

# D4.1 – GUIDE ON HOW TO USE BIOSWITCH TOOLBOX

**Lead Contractor: CTA**

**Author(s): Marta Macias, Carmen Ronchel, Sami Majaniemi, Ana Martinez,  
John Vos.**





BIOSWITCH

| Project details |   |                  |                       |
|-----------------|---|------------------|-----------------------|
| Project acronym | BIOSWITCH   | Start / Duration | June 2020 / 24 months |
| Topic           | BBI-2019-SO4-S1 - Assist brand owners to 'switch to bio-based'  | Call identifier  | H2020-BBI-JTI-2019    |
| Type of Action  | CSA   | Coordinator      | Clc Innovation Oy     |
| Contact persons | Anna Tenhunen-Lunkka <a href="mailto:anna.tenhunen-lunkka@clcinnovation.fi">anna.tenhunen-lunkka@clcinnovation.fi</a> |                  |                       |
| Website         | <a href="http://www.bioswitch.eu">www.bioswitch.eu</a>  |                  |                       |

| Deliverable details     |  |                     |   |
|-------------------------|--|---------------------|---|
| Number                  | 4.1  |                     |   |
| Title                   | Guide on how to use BIOSWITCH Toolbox                |                     |   |
| Work Package            | 4  |                     |   |
| Dissemination level     | PU   | Nature              | Report  |
| Due date (M)            | 20   | Submission date (M) | 31/01/2022  |
| Deliverable responsible | Fundación Corporación Tecnológica de Andalucía (CTA) | Contact person      | Marta Macias Aragonés, <a href="mailto:marta.macias@corporaciontecnologica.com">marta.macias@corporaciontecnologica.com</a> |

| Deliverable Contributors          |                      |              |                           |  |
|-----------------------------------|----------------------|--------------|---------------------------|--|
|                                   | Name                 | Organisation | Role / Title              | E-mail   |
| Deliverable leader                | Marta Macías         | CTA          | Innovation consultant     | <a href="mailto:Marta.macias@corporaciontecnologica.com">Marta.macias@corporaciontecnologica.com</a>     |
| Contributing Author(s)            | Carmen Ronchel       | CTA          | Biotech area manager      | <a href="mailto:Carmen.ronchel@corporaciontecnologica.com">Carmen.ronchel@corporaciontecnologica.com</a> |
|                                   | Ana Martinez         | SIE          | Communication manager     | <a href="mailto:anamartinez@sustainableinnovations.eu">anamartinez@sustainableinnovations.eu</a>         |
|                                   | Sami Majaniemi       | VTT          | Researcher                | <a href="mailto:sami.majaniemi@vtt.fi">sami.majaniemi@vtt.fi</a>   |
|                                   | John Vos             | BTG          | European Projects Manager | <a href="mailto:vos@btgworld.com">vos@btgworld.com</a>   |
| Reviewer(s)                       | Anna Tenhunen-Lunkka | CLIC         | Project Coordinator       | <a href="mailto:anna.tenhunen-lunkka@clcinnovation.fi">anna.tenhunen-lunkka@clcinnovation.fi</a>         |
| Final review and quality approval | Anna Tenhunen-Lunkka | CLIC         | Project Coordinator       | <a href="mailto:anna.tenhunen-lunkka@clcinnovation.fi">anna.tenhunen-lunkka@clcinnovation.fi</a>         |
|                                   | Heli Kangas          | VTT          | Technical Manager         | <a href="mailto:Heli.kangas@vtt.fi">Heli.kangas@vtt.fi</a>   |





BIOSWITCH

| Document History |         |              |                                     |
|------------------|---------|--------------|-------------------------------------|
| Date             | Version | Name         | Changes                             |
| 17/12/2021       | 0       | Marta Macias | First draft                         |
| 13/01/2022       | 1       | Marta Macias | Inputs from SIE and VTT implemented |





BIOSWITCH



# TABLE OF CONTENTS

LIST OF FIGURES ..... 4

ACRONYMS AND ABBREVIATIONS ..... 4

EXECUTIVE SUMMARY .....5

1 INTRODUCTION ..... 6

1.1 Objective of BIOSWITCH ..... 6

1.2 Objective of Work Package 4 ..... 6

1.3 Objectives of Task 4.1 ..... 6

2 HOW CAN THE BIOSWITCH TOOLBOX HELP YOU? .....7

2.1 Initial configuration of the BIOSWITCH toolbox..... 7

2.2 Impact and benefits from using the Toolbox..... 9

3 ASSESSING YOUR BIO-BASED READINESS LEVEL .....10

3.1 How to use the Bio-based readiness self-assessment test.....11

4 LEARNING AND AWARENESS TOOLS .....11

4.1 “Why switching to bio-based?” .....11

4.2 “How do I switch to bio-based?” .....12

4.3 “Switching to bio-based hall of fame” .....13

4.4 “Consumers and bio-based products, a love story” .....14

4.5 “Understanding the main barriers” .....15

4.6 Glossary .....15

5 ADOPTION TOOLS .....15

5.1 “What can BIOSWITCH do for you?” ..... 16

5.2 “Who can help me?” ..... 16

5.3 “#I am bio-based” .....17

5.4 “Build me the value chain” event ..... 18

5.5 Sustainability assessment tool ..... 19

5.5.1 User instructions ..... 20

5.6 BIOSWITCH Online matchmaking event .....25

6 CONSOLIDATION TOOLS .....26

6.1 “We are all bio-based” ..... 26

6.2 “Open Innovation enabler” .....27

6.3 Series of webinars ..... 28

7 ADDITIONAL TOOLS FROM RELATED INITIATIVES .....28

7.1 Online library for informative resources..... 28

8 CONTACTS FOR FURTHER SUPPORT .....29





BIOSWITCH

## LIST OF FIGURES

|  |    |
|--|----|
| Figure 1 BIOSWITCH Toolbox section on the website .....  | 8  |
| Figure 2 Bio-based transition levels and associated (types of) communication tools.....              | 9  |
| Figure 3 BIOSWITCH website menu directing to the different categories of the BIOSWITCH Toolbox ..... | 9  |
| <b>Figure 4</b> Screenshot of the recording of the BIOSWITCH webinar on YouTube .....                | 13 |
| <b>Figure 5</b> YouTube playlist with the brand owners' case studies.....                            | 13 |
| <b>Figure 6</b> Extracts from the infographic template "consumers and bio-based: a love story .....  | 14 |
| Figure 7 Example of an entry in the interactive map.....   | 17 |
| <b>Figure 8</b> Network LCA tool operational principle.....  | 20 |
| Figure 9 Depending on the Report Depth, different amount of information is shown to the user. ..     | 22 |
| Figure 10 Charts and diagrams are one possible data visualization form.....                          | 23 |
| Figure 11 Selecting the correct flowsheet for comparison.....  | 24 |
| Figure 12 Choose the baseline system and the new product system for handprint.....                   | 24 |
| Figure 13 Charts and diagrams are one possible data visualization form. ....                         | 25 |

## ACRONYMS AND ABBREVIATIONS

| ACRONYM | FULL NAME   |
|---------|---|
| BTG     | B.T.G. Biomass Technology Group BV, partner in BIOSWITCH  |
| CLIC    | CLIC Innovation Oy, partner in BIOSWITCH  |
| CTA     | Corporación Tecnológica de Andalucía, partner in BIOSWITCH  |
| FAQ     | Frequently Asked Questions  |
| FBCD    | Food & Bio Cluster Denmark, partner in BIOSWITCH. FBCD was previously known as partner ABP.             |
| FF      | Flanders' FOOD, partner in BIOSWITCH  |
| LCA     | Life Cycle Assessment   |
| LCC     | Life Cycle Cost   |
| LCI     | Life Cycle Inventory  |
| MTU     | Munster Technological University, partner in BIOSWITCH. Previously known as partner ITT.                |
| OI      | Open Innovation   |
| RDI     | Research Development and Innovation   |
| SIE     | Sustainable Innovations Europe SL, partner in BIOSWITCH   |
| VTT     | VTT Technical Research Centre of Finland Ltd / Teknologian tutkimuskeskus VTT Oy, partner in BIOSWITCH. |





BIOSWITCH

## EXECUTIVE SUMMARY

In the frame of the BIOSWITCH project, a BIOSWITCH Toolbox has been produced. Target users for this Toolbox are brand owners. Thanks to using the Toolbox, they can increase their knowledge about 'switching to bio-based'. Specifically, the Toolbox includes information from real stakeholder-based studies, desk work, success cases, consumer feedback, etc. This will allow brand owners to become aware of how switching to bio-based can have a positive impact on their business drivers, increasing their interest in starting/adopting or consolidating a company bio-based strategy.

The aim of this guide is to clearly present the brand owners the different tools included in the Toolbox, providing information about how to use them.

Briefly, interest is raised by consolidating the message that bio-based approaches can have a strategic impact on the company, as the transition from fossil to bio-based provide new strategic alliances, give a first-mover advantage, and improve consumer perception of the brand. This will be achieved through the learning and awareness tools of the toolbox.

For those brand owners that have carried out the first steps of their bio-based transition journey, the adoption tools will allow them to advance or complete the process. Insights about supporting organisations, strategies for bio-based aspects communication, help for value chain building and a tool for sustainability assessment simulation/calculation are provided.

The last group of tools produced by BIOSWITCH are the consolidation tools, which aim to help brand owners to make the most out of all the efforts conducted when switching to bio-based approaches. Hints on how to motivate and convince staff about benefits from switching to bio-based are provided. Moreover, awareness about Open Innovation as a tool to speed up the Research, Development and Innovation (RDI) activities is delivered through a set of materials (presentation, video, and free Open Innovation status assessment service). Finally, a set of webinars delving into the particularities of fourtargeted sectors in BIOSWITCH (food, forestry, agro and chemistry) are included as well.

Aside from these collection of tools, a Bio-based readiness self-assessment tool is provided so the brand owner can identify its readiness level for the bio-based transition through five simple questions. Four different readiness levels are considered: rookie, player, most experienced player, and leading scorer. By knowing its level, the brand owner can directly look into the tools that are most suitable for them: learning and awareness for rookie level, adoption tools for player level and consolidation tools for the most experienced player level.

Finally, a group of additional tools is included. These are relevant outputs from other projects that are deemed useful to support brand owners in their bio-based transition journey.

A recording from the webinar that has been carried out presenting the toolbox can be found [here](#).





BIOSWITCH

## 1 INTRODUCTION

### 1.1 Objective of BIOSWITCH

The main aim of the BIOSWITCH project is to bring Europe to the forefront of the bio-based economy, encouraging and supporting BOs to switching to bio-based approaches by following a holistic, systemic approach built on two pillars:

- A framework where BOs are placed as the centre of the public administration-bio-based industry-consumers triangle through a set of events and communication actions that will allow shaping solutions to mitigate their perceived risks; and
- The BIOSWITCH Toolbox as the ultimate instrument that will assist them in the bio-based transition journey.

### 1.2 Objective of Work Package 4

The specific objectives of WP<sub>4</sub> (**European roll-out and replication**) are:

- To maximise the impact of project outputs by rolling out the BIOSWITCH Toolbox at EU level.
- To evaluate the replication potential among the brand owners in the network of BIOSWITCH cluster partners (CTA, FBCD, CLIC and FF).
- To organise regional knowledge transfer workshops to:
  - Capitalise the experience gained through the four cases studies implemented during Toolbox validation and to use it as example and motivation for other brand owners.
  - Spread the word about BIOSWITCH Toolbox features.
  - Have b2b meetings with brand owners to provide a preliminary guidance for their bio-based transition.
- To produce a guide for the brand owners on how to use the BIOSWITCH Toolbox available at project website.
- To create a training programme targeting cluster managers, innovation agents and public administration, composed by a roadmap for train-the-trainers on how to support brand owners when switching to bio-based (converted to e-learning materials) and a train-the-trainer event organised at a central location.

### 1.3 Objectives of Task 4.1

A guide about how to use the BIOSWITCH Toolbox will be produced, providing step by step instructions on how to do the Bio-based readiness self-assessment test and how to exploit and get the most out of the tools. Special information will be provided about the two tools that will be offered as a service, namely the Sustainability Assessment Tool and the "Build me the value-chain" event tool. This guide will be available at project website on a webinar format and also as downloadable material.



## 2 HOW CAN THE BIOSWITCH TOOLBOX HELP YOU?

European brand owners are at different stages of the bio-based transition journey, i.e., different stages of developing their bio-based strategy. Hence, it is clear that in order to make the most out of the Toolbox, instead of just delivering a collection of tools, it is necessary to provide them with the tools that they demand according to their progress (or readiness level) and sector. The BIOSWITCH Toolbox, embedded in the project website at (include the URL here), will have as a first step a self-assessment test to measure this bio-based transition level (the so-called Bio-based readiness level). This way, through a simple auto-test, brand owners can learn at which stage of transition they are. After completing this and also introducing information about their sector, the Toolbox will provide them directed access to the tools that match their transition status. Alternatively, all tools that compose the Toolbox will be available at the website for consultation, although being guided via the Bio-based readiness level self-assessment is strongly recommended.

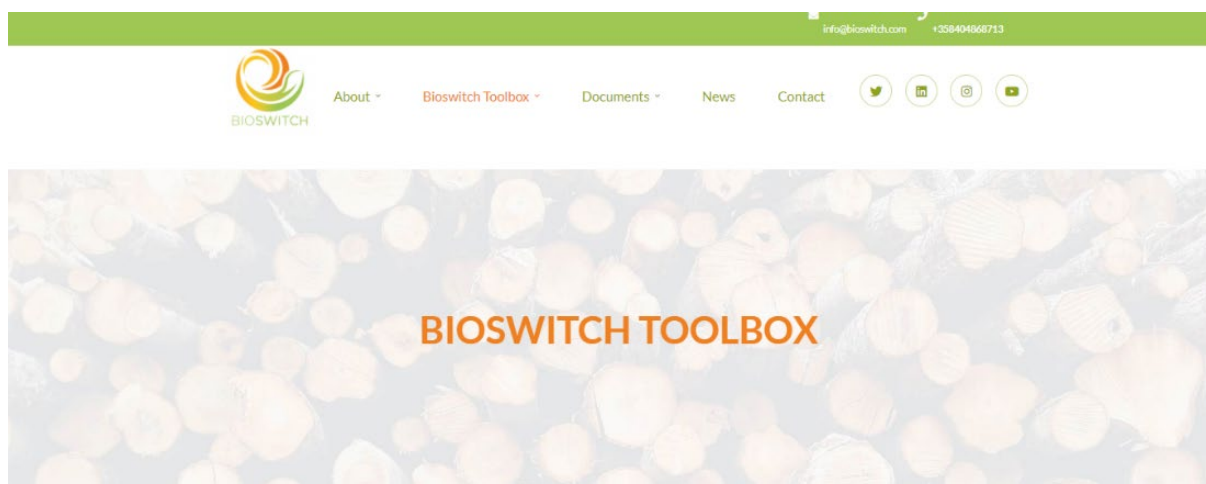
Four bio-based transition levels have been established: 1. Rookie level, 2. Player level, 3. Most Experienced Player level and 4. Leading scorer. The last level covers those brand owners that have completed their transition to bio-based and could serve as an inspiration and example for others. More information about the levels is provided in the next section.

A webinar was organised on 27th January in order to present the Toolbox to the stakeholders (more information about the organisation and implementation of the webinar can be found in D4.2). The recording has been uploaded to the project website and be found here: <https://www.youtube.com/watch?v=YcFm562q-o4>

### 2.1 Initial configuration of the BIOSWITCH toolbox

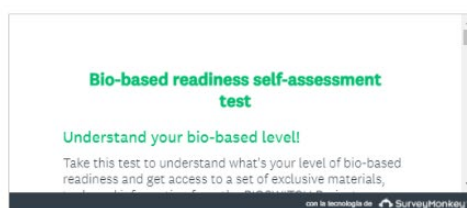
A specific section of the BIOSWITCH Project website has been dedicated to the BIOSWITCH Toolbox. To increase its visibility, it was placed on the top menu bar of the website. The first element appearing in the section is the Self-assessment test, so that brand owners interested in getting to know their level can start from there.





## BIO-BASED READINESS SELF-ASSESSMENT TEST

Take this bio-based readiness test now to understand at which stage of the transition from fossil-based to bio-based you are!

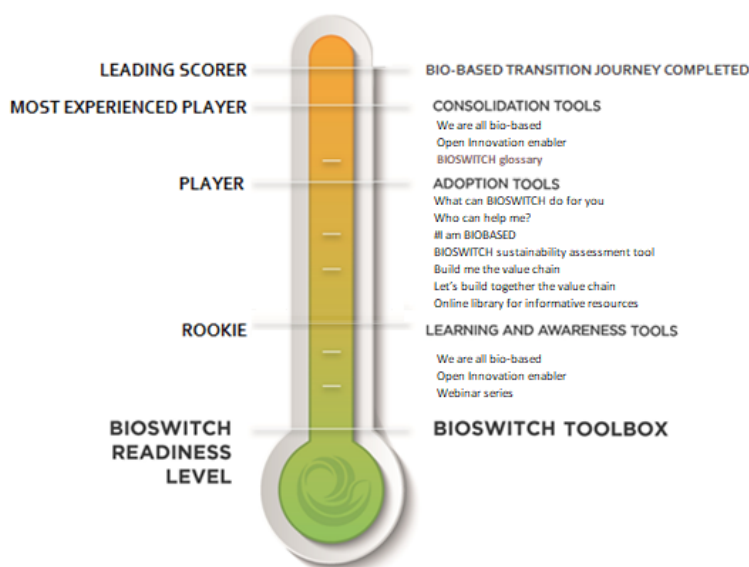


**Figure 1** BIOSWITCH Toolbox section on the website

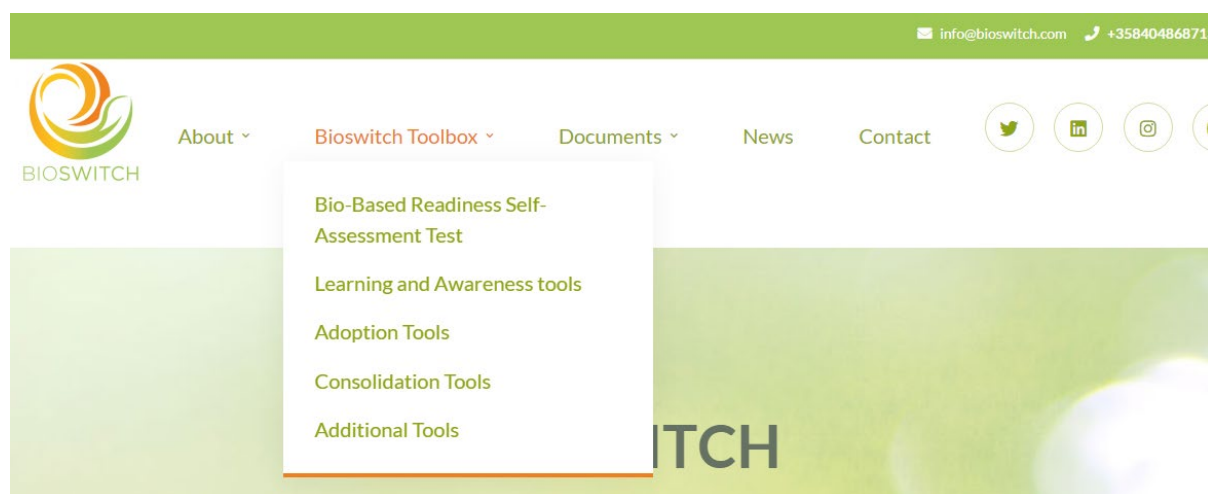
Then, there are four sections, one for each level of tools according to each Bio-based readiness level:

- Learning and awareness tools
- Adoption tools
- Consolidation tools
- Additional tools

The different groups of tools and levels are configured as follows. Brand owners at the Rookie level will benefit from "Learning and awareness tools", Brand owners at the Player level from the "Adoption tools" and Brand owners at the Most Experienced Player level from the "Consolidation tools".



**Figure 2** Bio-based transition levels and associated (types of) communication tools  
Each tool category can also be accessed independently from the top menu bar of the website.



**Figure 3** BIOSWITCH website menu directing to the different categories of the BIOSWITCH Toolbox

## 2.2 Impact and benefits from using the Toolbox

The main group of tools that will cause an increase in brand owners interest in the Toolbox will be the Learning and awareness tools and Adoption tools. Learning and awareness tools target brand owners that are not familiar with the bio-based approach or that have received just brief information. Adoption tools target brand owners that are already aware of the benefits of the bio-based transition, but that need additional evidence in order to raise the interest of the company's strategic decision bodies. Specifically, Learning and awareness tools focus on business drivers such as corporate image, consumers perception, and efficiency rates. Adoption tools have a deeper approach, delving into



business drivers such as legal aspects, sales volumes, costs, and efficiency through sustainability assessments (environmental, economic, and social aspects), and occupational health and workers safety.

Another impact is that thanks to using the tool, the brand owners can become more involved with and committed to the bio-based industry. Following the business drivers' approach, some of the adoption tools and also the consolidation tools will be a key aspect for company strategic decisions related to investments and resource commitment in the bio-based transition journey. Specifically, adoption tools such as the IT tool for sustainability assessment will provide insights about environmental, economic, and social aspects that could be used for decision making. Moreover, the tool related to building the value chain will help brand owners to commit to the bio-based transition journey as they could build strategic alliances. From the consolidation tools, it has been widely discussed that Open Innovation is the key enabler for a smart company growth, making the most out of its network and external resources and innovation ecosystem. Aspects such as developing entrepreneurship programmes, corporate venturing strategies, business agreements with academia, incubation and acceleration of SMEs increase brand owners' commitment to the bio-based industry through the spill-over effect that their actions might have in the surrounding ecosystem.

### 3 ASSESSING YOUR BIO-BASED READINESS LEVEL

It is recommended that brand owners interested in the Toolbox assess their Bio-based readiness level. This way, they will know which tools are more interesting for them according to their current situation and their aims and expectations regarding the transition to bio-based approaches.

Four levels concerning the Bio-based readiness level have been established:

- **Rookie level** – early stages of the bio-based transition journey. These are brand owners that might not even know that a bio-based change is possible or that know the term but still need more information and evidence that would convince them in order to take a step forward. This group will need “Awareness and learning tools”.
- **Player level** – medium stages of the bio-based transition journey. The brand owners are aware of the benefits of switching to bio-based but still need guidance on how to do it: how to implement the new value chain, the feasibility of the transition in order to convince their board of directors or new investors and also how to properly communicate to consumers how this change will benefit them. This group will require “Adoption tools”.
- **Most Experienced Player level** – advanced stages of the bio-based transition journey. These brand owners have implemented actual bio-based approaches but still need some guidance on how to raise the awareness among their staff or how to properly develop/improve the needed value chain and on the benefits that being bio-based has. This group will benefit from “Consolidation tools”.



- **Leading scorer** – bio-based transition journey successfully completed. These brand owners have completed the transition and will be invited to join the value-chain stakeholders group and to share their experience.

### 3.1 How to use the Bio-based readiness self-assessment test

The user will have to answer a set of five questions that will delve into their current situation concerning bio-based processes, products, and approaches. Lastly, a contact email address is asked in order to receive the test results. After clicking the “Send” button, the user will receive an email in a maximum of five working days (it usually takes a shorter time). The email is sent from [info@bioswitch.eu](mailto:info@bioswitch.eu) and the brand owners who have not received it within five working days after taking the test are advised to check their spam folder and/or to contact [info@bioswitch.eu](mailto:info@bioswitch.eu). Within the email, information about the Bio-based readiness level from the user will be provided, together with a recommendation about the most suitable set of tools to be used in order to start/ progress the user bio-based transition. Currently, the email is sent manually by SIE staff. In case of further exploitation of project outputs or future research, and/or should a larger volume of request might be received, an automatic email sending process might be implemented.

The self-assessment test can be accessed from here: <https://bioswitch.eu/bioswitch-toolbox/#BIO-BASED>.

## 4 LEARNING AND AWARENESS TOOLS

- Learning and awareness tools are interesting and useful for brand owners that are at the beginning of a potential bio-based transition journey (the Rookie level). The brand owners may not even know that a bio-based change is possible or may not understand what it implies. The learning and awareness tools are intended to offer additional information and evidence to convince brand owners to take a step forward.

The next sections delve into these tools.

### 4.1 “Why switching to bio-based?”

Link: [https://www.youtube.com/watch?v=madPGQhr\\_T4](https://www.youtube.com/watch?v=madPGQhr_T4)

Type: Video

**Objective:** The aim of this video is to provide an easy-to-understand overview of the project’s concept together with brief information about incentives and motivations for brand owners concerning the switch from fossil-based to bio-based approaches.



**Description:** The video is made in English, and it includes subtitles to make it more inclusive and to enhance visualizations on mobile phones. It has a total duration of 1:44 minutes and presents the scope of the project and the most important elements in its development: the framework of placing brand owners in the centre of a set of events and communication actions that will allow shaping solutions to mitigate their perceived risks; and the BIOSWITCH Toolbox as the ultimate instrument that will assist them in the bio-based transition journey. In this sense, it provides a clear and functional explanation of the most outstanding content of BIOSWITCH so that all users can understand what it involves.

The video presents key figures of the European bioeconomy, so that it is put in context, and everyone can understand its relevance. Then it talks about the key role that brand owners play in the bioeconomy as ultimate decision makers on whether to switch to bio-based approaches, and it mentions some of their deterrents to switch to bio-based approaches. From there, it moves into the project itself, explaining its goals and achievements, referencing all the resources that the project plans to provide. Then, it continues with the main benefits of switching to bio-based and finishes with acknowledgements.

## 4.2 “How do I switch to bio-based?”

**Link:** <https://youtu.be/LDKEBjRioFO>

**Type:** Webinar

**Objective:** The aim is to showcase key paths/actions that can be undertaken by the brand owner as well as best practices to switch to bio-based so it can inspire and trigger change.

**Description:** The BIOSWITCH webinar “Successful transition from fossil to bio-based products” took place on 27 January 2021, from 10:00 to 11:30 (CET), see Figure 4. Different brand owners shared their experience and the keys for their success in transitioning from fossil-based to bio-based approaches, as follows:

- René Bethmann, Innovation Manager at VAUDE Sport GmbH & Co. KG (Germany)
- Annica Rasch, Sales and Marketing Director of Formed Fiber at Stora Enso Oy (Finland)
- Jo Temmerman, Co-owner of BIOCO BV (Belgium)
- Marck Højberg Matthiasen, CEO from dantoy a/s (Denmark)
- Moreover, Marta Macías, from CTA, presented on behalf of Alhóndiga La Unión S.A. (Spain)

In addition, Ana Martínez (SIE) acted as host and moderator, Anna Tenhunen-Lunkka (CLIC) presented an overview of the project and John Vos (BTG) held a wrap up session summarising lessons learnt. Following the presentations, an interactive session was held.



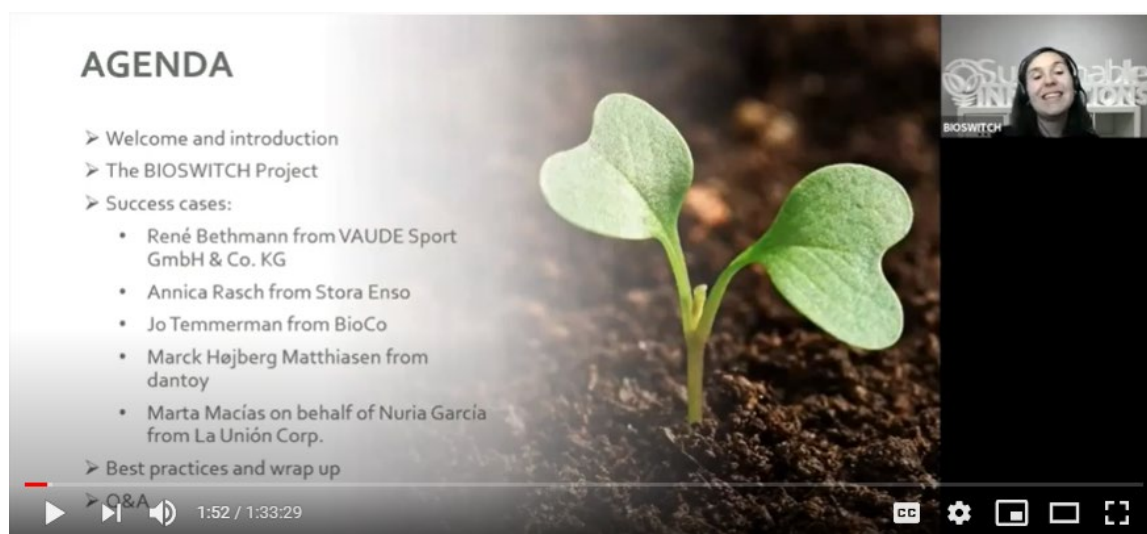


Figure 4 Screenshot of the recording of the BIOSWITCH webinar on YouTube

### 4.3 “Switching to bio-based hall of fame”

Link: <https://youtu.be/pg4wkaMmZZY>

Type: Video

**Objective:** The aim of the video is to show brand owners success cases that can inspire others and serve as an example and role model.

**Description:** An interactive timeline was included in the YouTube video description (see Figure 5), so that it would be easier to jump from one case study to another, or to the best practices (lessons learnt) section at the end of it. The timeline is interactive, so when a click is done in one section, it takes the user directly to that part of the video. Also, a playlist with the different success cases has been created.



Figure 5 YouTube playlist with the brand owners’ case studies





BIOSWITCH

#### 4.4 “Consumers and bio-based products, a love story”

Link: [https://bioswitch.eu/wp-content/uploads/2021/05/Consumers-and-bio-based-a-love-story\\_.pdf](https://bioswitch.eu/wp-content/uploads/2021/05/Consumers-and-bio-based-a-love-story_.pdf)

Type: Infographic

**Objective:** The aim of the infographic “*Consumers and bio-based: a love story*” is to provide information on how switching to bio-based will make brand owners more appealing to consumers.

**Description:** Information about how consumers conceive and understand bio-based products, and the incentives and motivations that drive them to purchase them instead of fossil-based alternatives is provided in an 11-page document that presents the results from a study conducted with real consumers. Answers to the following questions are provided:

- What are the first words that come to your mind when you think of the term bio-based product?
- Which of the following terms would motivate you when choosing a product?
- Future expectations
- From which category are you most likely to buy bio-based products?
- What would specifically motivate you to buy bio-based products?
- Would you consider paying more for bio-based products in the following categories?

Information is provided through charts and infographics. An example is provided in Figure 6

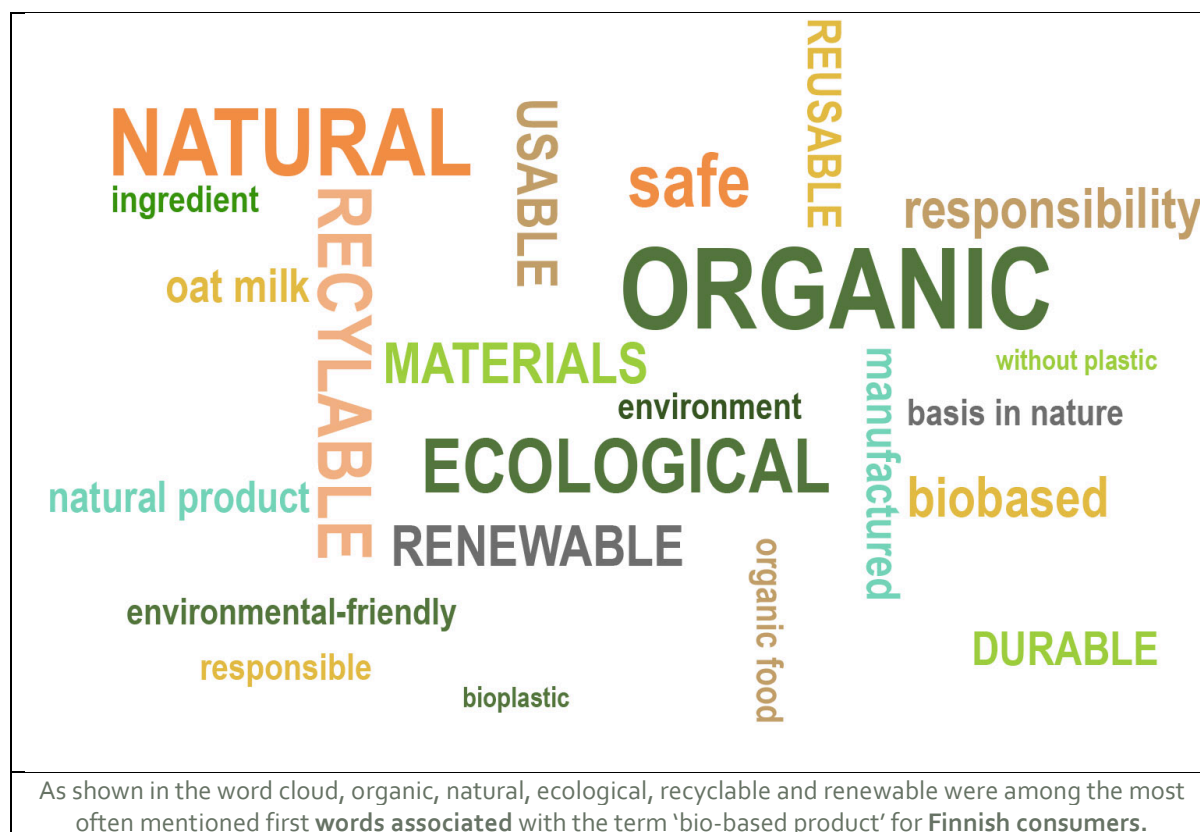


Figure 6 Extracts from the infographic template “consumers and bio-based: a love story”





BIOSWITCH

## 4.5 “Understanding the main barriers”

Link: [https://bioswitch.eu/wp-content/uploads/2021/09/VF\\_Understanding-the-main-barriers.pdf](https://bioswitch.eu/wp-content/uploads/2021/09/VF_Understanding-the-main-barriers.pdf).

Type: Brochure

**Objective:** The brochure aims to debunk the main myths about switching to bio-based and to provide well-grounded useful-to-know information that can help to decrease brand owner risks perception.

**Description:** The document helps to understand the main barriers in switching to bio-based perceived by brand owners so that they can overcome them. Through an infographic style, the document provides insights into these barriers as well as background and supporting information to help brand owners bust some of the bio-based myths. References for the information provided are included at the end of the document.

## 4.6 Glossary

Link: [https://bioswitch.eu/wp-content/uploads/2021/05/Consumers-and-bio-based-a-love-story\\_.pdf](https://bioswitch.eu/wp-content/uploads/2021/05/Consumers-and-bio-based-a-love-story_.pdf)

Type: Report document

**Objective:** To clarify main terms related to bioeconomy, bio-based transition, and circular bioeconomy.

**Description:** Glossary of bioeconomy related terms and definitions in alphabetical order. Beyond many terms that are specific to bioeconomy/bio-based economy/bio-based products, a number of additional (associated) topics, and topics and themes that have a clear connection with this sector are included, such as:

- (Corporate) Social Responsibility and Public acceptance
- Environmental impact and Life cycle assessment
- Circular economy and End-of-life options
- Claims, standards, certificates, (eco)labels
- Renewable carbon and Bio-based chemicals

# 5 ADOPTION TOOLS

Adoption tools are intended to accelerate the journey of a brand owner that is at the medium stages of transition from fossil to bio-based (the Player level). At this stage, the benefits of switching to bio-based and the feasibility of the transition are understood but brand owners would still benefit from some guidance on how to: implement new value chains, convince company management or new investors about the benefits of switching to bio-based alternatives/technologies and properly communicate to customers how the switch to bio-based will benefit them.





The tools included in this category are:

- “What can BIOSWITCH do for you?”
- “Who can help me?”
- “#I am bio-based”
- “Build me the value-chain” event
- Sustainability assessment tool
- BIOSWITCH Online matchmaking event

The next sections delve into these tools.

## 5.1 “What can BIOSWITCH do for you?”

Link: <https://bioswitch.eu/wp-content/uploads/2020/10/WHAT-CAN-BIOSWITCH-DO-FOR-YOU.pdf>

**Type:** Brochure (presentation style)

**Objective:** The purpose of the tool is to present to brand owners and other actors that are interested in the BIOSWITCH project short information about the project: what it is about, how a stakeholder can engage and benefit from it.

**Description:** The document provides key insights about the project and how the following aspects are addressed in the frame of the different activities conducted.

- Showcasing and promoting best practices of experienced brand owners.
- Engaging stakeholders to appreciate their motivations and perceived risks.
- Facilitating knowledge exchange and brokerage through targeted events.
- Developing tools that support brand owners switch to bio-based.
- Presenting other benefits and added value that BIOSWITCH offers to brand owners.

## 5.2 “Who can help me?”

Link: <https://maphub.net/BIOSWITCH/who-can-help-me>

**Type:** Interactive map

**Objective:** The aim of the interactive map is to facilitate brand owners to identify local/regional facilitators in the bio-based sector that can provide help to the brand owners in the transition from fossil-based to bio-based approaches.

**Description:** Users can navigate through the map to look for a specific organisation. The user can filter per country and also make searches by inserting free text in a search box. Each item represents an actor, for which the organization logo and a link to the organization website are presented. An example of an entry in the interactive map is shown next.



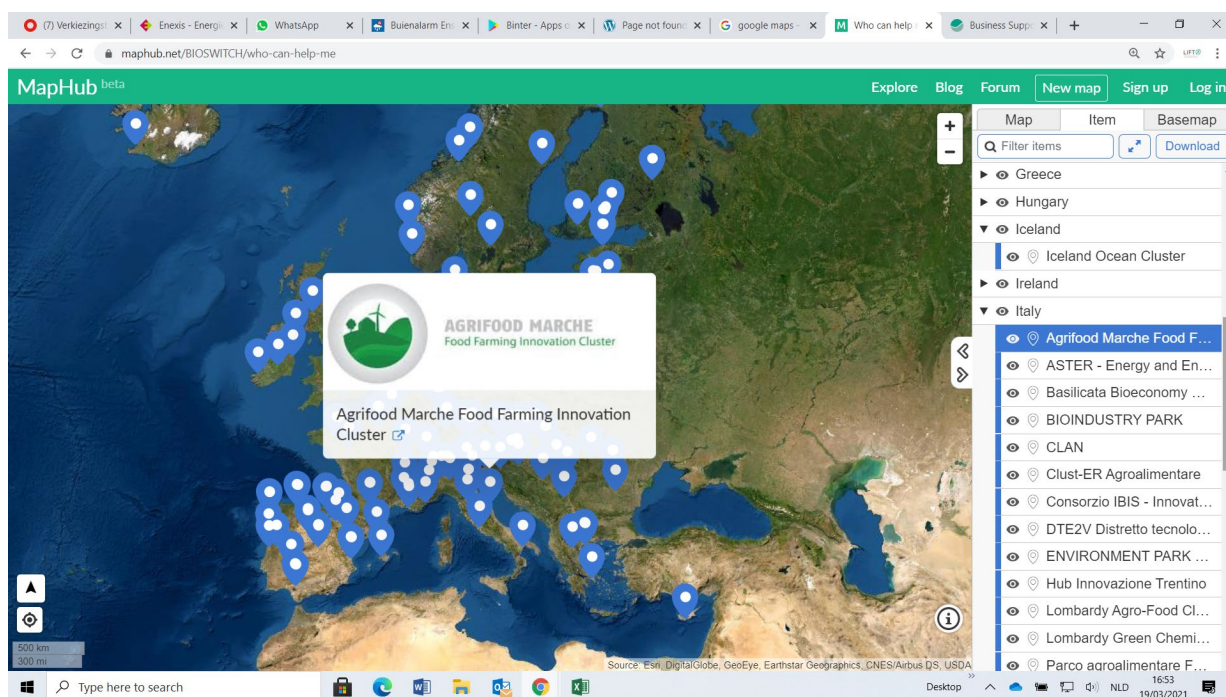


Figure 7 Example of an entry in the interactive map

### 5.3 “#I am bio-based”

Link: [https://bioswitch.eu/wp-content/uploads/2021/09/VF\\_IAMBIO-BASED.pdf](https://bioswitch.eu/wp-content/uploads/2021/09/VF_IAMBIO-BASED.pdf)

Type: Brochure

**Objective:** To provide a set of communication guidelines, customisable messages, and materials on bio-based products that brand owners can make use of as building blocks (especially through social media) to reach their customers and consumers.

**Description:** The 16-page document contains a set of key guidelines and sample materials for use in social media, including:

- Key social media guidelines.
- Best practices to share content
- Key facts and messages about the bioeconomy.
- Sample keywords and images for social media.
- Related accounts (e.g., other relevant European bioeconomy projects)

References are provided at the end of the document.





BIOSWITCH

## 5.4 “Build me the value chain” event

Link: <https://bioswitch.eu/build-value-chain/>

Type: Service

**Objective:** The main aim of this tool as a service is to support brand owners in finding new organisations to collaborate within the frame of the new value-chains that might emerge from the bio-based transition. Also, partners for RDI activities can be found through this service. This service is provided by the BIOSWITCH partners listed on the website.

**Description:** Through this service the brand owner can request to organise the “Build me the value chain” workshop where the brand owner can be the focal point, involving bio-based industry so that new connections and business opportunities can be spotted in order to build the new value chain that the transition to bio-based approaches might demand. The objectives are:

- To help the brand owner in the development of the new supply/value chains that the bio-based transition demands.
- To support the brand owner in the identification of bioswitch transition challenges and find organisations with the needed know-how.
- To identify possible projects between the brand owner and other stakeholders (only private-private or private-public) in the field of innovation.
- To disseminate and communicate the strategy and the innovation aspects of the brand owner organisation to gain notoriety and position at local/regional/EU level and generate influence in new projects related to innovation and technological avant-garde (public and private), especially when transitioning to bio-based approaches.

The workshop can be done face-to-face or online. Usually, it is done in a “Petit Committee” style where the brand owner can feel comfortable presenting their needs and challenges by creating a trustworthy environment. The agenda would include the presentation of the brand owner RDI strategy, and the different challenges faced in the switch to bio-based journey so the brand owner can find among the audience organisations with the know-how needed.

In order to trigger real connections between the brand owner and potential suppliers, partners, etc., a set of bilateral meetings can be scheduled at the end of the event. These are bilateral meetings between one representative from the brand owner organisation and the attendee. These bilateral meetings can be requested by the attendees when registering at the event. Regarding the attendees’ profile, private sector organisations would be desirable. Bioproducts providers, auxiliary equipment needed for new bioprocesses, etc. The BIOSWITCH team will take care of finding the right attendees that can be of interest. Event organisation, attendees invitation, communication actions and post-event follow-up will be provided as well.

**How to request the service?** The brand owner can reach any of the BIOSWITCH partners listed at the project website and contact them in order to ask for an offer (i.e., a preliminary service description and a quotation). The corresponding BIOSWITCH partner will ask the brand owner initial information about needs and expectations (by email and/or through a short interview) so as to properly shape the event to be organised.





BIOSWITCH

## 5.5 Sustainability assessment tool

Link: <https://bioswitch.eu/sustainability-assessment-tool/>

Type: Software/IT tool

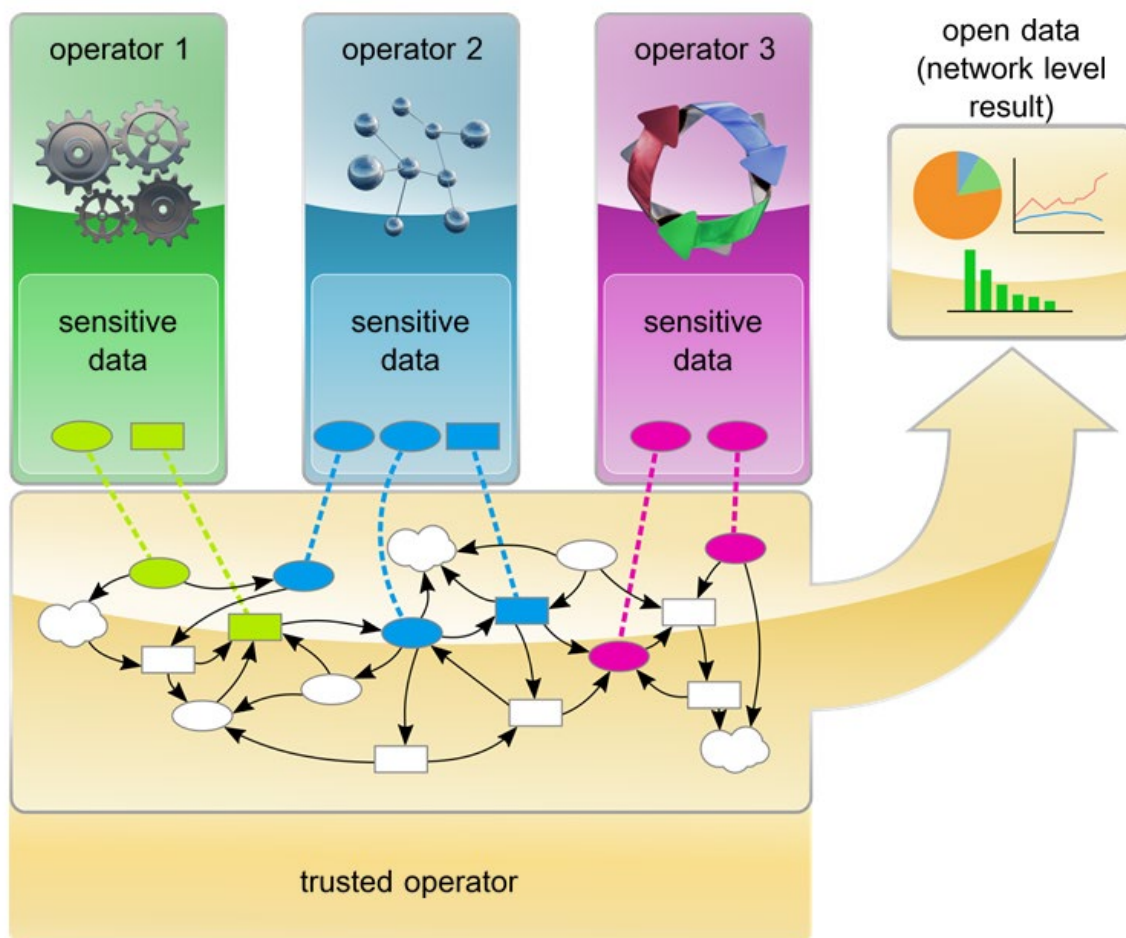
**Objective:** The sustainability assessment tool is a simulation tool that allows the brand owner to compare the sustainability effects resulting from the adoption of new bio-based approaches vs. the current implementation of production processes. The tool includes full life cycle assessment (LCA) support and a simple material stream related cost calculator to support life cycle cost (LCC) computation. Social life cycle assessment results can be utilised via the underlying integration platform in cases where the results can be brought into a quantified and calculable form. In a nutshell, the tool enables the BIOSWITCH project to provide the following sustainability assessment support:

- Calculation of LCA key performance indicators (carbon footprint, in particular)
- Carbon handprint calculation and comparison of design choices
- Value stream mapping and modelling, and
- Integrated Life Cycle Costing functionality associated with LCA materials streams

**Description:** The tool is based on VTT's existing Network LCA tool (**Figure 8**). The sustainability assessment tool of the BIOSWITCH Toolbox is a cloud service aimed to enhance LCA, data collection and sharing the LCA results in a flexible and privacy-respecting manner inside a network of operators, which can be e.g., different companies in a product's value chain. In addition to computation of LCA eco-indexes (such as carbon and water footprints, acidification potentials etc.), one can also utilize the tool for performing LCC related calculations (cost indicators) associated with modelled material streams. Interfaces will also be built for later integration of socio-economic assessment models with the LCA level models.

The tool also includes a new concept that VTT has been actively developing, the *Handprints*. The *handprint* concept focuses on positive environmental impacts. These type of sustainability measures (indexes) are well-suited for the BIOSWITCH Toolbox because they help the networked operators to see how they can be useful in diminishing the footprints of the *other* network operators by owning their design and operational choices. The handprint concept is naturally associated with the *comparison functionality* of the sustainability assessment tool. It helps to compare the differences of multiple design proposals, when the user wants to see how much the performance indices will change subject to proposed changes in biomaterial stream sizes and process details.





**Figure 8** Network LCA tool operational principle. The term “operator” can be replaced by “company”, “department”, “subcontractor” or alike depending on the application.

A trusted operator represents a neutral party (e.g., a research institute) that is responsible for the model construction.

### 5.5.1 User instructions

Next, the use of the network/value-chain assessment tool is detailed from the point of view of different user groups. A typical workflow looks like the following:

1. Trusted operator (administrator) creates a new project and invites all participants as network users. The role of the trusted operator can also be played by a company, which builds an assessment model for all the upstream subcontractors of the value chain.
2. Network users fill process data inventory forms for their parts in the model (LCI = life-cycle inventory phase).
3. Administrator oversees every process form and imports them as Excel files into the LCA model (direct web import is also possible, though in complicated cases Excel files work well e.g., when iterating product/input stream naming conventions)



BIOSWITCH

4. Administrator builds a computational LCA model using the data inputs of the exported files.
5. Administrator uploads the completed model to Network LCA tool. Currently, Sulca software is being used as a computational tool (integrated with LCA databases), but other engines could also be used once integrated with the platform.
6. Trusted operator (administrator) assigns the network users access rights to their parts of the model.
7. Network users can see the LCA calculation results only of the parts of the model for which they have access rights.

In addition, Network LCA users have access to the non-sensitive valuechain or network level results. Typically, aggregate results, such as the total carbon footprint of a value chain is deemed non-sensitive as individual participants' footprints cannot be determined based on the aggregate value. The longer the valuechain or wider the network, the smaller the probability of malignant parties to back-engineer company-specific results from the aggregated results. Naturally, other methods are also available to protect sensitive data.

#### 5.5.1.1 Calculations (Network user)

Next, let's take a look at the tool interface from the point of view of a value chain member with pre-assigned view rights by the trusted operator. Anyone who has been given user rights for the project and the relevant part of a shared LCA model, can examine the results of the LCA calculations *within the accessible parts of the model*. On the **LCA Models** tab select a root flowsheet and click the **Initialise** button under **LCA analysis**. The results are shown on the right side as a tree structure and clicking the up and down arrows under **Report depth** (Figure 9) selects the depth of how much of the numerous results are shown on screen. Going down from zero shows the full depth.

NOTE! The calculations are always made for the selected **root flowsheet** rather than the flowsheet that is currently shown on the left side of the screen.





BIOSWITCH

Report table   Charts

Report Depth

Full

| label                                    | input | % | output         | %     |
|--|-------|---|----------------|-------|
| Summary of the whole system              |       |   |                |       |
| Air                                      |       |   |                |       |
| unspecified                              |       |   |                |       |
| Carbon dioxide, fossil                   |       |   | 2,950 [kg]     |       |
| Electricity                              |       |   | 0,4000 [kg]    | 13,56 |
| Electricity                              |       |   | 0,05000 [kg]   | 1,69  |
| Electricity                              |       |   | 2,500 [kg]     | 84,74 |
| Plastic handle manufacturing -> Assembly |       |   | 0,0001800 [kg] | 0,01  |

Figure 9 Depending on the Report Depth, different amount of information is shown to the user.

In many detailed analysis cases, choosing the most microscopic level can lead to a large number of rows shown.

Four different report modes can be selected with the **Report mode** drop-down list. **Summary** sorts the tree with processes as branches within different variables while **Processes** does it the other way around. **Codes with variables** and **Codes with processes** do the same while also taking user-chosen colour codes into account. Note that the **Calculate** button must be clicked when a new report mode is selected. Any available charts can be examined on the **Charts** tab (see Figure 10).



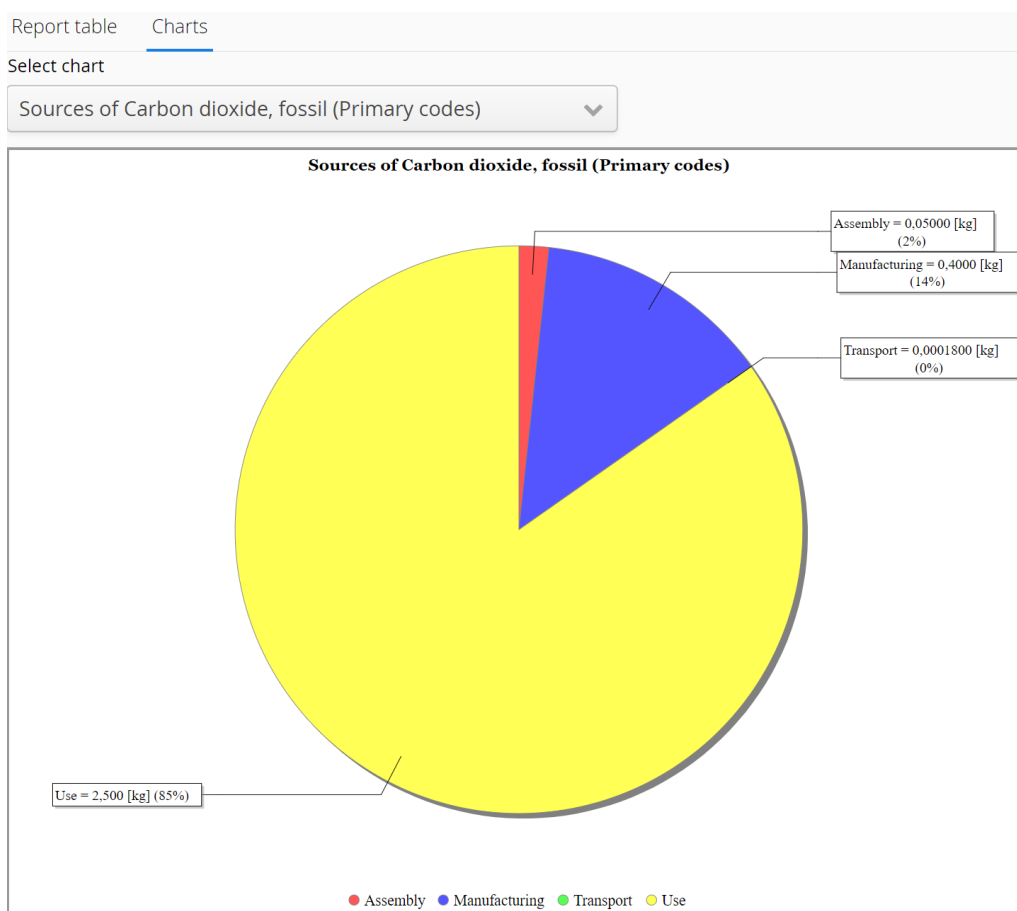


Figure 10 Charts and diagrams are one possible data visualization form.

### 5.5.1.2 Comparison of alternative solutions

How can different design solutions be compared with each other? The subject has been preliminarily discussed in Sect. 4.3.1. Below, it is shown how the comparison results are generated from the web user interface of the Sustainability assessment tool.

To perform a comparison of different designs, select the **LCA comparison** tab of the Sustainability assessment tool. The **Select model** drop-down list contains the same models uploaded in previous sections but since at least two flowsheets are required in the model for comparisons to be possible, two different models should be uploaded for comparison. To do this, upload a new model with the **Upload model** button and select it for comparison (Figure 11). Specifically, one can use the **Coffee cup handprint** tutorial file (available in the public version of the Sustainability assessment tool).



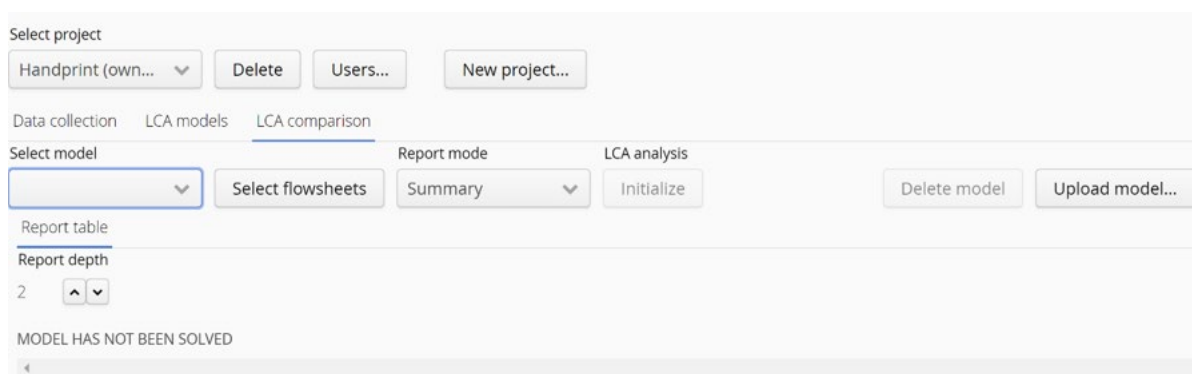


Figure 11 Selecting the correct flowsheet for comparison.

Select the handprint model and click the **Select flowsheets** button. From the resulting dialogue window, select **Baseline system** (Figure 12) for a base flowsheet and **New product system** for the comparison flowsheet and then click **OK**. If the model had more flowsheets, multiple of them could be selected as comparison flowsheets.

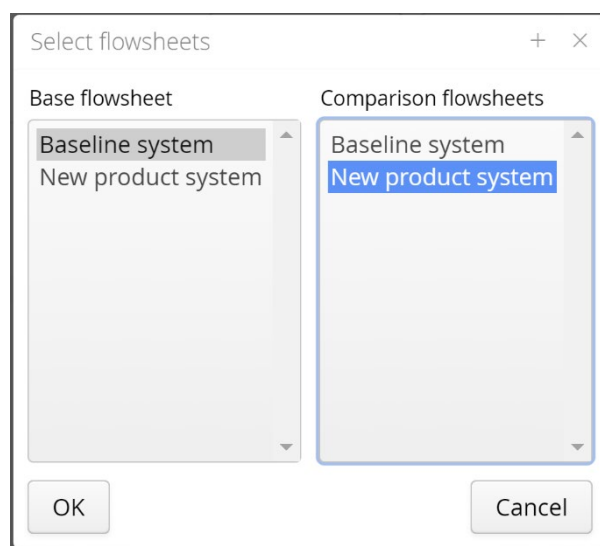


Figure 12 Choose the baseline system and the new product system for handprint.

The report modes work the same way as with normal LCA calculations. **Summary** sorts the tree with processes as branches within the different variables, while **Processes** does it the other way around. **Codes with variables** and **Codes with processes** do the same while also taking the user made colour codes into account. Click the **Initialise** button and the calculation results will be shown below in Figure 13.

The first branch consists of the absolute values of the flowsheet used as a base, the second branch the flowsheet that was used to calculate the handprint. Finally, the handprint branch (New product system handprint) lists the differences of the two flowsheets with the increase or decrease measured in percentage. Selecting multiple flowsheets when calculating would create a handprint branch for each of them. To see more or less of the items in branches, click the **Report depth** arrow buttons.

Report table

Report depth

0

| label                        | input |   | output |   | agricultural land occupation (ALOP) |   | climate change (GWP100) |      |
|------------------------------|-------|---|--------|---|-------------------------------------|---|-------------------------|------|
|                              |       | % |        | % | m <sup>2</sup> *a                   | % | kg CO <sub>2</sub> eq   | %    |
| Baseline system              |       |   |        |   |                                     |   | 3,688                   |      |
| New product system           |       |   |        |   |                                     |   | 3,469                   |      |
| New product system handprint |       |   |        |   |                                     |   | 0,2189                  | 5,94 |

Figure 13 Charts and diagrams are one possible data visualization form.

In the example shown in Figure 13, the global warming potential value for the baseline system gives 3,688 kg CO<sub>2</sub> equivalent for the baseline and 3,469 for the new product system. The difference is 0,2189 which means that the new product system has about 6% lower value which acts as input for the decision-making process.

## 5.6 BIOSWITCH Online matchmaking event

Link: <https://bioswitch.eu/online-matchmaking-service/>

**Type:** Service

**Objective:** the main aim of this tool is to establish a virtual marketplace where different actors from the bio-based industry can meet representatives from other private companies, industrial organisations and/or researchers from universities and research institutes.

**Description:** The online event was organised in the frame of the project but the link to the tool provides information on how it was shaped and suggest interested organisations in this kind of event to contact BIOSWITCH partners to discuss additional events organisation.

The purpose of the matchmaking event is to facilitate new contacts within the bio-based value chain. For instance, new contacts could be between:

- A supplier of bio-based product components and a brand owner with a wish to replace certain fossil-based components with bio-based product components.
- A supplier of bio-based packaging and a brand owner with a wish to replace fossil-based packaging.
- A technology provider or a bio-based feedstock supplier and a producer of bio-based packaging.



The matchmaking event can also facilitate new contacts between researchers and representatives from private companies to start collaboration about research, development, test, and demonstration of new bio-based solutions.

In order to organise an event of this type, the first step is to decide about the scoping of the event. This involves describing the overall theme of the event and the corresponding target group. To promote the event, attract participants and set the scene, a webinar program is made with speakers presenting new results of relevance for the overall event theme. Also, an event website is launched with a description of the overall theme and a possibility to register for the event.

In the weeks before the event registered persons can screen the profiles of the other participants and learn more about the offered solutions and requests from the organisations that these persons represent. Participants can ask for one-to-one meetings with other participants of interest through the functionality of the event website.

The webinar including presentations followed by question and answers session is taking place 4-7 days before the matchmaking event. On the day of the matchmaking session the registered persons log on to the event website and then join the one-to-one online meetings, which have been scheduled in the weeks up to the event. Each online meeting has a duration of 20 minutes. If a possibility for collaboration is identified during the meeting the participants conclude with an agreement on how to proceed. The next step could e.g., be a follow-up online meeting or it could be a physical visit to meet and discuss face-to-face.

## 6 CONSOLIDATION TOOLS

Consolidation tools are addressing brand owners that have implemented bio-based approaches to a great extent, but that feel they may still benefit from some guidance to make the most out of their transition (the most experienced player level). Tools to raise awareness among staff on the advantages of being bio-based and information on how to make the most out of Open Innovation ecosystems can be found together with a series of webinars.

The tools included in this category are:

- “We are all bio-based”
- “Open Innovation enabler”
- Series of webinars

The next sections delve into these tools.

### 6.1 “We are all bio-based”

Link: [https://bioswitch.eu/wp-content/uploads/2021/05/We-are-all-bio-based.1\\_.pdf](https://bioswitch.eu/wp-content/uploads/2021/05/We-are-all-bio-based.1_.pdf)

Type: Brochure



**Objective:** The aim is to present key facts and figures on the EU Bioeconomy, including best practice case studies, to inform brand owner's staff so that they can gain knowledge on, and become committed to, switching to bio-based.

**Description:** The brochure addresses the following issues:

- Did you know bioeconomy is crucial for a healthy and wealthy economy in Europe?
- Are there many bio-based products on the market already?
- Do you have an idea of the many advantages that bio-based products can offer?
- Did you know about these successes of the brand owners shifting from fossil to bio-based production?

## 6.2 "Open Innovation enabler"

**Link:** The Open Innovation enabler contains three mini tools:

- A capacity building presentation, [https://bioswitch.eu/wp-content/uploads/2021/09/VF\\_BIOSWITCH\\_Open-Innovation.pdf](https://bioswitch.eu/wp-content/uploads/2021/09/VF_BIOSWITCH_Open-Innovation.pdf)
- Video, <https://www.youtube.com/watch?v=zPtkpOlxDYw>
- Free assessment of Open Innovation status, <https://bioswitch.eu/oi-assessment-2/>

**Type:** Combination of a document, video, and free assessment service

**Objective:** The main aim is to raise awareness about what Open Innovation (OI) is and how this approach could be interesting and relevant for brand owners, especially as a way to be more time and resource-efficient during the switching to bio-based -journey.

**Description:** OI is a business management model for innovation that promotes collaboration with people and organizations outside the company and also inside the company including staff not directly linked to the RDI department. In this sense, Open Innovation challenges are a true cultural break from the company silo mentality and the secrecy traditionally associated with the corporate R&D culture. This innovation model becomes viable when the company acknowledges that there are many bright professionals and greater knowledge outside the organization RDI department. It is at this very moment when the opportunity to attract those external individuals and/or companies becomes more real.

The OI enabler consists of **three mini-tools**:

- A PDF document with an overview for newcomers on Open Innovation in the bio-based area and why it is needed.
- A short video explaining the main OI concepts and some key OI tools, and
- An OI self-assessment tool. This is implemented as a short (2 minute) online survey that helps brand owners assess what they need to implement in Open Innovation. After completing the survey, they receive a customised assessment about the best tools and practices to promote and expand an Open Innovation strategy in their organisation.



BIOSWITCH

## 6.3 Series of webinars

**Link:** The link to webinars recordings will be created soon.

**Type:** Webinar series

**Objective:** The main aim is to provide more detailed, specific information about sectoral approaches for the bio-based transition.

**Description:** Four webinars will be conducted covering the following areas:

- Bio-based plastics – 1<sup>st</sup> February 2022
- Bio-based textiles – 8<sup>th</sup> February 2022
- Bio-based chemistry – 15<sup>th</sup> February 2022
- Agri-food – 22<sup>nd</sup> February 2022

Each webinar lasts 60-90 minutes and cover presentations from up to four persons, including: an industry expert/leader, a brand owner whose BIOSWITCH journey can be considered a success case, and 1 or 2 external presenters from other EU-funded initiatives (e.g., R&I projects). Webinars will be recorded and uploaded to YouTube.

# 7 ADDITIONAL TOOLS FROM RELATED INITIATIVES

## 7.1 Online library for informative resources

Several related initiatives about bio-based products have been screened and a set of materials that could serve brand owners to deepen their knowledge about the bio-based industry have been selected. These materials could also inspire them in their bio-based transition.

**Type:** several types of materials are considered, like videos, reports, etc.

[A Bio-based day](#) Is it possible to adopt a more sustainable lifestyle? This video shows a day in which many fossil-based products can be replaced by bio-based products. Developed by the Biobridges project.

[The Bio-Art Gallery](#) Collection of stunning photographic panels of feedstocks, associated with related bio-based products, aimed to attract interest and curiosity and to inform about bioeconomy. Developed by BIOVOICES, Biobridges and Bioways.

[A journey to the bioeconomy future!](#) Brochure introducing a suitcase fully packed with bio-based products. Developed by the BLOOM project.

[FAQ on bio-based/ bioplastic](#) FAQ (Frequently Asked Questions) providing clear and concise information on facts and myths regarding bio-based and biodegradable plastics. Developed by the GLOPACK project.

[Public Procurement FAQ](#) (Frequently Asked Questions) providing brief information on public procurement of bio-based products. Developed by the InnProBio project.





BIOSWITCH

[European consumers: perceptions of sustainable packaging](#) Video recording of a webinar on the perception and expectation of consumers regarding sustainable packaging. Developed by MyPack, GLOPACK and YPACK.

[Webinar series on bio-chemicals](#) Training videos and materials about bio-chemicals, experts active in EU bioeconomy projects, companies from the biochemical sector, research institutes and international agencies give insights about the current status of biochemicals at EU level. Developed by the POWER4BIO project.

[Bioplastics for Packaging: Challenges & Opportunities](#) Video recording of a webinar addressing trends on the market of bioplastics, industry actors' expectations from bioplastic packaging, and upscaling of bioplastic technology. Developed by MyPack, GLOPACK and YPACK

[Bio-based Food Packaging](#) Interactive slideshow presenting the outcomes of the BioCannDo case study on bio-based food packaging. Developed by the BioCannDo project.

## 8 CONTACTS FOR FURTHER SUPPORT


The contact information from BIOSWITCH partners is provided below, together with information about how they can support brand owners in their bio-based transition journey.

|   |  |
|---|--|
|  | <p><b><u>Technological Corporation of Andalusia (CTA)</u></b></p> <p>CTA is a multisectoral innovation cluster that supports private companies in the shaping, funding, implementation, and monitoring of RDI projects, promoting and boosting knowledge transfer from public to private side. CTA has its own private financing programme and, aside from the cluster activities, provides consultancy services to the market related to science, technology, and innovation.</p> <p><b>How can CTA support brand owners in their bio-based transition?</b></p> <p>Experts at CTA have the technical knowledge to support brand owners in finding the trends relevant for them, identifying the most suitable partners for RDI actions, and assessing the most interesting financing programmes. If needed, CTA can also provide private financing to Andalusian brand owners projects.</p> <p><b>Contact details:</b> negocio@corporaciontecnologica.com</p> |
|  | <p><b><u>VTT Technical Research Centre of Finland Ltd (VTT)</u></b></p> <p>VTT is one of Europe's leading research institutions and owned by the Finnish state. VTT is a visionary research, development and innovation partner. We advance the utilisation and commercialisation of research and technology in commerce and society. Through scientific and technological means, we turn large global challenges into sustainable growth for businesses and society. We bring together people, business, science and technology to solve the biggest challenges of our time. This is how we create sustainable growth, jobs and wellbeing and bring exponential hope. VTT is a multidisciplinary RTO, operating in three business areas: Carbon neutral solutions, Sustainable products and materials and Digital technologies.</p>   |





BIOSWITCH

|   |   |
|---|---|
|   | <p><b>How can VTT support brand owners in their bio-based transition?</b></p> <p>VTT can support brand owners in their research, development and innovation (R&amp;D&amp;I) activities both via jointly funded and direct customer projects. Experts at VTT have strong scientific and technical backgrounds. VTT's expertise is multidisciplinary, covering various aspects of bioeconomy. Besides material and technological solutions, VTT can provide support in sustainability assessment, taking into account environmental, economic and social aspects.</p> <p><b>Contact details:</b> heli.kangas@vtt.fi</p>   |
|    | <p><b><u>CLIC Innovation Ltd</u></b></p> <p>CLIC is a non-profit cluster management company based on public-private-partnership model. We build and manage research, development and innovation collaboration between industries and academia in the fields of CE, bioeconomy and energy system transition. We address systemic challenges, that arise from the scarcity of natural resources. CLIC Innovation speeds up the commercialization of new information by initiating and orchestrating solution-oriented projects covering the entire field from curiosity research to demonstrations. CLIC is the core local node of global cross-industrial and disciplinary competence network with business relevance. We contribute to developing a more favourable innovation environment in Finland and EU.</p> <p><b>How can CLIC support brand owners in their bio-based transition?</b></p> <p>CLIC as a cluster is a cross-organisational and cross-sectoral fast-moving network that brings together large international companies, SMEs and start-ups, as well as RDI and universities. CLIC has also broad international collaboration and connections. CLIC can well connect brand owners to suitable value chain and RDI partners, as well as facilitate co-creation of solutions tailored for the brand owners' needs and challenges. CLIC offers the Build me the value chain services as part of its innovation ecosystem management services under the <a href="#">Open Innovation Ecosystem Playbook</a>.</p> <p><b>Contact details:</b></p> <p>Head of Services and Comms Tiina Laiho, tiina.laiho@clinnovation.fi</p> |
|  | <p><b><u>B.T.G. Biomass Technology Group BV</u></b></p> <p>BTG is a self-owned SME of researchers, consultants and business developers with a dedicated focus on advancing the circular bio-based economy. We are specialists in the conversion of biomass into fuels, energy and bio-based raw materials. Around 25 individuals in 2 business units (BTG Technology and BTG Consultancy) develop innovative conversion technologies, help build capacity and promote market uptake, combining academic intelligence with practical field experience. Our innovations are commercialised in spin-off companies, including <a href="#">BTG-Bioliquids</a>, and BTG-<a href="#">neXt</a>.</p> <p><b>How can BTG support brand owners in their bio-based transition?</b></p> <p>For brand owners and other economic actors, we conduct (contract) research and technical due diligence and provide advisory services covering the whole biomass value chain: feedstock availability, sourcing, contracting, logistics &amp; pre-treatment; conversion technologies, markets and product applications etc. Furthermore, we offer</p>  |





BIOSWITCH

|  |  |
|--|--|
|  | <p>transversal services such as (environmental) sustainability assessments, financial analyses, legal/regulatory issues, stakeholder engagement, policy advice etc.</p> <p><b>Contact details:</b> <a href="mailto:vos@btgworld.com">vos@btgworld.com</a></p>  |
|  <p><b>Food &amp; Bio Cluster Denmark</b></p>             | <p><b><u>Food &amp; Bio Cluster Denmark (FBCD)</u></b></p> <p>FBCD is a non-profit cluster management organisation operating within the agri-food value chain. FBCD has more than 340 members ranging from small start-ups to some of the largest food producing companies in the world. FBCD is a team of 40 specialists with skills within e.g., sustainable production and utilisation of bioresources, biorefining, business development and financing. FBCD manages on average about 40 national and international projects at any one time – all centred around innovation, financing, and internationalisation within the agriculture, bioresources, energy, environmental technology, and food sectors.</p> <p><b>How can FBCD support brand owners in their bio-based transition?</b></p> <p>FBCD can support brand owners in their research, development and Innovation activities mainly via public funded projects. In addition, FBCD undertakes international and national matchmaking activities and arranges a large number of events each year ranging from international conferences to technical seminars and workshops. FBCD is a full-member of the Bio-based Industries Consortium (BIC) and invited member of the Programming Core Team (PCT).</p> <p><b>Contact details:</b> Team Leader Thorkild Frandsen. Email: <a href="mailto:tqf@foodbiocluster.dk">tqf@foodbiocluster.dk</a></p> |
|  <p><b>MTU</b><br/>Munster Technological University</p> | <p><b><u>Munster Technological University (MTU) Kerry, Ireland</u></b></p> <p>MTU is a multi-campus technological university, contributing to the South-West region of Ireland through the provision of academic programmes and research development that fosters enterprise and innovation. Established in 2019 within Shannon ABC at MTU, CIRC BIO (Circular Bioeconomy Research Group) focuses on strengthening collaboration between researchers, technology providers, and industry - from SMEs to Multinationals - to develop, scale and internationalise next generation bio-based products, services and value chains, whilst in tandem driving forward to transition to a low carbon economy.</p> <p><b>How can MTU support brand owners in their bio-based transition?</b></p> <p>MTU can support brand owners in research &amp; innovation activities. CIRC BIO expertise at MTU is multi-disciplinary with scientific and technical expertise in bioresource modelling, value chain development, sustainability analysis, bioprocessing &amp; extraction technologies, and business model development.</p> <p><b>Contact details:</b> james.gaffey@mtu.ie; emily.marsh@mtu.ie</p>  |







BIOSWITCH

**FF**

**FLANDERS'  
FOOD**

### Flanders' FOOD (FF)

Flanders' FOOD is the spearhead cluster for the agri-food industry in Flanders, recognised as such by the Flemish Government, via Flanders Innovation & Entrepreneurship (VLAIO).

As spearhead cluster, Flanders' FOOD has 3 important roles:

- Central point of contact for businesses, social profit organisations, knowledge institutes and authorities in the strategic domain of the agri-food industry within the Flemish innovation system
- Organising collaboration initiatives between all stakeholders in the triple helix to increase the competitiveness of the Flemish food industry
- Managing specific innovation resources (earmarked for project budgets via VLAIO) for rolling out the strategic research and innovation plan

### **How can Flanders' FOOD support brand owners in their bio-based transition?**

FF can support brand owners in their bio-based transition in terms of:

- Facilitation of collaborative R&D&I projects funded by Flanders Innovation & Entrepreneurship (VLAIO)
- Support in value chain building by providing access to our national and international network of businesses, knowledge institutes, federations, clusters and authorities
- Referral to a network of pilot infrastructure for new product and process testing and validation
- Engagement in relevant EU-funded projects to access and tap European-wide (open) innovation networks

