

# Public-Private Partnership for Bio-Based Industries



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*Info Day Tel Aviv, 9 May 2017*



European  
Commission

Horizon 2020  
European Union funding  
for Research & Innovation



Bio-based Industries  
Consortium



Conclusion

What?

Why?

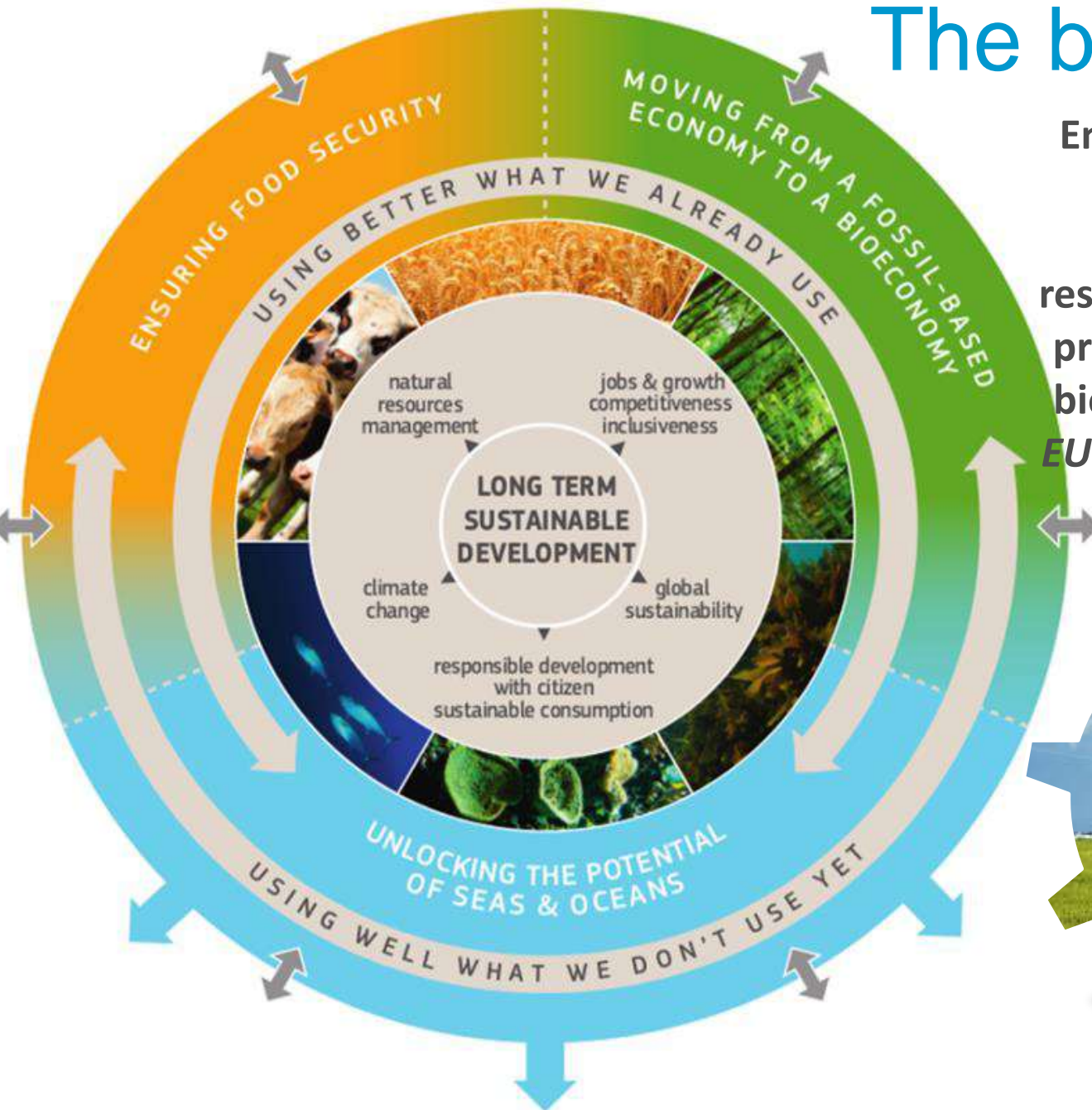
How?

Next?

Where?

# The bioeconomy

Encompasses those parts of the economy that use renewable biological resources from land to sea to produce food, bio-materials, bio-energy and bio-products  
*EU Bioeconomy strategy 2012*





# Why BBi JU was needed?

European public-private partnership was needed to :

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



Conclusion

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**What?**

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# BBi Joint Undertaking (BBi JU)

**Public partner**  
**26%** of investment



**€3.7 billion**



**Private partner**  
**74%** of investment



Execute strategy  
Implement SIRA

## Bio-based Industries Joint Undertaking

Governing Board (10 seats)

Executive Director

Programme Office

States Representatives Group  
(28 MS + 10 AC)

Scientific Committee  
(15 seats)

Advise on AWP  
Support BBi actions



# BBI JU mission

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

BBI Programme office team is in charge of:

- Coordination of Annual Work Plan building
- Call management
- Proposals evaluation (by independent expert panel)
- Grant Agreement Preparation Process
- Whole project management life cycle
- Communication, dissemination & stakeholder management
- Monitoring



# BBi's objectives

Developing **sustainable** and **competitive bio-based industries in Europe**, based on advanced biorefineries that source their biomass sustainably by:

- **Demonstrating new technologies** to fill the gap in value chains
- **Developing business models** integrating all economic actors along the value chain
- **Set-up flagship biorefinery plants** deploying business models & technologies to keep investment in EU







# Expected impact for Europe by 2030

- Shift to bio-based products
  - Replace 30% of oil-based chemicals & materials
  - Reduction of 50% GHG emission (BB products)
- Reduce EU dependency on import of fossil raw materials
- Diversify & grow farmers' incomes
- Create 700,000 jobs – 80% in rural areas
- Develop potential of agric. waste & forestry residues
- For **maximum impact: synergies** between BBI & other EU programmes i.e the European Structural and Investment Funds (ESIF)



# BBI Value Chain approach

- **Value Chain 1:** From **lignocellulosic feedstock\*** to advanced biofuels, bio-based chemicals & biomaterials
- **Value Chain 2:** Next generation **forest-**based value chains
- **Value Chain 3:** Next generation **agro-**based value chains
- **Value Chain 4:** New value chains from (organic) **waste**
- **Value Chain 5:** **Integrated** energy, pulp and chemicals biorefineries

\* **Feedstock** = raw material





# Recent trends

- Updated SIRA
  - An updated version of the SIRA was approved on 21/03 by BBI GB
  - Will be published soon on BBI website
- How to deal with overlap between VCs?
  - Call 2014-2015: link with VC in title of topics
  - Call 2016: no explicit link between topic and VC
  - Because of more & more inherent overlap: no more VC5 (“integrated”) in updated SIRA.



Conclusion

Why?

Where?

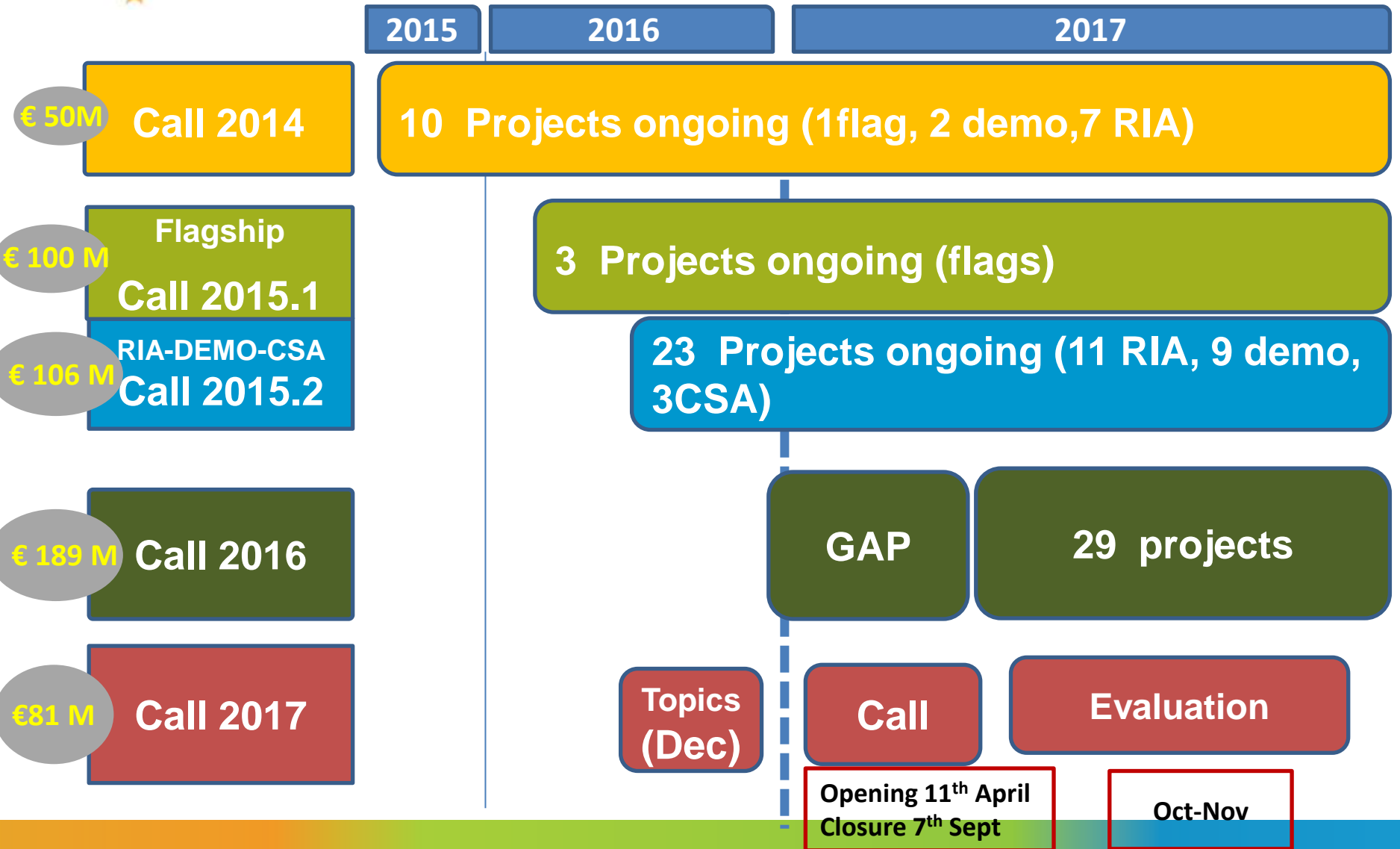
What?

Next?

How?



# BBi JU Calls overview (7 calls from 2014-2020)







# BBi on-going projects

Calls **2014** + **2015** + **call 2016 (GAP)**

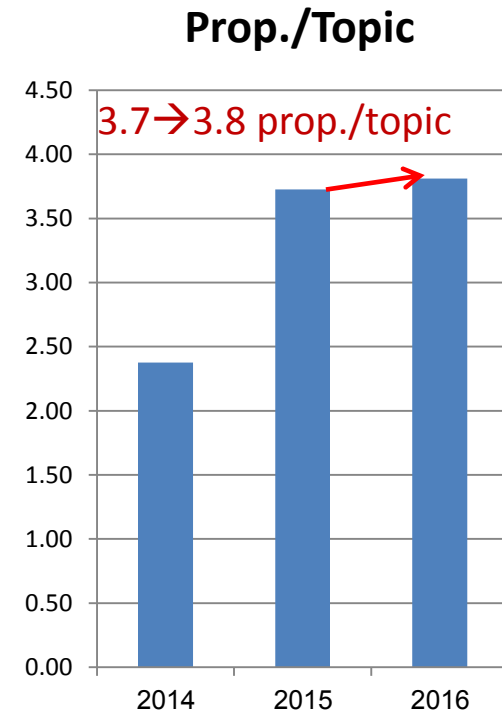
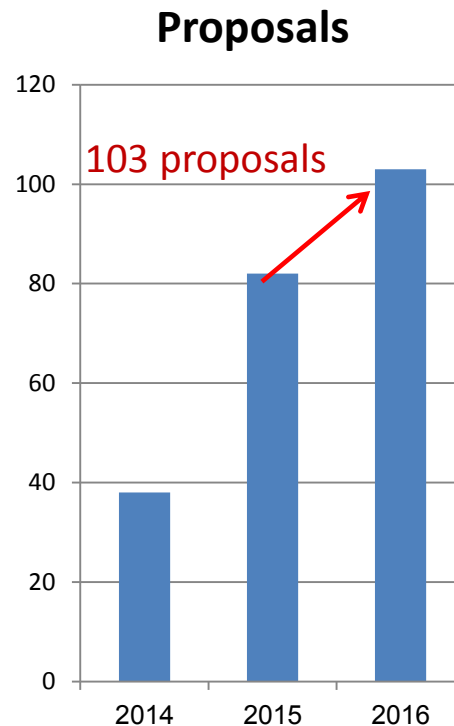
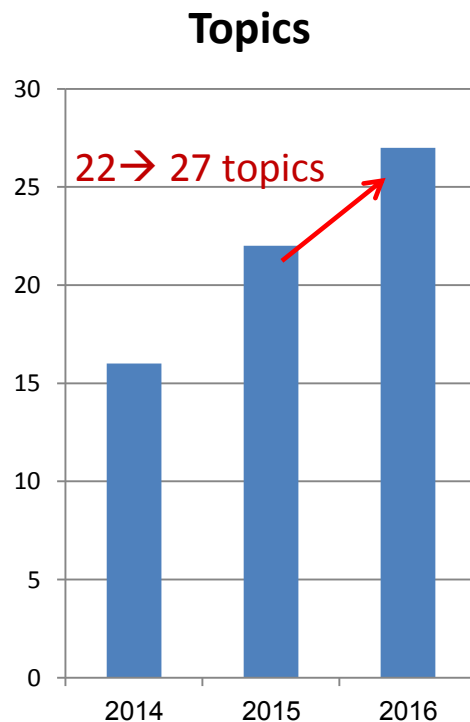
Value Chains	RIA	DEMO	Flagship	CSA
<b>VC1</b> (lignocellulose)	US2GREENCHEM Zelcor LIBRE HYPERBIOCOAT	ValChem GreenSolRes BIOFOREVER	BIOSKOH LIGNOFLAG	-
<b>VC2</b> (forest-based)	SmartLi Greenlight PROVIDES NeoCel TECH4EFFECT EFFORTE	PULPACKTION FRESH	EXILVA	
<b>VC3</b> (agro-based)	Carbosurf PROMINENT LIBBIO	Pulp2Value AgriMax Funguschain GreenProtein LIPES	FIRST2RUN	
<b>VC4</b> (organic waste)	NewFert			
<b>Across VCs</b>	EnzOx2 InDIRECT BIOrescue	DEMETER		BioCannDo BIOCOM STAR4BBi
<b>Aquatic Biomass</b>	MACROCASCADE			

Standards  
Regulations  
Communication  
Awareness



# BBI JU Calls - Submission Statistics

The mobilisation of the sector is confirmed with 103 proposals and 3,8 proposals in average per topic

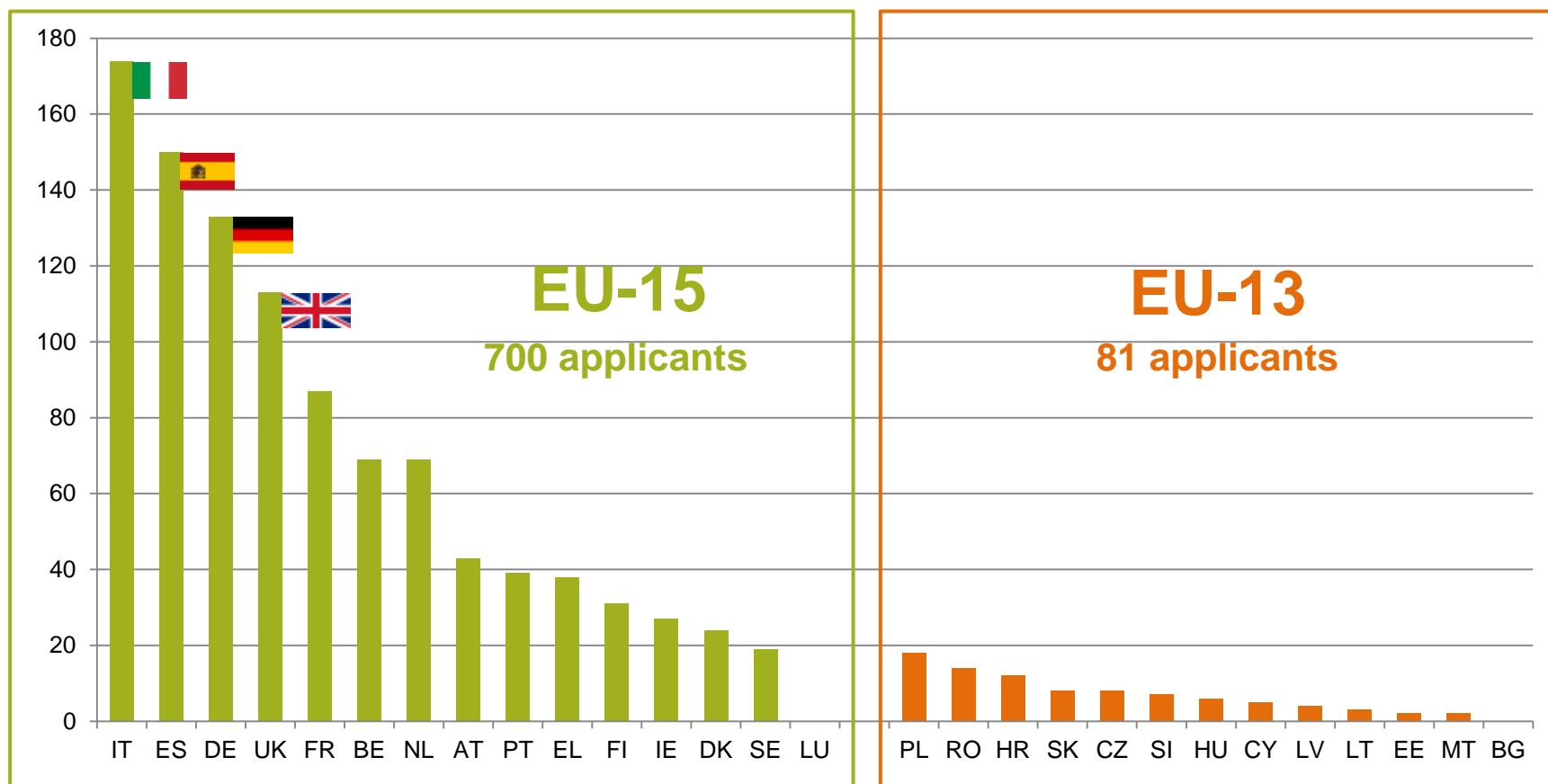




# Call 2016: Submission statistics:

## EU 28: Number of applicants per country

781 different applicants from the EU 28 with 10% from EU 13  
Among EU 13: Poland (18), Romania (14), Croatia (12)



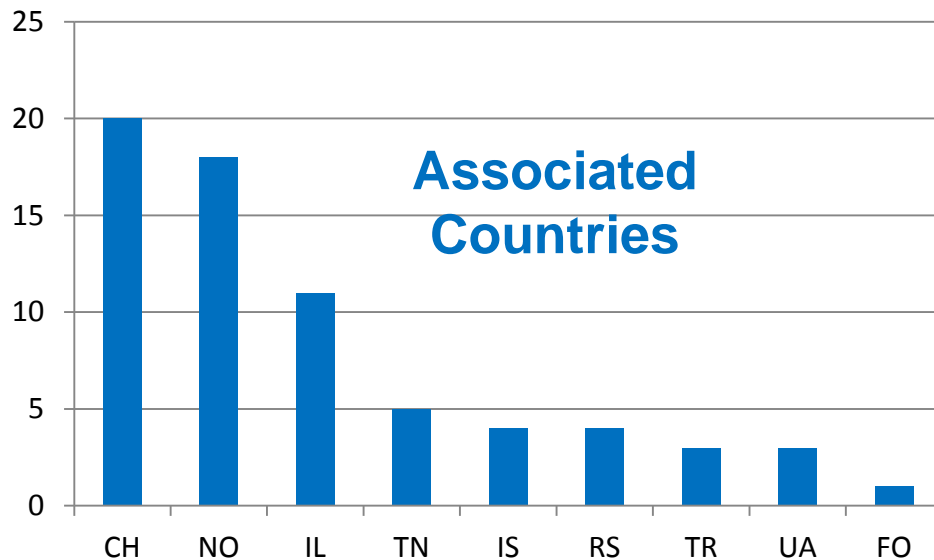


# Call 2016: Submission statistics

## Applicants from other countries

- **Associated countries:**
  - 70 applicants

**ISRAEL**  
2016: 11 applications

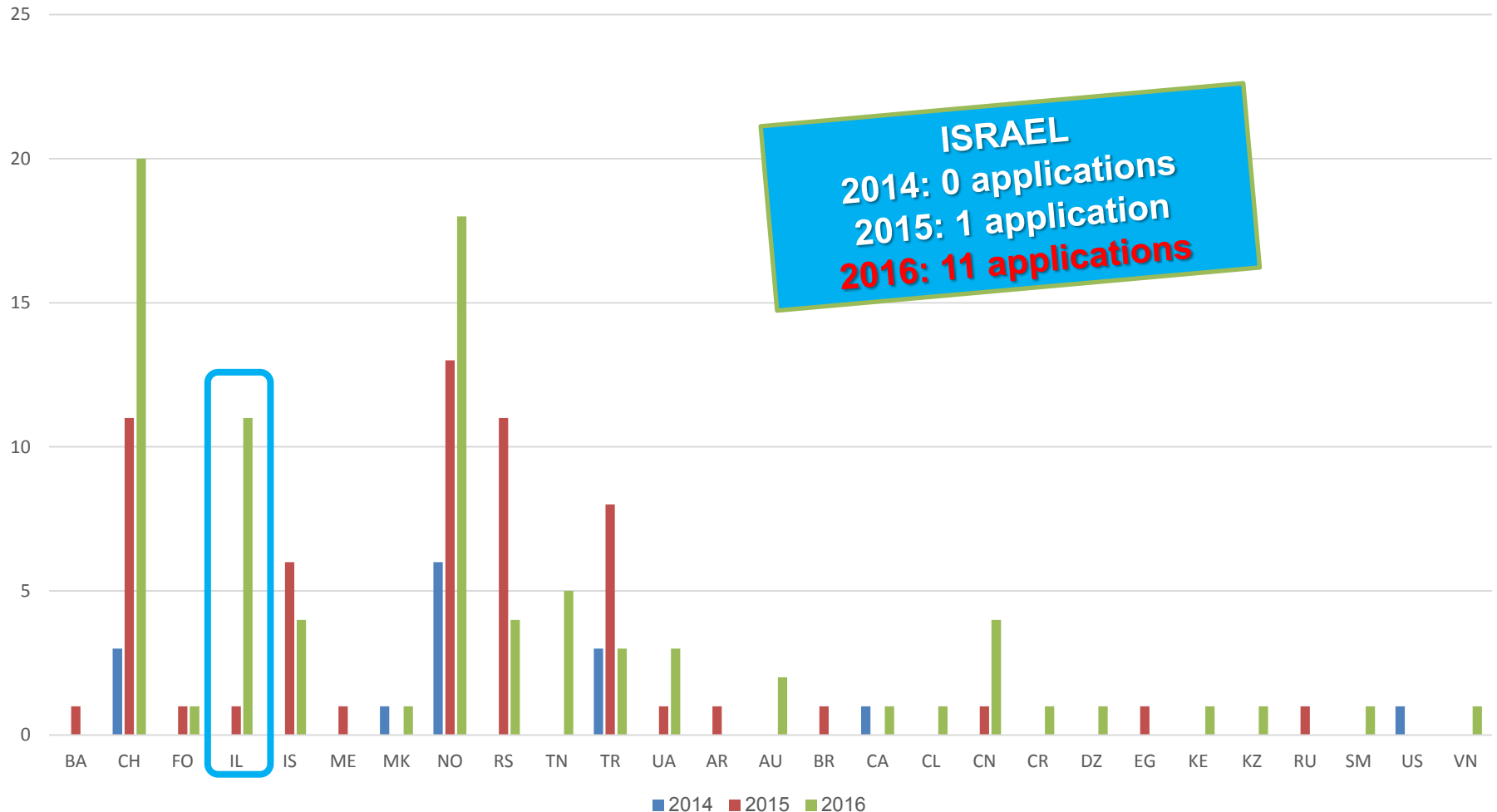


- **Third countries:**
  - 9 applicants from industrialised countries and emerging economies, e.g. Australia (2) & China (4)
  - Developing countries: 6 applicants



# Evolution of applications from AC and third countries

Associated and "third" countries applicants 2014-2015-2016







# Call 2016 overview of evaluation

The outcome of the evaluation confirms a significant mobilisation of the BBI sector (good proposals and optimal topic coverage)

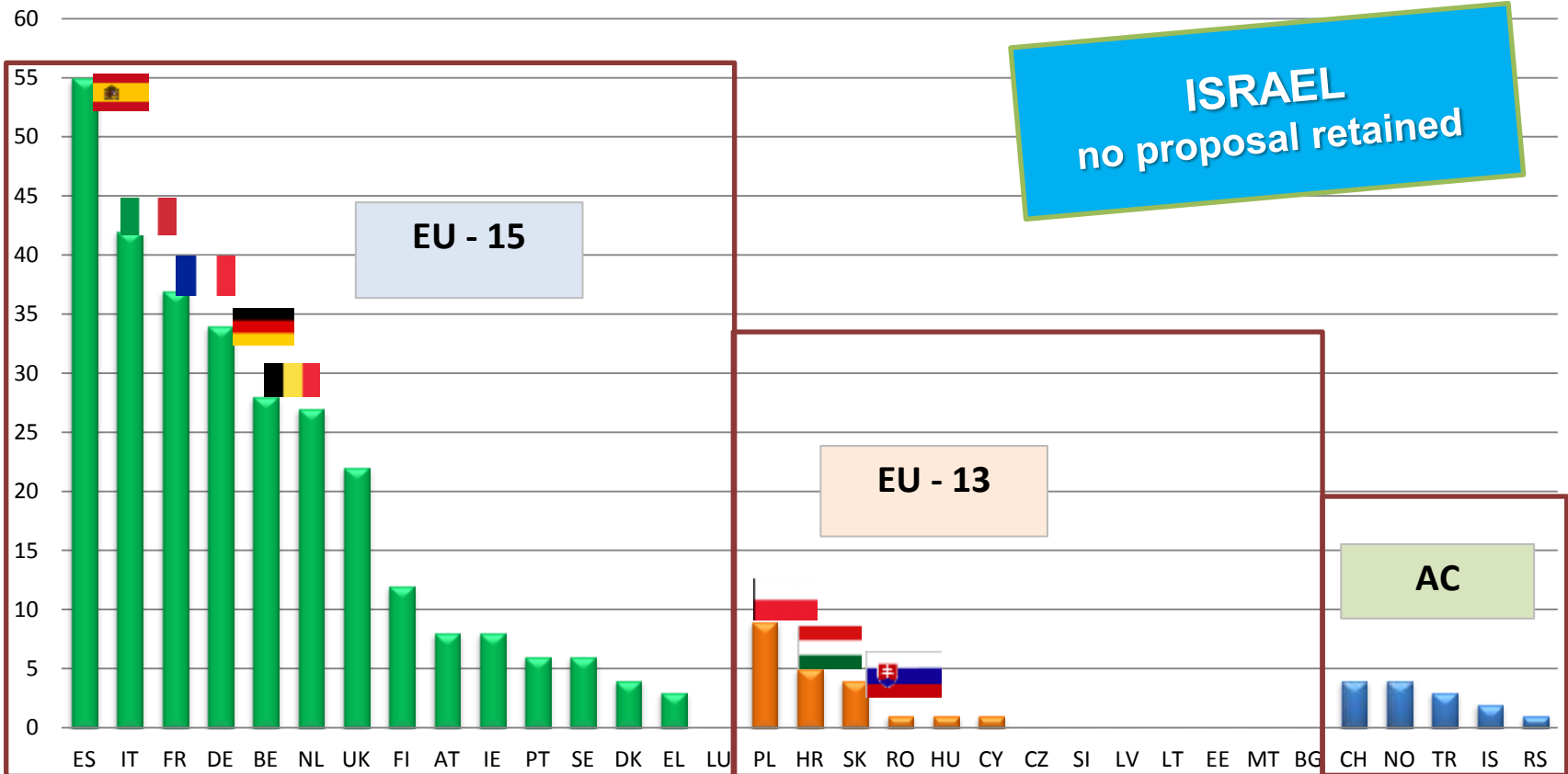
- In total, from 103 proposals submitted, 55 were above threshold
- The quality of proposals is very high, with 53% of proposals above threshold: 51% RIA, 66% CSA, 50% DEMO and 67% FLAG
- In total 29 proposals out of 103 retained for funding, showing 28% success rate
- New projects from call 2016 contribute to the better coverage of VC4 organic waste and aquatic biomass and CSA
- The quality of RIA proposals retained is also good with minimum score of 14 and all criteria  $\geq 4$



# Call 2016

## Proposals invited to GAP

EU 28 Beneficiaries: 313 + 14 AC





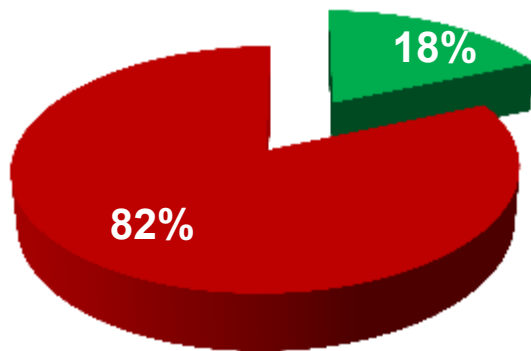
# BIC Coordinators in submitted vs selected proposals

Success rate of proposals having a **BIC CoO**: 47.4%

Success rate of proposals having a **non-BIC CoO**: 23.8%

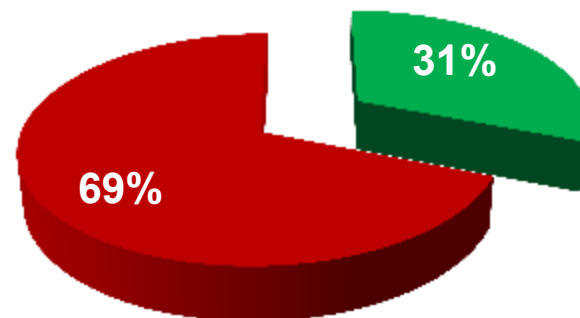
**BIC COOs in submitted proposals**

■ BIC CoO ■ non-BIC CoO



**BIC COOs in selected proposals**

■ BIC CoO ■ non-BIC CoO



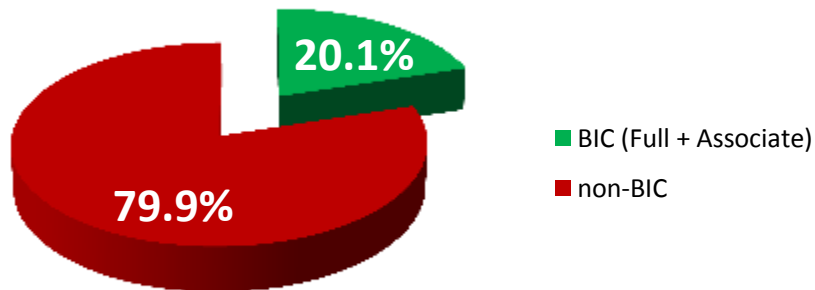


# BIC members in submitted vs selected proposals

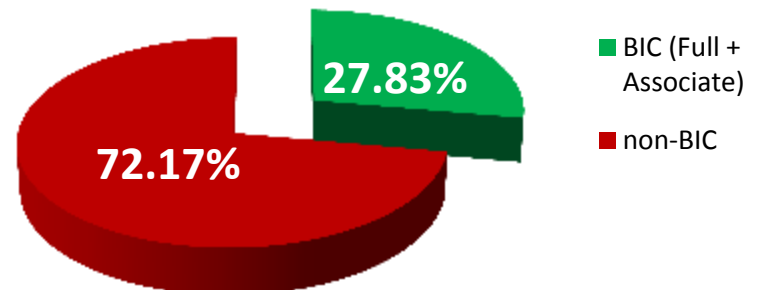
**BIC members: 38.1% success rate in selected proposals**

**Non-BIC members: 24.8% success rate in selected proposals**

BIC membership in submitted proposals (participation)



BIC membership in selected proposals

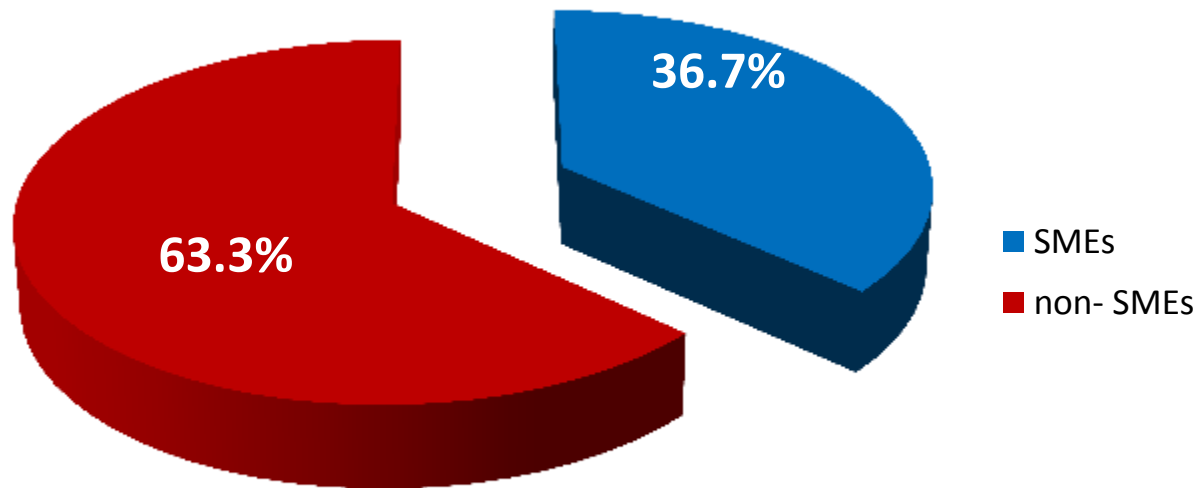




# Call 2016 - SME participation

- Share of self declared SMEs in the total number of participants in proposals retained for funding

**SMEs in selected proposals**

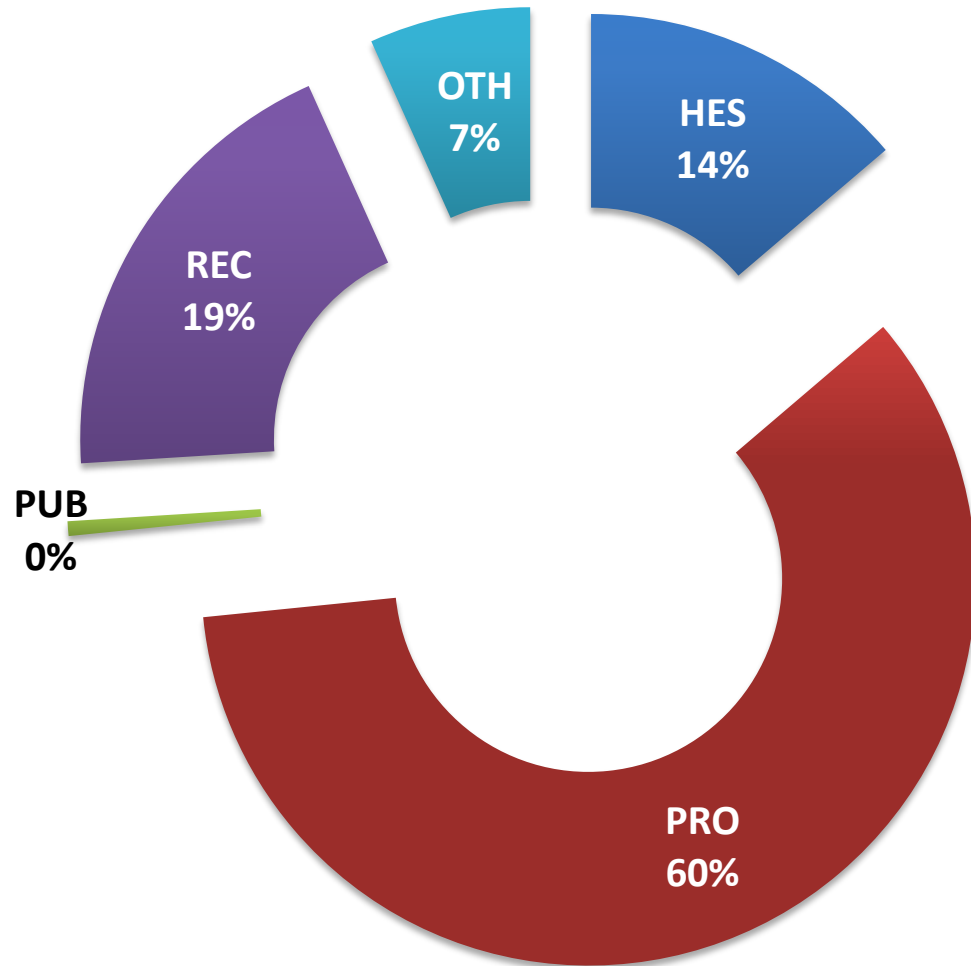


H2020 objective: min 20%





# Call 2016 - type of participants in submitted proposals



LEGEND	
PRO	Private for-profit entities
OTH	Other (private not for profit entities, international org., natural person, entities without legal personality)
REC	Research Organisations
HES	Higher/Secondary Education Establishments
PUB	Public Organisation



# BBi Joint Undertaking 2017 Annual Work Programme



Conclusion

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# BBi implementation

## Strategic level: SIRA

Strategic Innovation and Research Agenda  
guiding document developed by BIC



## Operational Level Annual Work Plan

Drafting – Approval – Supporting



+ Scientific Committee  
+ States Representatives Group



Call for proposals  
(RIAs, IAs, CSAs)



Publication &  
Implementation

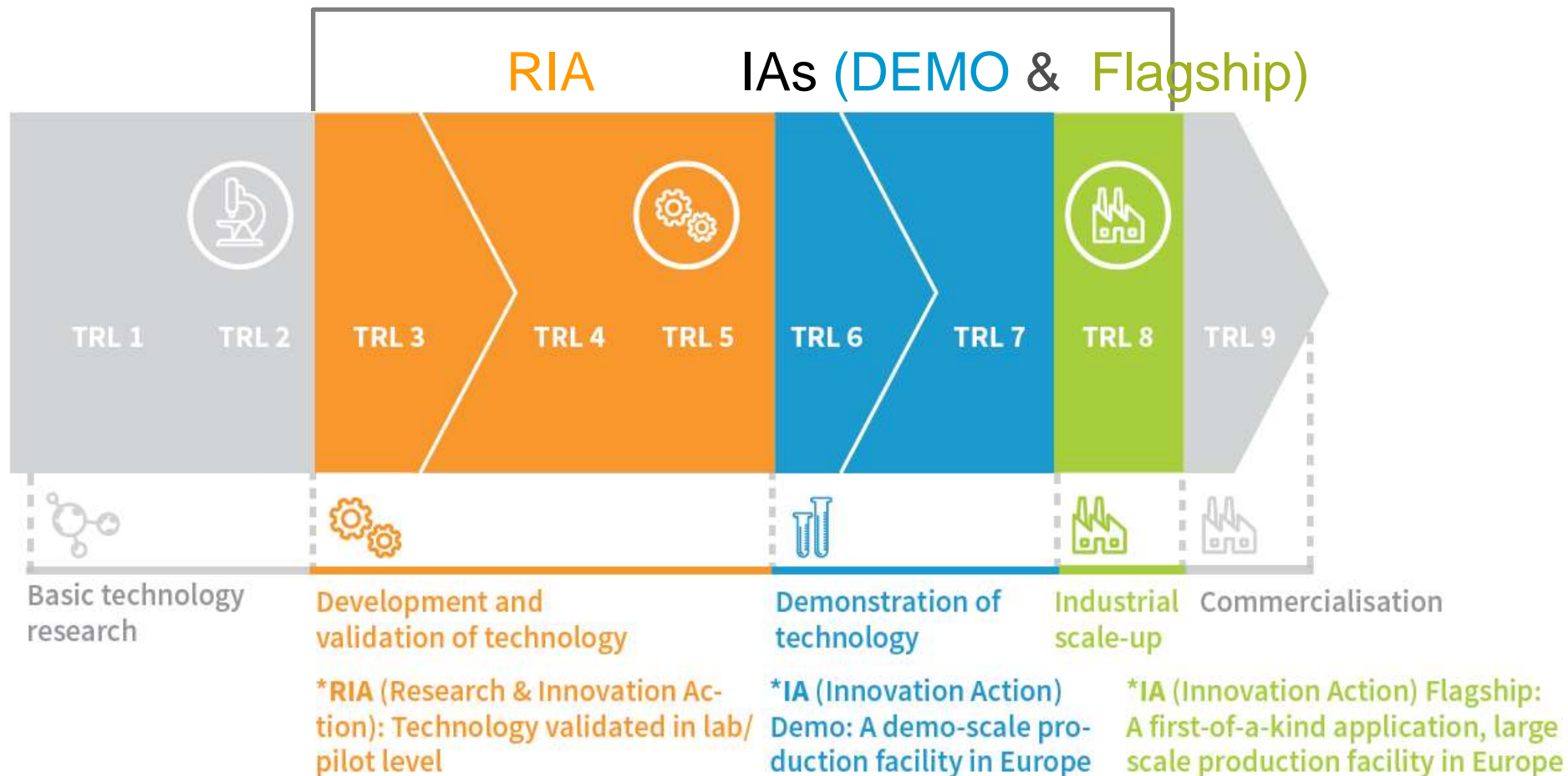




# BBi programme Implementation

## - Types of Actions -

### CSA Coordination and Support Actions







# How to influence BBi JU topics?

- Via <http://BIConsortium.eu/membership>



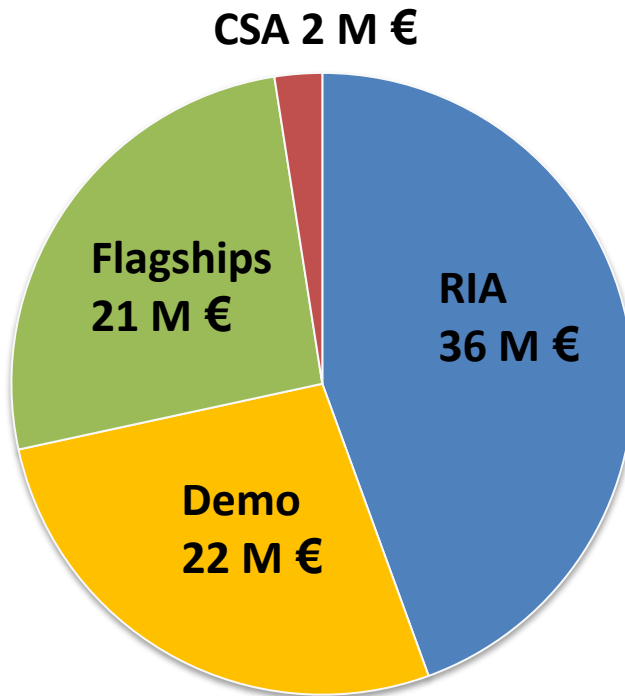
## Membership benefits

- ✓ Define the content of the annual Work Plan
- ✓ Receive tailored information and support
- ✓ Obtain advice and guidance on EU loans/grants
- ✓ Network with Consortia partners and potential project partners



# Budget distribution Call 2017

## - Type of Actions -



Indicative total BBI JU  
budget 81 M €

In addition substantial resources from industry  
expected (>40 M €)



## 4 Strategic orientations in Call 2017 based on the pillars of value chains -

### Strategy



#### FEEDSTOCK

Fostering a sustainable biomass feedstock supply to feed both existing and new value chains



expand & diversify the biomass feedstock portfolio



#### PROCESS

Optimising efficient processing for integrated biorefineries



improve efficiency & sustainability, develop new processes



#### PRODUCTS

Developing innovative bio-based products for specific market applications



increase applicability, avoid price competition with fossil-based products



#### MARKET UPTAKE

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



respond to the concerns of society about BB products



# Strategic orientation in Call 2017

## - 4 pillars of value chains -

### Topics



#### FEEDSTOCK

Fostering a sustainable biomass feedstock supply to feed both existing and new value chains



R1, D1, D2



#### PROCESS

Optimising efficient processing for integrated biorefineries



R2, R3, F1



#### PRODUCTS

Developing innovative bio-based products for specific market applications



R4, R5, R6, R7,  
D3, D4, D5  
F2



#### MARKET UPTAKE

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



S1, S2



# 7 RIA topics in Call 2017



**Objective:** Filling specific gaps in the value chain by validating a technology, process or materials/product at TRLs 4/5

- BBI JU Budget: € 36 million // Grant: € 2-5 million per proposal

<b>Feedstock</b>	Valorisation of gaseous side streams (R1)
<b>Process</b>	Pre-treatment and separation of lignocellulosic feedstock (R2), Extremophiles & extremozymes for processing (R3)
<b>Products</b>	Proteins and other bioactive ingredients (R4) Novel bio-based chemical precursors (R5) Bio-based plastics (R6) Novel secondary bio-based chemicals (R7)
<b>Market Uptake</b>	



## 5 Demo topics in Call 2017



**Objective:** demonstration of the technical and economic viability of a new or improved technology, process, product or service or value chain, achieving TRL 6-7. They must address the **whole value chain**, from feedstock sourcing to market applications

BBi JU Budget € 22 million // Grant: up to € 7million / proposal

<b>Feedstock</b>	Valorisation of liquid and solid side streams (D1) Valorisation of algae into materials/additives (D2)
<b>Processing</b>	
<b>Products</b>	Bio-based chemicals without significant fossil-based counterparts (D3) Bio-based fertilizing products (D4) Bio-based fibres and materials for large-volume applications (D5)
<b>Market Uptake</b>	



## 2 Flagships in Call 2017



**Objective:** deployment of a technology, which has been already demonstrated leading to a system, which is complete and qualified (TRL8) for successful commercial operation (large scale production facility in Europe)

BBi JU Budget € 21 million / Grant: up to € 21 million / proposal

<b>Feedstock</b>	
<b>Processing</b>	Integrated 'zero waste' biorefinery utilising all fractions of the feedstock for production of chemicals and materials (F1)
<b>Products</b>	Large scale production of proteins for food and feed applications from alternative, sustainable sources (F2)
<b>Market Uptake</b>	





## 2 CSAs in Call 2017



**Objective:** non-technological actions supporting value chains development through various means

BBi JU Budget € 2 million // € 1 million / proposal

<b>Feedstock</b>	
<b>Processing</b>	
<b>Products</b>	
<b>Market Uptake</b>	Establish cooperation and partnership with brand owners and consumer representatives to improve market access (S1) Identify opportunities for ICT to increase efficiency of biomass supply chains for the bio-based industry (S2)





# 2017 Call for Proposals

2016

- Publication topic texts (December 2016)

Apr

Call opens (11 April 2017)

**BBi INFODAY 28 April 2017**

Sept

- Call closes (7 September 2017)

Oct-  
Nov

- Proposal evaluation

2018

- Evaluation results (7 February 2018)

→ GA signature at the latest 7 May 2018



# BBi JU Calls

## Rules of participation and call conditions



# What does BBI JU finance?

**BBI JU funds 3 types of actions:**



Research & Innovation – RIA  
TRL 3-5



Innovation Actions – IA  
Demo TRL 6-7 and Flagships TRL 8



Coordination and Support – CSA



# Legal & and financial aspects

- BBI JU calls follow H2020 rules for participation

BUT with one derogation:

> No BBI JU funding for large industries in RIA & CSA

- All information in:

<http://www.bbi-europe.eu/participate/calls-proposals-2017>

- BBI JU **Annual Work Plan** provides the legal information for submitting a proposal to a call
- Specific details for each call can be found in the **BBI JU Guide for Applicants (GfA)**
- **Frequently Asked Questions** document



# Rules for participation 1/2

= H2020



## Who can apply?

Any '**legal entity**' (natural or legal person created & registered under national law) e.g. any company, big or small, research organisations, universities, non-governmental organisations, etc.



### What is the consortium size?

The size & scope can vary depending on the topic (see topics description in the work plan)

- **RIA and IA:** at least 3 ‘legal entities’ established in at least 3 different Member States and/or Associated Countries (AC). The entities must be independent from each other
- **CSA:** can be carried by a single ‘legal entity’
- Possibility of participants from **international organisations or non EU/AC**



# Eligibility for funding “rest of the world”



H2020 is open to the world so do BBI JU calls

## Automatically eligible for funding

- **Associated countries** ([sixteen countries associated to Horizon 2020](#)).
- **Developing countries**: the countries in [Annex A of the Horizon 2020 Work Programmes](#) are eligible

ISRAEL

## NOT automatically eligible for funding

- **Industrialised countries and emerging economies**: participants are not eligible BUT some countries have forms of co-funding mechanisms to support H2020
- **EXCEPTIONS** if: bilateral agreement; country is identified in WP or call; country's participation is deemed essential for EC



# Participation & funding rates per action

Participant	RIA	IA	CSA
Large Industries	/	70%	/
SMEs	100%	70%	100%
Non profit, legal entities (Universities, RTOs, NGOs etc.)	100%	100%	100%





# Consortium own contribution



- **Industrial contribution matters!**
- **3 types of contribution:**

## In kind

- When industry is not funded: 100% of its contribution is in kind (industry commitment)
- When applicant request less than eligible (visible in part A: budget)

## In cash

- Financial contribution between partners

## Additional investments



# Additional Investments



- **WHAT are additional investments?**
  - Activities **outside the work plan** of the BBI JU contributing to the objectives of the BBI Initiative (investments at the implementation or exploitation phase infrastructure, durable equipment,...)
- **WHY do you need additional investments?**
  - Industry via BIC shall provide at least € 1 755 million in additional investments\*
- **HOW are additional investments registered?**
  - Costs are not eligible -> not included in the budget table but described in the proposal (part A and B);
  - at evaluation stage they are assessed within the criterion Impact



# E.g. financial regime: RIA & CSA

Funding Rates 100% (n/a for large industry)\*

Particip- pant	(A) Direct person nel costs/€	(B) Other direct cost/€		(F) Indirect Costs/€ =0.25 (A+B)	(H) Total estimated [eligible] costs/€	(I) Reimb rate (%)	(J) Max grant (=H*I)	(K) Request ed grant/€
RTO	400	300		175	875	100	875	875
Large Industry	500	900		350	1750	NA	0	0
SME	350	50		100	500	100	500	500
Univer- sity	300	50		87.5	437.5	100	437.5	437.5
Total					3562.5		1812.5	1812.5

\* as per Derogation from H2020 RoP

€ 2 -5 million

Note: This is an example for RIA as provided in the GfA for Call 2015. Costs in k€.

Consortium / Industry own contribution to the project is k€1.750 (total costs not reimbursed by the BBI JU), which represents about 50% of the total budget in this case (k€ 3562.5).



# E.g. financial regime: IAs

Funding Rates 70% (100% for non profit org)

Participant	(A) Direct person- nel costs/€	(B) Other direct cost/€	(F) Indirect Costs/€ =0.25 (A+B)	(H) Total estimated [eligible] costs/€	(I) Reimb rate (%)	(J) Max grant (=H*I)	(K) Reque- sted grant/€
RTO	200	240	110	550	100	550	550
1. Large Industry	2500	6000	2125	10625	70	7437.5	4872.5
2. Large Industry	1000	1000	500	2500	70	1750	1750
SME	210	650	215	1075	70	752.5	752.5
Total			€ 15 million ->			10490	7925

Note: This is an example for IA (DEMO) as provided in the GfA for Call 2015. Costs in k€. SME & large industry partners can receive 70% and the RTO can receive 100% of the total eligible costs.

Participants can request a lower funding (eg 1. Large Industry) -> increasing the consortium/ industry own contribution in the project (in this case to 46%) -> in line with BBI JU policy.



To recap

# Financial Regime in BBI JU Calls

Industry-driven programme



the participation of the industry matters

- RIA and CSA: no funding for large companies  
→ specific for BBI JU
- Innovation Actions: 70% reimbursement rate  
→ common for H2020

## **Consortium own contribution**

- requesting less than funding rate
- « Additional investments »  
→ specific for BBI JU

**Is positive  
in evaluation**



## Why participate?

Driving Europe's transition  
to a low-carbon  
bio-based economy

