Bio-based Industries JU: 2017 Calls

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H2020 NCP – Bioeconomy

Innovate UK
BBI Joint Undertaking (BBI JU)?

- Public-Private Partnership (PPP) developing sustainable and competitive bio-based industries in Europe
- Partners:
  - European Union (via EC)
  - Bio-based Industries Consortium (BIC)

www.bbi-europe.eu
BBI JU Strategic orientations for 2017 and 2018

1. Fostering a sustainable biomass-feedstock supply to feed both existing and new value chains;
2. Optimising efficient processing for integrated biorefineries;
3. Developing innovative bio-based products for specific market applications;
4. Creating and accelerating the market uptake of bio-based products and applications.
Bio-Based Industries Joint Undertaking

• **16 topics** can be funded via this Call:
  – 7 Research & Innovation Actions (RIAs), (2-5€m)
  – 5 Demonstration Actions (DEMOs), (15€m)
  – 2 Flagship action, (25-40€m)
  – 2 Coordination & Support Actions (CSAs). (2€m)

Total funding available is **81 Million Euros.**
BBI JU ‘Actions’

<table>
<thead>
<tr>
<th>Action</th>
<th>TRL (1)</th>
<th>Duration</th>
<th>BBI JU funding %</th>
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<tbody>
<tr>
<td>CSA</td>
<td>n/a</td>
<td>1-3y</td>
<td>100% (2)</td>
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<tr>
<td>RIA</td>
<td>3-5</td>
<td>Up to 4y</td>
<td>100% (2)</td>
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<tr>
<td>IA-DEMO</td>
<td>6-7</td>
<td>4-5y</td>
<td>70% (3)</td>
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<td>IA-Flagship</td>
<td>8</td>
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(1) TRL = Technology Readiness Level (1-9; higher TRL = closer to market)

(2) However: *no (0%) BBI JU funding for large enterprises*

(3) Non-profit beneficiaries / linked third parties may receive 100%
TRLs vs. Types of actions

TRLs:
1. TRL 1
2. TRL 2
3. TRL 3
4. TRL 4
5. TRL 5
6. TRL 6
7. TRL 7
8. TRL 8
9. TRL 9

Types of actions:
- **RIA** Research and Innovation Actions
- **IA-DEMO** Innovation Actions - Demonstration
- **IA-FLAG** Innovation Actions - Flagship

Phase descriptions:
- Development and validation of technology
- Demo-scale production facility in Europe
- A first-of-a-kind application, large-scale production facility in Europe

**CSA** Coordination and Support Actions - no link to TRLs*

* TRL = Technology Readiness Levels
Strategic Orientation 1

- **BBI 2017.R1** – Valorisation of gaseous side streams from bio-based operations into chemical building blocks
- **BBI 2017.D1** – Valorisation of liquid and solid side streams from bio-based operations into high added-value products to create new feedstock for bio-based products
- **BBI 2017.D2** – Integrated multi-valorisation of algae into advanced materials and high added-value additives
Strategic Orientation 2

- **BBI 2017.R2** – Innovative technologies for the pre-treatment and separation of lignocellulosic feedstock and complex composition streams into valuable fractions while maintaining key characteristics
- **BBI 2017.R3** – Exploiting extremophiles and extremozymes to broaden the processing conditions to convert biomass into high-value building blocks
- **BBI 2017.F1** – Integrated ‘zero waste’ biorefinery utilising all fractions of the feedstock for production of chemicals and materials
Strategic Orientation 3

- **BBI 2017.R4** – Proteins and other bioactive ingredients from side streams and residues
- **BBI 2017.R5** – Novel bio-based chemical precursors to improve the performance of mass consumption products
- **BBI 2017.R6** – Competitive biodegradable, compostable and/or recyclable bio-based plastics for a sustainable end-of-life phase
- **BBI 2017.R7** – Novel secondary bio-based chemicals without significant fossil-based counterparts but with high application potential
Strategic Orientation 3

- **BBI 2017.D3** – Breakthrough primary bio-based chemicals without significant fossil-based counterparts but with high marketability
- **BBI 2017.D4** – Innovative bio-based fertilising products to increase the sustainability of fertilising practices in agriculture
- **BBI 2017.D5** – Advanced bio-based fibres and materials for large-volume applications
- **BBI 2017.F2** – Large-scale production of proteins for food and feed applications from alternative, sustainable sources
Strategic Orientation 4

- **BBI 2017.S1** – Establish cooperation and partnership with brand owners and consumer representatives to improve the market access of sustainable bio-based products
- **BBI 2017.S2** – Identify opportunities for ICT to increase the efficiency of biomass supply chains for the bio-based industry
# Key Performance Indicators (KPIs)

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<tbody>
<tr>
<td>1.</td>
<td><strong>36 new cross-sector interconnections in bio-based economy clusters</strong></td>
</tr>
<tr>
<td>2.</td>
<td>10 new bio-based value chains (new products and feedstock)</td>
</tr>
<tr>
<td>3.</td>
<td>200+ cooperation projects through cross-industry clusters;</td>
</tr>
<tr>
<td>4.</td>
<td>5 new building blocks based on biomass of European origin validated at demonstration scale</td>
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<tr>
<td>5.</td>
<td>50 new bio-based materials</td>
</tr>
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<td>6.</td>
<td>30 new demonstrated ‘consumer’ products based on bio-based chemicals and materials;</td>
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<tr>
<td>7.</td>
<td>5 “flagships” producing new bio-based materials, chemicals and fuels proven to become cost-competitive to the alternatives based on fossil resources.</td>
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How to read the calls

Call Title
This is the problem to be addressed

Specific challenge
Explains the reason for the challenge

Scope
Provides some insights to possible approaches / solutions
It is not very prescriptive
It will indicate the expected size of the project e.g. Euro 3 million

Expected impact:
This is what the project **must deliver**
Justify how your approach is the best way to achieve these impacts
Specific challenge:

• **Sustainably capturing the potential of the seas and inland waters is critical.** Micro- and macro-algae are a source of biomass that can be used for various applications. They have a “low land requirement”.

• **Different cultivation systems** algae include open-sea, shallow-water, coastal areas and inland waters, for micro-algae, open ponds, photoreactors or bioreactors. Each system **needs adaptation to maximise the biomass output**, while minimising environmental impact.

• **The challenge is to set up and operate a value chain** for (micro- or macro-) algae production and logistics (harvest, transportation, storage) that can be used for their multi-valorisation into added-value chemicals and materials, through a cascading approach where applicable.
**Scope:**
Demonstrate efficient operation of a full value chain based on micro- or macro-algae producing valuable products (e.g. ingredients or additives, advanced materials, etc.).

**Proposals should:**
- Demonstrate efficient production systems, with relevant pre-treatment steps to achieve a stable intermediate product ready for the conversion steps; and
- Undertake multi-valorisation of micro- or macro-algae into advanced materials and/or specialty products, or high-value bulk products for different sectors.
- Include efficient logistics solutions to minimise biomass losses and reduce costs associated with harvesting, first pre-treatment steps, storage and transportation
- Achieve cost reductions in biomass production and harvesting in a sustainable way.
- Demonstrate the benefits versus the state-of-the-art and existing technologies.
- Include a techno-economic evaluation of the concepts to check the economic viability compared with existing solutions, a market analysis and business models.
- Assessment of the ecosystem risk, if the harvest takes place in the wild.
- The TRL at the end of the project should be 6-7.

**EUR 7 million**
Expected impacts:

• **KPI 1**: create at least 1 new cross-sector interconnection in bio-based economy clusters;

• **KPI 2**: establish at least 1 new bio-based value chain;

• **KPI 6**: create at least 1 new demonstrated consumer product based on bio-based chemicals and materials;

• **Increase the competitiveness** of European biomass producers and industry through new jobs, growth and investment and ensure environmental sustainability and a low environmental impact;

• Foster the inclusion of coastal or rural areas in a bio-based industry setting, increasing awareness of social and economic opportunities in marine regions and of actors in value chains based on aquatic biomass;

• Overall **reduction of at least 10 % in the carbon footprint** of the considered bio-based operation (from biomass cultivation through the core processing) compared with the SOA (shown by LCA)
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**

• Activities outside the work plan of the BBI JU contributing to the objectives of the BBI Initiative
Additional information

- Competition between topics within an Action Type
- It is about **Impact**
  - but Excellence & Implementation count
- **Industry driven approach**: industry must bring the idea, define the gap(s) & contribute, proposals built on this base
- Read **all** relevant documents
  - Including the introduction to the work programme
  - FAQ
  - Guide for Applicants
Purpose of BBI projects:

- Create **new jobs**, especially in rural regions
- Offer Europeans **new and sustainably produced products**, sourced and produced locally
- Use renewable resources ➔ sustainable growth
- How does your BBI JU proposal / project contribute to these goals?
- How will you “Tell the world”.
Information

Deadline 7th September 2017

EU – Info day presentations (including financial)

https://www.bbi-europe.eu/events/bbi-ju-2017-open-info-day


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