



## **Global Bioeconomy summit**

### **UNESCO – International cooperation in education and training**

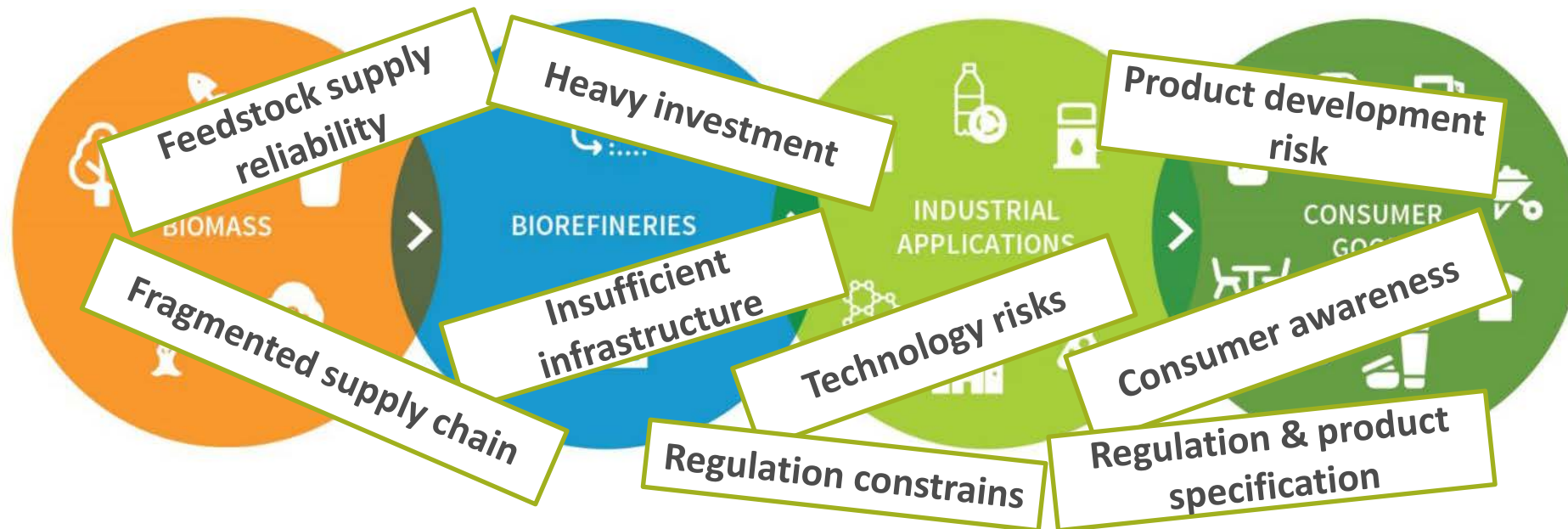
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# Bio-based industries (BBI) value chains

Value chains faced with several challenges and risks



- Engineers and technicians to « develop », « improve » and « manage »
- Policy makers aware and convince
- Supporting society: citizens - consumers



## BBi JU was part of EU Bioeconomy strategy in 2012

European public-private partnership (iPPP) was needed to:

- **De-risk** investments;
- **Organize** the value chains;
- Reach **critical mass** of this “emerging” sector



# About BBI JU

- Public-Private Partnership (PPP) between European Commission & BIC supporting R&I for bio-based industries
- BBI JU Budget: € 3.7 billion (25% EU - 75% BIC)  
→ Fund R&I projects from technology development to full scale
- EU body - operates under Horizon 2020 rules

## BBI JU Mission

Implement under Horizon 2020 rules, the Strategic Innovation and Research Agenda (SIRA) developed by the European Bio-based industry (BIC)





# SIRA 2017

## SO 1

**Foster Supply of sustainable biomass feedstock to feed both existing and new value chains**

- Agri-based feedstock
- Forest-based feedstock
- Aquatic feedstock
- Bio-waste and CO<sub>2</sub>

## SO 2

**Optimise efficient processing for integrated biorefineries through R&D&I**

- Pre-treatment
- Conversion of pre-treated feedstocks to biobased chemicals and materials
- Downstream processing
- System modelling

## SO 3

**Develop innovative bio-based products for identified market applications**

- Drop-in bio-based products
- Bio-based products that outperform fossil-based counterparts
- New breakthrough chemicals
- Proteins and active ingredients

## SO 4

**Create and accelerate the market uptake of bio-based products and applications**

- Policy & regulations, standardization
- Consumer awareness of the benefits of bio-based products
- Knowledge gathering and networking



# BBI on-going projects

Calls 2014 + 2015 + 2016 + • 2017

3 calls 65 projects  
>700 participants  
€414 million grant

SO 1	RIA	DEMO	Flagship
Agri-based	Carbosurf, PROMINENT, LIBBIO, HYPERBIOCOAT, Zelcor, BIOrescue, BioBarr, SSUCHY ● ● ● ●	Pulp2Value, AgriMax, Funguschain, GreenProtein, LIPES, GRACE, LigniOx ●	FIRST2RUN, LIGNOFLAG, AgriChemWhey, PEFerence
Forest based	SmartLi, Greenlight, PROVIDES, US4GREENCHEM, NeoCel, LIBRE, TECH4EFFECT, EFFORTE, SHERPACK ● ●	ValChem, BIOFOREVER, GreenSolRes, PULPACKTION, FRESH, Dendromass4Europe, SYLFEEED, EUCALIVA	BIOSKOH, EXILVA ●
Bio-waste and CO <sub>2</sub>	NewFert, AFTERLIFE, PERCAL, BARBARA	EMBRACED, URBIOFIN, DEMETER	
Aquatic Biomass	MACROCASCADE, BIOSEA, ABACUS, MAGNIFICENT, VALUEMAG	●	
Non-specific Biomass	EnzOx2, InDIRECT, ReSolve, BIOSMART, ECOXY, REFUCOAT, POLYBIOSKIN ● ● ● ●	OPTISOCEM, BIOMOTIVE ● ●	

SO4	CSA
Policy, regulations & standardization	STAR4BBI
Consumer awareness of the benefits of the bio-based products	BioCannDo, BIOWAYS ●
Knowledge gathering and networking	BIOPEN, Pilots4U, RoadToBio ●





## First message on education initiative

***Education about bioeconomy and bio-based products has to start at an early age so that youngsters become informed and influence adults and citizens on the reality of these sectors in their everyday lives.***

BBI JU is engaging and sponsors the EUCYS young scientists prize, trying to bring the reality of the bio based products to young people.

Other ideas could be manual, exhibitions, games, and trainings already at the level of the primary school



## Second message on education initiative

***Education to citizens about bioeconomy and bio-based products has to be strengthened and to be continuous.***

BBI JU CSAs aiming at spreading the word and proactively creating networks around the bio-based industries

Raising awareness, about the value for citizen of Bioeconomy

Answer concerns and uncertainties about Bioeconomy





## Third message on education initiative

***Industry and research organisation need a growing amount of highly educated scientists and engineers covering all the scientific, social, economic and technological fields of the Bioeconomy.***

Increase the interest / attractiveness of all scientific and technological domains. It is very wide covering most of the engineer sciences.

It covers current training programmes in Universities, high schools (Already 30 Master programme)

But dedicated interdisciplinary programmes to be developed and promoted. At BBI we are supporting our scientific committee Chair Pr Kevin O'Connor and founding partners in the development of a PhD programme



# Summary

- 1. Education about bioeconomy and bio-based products has to start at an early age.**
- 2. Education to citizens about bioeconomy and bio-based products has to be strengthened and be continuous**
- 3. Industry and research organisation need a growing amount of highly educated scientists and engineers covering a wide range of scientific, technological, social and economic domains***