



**A competitive
bioeconomy
for a sustainable
future**



**Circular
Bio-based
Europe**
Joint Undertaking

CBE JU, building on the achievements of BBI JU

Vienna, 15 December 2021

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Executive Director

 @philippemengal

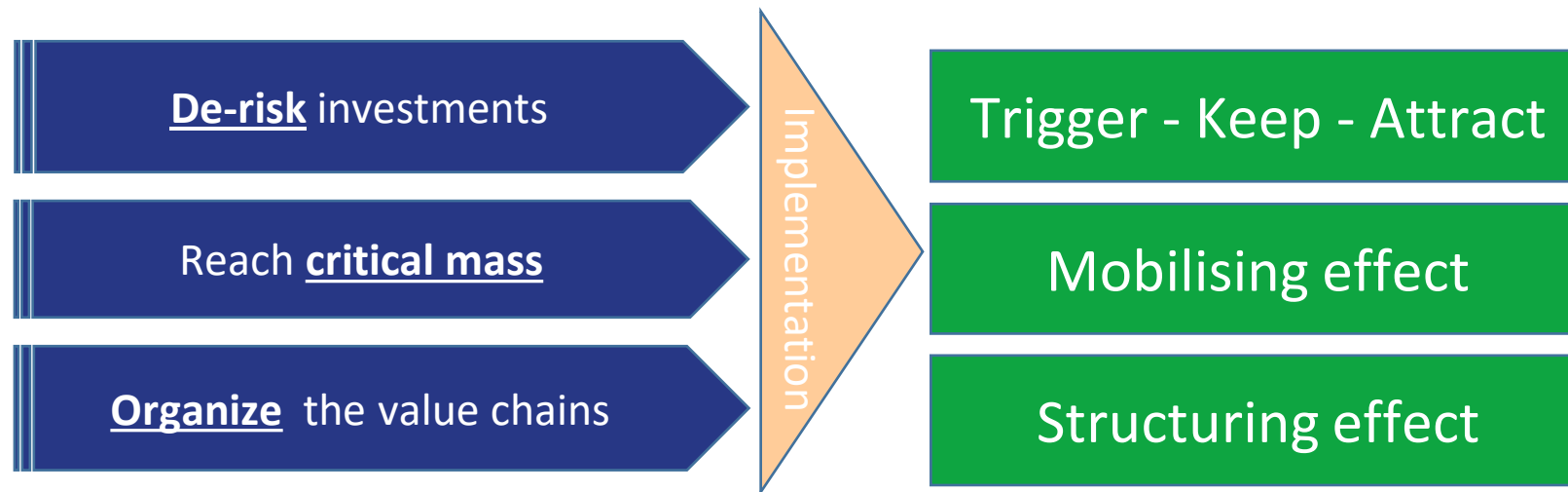
BBI JU was part of EU Bioeconomy strategy in 2012

Public-Private Partnership (PPP) between European Commission & BIC (Bio-based Industries Consortium)



- BBI JU Budget: € 3.7 bn (25% EU - 75% BIC)
- Support R&I programme in Bio-based industries 2014-2024

European public-private partnership aimed at:



Expected impact for Europe by 2030*

2014 - A flavour of Green Deal



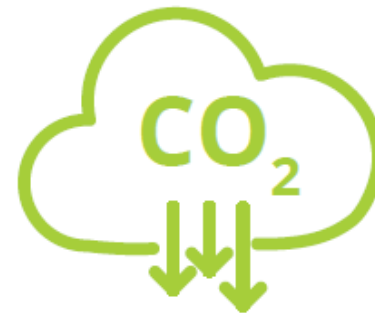
- Replacing 25% of oil-based chemicals by 2030
- 10 times more bio-based materials



- Creating up to 700,000 green jobs by 2030 especially in rural and coastal areas
- Diversify and grow farmers revenues



Reducing EU's dependency on the import of strategic raw materials, such as protein (by 50%), phosphorus and potassium (by 25%)

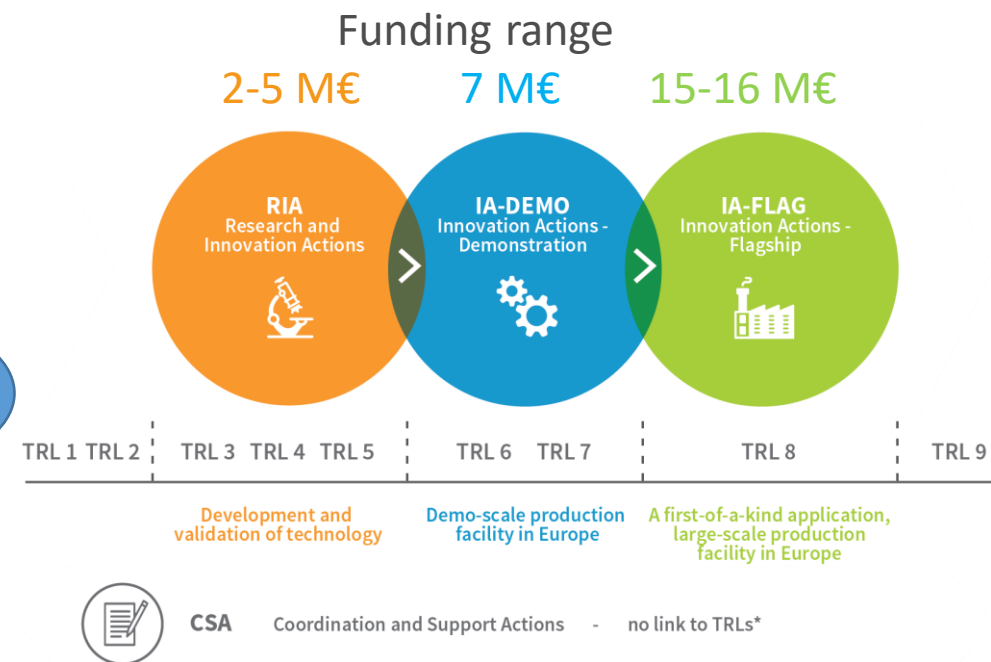
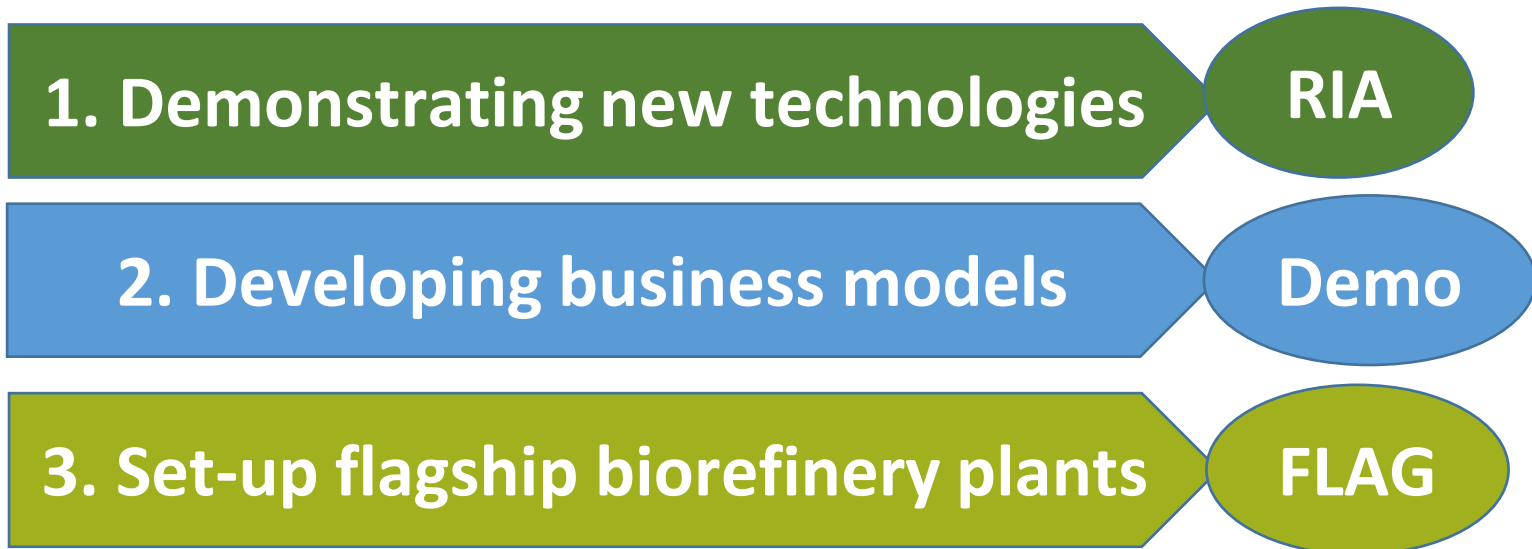


Reducing greenhouse gas emissions by 50%

BBI JU objectives

Develop sustainable and competitive bio-based industries in Europe, based on advanced biorefineries that source their biomass sustainably.

How ? By implementing SIRA via call for proposal under H20020



*TRL = Technology Readiness Levels

Efficient & agile programming process for maximal impact



BBI JU projects – key figures Calls 2014-2020 (last BBI Call)



141 projects



+ 1000 beneficiaries

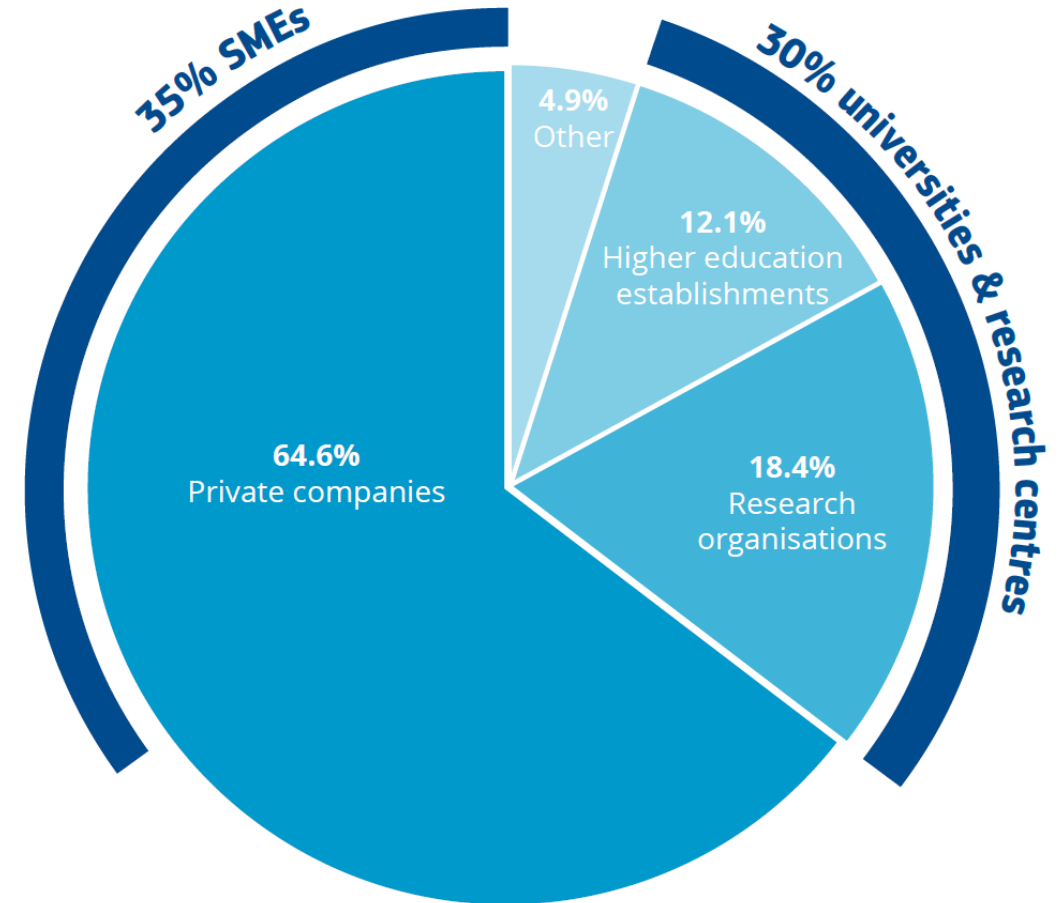


37 countries



€820 million BBI JU funding

BBI JU funding per type of beneficiary



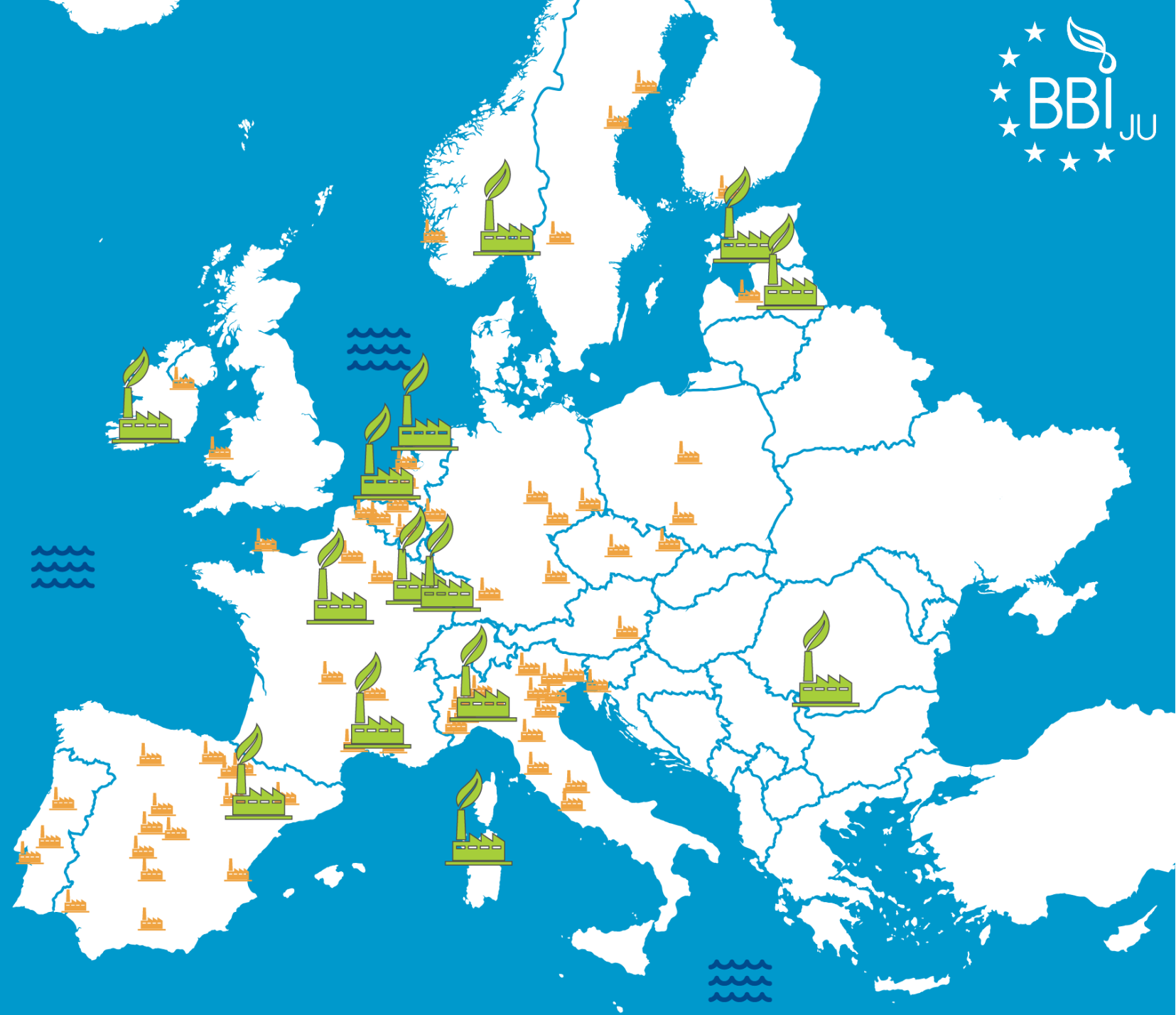
Demonstration plants are represented by the locations that receive the main investment in the project.



Flagship biorefinery



Demonstration plant



BBI JU flagship projects

Flagships are first-of-their-kind biorefineries deployed at industrial scale



Sas van Gent
the Netherlands

PLENITUDE



AgriChemWhey

Co. Tipperary
Ireland

AFTER |
BIOCHEM

Saint-Avold
France

farmYng

Amiens
France

ReSolute

Saint-Avold
France

SCALE

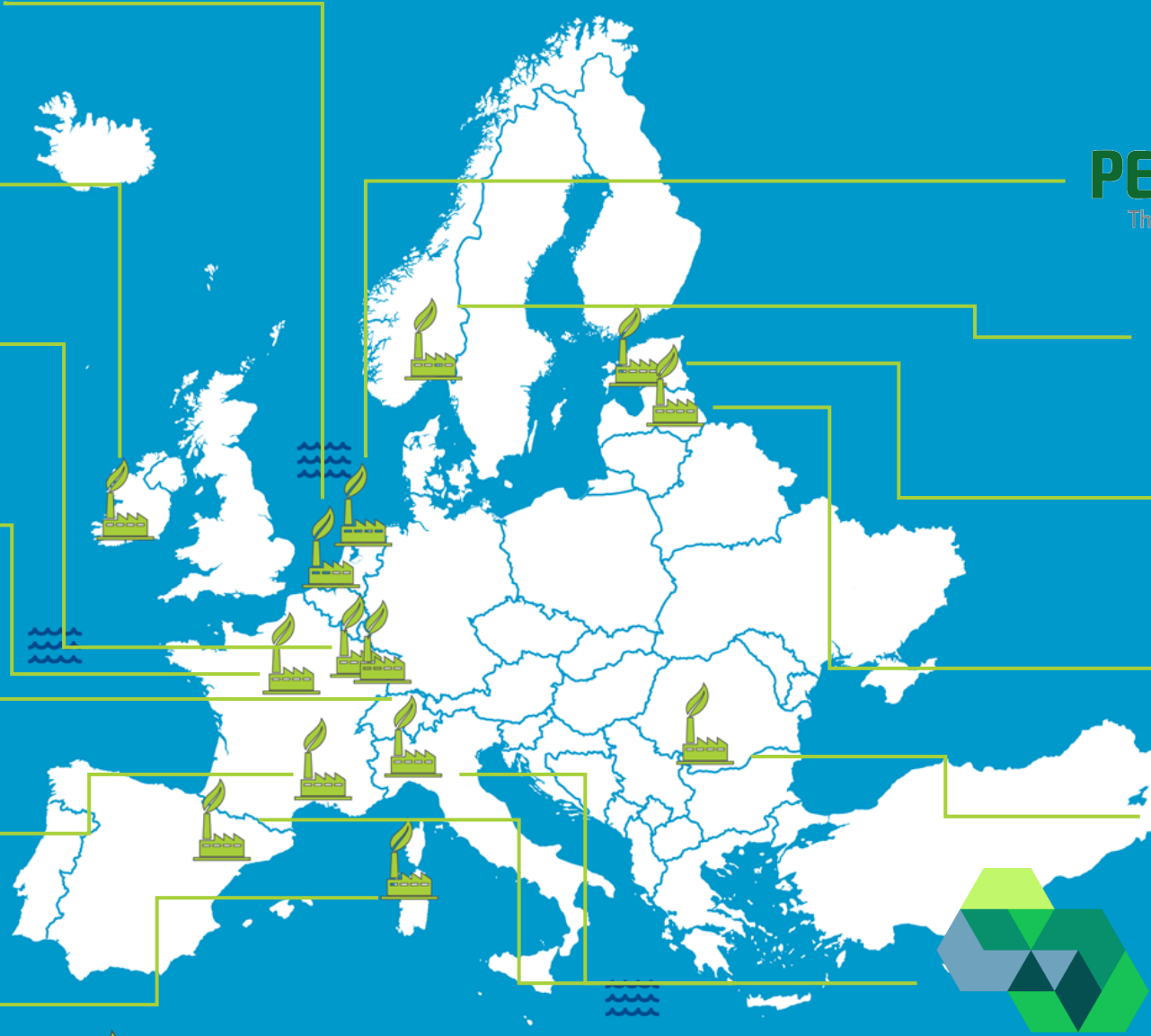
Baillargues
France

**FIRST
2KUN**

Porto Torres
Italy



Flagship biorefinery



PEference
The Renewable Innovation

Delfzijl
the Netherlands

**OXILVA
PROJECT**

Sarpsborg
Norway



SWEETWOODS

Imavere
Estonia

VIOBOND

Riga
Latvia

lignoflag
BBI JU

Podari
Romania



CIRCULAR BIOCARBON

Zaragoza & Sesto San Giovanni
Spain & Italy



AgriChemWhey

Dairy sidestreams ⇒ Lactic acid, minerals for food and fertilisers

PLENITUDE

Residues of cereal crops ⇒ Mycoproteins

PEference

Crop residues ⇒ FDCA for bioplastics

EXILVA

Cellulose ⇒ MFC MicroFibrillated Cellulose

AFTERBIOCHEM

Sidestreams from sugar beet ⇒ Flavourings, fragrances, hygiene products, pharmaceuticals, antimicrobials & polymers

FARMYNG

Mealworms & agri-food sidestreams ⇒ Proteins for animal feed & organic fertiliser

SCALE

Microalgae ⇒ Nutritional ingredients for food, feed and cosmetics

CIRCULAR BIOCARBON

Municipal solid waste ⇒ High-value products from fertilisers to 5G technology

SWEETWOODS

Lignin & hardwood residues ⇒ High-quality C5/C6 sugars & dried lignin

VIOBOND

Forest-based ⇒ Bio-based resins

LIGNOFLAG

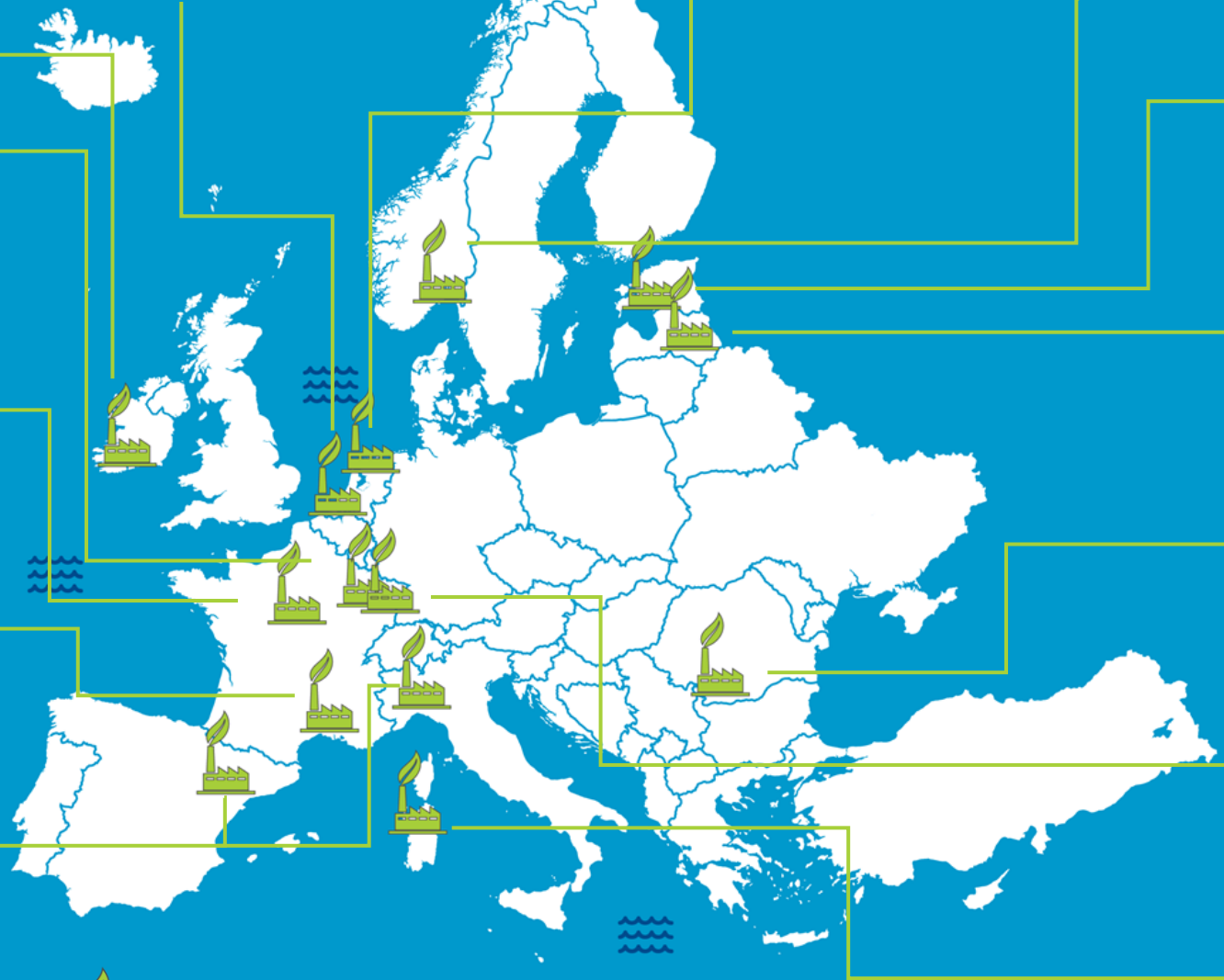
Crop residues ⇒ 2G bioethanol biofuel - building block

ReSolute

Sidestreams from pulp & paper industry ⇒ Biodegradable, harmless & bio-based solvent: Cyrene

FIRST2RUN

Underutilized oil crops ⇒ Building blocks for polyester production & vegetable oils



Flagship biorefinery

13 Flagship projects



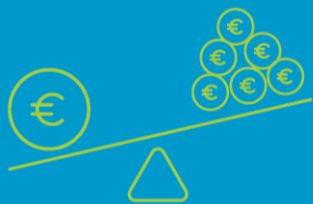
3,500 direct jobs
+10,000 indirect jobs



BBI JU grant:
€250.5 million



Private investment:
€1.45 billion



Leverage effect:
5.8 € private investment
for €1 BBI JU grant



+600+ KT CO2 emission
Savings



High replicability potential





EXILVA – Sarpsborg,
Norway



PEference – Delfzijl, NL



SWEETWOODS - Imavere, Estonia



FARMYNG – Amiens, France



LIGNOFLAG - Podari,
Romania



FIRST2RUN - Porto Torres, Italy



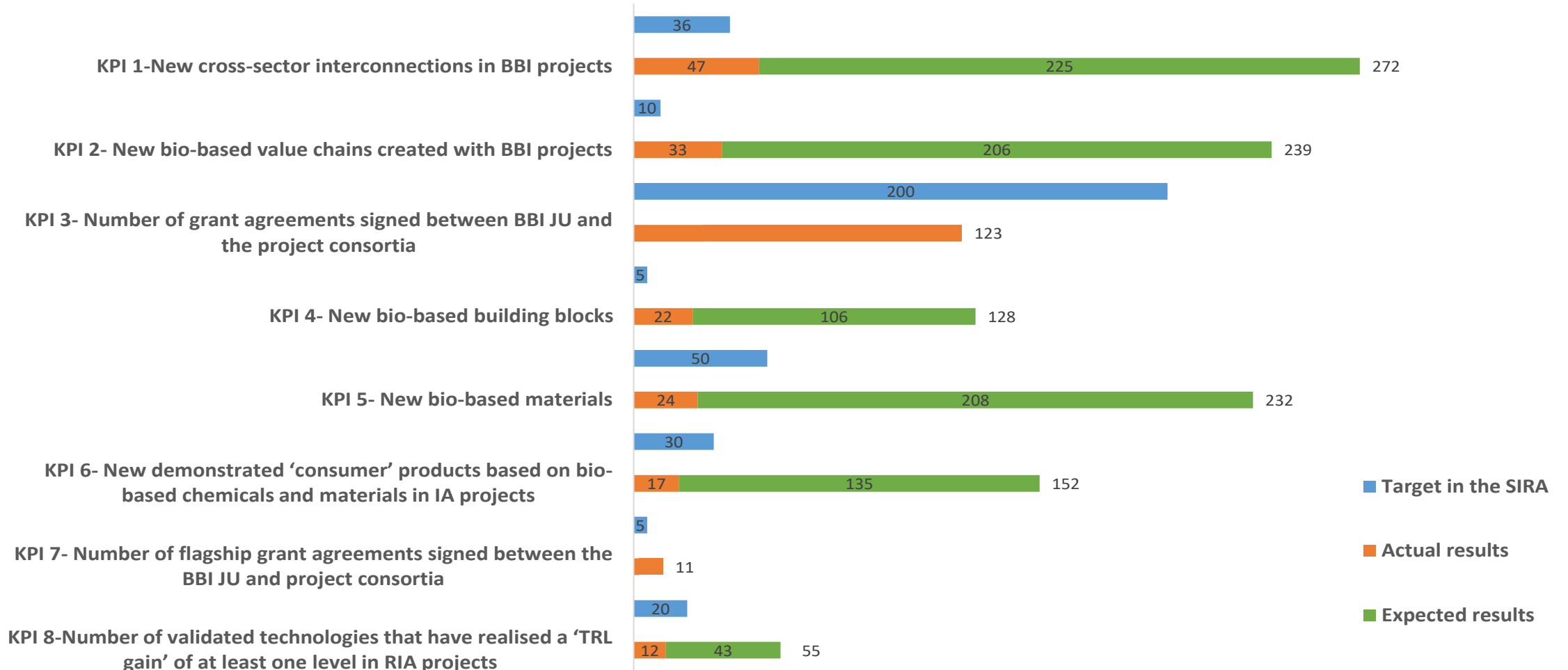
Flagship biorefinery



Flagship biorefinery
Call 2020

Project out come monitoring KPIs from SIRA*

Trend confirmed with now "actual results" from finalised projects



Key achievements, but ...

- **Specific KPIs** from SIRA well on track and monitoring works;
- **Socio-economic & environmental impact** in particular from DEMOs and FLAGs
- **BBI JU is achieving its objectives with two main effects:**
 - **Structuring effect:** value chain-driven cooperation across sectors creating competitiveness
 - **Mobilizing effect:** innovation-driven mobilising key stakeholders
- **Financial leverage effect overall on track**
- **Well balanced portfolio** showing an optimal value chains coverage but room for improvement for municipal waste valorisation @ high TRL
- **High % of SME participation** (with a key role)
- **30% funding** goes to **Universities and Research Organisations**
- **Improved geographic coverage** thanks to coordinated actions

“We were not there yet”

CBE JU under Horizon Europe

- **Huge and still risky investments**
 - ✓ Issues accessing private capital
 - ✓ Remaining funding gaps in Demo and Flag (non bancable)
- **Structuration is still ongoing: market and demand risks**
- **Some areas not yet covered enough**
 - ✓ Farmer’s participation – integration in value chains
 - ✓ Full feedstock potential
 - ✓ Geographic coverage
- **Maximise circularity – Improve sustainability monitoring**
- **Positive contribution to biodiversity and safeguarding ecosystems**
- **Increase deployment capacity** & synergies with other sources of funding
- **Feedback to policy** - more coherent, supportive and stable regulatory framework
- **Better tell the story of BioEconomy & Bio-Based products:** Consumer awareness, education

From BBI JU to CBE JU

BBI JU 2014-2020

- Bio-Based Industries Joint Undertaking
- Part of Horizon 2020 programme
- €3.7 billion public-private initiative
- 142 projects, 1000+ unique beneficiaries across Europe & beyond
- Last BBI JU call for project proposals in 2020
- Horizon Europe: new EU R&I funding programme (2021-2027)

CBE JU 2021-2027

- **CBE JU** - **C**ircular **B**io-based **E**urope **J**oint **U**ndertaking
- Part of Horizon Europe - new EU R&I funding programme
- €2 billion public-private initiative building on the success of BBI JU
- Established by the Council of the EU on 19 November 2021
- Entry into force 30 November 2021

SBA - Single Basic Act

SBA is the legal act establishing all institutionalised partnerships under Horizon Europe, including CBE JU

- The general part is common for all institutionalised public-private partnerships
- The specific part is tailored to individual partnerships
- 9 institutionalised partnerships are covered

SBA adoption process

- The European Commission adopted the proposal in February 2021
- The European Parliament issued its positive opinion on 19 October 2021
- The Council of the EU adopted the Regulation on 19 November 2021
- CBE JU entered into force on 30 November 2021





CBE JU

- ✓ Build on the success of BBI JU
- ✓ Address remaining gaps
- ✓ Step up the contribution to the EU's climate targets

... will contribute significantly to the **2030 climate targets**, paving the way for climate neutrality by 2050

... will increase the **sustainability and circularity** of production and consumption systems

... will aim to develop and expand the **sustainable sourcing and conversion** of biomass into bio-based products

... will support the deployment of bio-based innovation at regional level, with a view to **reviving rural and coastal regions**

SBA objectives for CBE JU

General objectives:



Accelerate the **innovation** process and development of bio-based innovative solutions



Accelerate **market deployment** of the existing mature bio-based innovative solutions



Ensure a high level of **environmental performance** of bio-based industrial systems

CBE governance and bodies

Similar to BBI JU

- Governing Board (GB) 50% BIC – 50% EC
- Executive Director and Programme Office
- Scientific Committee (15 members)
- States Representatives Group (MS and AC)

New / updated

- At least once per year: strategic (= expanded) meeting of the GB
- Deployment Group - a third advisory body
 - One or more Deployment Groups to be established
 - Purpose: advise the GB on issues critical to market uptake of bio-based innovation; promote deployment of sustainable bio-based solutions
 - Output: provide recommendations on the issues related to the deployment of bio-based innovation upon a request from the GB or at their own initiative

SBA specific objectives for CBE JU



Increase the intensity of **cross-disciplinary research and innovation** activities for the development and demonstration of sustainable bio-based solutions



Increase and integrate the **R&I capacity of stakeholders across the European Union** to exploit the local bioeconomy potential



Increase the R&I capacity for addressing **environmental challenges** and **developing more sustainable bio-based innovations**



Reinforce the **integration** of bio-based R&I processes in EU industrial value chains



Reduce R&I investment risk in bio-based companies and projects



Ensure that **environmental considerations** are taken into account in the development & implementation of R&I bio-based projects

Main tasks of CBE JU

Similar to BBI JU

Programming of R&I activities of public & private partners (e.g. call for proposals)

Support high impact multidisciplinary R&I projects (i.e. project portfolio management + follow up impacts)

Promote communication and collaboration between R&I actors and industrial stakeholders

New / updated

Wider participation of involved actors (e.g. rural, coastal, urban areas and regions with unexploited potential; national and regional authorities)

Focus and monitoring on environmental performance including biodiversity while respecting the principles of circularity, sustainability and planetary boundaries

Broader, more explicit communication mandate (e.g. target policy makers, industry, NGOs and consumers at large)

Financial contribution from private partner

Indicative timeline of CBE JU - 2021





Indicative timeline* of CBE JU - 2022



** All dates indicative and subject to change*

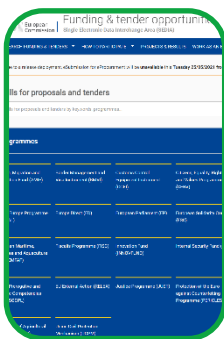
More information



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Horizon Europe Funding and Tender portal: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>



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