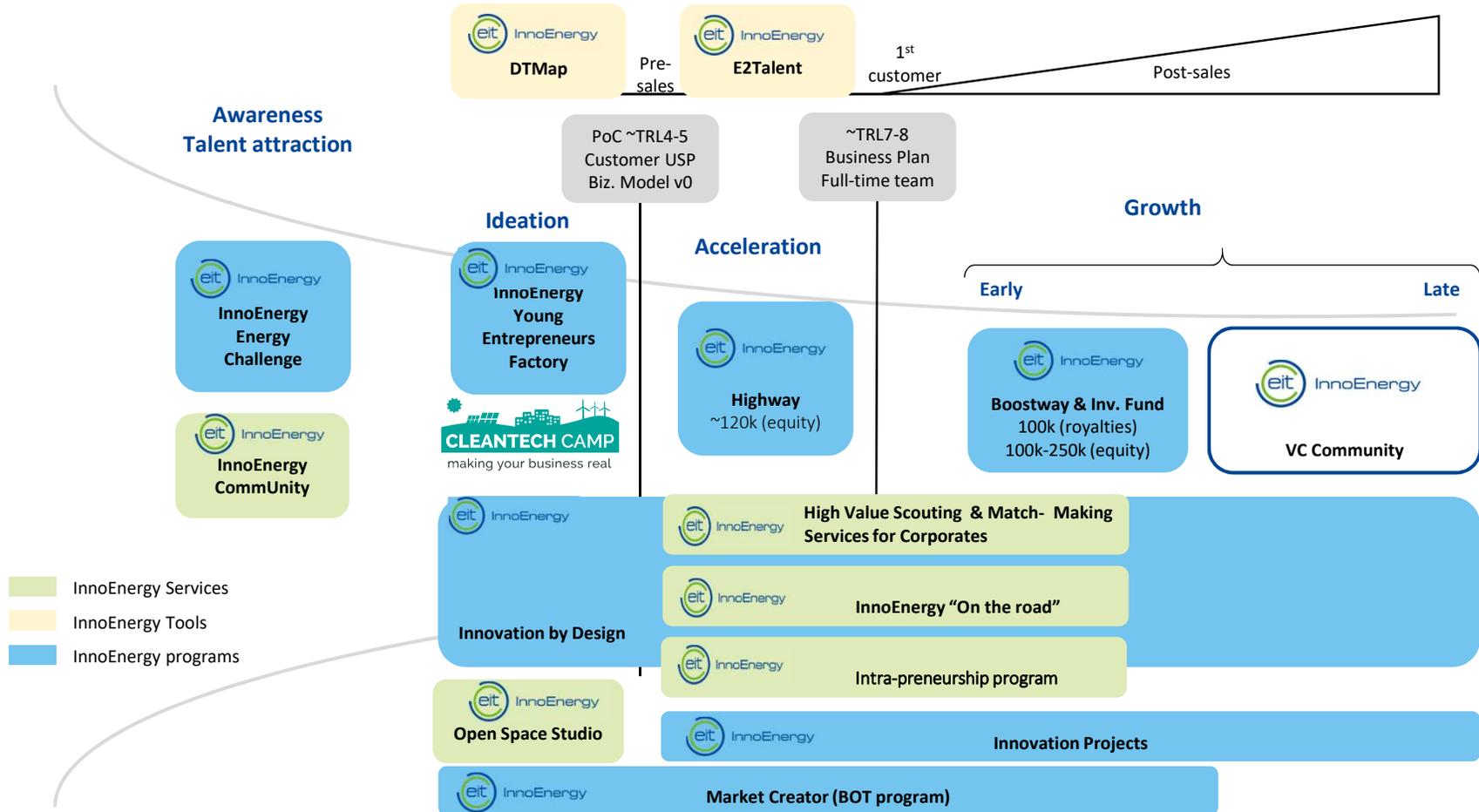
www.innoenergy.com

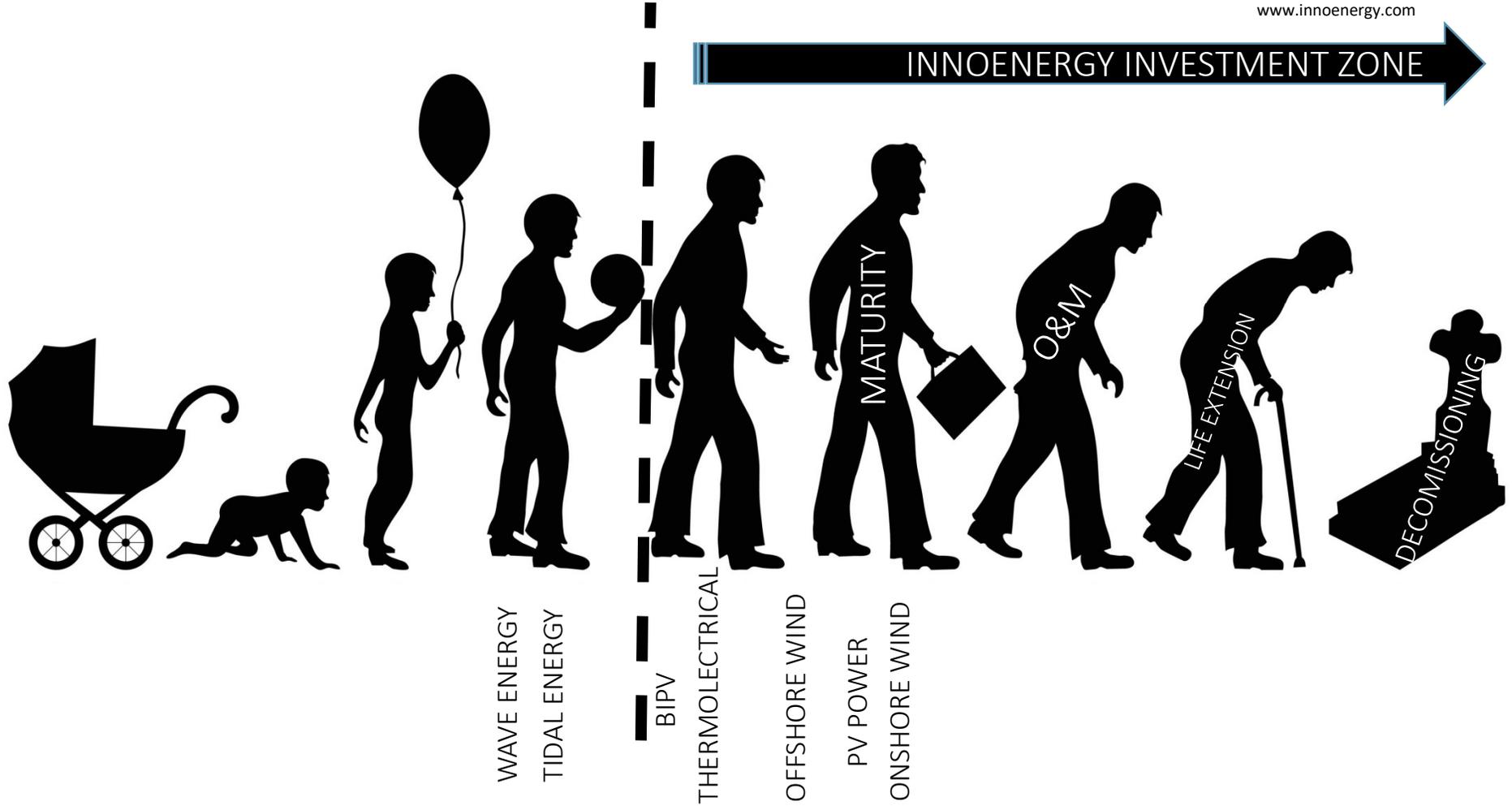
- European public-private partnership established in 2010
- Supported financially by the EIT (European Institute of Innovation & Technology)
- Created to drive innovation into the Energy Sector
- 6 co-location centres
- 230 employees
- 26 shareholders





250 Project partners across Europe	162 Early start-ups supported	574 Gamechangers from the InnoEnergy's Master's School
77 Patents filed	80 Companies created	14,200 Applicants to InnoEnergy's Master's School
78 Products and services supported	33 Million euros of external investment raised	93% Graduates who find a job within six months of graduating
3 Manufacturing facilities constructed	1,884 Business ideas captured	15% Average annual salary earnings over graduates of similar programmes
147 Million euros of InnoEnergy investment	3 Billion euros in forecasted sales	140 PhD students supported
1.2 Billion euros in project costs		35 PhD graduates
		8 MOOCs





**Eolos Floating Lidar Solution**  
***Floating Lidar***



**Customers:**

Iberdrola  
PGE  
Quadran

**NextWafe**

***Silicon Wafers Disruptive  
production technology***



**Shareholders:**

InnoEnergy  
Saudi Aramco  
Wermuth Asset Management

**Nines PV**

***Atmospheric pressure  
Dry etching.***



**Project partner**

NINES PV  
NTS  
Hanwha Q-Cells

BILL GROSS (CEO @ IDEALAB)

MARCH 2015

200 STARTUPS STUDIED

## 5 Essential Elements that Lead to Success



Ideas

28 %



Team

32 %



Business Model

24 %



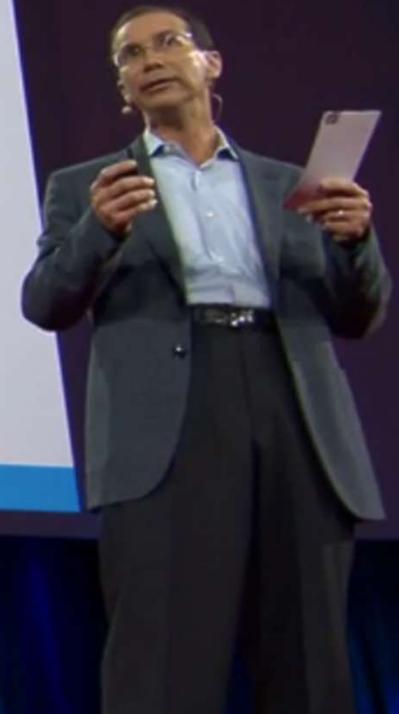
Funding

14 %



Timing

42 %



## STRATEGY FOR CAPTURING ASSETS

### Impact criteria

- **Contribution to EU Global Leadership in REN**
- **Relevance for the ENERGY TRANSITION (Lower GHG emissions, security of supply, lower LCOE, ...)**
- **Contribution to Jobs Creation (WINTER PACKAGE)**

### Hard criteria

- **ROI for InnoEnergy greater than 3.5x (NPV)**
- **Lower risk (< 50 % or below average portfolio)**
- **Market size & traction evidences**

## **WIND ENERGY & PHOTOVOLTAICS**

- **Power plant: LCOE (CAPEX & OPEX) reduction, O&M + Life extension & Decommissioning**
- **Manufacturing equipment & processes**
- **IoT & Industry 4.0**
- **Blockchain related business models**
- **Rapid prototyping technologies**
- **BIPV**

## **Offshore wind power**

- **Floating Platforms**
- **Enabling Technologies (i.e. Robots & Other for under water operation, boats, HVDC solutions, ...)**

---

## **OCEAN POWER (TIDAL & WAVE ENERGY)**

- **Wide tech. Offer → focus on differentiated products/approach**
- **Market still unclear**

## **THERMOELECTRICAL POWER**

- **Discarded for Power plant applications**
- **Only to be considered in niche distributed markets**

**Technology & innovation to unlock further potential.**

## PV to consolidate as game changing tech.

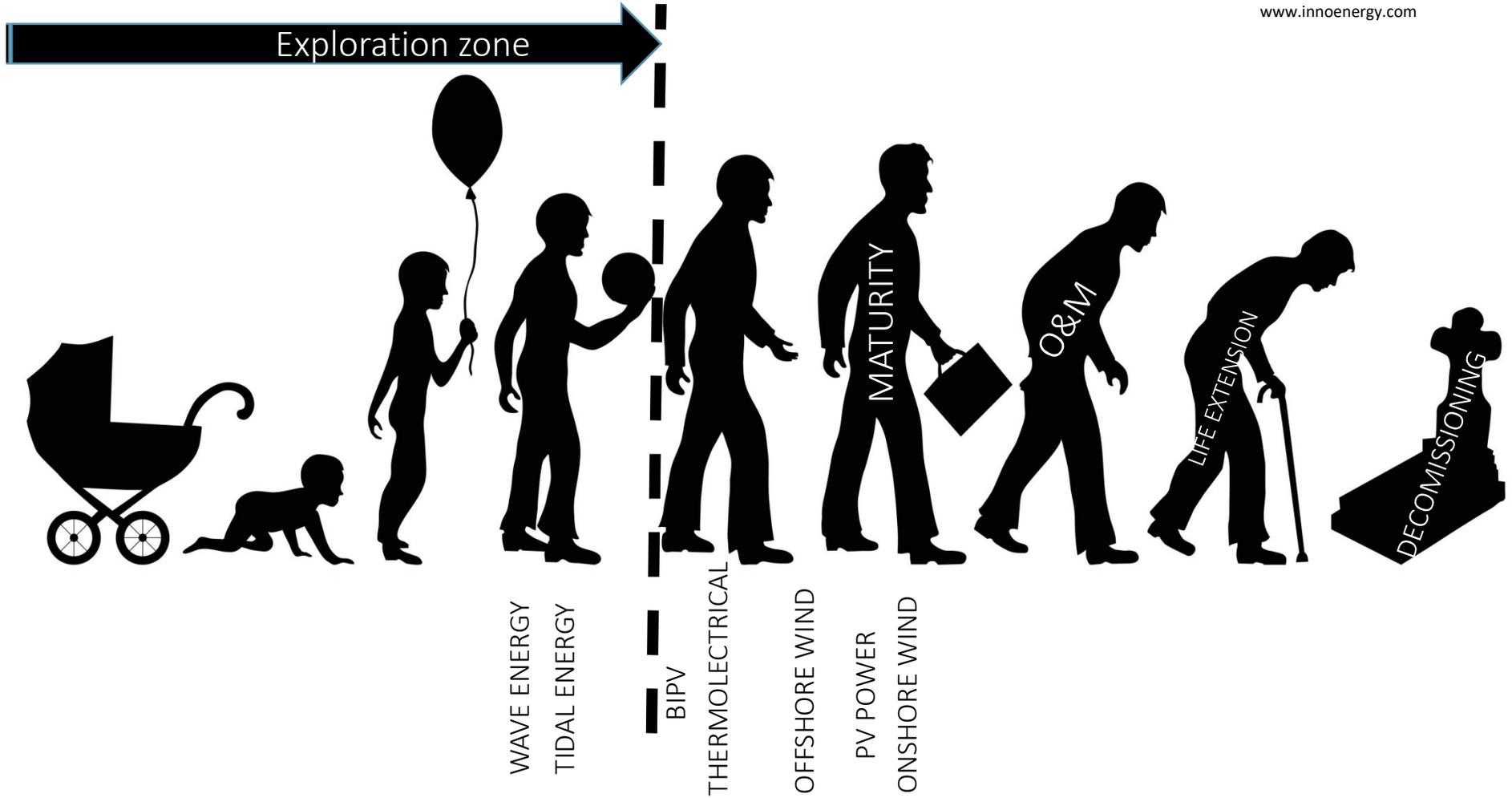
- **Anticipated revolution in materials:**
  - cSi (100  $\mu\text{m}$ ) vs Thin Films (2/3  $\mu\text{m}$ )
  - Massive and seamless integration of PV capabilities in “common” materials
- **PV everywhere: BIPV, TIPV and enabling the “Energy of Things”**
- **PV development anticipated to connect to a number of economic sectors:**
  - Ecosystemic effects which suggests synergies
  - Importance of the value chainS “vision” for identification of opportunity
  - Global trend with global ramifications offering scale
- **Coupling to storage**

## Offshore energies: the new baseload?

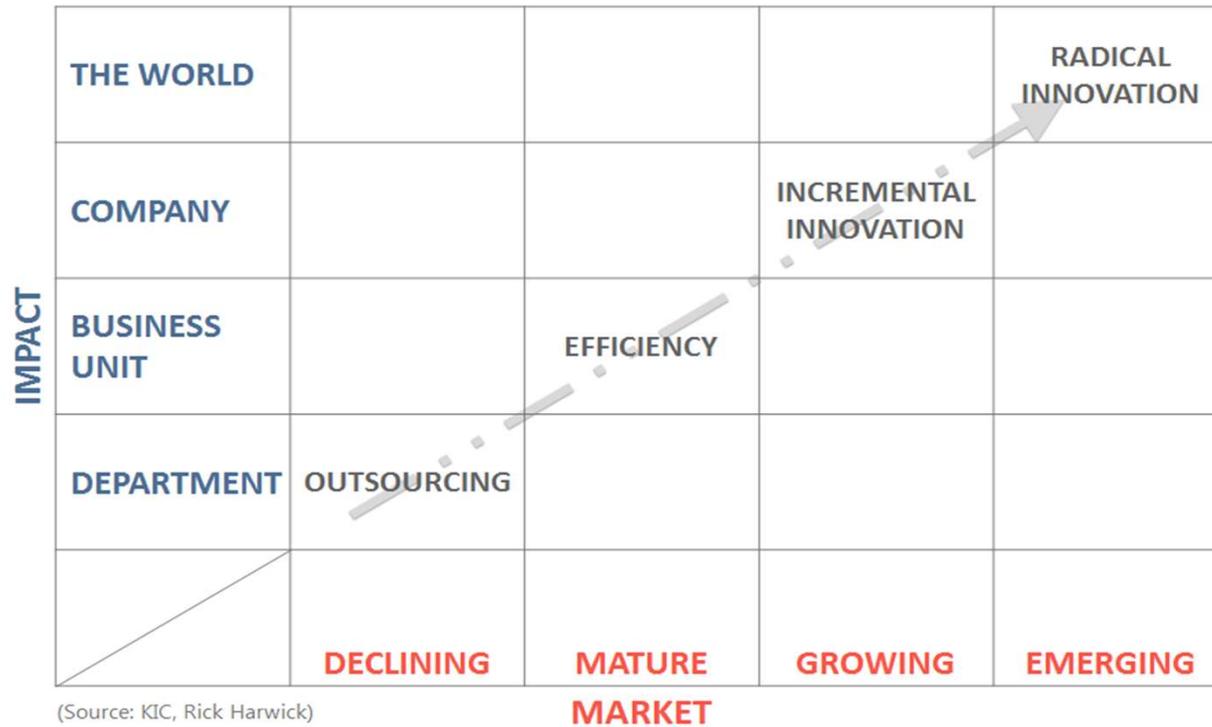
- **Competitive offshore renewable :**
  - Demonstrated decreasing cost trends in offshore and floating offshore wind (fully competitive in the next decade) – WTG keep increasing
  - Market, volumes and tech. consolidation in wave and tidal (optimum size, operationalisation, etc.)
- **Potential synergies between wave and wind (and massive storage) to deliver higher and safer capacity factors**
- **Adapted to highly urbanised population (coastal)**
- **At sea hubs (artificial Islands)**

## Emergence of (new) concepts?

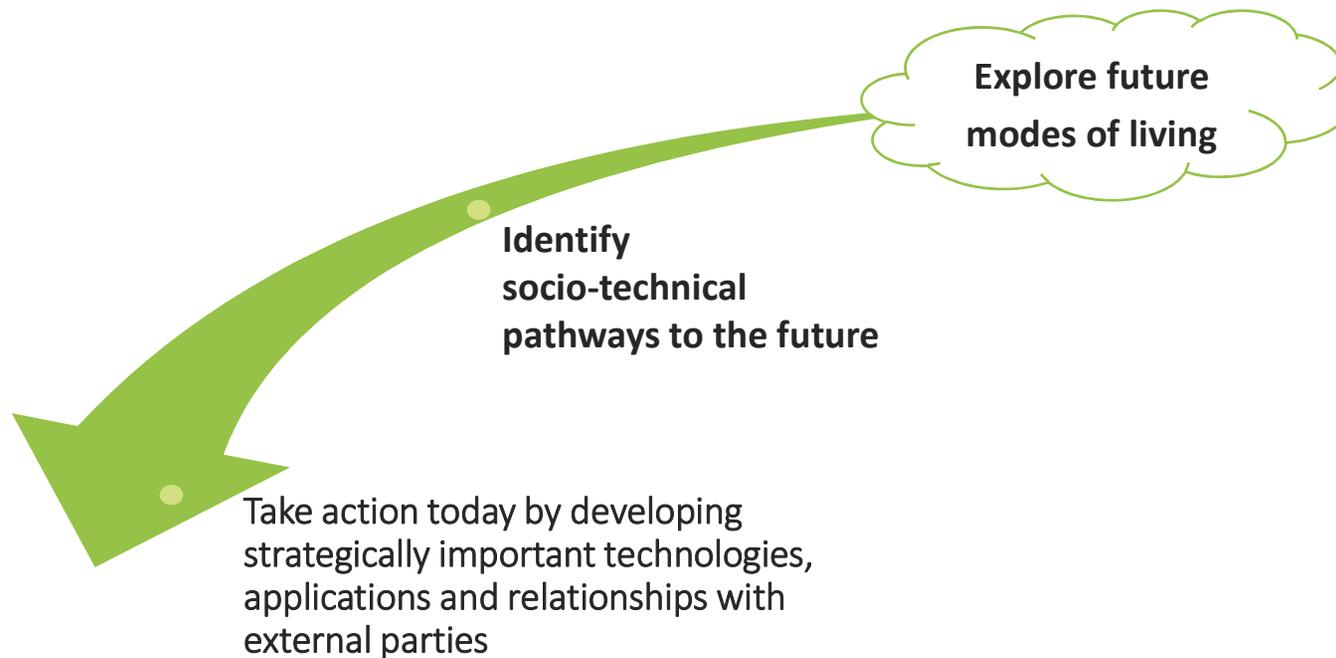
- **Solar Thermo-Electric**
- **OTEC**
- **Geothermal for power generation**
- **Etc...**



# Innovation in energy incumbents



# Backcasting philosophy



## Emilien Simonot

Emilien.simonot@innoenergy.com

+34 616 98 32 40



[www.innoenergy.com](http://www.innoenergy.com)



InnoEnergy is supported by the EIT,  
a body of the European Union