

Horisontti 2020

Biotechnology in Horizon 2020

23.5.2017 VTT SmartPilots project

Outi Suomi BioNCP

Horizon 2020

Total indicative budget: 80 Billion € / 7 years

Pillar I

Excellent science

- European Research Council
- Future and Emerging Technologies
- Marie Curie actions
- Research infrastructures

Indicative Budget:
24,4 Bio. €*

Pillar II

Industrial leadership

- Leadership in enabling and industrial technologies - LEIT
 - (i) ICT including micro- and nano-electronics and photonics
 - (ii) Nanotechnologies
 - (iii) Advanced Materials
 - (iv) Biotechnology
 - (v) Advanced Manufacturing & Processing
 - (vi) Space

Indicative Budget:
17.0 Bio. M€*

Pillar III

Societal challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research & the bioeconomy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and secure societies

Indicative Budget:
29.7 Bio. M€*

20% from Pillar II + III to SME's (~8,7 mrd€)

Innovation action in H2020

- It includes prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.
- A ‘**demonstration or pilot**’ aims to validate the **technical and economic viability** of a new or improved technology, product, process, service or solution in an operational (or near to operational) environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.
- A ‘**market replication**’ aims to support **the first application/deployment in the market** of an innovation that has **already been demonstrated** but not yet applied/deployed in the market due to market failures/barriers to uptake. ‘Market replication’ does not cover multiple applications in the market of an innovation¹⁸ that has already been applied successfully once in the market. ‘**First**’ **means new at least to Europe** or new at least to the application sector in question. Often such projects involve a validation of technical and economic performance at system level in real life operating conditions provided by the market.

Technology Readiness Levels (TRLs)

- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab
- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)

End TRL for RIA is 3-5

- TRL 6 – technology demonstrated in relevant environment
- TRL 7 – system prototype demonstration in operational environment

End TRL for IA is 6-7

- TRL 8 – system complete and qualified ('Flagship')

End TRL for Flagship is 8

- TRL 9 – actual system proven in operational environment

WP 2018-2020: "The industrial solution revolution"

Draft

SECTION: TRANSFORMING EUROPEAN INDUSTRY

The ambition under this section is to transform European industry through the integration of **digitisation and other enabling technologies**, and achieve **global industrial leadership**.

BIOTECHNOLOGY

The exponential development of emerging and potentially disruptive biotechnologies has broadened their applicability improving the quality and quantity of products in a **large variety of sectors** (wellbeing, environment, food, etc.) and becoming an **important economic engine**, addressing the most relevant societal challenges and affecting as a whole our **quality of life**. Given that biotechnology has become crucial for industrial growth, an important objective is to deliver added value by securing an important market share for leading European industries.

- Cutting-edge biotechnologies
- Biotechnology for the environment
- Biotechnology for industrial transformation

BIOTEC-01-2018: Standardisation in Synthetic Biology (CSA)

BIOTEC-03-2018: Synthetic biology to expand diversity of nature's chemical production (RIA)

CE-BIOTEC-04-2018: New biotechnologies for environmental remediation (RIA, circular economy)

BIOTEC-02-2019: Boosting the efficiency of photosynthesis (RIA)

CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)

BIOTEC-06-2020: Reprogrammed microorganisms for biological sensors (IA, piloting and demonstrating). PRELIMINARY, NO DESCRIPTION YET.

BIOTEC-07-2020: Multi-omics for the optimisation of genotype-phenotype associations (RIA)

Basic rules for participation?

- at least 3 independent partners in 3 different Member States (MS) or Associated Countries (AC)
- Partners can be European universities, SMEs and large industries, public bodies, NGOs, international organisations..... Practically everybody in Europe!
- top-down: EC defines topics and format
 - 100% for basic research (TRL 1-4) = RIA (Research & Innovation Action)
 - 70% (non-profit 100 %) for applied research (TRL 5-8) = IA (Innovation Action)

More information:

www.tekes.eu

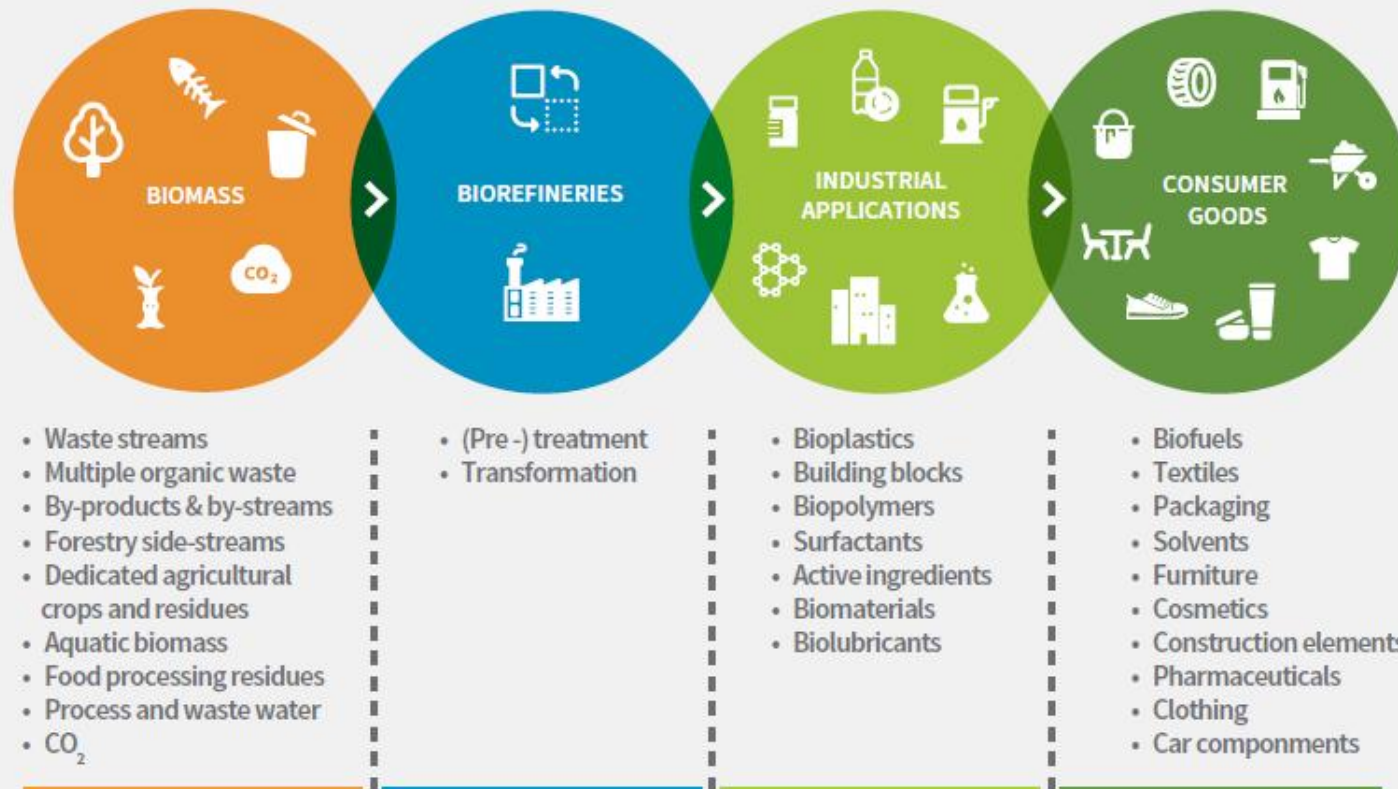
Finnish organizations can ask more information of the draft work programmes from NCP (national contact point) Outi Suomi / outi.suomi@tekes.fi.

Other organizations can contact their own national contact points for further information.

Partner Search, Biotechnology: <http://www.nmpteam.com/>



BBI JU VALUE CHAIN



BBI JU Call 2017

- The BBI JU operates under the **Horizon 2020** rules for participation
- Call open: 11 April – 7 September 2017
- Indicative budget: € 81 million
- Estimated in kind contributions by BIC: minimum € 40 million

Indicative budget by type of actions	
Type of action	Indicative budget
Research and Innovation Actions	€ 36 000 000
Innovation Actions - Demonstration Actions	€ 22 000 000
Innovation Actions - Flagship Actions	€ 21 000 000
Coordination & support Actions	€ 2 000 000
Total	€ 81 000 000

2017 CALL TOPICS



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



Process: Optimising efficient processing for integrated biorefineries



Products: Developing innovative bio-based products for specific market applications



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

CALL TOPIC 1

Strategic Orientation 1 - FEEDSTOCK

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

The first strategic orientation aims to expand and diversify the biomass feedstock portfolio through improving utilisation of existing sources and tapping into new sources.

Focus areas for this strategic orientation are:

- ④ Improve the utilisation of existing feedstock sources from the agro-, forest, marine, chemical and waste industry sectors, also in geographical areas with currently low biobased activities. This includes feedstock from the paper and pulp and the food production and processing industries.
- ④ Expand the utilisation of the organic fraction of municipal solid waste (MSW), sludge from urban wastewater treatment, industrial organic waste and residues from perennial crops as a feedstock for the bio-based industry.
- ④ Exploit the opportunities of aquatic biomass as feedstock for the bio-based industry.
- ④ Valorise co-products and residues from bio-based operations, including (existing) biorefineries.

CALL TOPIC 1 Feedstock



BBI 2017.R1 - Valorisation of gaseous side streams from bio-based operations into chemical building blocks

BBI JU FUNDING : max. € 2-5 million / project

TYPE OF ACTION : Research and Innovation Action



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 JU FUNDING : max. € 7 million / project

TYPE OF ACTION : Innovation Action - Demonstration



BBI 2017.D2 - Integrated multi-valorisation of algae into advanced materials and high added-value additives

BBI JU FUNDING : max. € 7 million / project

TYPE OF ACTION : Innovation Action - Demonstration

CALL TOPIC 2

Strategic Orientation 2 - PROCESS

Optimising efficient processing for integrated biorefineries

The second strategic orientation aims to improve efficiency and sustainability of 'biorefining biomass into compounds for chemicals (including food and feed ingredients) and materials' and to develop new, breakthrough processes.

Focus areas for this strategic orientation are:

- ④ Improve the effectiveness of pre-treatment steps.
- ④ Further increase the efficiency of chemo- and bio-catalysis targeting better product quality, higher selectivity, higher output, lower cost and/or lower energy consumption.

CALL TOPIC 2 Process



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 JU FUNDING : max. € 2-5 million / project

TYPE OF ACTION : Research and Innovation Action



BBI 2017.F1 - Integrated 'zero waste' biorefinery utilising all fractions of the feedstock for production of chemicals and materials

BBI JU FUNDING : max. € 21 million / project

TYPE OF ACTION : Innovation Action - Flagship



BBI 2017.R3 - Exploiting extremophiles and extremozymes to broaden the processing conditions to convert biomass into high-value building blocks

BBI JU FUNDING : max. € 2-5 million / project

TYPE OF ACTION : Research and Innovation Action

CALL TOPIC 3

Strategic Orientation 3 - PRODUCTS

Developing innovative bio-based products for specific market applications

The third strategic orientation aims to increase the applicability of high value-added bio-based products and avoid price competition with fossil-based products by pursuing advanced functionalities and unmatched performance.

Focus areas for this strategic orientation are:

- ④ Bio-based materials that outperform fossil-based materials in comparable applications in the packaging, construction, agriculture, transportation, personal care and hygiene sectors.
- ④ Breakthrough bio-based chemicals that have no fossil-based counterpart or industrial scale production.
- ④ New bio-based chemicals and materials for high-value applications meeting all safety and regulatory requirements.
- ④ Proteins and bio-based additives from plants, residual streams in the food production and other (waste) streams that are rich in protein and high-value molecules.
- ④ Bio-based plastics that are biodegradable/compostable or suitable for recycling.

CALL TOPIC 3 Products



BBI 2017.R4 - Proteins and other bioactive ingredients from side streams and residues

BBI JU FUNDING : max. € 2-5 million / project

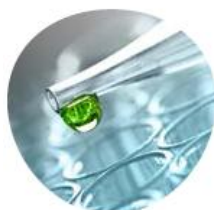
TYPE OF ACTION : Research and Innovation Action



BBI 2017.R6 - Competitive biodegradable, compostable and/or recyclable bio-based plastics for a sustainable end-of-life phase

BBI JU FUNDING : max. € 2-5 million / project

TYPE OF ACTION : Research and Innovation Action



BBI 2017.R5 - Novel bio-based chemical precursors to improve the performance of mass consumption products

BBI JU FUNDING : max. € 2-5 million / project

TYPE OF ACTION : Research and Innovation Action



BBI 2017.R7 - Novel secondary bio-based chemicals without significant fossil-based counterparts but with high application potential

BBI JU FUNDING : max. € 2-5 million / project

TYPE OF ACTION : Research and Innovation Action

CALL TOPIC 3 Products



BBI 2017.D3 – Breakthrough primary bio-based chemicals without significant fossil-based counterparts but with high marketability

BBI JU FUNDING : max. € 7 million / project

TYPE OF ACTION : Innovation Action - Demonstration



BBI 2017.D5 - Advanced bio-based fibres and materials for large-volume applications

BBI JU FUNDING : max. € 7 million / project

TYPE OF ACTION : Innovation Action - Demonstration



BBI 2017.D4 - Innovative bio-based fertilising products to increase the sustainability of fertilising practices in agriculture

BBI JU FUNDING : max. € 7 million / project

TYPE OF ACTION : Innovation Action - Demonstration



BBI 2017.F2 – Large-scale production of proteins for food and feed applications from alternative, sustainable sources

BBI JU FUNDING : max. € 21 million / project

TYPE OF ACTION : Innovation Action - Flagship

23.5.2017

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FINLAND
team

CALL TOPIC 4

Strategic Orientation 4 - MARKET UPTAKE

Creating and accelerating the market uptake of bio-based products and applications

The fourth strategic orientation aims to respond to the concerns of society about bio-based products by engaging in dialogue with societal and consumer groups on benefits and how potential risks are addressed and managed.

Focus areas for this strategic orientation are:

- ④ Identify and propose solutions to remove (potential) hurdles to the increased use of the organic fraction of waste (specific co-products, side streams and residues from industrial and urban sources) for the bio-based industry.
- ④ Increase and improve communication and dialogue with all stakeholders on the benefits and possible risks of new bio-based products. These include materials for applications with food contact (such as nutraceuticals and packaging materials), in the pharmaceutical sector, and possibly also in the construction, agriculture, transportation, personal care and hygiene sectors.
- ④ Establish cooperation and partnerships with brand owners and consumer representatives to improve market access of sustainable bio-based products.



BBI 2017.S1 - Establish cooperation and partnership with brand owners and consumer representatives to improve the market access of sustainable bio-based products

BBI JU FUNDING : max. € 1 million / project

TYPE OF ACTION : Coordination & Support Action



BBI 2017.S2 - Identify opportunities for ICT to increase the efficiency of biomass supply chains for the bio-based industry

BBI JU FUNDING : max. € 1 million / project

TYPE OF ACTION : Coordination & Support Action

23.5.2017

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BBI JU 2017 OPEN INFO DAY & BROKERAGE EVENT 28.4.2017

- Presentations and video: <https://www.bbi-europe.eu/events/bbi-ju-2017-open-info-day>



Venue:

Alcide De Gasperi, Charlemagne Building of the European Commission, Rue de la Loi 170, Brussels, Belgium

Organiser: [Bio-based Industries Joint Undertaking](#)

More information

- Specific details for each call can be found in the BBI JU Guide for Applicants (GfA)
http://ec.europa.eu/research/participants/data/ref/h2020/other/guides_for_applicants/jtis/h2020-guide-appl17-bbi-ju_en.pdf
- Frequently Asked Questions document: https://www.bbi-europe.eu/sites/default/files/bbi-ju_faq-call_2017.pdf
- General Annexes of the Horizon 2020
http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-ga_en.pdf
- BBI JU Partnering: <https://bbi-ju.lifepartnering.com/partnering/register>

More information

- BBI JU website: <https://bbi-europe.eu/>
- BBI JU Annual Work Plan 2017 (tarkempi kuvaus haun sisällöstä ja ehdoista): https://www.bbi-europe.eu/sites/default/files/awp_2017.pdf
- BBI JU Call 2017 brochure: https://www.tekes.fi/globalassets/global/ohjelmat-ja-palvelut/ohjelmat/puhtaasti-biotalous/bionets/bbi-ju_call_2017_web-3.pdf
- Horizon 2020 NCP

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