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1. EXECUTIVE SUMMARY

The BIOWAYS project was a 24-month project wich started in October 2016. The consortium is made up of seven partners from seven different countries: Greece, Portugal, Italy, United Kingdom, Slovakia, Spain and Estonia. The BIOWAYS team is made up of consultancy companies, university and communication experts whose expertise have come together to develop excellent promotional and educational materials and to design and implement pubic engagement activities with the aim of promoting bio-based industries and the bioeconomy in general.

The project was organised into seven individual work packages out of which four were related to supporting and coordination activities, one was related to dissemination activities, one to ethics requirements and one was related to management. The project included the following main activities:

- Creation of project's knowledge base through:
 - The review and assessment of the bio-based products current market uptake and applications and their future potential;
 - The identification and analysis of public perception of bio-based products among the general public mainly through an EU-wide internet-based survey;
 - The screening and collection of information (desk research and interviews with identified key actors) on relevant initiatives at European and regional level supporting the development and uptake of bio-based products.
- Creation of publicly-accessible, collaborative digital platform, to raise the profile of biobased products and industry across Europe and beyond encouraging interaction between them and between them and the public: the <u>BioWatch platform</u>;
- Development of contents and collection of documents feeding the <u>BIOWAYS e-Library</u>;
- Development of training material prepared for different application areas by targeting different groups, with particular attention to students from primary schools, secondary schools, University & PhD students, adults without any specific educational prerequisite or attending vocational courses;
- Development of training tools, such as:
 - o Serious games
 - o Educational videos
 - o Educational multimedia presentations
 - Educational material
 - Bio-based Products Factsheets





- Application areas Factsheets
- Bio-art panels
- Creation and engagement of BIOWAYS Reference Group, consisting in stakeholders
 working day to day in the field of bio-based industries including: policy-makers,
 entrepreneurs, data scientists and general public, among others.

The experts were required to participate a provide feedback on project activities, such as the identification of relevant initiatives at local, regional and European level; the participation in projects' events; the validation of the BioWatch platform; etc.

- EU-wide organisation of online and on the ground events, such as:
 - Thematic workshops
 - Social hack days
 - e-Conference
 - Barcamps
 - Thematic Charretes
 - Pilot training seminars
- Constant assessment of project's impact through monitoring and assessment plans and subsequent adjusting activities and recommendations;
- EU-wide **project dissemination** performed through online marketing activities, social network profile management, SEO-optimized website; as well as through the conception, design, development (and eventual shipment) of all promotional materials distributed throughout all BIOWAYS events;
- Validation of project results including BioWatch platform and serious games.



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2. PROJECT CONTEXT AND OBJECTIVES

Aligned with the strategic objective of the BBI Initiative to increase consumer acceptance and awareness of bio-based products to improve their market uptake, the core aim of BIOWAYS project (www.bioways.eu) was to meet the need for better communication, promotion and diffusion of bio-based products and applications and fuller explanation of their benefits, targeting society at large. By increasing public confidence in the bio-based industry, through clear, attractive and accessible science-based facts and data, more bio-based products and applications will be used, which will have a huge and positive impact on society, the economy and the environment.

3. BIOWAYS' RESULTS AND ACHIEVEMENTS

3.1. BIOWAYS KNOWLEDGE BASE

All BIOWAYS results and achievements were based on preliminary analyses concerning market potential, public perception and local, regional and European initiatives supporting the development and uptake of bio-based products.

The analyses were conceived to provide the project with empirical and reliable information feeding all project's activities, from the development of BIOWAYS training materials to the organization of events all around Europe.

Besides the development of the mere knowledge base of the project, these actions served as first step for the identification, interaction and animation of BIOWAYS target groups. Indeed, a valuable contact list of collaborators for the subsequent BIOWAYS dissemination activities was developed at these first stages of the project.

3.1.1. Bio-based products and applications potential

This analysis was made following a review of relevant literature and based on several qualitative interviews with key stakeholders in the bio-based production domain. Additionally, information about the supply chains of bio-based products (relating to biomass feedstock used, processes and biorefineries) and about existing legislation and policy framework was presented.

In the BIOWAYS report (D2.1), a review of the application areas and market penetration of the following bio-based market segments was attempted, along with an assessment of possible barriers to uptake and growth and future trends that characterize each specific sector:

- · Bio-based chemicals and building blocks;
- Bioenergy and biofuels;
- Bioplastics/ biomaterials;
- Bio-based food and feed ingredients;
- Biosurfactants:
- Biolubricants.





3.1.2. Public perception of bio-based products

BIOWAYS project ran two rounds of online questionnaire surveys on May 2017 and June 2018 aiming to assess the level of public awareness on bio-based products and the public perception of their value to feed the development of recommendations and best practises beyond the project lifetime.

In the first round, more than 450 respondents were targeted, while more than 500 respondents across Europe participated in the second survey, sharing their opinions and perceptions on bioeconomy and bio-based products.

The latter analysis revealed that consumers seem to have a positive attitude and interest towards bio-based products (>80%) trusting them in terms of content (59,6%) and recognizing their positive environmental impact (66,8%).

An encouraging factor was that most of the respondents (>60%) feel that the visibility of bio-based products increases, while awareness about them has changed in the last two years (2016-2018). As a matter of fact, the respondents appeared to be familiar with the bio-based products that find application in their daily life such us paper products, packaging and cleaning material, cosmetics, etc.

However, despite the positive impression that public seem to have about bio-based products the results show that there is still uncertainty about them and consumers find difficulties in terms of market availability.

More details on the results of the survey can be found here:

http://www.bioways.eu/multimedia/press-corner/public-results-/

3.1.3. List of relevant initiatives supporting the development and uptake of bio-based products at European and regional level

BIOWAYS screened and collected information about relevant European-funded projects supporting the development and uptake of bio-based products towards a sustainable bioeconomy. As a second step, key actors of such projects have been identified and approached to perform qualitative interviews in order to get insights into their work and collect meaningful evidence and information regarding a series of areas such as their expected outputs and market uptake, the legislation and policy framework that affects them, the user's perspective on their outputs and the impact, visibility and exploitation potential of their project/outputs. More importantly, potential networking activities between BIOWAYS and these projects have been assessed.

A total of 292 projects have been identified, and 34 have been interviewed.



3.2. BIOWATCH PLATFORM

The <u>BioWatch platform</u> came online in June, 2017 and will continue to develop throughout the project lifespan and beyond.

One objective of the BioWatch Platform was and will be to enable the creation of multidisciplinary communities involved in Bio-Based Industries from a business, research and policy perspective as well as involve the general public and media.

Another aspect of great importance for BIOWAYS, was to provide research projects with an innovative dissemination platform, where their results could be seen in an attractive and accessible format, in context with other research focused on the same societal challenges. With the purpose of raising the interest in and visibility of EU-funded research in the field of "Bio-Based industries" and stimulate discussion around the research policies, results and agendas this research creates.

The platform combines the very best of traditional publishing with the very latest digital publishing techniques, using a variety of media.

The BioWatch Platform is also an interactive repository for interactive, multi-media digital brochures known as SEEDs. The Bioways SEED has been specifically designed to enable widespread communication of EU-funded BBI research.



Figure 1 - BioWatch logo

3.3. E-LIBRARY

The BioWatch Platform is also an interactive repository for the <u>BIOWAYS e-Library</u>, with all content available through simple search functionality, providing access to specific documents, searchable by type, author, owner, thematic focus and date.

Throughout project lifespan, the content collected for the e-Library has been updated and revised during the whole 24 months period and includes: relevant reports/ studies (developed under various initiatives by the EU, relevant ETPs/Jus, etc); fact sheets; "case studies on specific



practical solutions for end-users that cater to societal needs or concerns"; facts and figures about the bioeconomy and content uploaded by individual projects to their own SEEDs, which they selected to be made available on the main library.

3.4. **TRAINING TOOLS**

The main objective of the BIOWAYS project was to deliver messages and informative material about the bioeconomy using innovative communication tools, engaging the widest possible audience and stimulating their interest towards the bioeconomy.

The innovative means of communication consisted in serious games, videos, educational multimedia presentations and educational fact sheets which, in turn, required a preliminary work for the development of their contents.

The development of the training contents was divided into two core steps:

- The identification of target groups: children, teenagers, families and adults with no specific knowledge on the topic.
 - These groups were identified basing, among others, on discussions with partners and stakeholders of other related EU funded projects (i.e. BIO-STEP, STAR-ProBio, BIOCANDO, ISAAC, ProBIO, TECH4EFFECT, BioLinX, InnProBio, RRI-Practice, SIM4NEXUS, SOILCARE, OPEN-BIO)
- The definition of the key messages: What is bioeconomy? Why this strategy was set up? Is it already active? How is it supported/developed at EU level? How is it related to our everyday life? How can affect our society, environment and economy?

BIOWAYS training tools can be grouped as in the table below:



Tool name	Tool name Tool type Brief description		Languages	Target audience	Link to the resource
BioWhat?	Serious Game Inspired by the Super Mario game, it takes the player on a fun-packed adventure on which he/she will encounter all sorts of enemies and traps (the fossil-based products).		English, Italian, Greek, Spanish Portuguese, Slovak, Estonian	Children and teenagers	http://www.fvaweb .eu/biowhat
BIO Challeng	Serious Game	A quiz game that poses several questions about the bioeconomy, to highlight the clear differences in terminology, between concepts such as "bio-based", "biodegradable", "compostable", "sustainable" and "organic" products.	economy, to highlight the clear differences in ninology, between concepts such as "bio-based", degradable", "compostable", "sustainable" and between concepts for the clear differences in the clear difference in the clear differences in the clear difference in the clear difference in the clear di		
BIDESGAME	A quiz game that poses several qui update of its bioeconomy strategy. The new concepts included in the revision strategy through a visually engaging q		English	Experts in the Bioeconomy	http://www.fvaweb .eu/bes
Video about biobased products	Educational video	our everyday lives and the viewers can find out some		The large public and students	http://www.bioway s.eu/
14 sixty seconds science educational videos	Educational videos Informative testimonials presented by researchers the latest research and new trends for bio-based p		English	The large public and students and experts	https://www.youtu be.com/playlist?list =PLk- gaYFMdulFS0FPU7 V1Zzvpk-dAuPfMe



Tool name	Tool type	Brief description	Languages	Target audience	Link to the resource
7 Educational multimedia presentations	Multimedia presentations	Training contents to be used in workshops, seminars, training activities	English and Italian (easily translatable by anyone)	The large public and students (secondary, high school and first year of university)	https://drive.googl e.com/open?id=1FY pQRvmVjHol_LlqXig h4wkNSskt3L2-
57 Application areas Factsheets	Educational printed material	Factsheets about the most up-to-date research in all different fields of the bioeconomy	English and Italian (easily translatable by anyone)	The large public, students and experts	https://drive.googl e.com/open?id=1U sVNfcLrKMUn-O- 5CArY- R5Bf3tNaWuv
8 Biobased products Factsheets	Educational printed material	Factsheets about bio-based products	English	The large public, students and experts	https://drive.googl e.com/open?id=1m DDD9owlGk_5GbzN Xakm3_I0aHTMrIRs

Table 1 - BIOWAYS Training tools



3.4.1. BIOWAYS Toolkit

All the aforementioned training tools are and will continue to be available as BIOWAYS Toolkit after the end of the project here: http://www.bioways.eu/toolkit/tool-kit.



Figure 2 - BIOWAYS Toolkit

3.5. REFERENCE GROUP

BIOWAYS created a community of international experts (pool of collaborators) who acted as:

- 1. "Project consultants" contributing to the identification of relevant initiatives at local, regional and European level and validating the BioWatch platform and other project outcomes, e.g. the games and videos;
- 2. "Project active observers" participating in the BIOWAYS Social hack days and attending pilot training seminars;
- 3. "Project ambassadors" keeping their various networks informed about the project outcomes and other events and activities.

The members of the Reference Group were sourced from experts in the research community (from all disciplines), policy advisors, entrepreneurs, data scientists and the general public covering all targeted sectors: Bio-based chemicals, Bioplastics / biomaterials / packaging, Advanced biofuels (incl. aviation), Bio-surfactants, Bio-lubricants, Food ingredients and feed, Bioenergy, Bio-economy.

In the light of a recruitment campaign addressing the sectors above, 22 experts were identified and asked to sign a "Letter of Agreement", a non-binding document demonstrating their voluntary will to give their contribution to the project objectives.

14 out of 22 experts signed the Letter and 8 out of 14 gave their consent to be displayed on the dedicated BIOWAYS website section: http://www.bioways.eu/reference-group/



#	Name	Country	Organisation	Туре	Position	Fields of expertise
1	Dana Peskovicova	Slovakia	National Agricultural and Food Centre	Research organization	Director/ Dpt. of project management and external relations	Bio-economy, agriculture, livestock production, data analysis
2	Daniele Speziale	Italy	Think Eco Group	Private Company	Business Developer	Bio-based chemicals, Bioplastics / biomaterials / packaging, Advanced biofuels (incl. aviation), Bioenergy, Bioeconomy
3	Huw Parry	Britain	Network New Europe Ktd	SME	Director	Technical roles within industry and commercial roles within the research sector, he is familiar with both the public and commercial funding environments.
4	Stefan Ruyters	Belgium	Flanders Biobased Valley	Cluster	Project Manager	Bio-based chemicals, Bioplastics / biomaterials / packaging, Advanced biofuels (incl. aviation), Bio-surfactants
5	Harri Kantola	Finland	Kainuun Etu Oy			Bioenergy
6	Roberto Ferrigno	Belgium	Novamont SpA	Industry		Bio-based chemicals, Bioplastics / biomaterials / packaging, Bio-economy, Waste management
7	Lorenz Strimitzer	Austria	Austrian Energy Agency	National Energy Agency	Head of the Center Renewable Materials & Resources	Bioplastics / biomaterials / packaging, Bioenergy, Bio-economy
8	Daniela A. R. Carosi	Italy	Italian Agency for territorial cohesion	Public Administration (in the field of cohesion policy)	Member of group monitoring priorities of partnership agreement with Italy on the European structural and investment funds	Bio-economy



#	Name	Country	Organisation	Туре	Position	Fields of expertise
9	Kerstin Iffland	Germany	Nova Institute	Research	Kerstin Iffland supports the team "Technology and Markets", and will especially focus on Industrial Biotechnology and bio-based chemistry.	Bio-based chemicals, Bioplastics / biomaterials / packaging, Bio- surfactants, Bio-lubricants
10	Stefano Proietti	Italy	Isinnova	Research and consultancy	Project Manager	Advanced biofuels (incl. aviation), Bioenergy
11	Michael H B hayes	Ireland	University of Limerick	University (research)	Research professor	Bio-based chemicals, Advanced biofuels (incl. aviation), Bioenergy
12	Katrien Molders	Belgium	Bio Base Europe Pilot Plant	Pilot facility for biobased products and processes	Communication Manager	Bio-economy communication
13	Myrsini Christou	Greece	CRES _ Center for Renewable Energy Sources and Saving	RTD	Head of Biomass Department	Advanced biofuels (incl. aviation), Bioenergy, Bio-economy
14	Friederike Lempe	Germany	ETIP Bioenergy	Industry-led stakeholder forum	Secretariat	Advanced biofuels (incl. aviation), Bioenergy
15	Erik Lohse	Germany	Fachagentur Nachwachsende Rohstoffe e.V. (Agency for Renewable Resources)	EU and International Cooperation	Bio-based chemicals, Bioplastics / biomaterials / packaging, Advanced biofuels (incl. aviation), Bio-surfactants, Biolubricants, Bioenergy, Bioeconomy	



#	Name	Country	Organisation	Туре	Position	Fields of expertise
16	Suzy Renckens	Belgium	Biobased Industries Consortium	Private	Senior Manager Communications & Public Affairs	Bio-economy
17	Radoslav Povazan	Slovakia	Slovak Environment Agency	Public institution	Specialist for forward-looking information and scenarios in the environment	Bioenergy, Bio-economy
18	Floor Brouwer	Netherlands	Wageningen Research	University	Agricultural policy, Agriculture, Climate change, Environmental economics, Agri-environment schemes, Sustainable agriculture, Resource management	Bio-economy
19	Suzy Renckens	Belgium	Bio-based Industries Consortium (BIC)	Industry Association	Public Affairs & Communications	Bio-economy, Representing private partner in BBI JU
20	lvona Nespalová	Slovakia	Energochemica Trading, a.s.	big industry	Manager for project financing	Advanced biofuels (incl. aviation)
21	Daniel Hayes	Ireland	Celignis Biomass Analysis Laboratory	Analysis Lab	CEO	Advanced biofuels (incl. aviation), Bioenergy, Bio-economy
22	Mauro Cordella	Spain				Bio-based chemicals, Bioplastics / biomaterials / packaging, Bioenergy

Table 2 - BIOWAYS Reference Group members



3.6. EVENTS

During the project, each partner organised at least one BarCamp.

In addition to the BarCamps, two thematic Charrettes and at least fourteen Thematic Workshops were organized. These events were characterized by various unconventional formats, followed the framework of a creativity session, during which different creativity techniques, ICT tools and visual material were used in order to:

- Showcase the benefits of bio-based products and applications
- Complement the findings about public perception on bioeconomy
- Identify barriers, bottlenecks, but also untapped potential of bio-base products
- Identify new needs and suggest innovative ideas to address them
- Collect feedback to improve our activities (including serious games).

The aim for conducting these events was to create a 'consultation' mechanism to promote and collect feedback (ideas, concerns, etc.) on public acceptance and increase public confidence in bio-based products.

There was a total of 14 Barcamps, 2 Charrettes and over 14 Thematic Workshops carried out between M11 – M24 spanning over 12 locations from 8 different countries (Slovakia, Belgium, Greece, Estonia, Italy, Czech Republic, Spain and Portugal).

The groups of people that participated in these events included but were not limited to; SMEs, Industry, Local authorities, University Students, Pupils, Children, Teachers, Local Entrepreneurs and Senior Citizens.



Sem	Date	Location	BIOWAYS event	Main organiser	Thematic workshop (T4.2)	BarCamp (T4.3)	Thematic Charrette (T4.3)
2	28/09/2017	Frascati, Italy	CHARRETTE at Researcher's Night in Rome	FVA			х
2	28/09/2017	Frascati, Italy	Educational games and educational solutions to increase the impact of scientific and research results and involve the general public and new generations	FVA	х		
2	28/09/2017	Frascati, Italy	Barcamp in Researchers Night in Rome	FVA		Х	
2	28/09/2017	Frascati, Italy	Public perception of Bio-Economy and Bio-based Products	UNIBO, FVA	х		
2	29/09/2017	Bologna, Italy	Barcamp in Researcher's Night in Bologna	UNIBO		х	
2	29/09/2017	Aveiro, Portugal	Barcamp in Researchers Night in Aveiro	LOBA		х	
2	29/09/2017	Cesena, Italy	Barcamp in Researcher's Night in Cesena	UNIBO		Х	
3	07/11/2017	Luzianky, Slovakia	Thematic workshop during the Slovak Horizon 2020 National Information Day	PEDAL	х	х	
3	11/11/2017	Martin, Slovakia	BARCAMP during the Martin's regional market and festival	PEDAL		х	
3	1-3/12/2017	Rome, Italy	Bioeconomy Village at Maker Faire exhibition in Rome	FVA			x
3	15/02/2018	Tartu, Estonia	Bioentrepreneurship Day in Tartu	CE	х		
3	27/02/2018	Valencia, Spain	Seminar: Circular Economy and Water Management in Agrofood Industry	AINIA		х	
4	28/03/2018	Brussels, Belgium	European Bioeconomy Network workshop "maximising collaboration among EC funded projects communicating about Bioeconomy"	FVA, Q-PLAN, PEDAL (BIOVOICES)	х		
4	12-13/4/2018	Tartu, Estonia	BARCAMP in Tartu during the Student's Science Festival	CE		х	
4	18/04/2018	Bologna, Italy	Barcamp at high school in Bologna	UNIBO		х	



Sem	Date	Location	BIOWAYS event	Main organiser	Thematic workshop (T4.2)	BarCamp (T4.3)	Thematic Charrette (T4.3)
4	18/04/2018	Rome, Italy	BBI-JU Italian Info Day "Communicating bioeconomy"	FVA	х		
4	27-28/04/2018	Tartu, Estonia	International hackathon BioinnovationDays 2018	CIVTTTA	х		
4	09/05/2018	Valencia, Spain	Presentation of Bioways Project to students of Biotechnology grade (Catholic Valencian University "San Vicente Mártir")	AINIA		х	
4	14/05/2018	Bratislava, Slovakia	The Free Market Road Show	PEDAL	x		
4	18/05/2018	Bratislava, Slovakia	Green Day of the GLOBSEC 2018	PEDAL	x		
4	24/05/2018 Unitelma Sapienza Rome, Italyt		Barcamp Bioeceonmy Village during the European Sustainable Development Week	FVA		x	
4	25/05/2018	Ceske Budejovice, Czech Republic	The Third Bioeconomy Course week	PEDAL	х		
4	31/05/2018	Thessaloniki, Greece	Barcamp at school	Q-PLAN		х	
4	05/06/2018	WED, World Environment Day, Fatti di Plastica organised by CNR	Thematic workshop, Game session	FVA	х		
4	06/06/2018	Student Science Day	Taking place in Kiili, Harju county, Estonia	CE		Х	
4	06/06/2018	Athens, Greece	Thematic Workshop at the University of Piraeus	Q-PLAN	Х		
4	12/06/18	Rome	ISAAC final conference	FVA	Х		
4	14/06/2018	Spain	International Seminar: Biorefinery of organic agrofood and urban wastes	AINIA		Х	
4	18/04/2018	Bologna, Italy	Barchamp at high school	UNIBO		Х	
4	19/06/2018	Bologna, Italy	Barchamp at primary school			х	



Sem	Date	Location	BIOWAYS event	Main organiser	Thematic workshop (T4.2)	BarCamp (T4.3)	Thematic Charrette (T4.3)
4	12/07/2018	Cesena, Italy	Barcamp at "Open Day" of The Campus in Food Science	UNIBO		Х	
4	06/06/2018	Thessaloniki	Barcamp "Bioeconomy circular economy – opportunities and challenges for sustainable development"	Q-PLAn		х	
4	28/09/2018	Thessaloniki, Greece	Thematic workshop during the Researcher's Noght 2018	Q-PLAN	х		
4	28/09/2018	Bologna, Italy	Barcamp at the Researcher Night	FVA		х	
4	28-29/09/2018	Rome, Italy	Charrette at the Researchers' Night 2018	FVA			Х
-	12-14/10/2018	Rome, Italy	BIOECONOMY Village at Maker Faire Rome 2018	FVA			Х
-	28-30/09/2018	Rome, Italy	FESTIVALFUTURO Altroconsumo	FVA			Х

Table 3 - BIOWAYS Events















Figure 3 - Photos from BIOWAYS events

3.7. IMPACT ASSESSMENT AND RECOMMENDATIONS

During the entire project lifespan, monitoring and impact assessment activities carried out to evaluate the need for changes in the communication programme and propose possible recommendations for adaptions in the BIOWAYS communication programme.

Through BIOWAYS online surveys and surveys that were conducted in project events, the BIOWAYS team managed to gather significant insights regarding the public level of awareness and engagement with bio-based products, the public confidence and trust and the benefits and barriers perceived in relevance to their use.

In order to increase public awareness of and engagement with the bio-based and circular economy, the following recommendations should be taken into account:

- Design and organize more awareness creating activities and events about bioeconomy
- Inform people on what matters to them regarding bioeconomy
- Show case examples of bio-based products
- Use appropriate tools for each target group
- Target children and young people
- Facilitate people to voice their views and interests
- Enhance collaboration among public funded projects to maximise impact

3.8. SYNERGIES AND COLLABORATIONS

A cornerstone of BIOWAYS project was to explore and promote active collaborations with EC funded projects and other organisations in Bioeconomy. The outcome of this activity was a number of joint activities, including invitation to conferences and events to share results, coorganisation of events, workshops and exhibitions, intensive knowledge circulation and sharing.



For example, on 28 March 2018, the projects BIOVOICES and BIOWAYS organized, in close collaboration with the European Commission, a thematic workshop involving 23 projects (BIOWAYS, BIOVOICES, BLOOM, ISABEL, BIOSTEP, ISAAC, BIOCannDo, CommBeBiz, BioLinX, BIOPEN, InnProBio, BIOrescue, BIOSMART, PLATFORM, EMBRACED, SuperBIO, OPEN-BIO, STAR4BBI, RoadToBio, BioHorizon, STAR-ProBio, BIOBRIDGES) to share experiences, lessons learnt and action plans for collaboration in the future. The outcome of this workshop was the launch of the European Bioeconomy Network (eubionet.eu), an alliance of EU funded projects aiming at boosting the collaboration among projects and maximize the impact thanks to active synergies and joint activities.

Currently the European Bioeconomy Network counts 17 projects, including BIOVOICES, BIOWAYS, STAR-ProBio, ISAAC, Bloom, Isabel, RoadToBio, CommBeBiz, BioCannDo, BioLinX, Embraced, T2GE (Transition to Green Economy), TRADEIT, BioSTEP, InnProBio, Lifecab, BIOBRIDGES.

The European Bioeconomy Network supports the European Commission in organizing the Bioeconomy Corner in the context of the Bioeconomy Conference 2018 (22 October, Brussels, Belgium), with the showcase of Bio-Based products, live connections with local events and active involvement of its projects in promoting the event and its outcomes.

The table below is meant to provide just an indicative overview of the collaborations established by the project:

INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
06scienza	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
Crickè	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
AGRIMAX project	Requested to include BIOChallenge Game as a news item in their website; Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
AlgaRes	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Algaria	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research; Partecipation as guest at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018; Partecipation as guest to the Bioeconomy Village at European Researchers'Night Rome 2018;
Altroconsumo	Collaboration with Altroconsumo organizer of the Festival Futuro where BIOWAYS organized a Bio Art Gallery
APRE	Invitation to the BBI JU Info day as a speaker to discuss the success factors and differences of a BBI JU call compared to a classic H2020 project;
Apuliakundi	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;



INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
Assobiotec	Collaboration for IFIB 2017 and IFIB 2018; Collaboration for ECOMONDO;
Assobioplastiche	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
ASVIS	The BIOECONOMY Village in the context of Festival of Sustainable Development 2018 was organized with the support of Asvis;
Azzero CO2	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
BBI JU	Invitation at BBI JU Stakeholder Forum, Brussels as a speaker; Invitation to the BBI JU Info day as a speaker to discuss the success factors and differences of a BBI JU call compared to a classic H2020 project;
Bio-based and Biodegradable Industries Association	Invitation as keynote speaker to the Workshop Session 3: The value for Europe's citizens – aligning economic & societal expectations & needs at the stakeholders forum
Biobottle project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research; Partecipation at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018;
Biobridges project	During the KOM FVA presented the BIOWAYS project and lesson learnt; Coorganizers of the Bioeconomy Village at Maker Faire 2018 (Rome); Synergy within the EUROPEAN BIOECONOMY NETWORK;
BioCannDo project	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research; Invitation as speakers during the BioCannDo Workshop at IFIB 2018; Synergy within the EUROPEAN BIOECONOMY NETWORK;
BIOENERGY	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
BioInnoTech	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
BioLinx project	Synergy within the EUROPEAN BIOECONOMY NETWORK;
BiOPEN project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
BIOSTEP project	Collaboration for developing BioWhat? Game; Synergy within the EUROPEAN BIOECONOMY NETWORK;
BIOSURF	Distribution of brochures in the projects event in Bulgaria.
BIOVOICES project	Organization of the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018; Co-organizer of the Bioeconomy Village at European Researchers'Night Rome 2018; Co-organizers of the Bioeconomy Village at Maker Faire 2018 (Rome); Co-organization of the Bio Art Gallery at Festival Futuro Altroconsumo 2018; Mutual Learning workshop "Maximize collaboration among EC funded projects in Bioeconomy" organized in collaboration with BIOWAYS; Synergy within the EUROPEAN BIOECONOMY NETWORK;
BLOOM project	Synergy within the EUROPEAN BIOECONOMY NETWORK;



INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
BY-Ento	Partecipation at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018;
CHIMAR	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Chimica Verde Bionet	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
CNR	Jointly organization of a THEMATIC WORKSHOP during the Researcher's Night 2017, contact person Marco Segreto; Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research; Invitation as speaker at theFaTTI di Plastica event to present the BIOWAYS strategy to communicate bioeconomy and the case study of the BIOECONOMY village;
CommeBeBiz project	Synergy within the EUROPEAN BIOECONOMY NETWORK;
CYAO project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Curioctopus	Participation as guests at the Bioeconomy Village at European Researchers'Night Rome 2018; Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
DANDELION project	Jointly organization of a THEMATIC WORKSHOP during the Researcher's Night 2017;
Demeter project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Dendromass4Euro pe project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
DimLab	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Ecomondo	Invitation as keynote speaker to the workshop SUCCESSFUL INDUSTRIAL EXAMPLES OF CIRCULAR BIOECONOMY (IT)
Ecozema	Supporting partner at the European Researchers' Night 2017; Partecipation at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018;
EMBRACED project	Synergy within the EUROPEAN BIOECONOMY NETWORK;
ENEA	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
ENEA conference (IT)	Invitation to participate to the exhibition and networking with the participants
Eni	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research



INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
Estonian Genome Centre at University of Tartu	Participation as speaker in BIOHACK event
Eta Blades	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
European Commision (RTD- Dir F, Bioeconomy).	Mutual Learning workshop "Maximize collaboration among EC funded projects in Bioeconomy" organized in collaboration with BIOWAYS; Support the organisation of the Bioeconomy Corner during the high level event: Sustainable & circular Bioeconomy, the European way – Brussels, 22 October 2018.
ExCornSEED project	Partecipation at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018;
Federcanapa	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Federchimica	Collaboration for IFIB 2017 and IFIB 2018 .
First2run project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
FOOD CROSSING DISTRICT project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Forum compra verde (IT)	Participation to the exhibition and networking with the participants
Frascati Scienza	They invited BIOWAYS to partecipate at the European Researchers'Night 2017 in Rome; Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
Funghi Espresso	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018(Rome) to present their research
Giornalisti nell'Erba	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Green Evolution	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
IdeaLab of the University of Tartu	Participation as speaker in BIOHACK event
IFIB	Invitation as keynote speaker to the present the results of the BIOWAYS survey to the IFIB audience; Official sponsor of IFIB2018
iGreen Gadgets	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Innova Camera	Co-organizers of the Bioeconomy Village at Maker Faire 2018 (Rome);
innovhub - SSI	Collaboration for IFIB 2017 and IFIB 2018
InnProBio project	Collaboration for developing training tools; Synergy within the EUROPEAN BIOECONOMY NETWORK;
ISIA Roma Design	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;



INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
ISAAC project	Jointly organization of a THEMATIC WORKSHOP during the Researcher's Night 2017; Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research; invitation as speaker during the ISAAC final conference to the round table focused on the impact that European projects have on the bioeconomy; Synergy within the EUROPEAN BIOECONOMY NETWORK;
ISABEL project	Synergy within the EUROPEAN BIOECONOMY NETWORK;
Joint Research Council's and its project Biomass Assessment Study	Networking with coordinator
Karma2020 project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Legambiente	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Leguval project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research Partecipation at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018;
Lifecab	Synergy within the EUROPEAN BIOECONOMY NETWORK;
LUDIS	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
MADE IN SCIENCE (IP)	Invitation to give a presentation about results of Researcher's Night
Ma.Re. Project	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
MEAL project	Jointly organization of a THEMATIC WORKSHOP during the Researcher's Night 2017;
Mermaids project	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Minimo Impatto	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research; Partecipation at the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018;
MOGU	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Naturins	Participation as guests at the Bioeconomy Village at European Researchers'Night Rome 2018; Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
NOVAMONT	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research;
Okka	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research



INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
Pin Bike	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Portaleovunque	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
PRESPAGLIA ITALIA SRL	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
RESTART	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Rifò	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
RoadToBio project	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research; Synergy within the EUROPEAN BIOECONOMY NETWORK;
ROELMI HPC	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
SIM4NEXUS	To explore synergies with their planned events in Athens and Brussels planned in 2018
SINGTEX® INDUSTRIAL CO	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
South Hemp Tecno	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
STAR-ProBio project	Developing the Biochallenge game; Co-organisation of the Bioeconomy village at Maker Faire 2017 in Rome; Organization of the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018; Co-organizer of the Bioeconomy Village at European Researchers'Night Rome 2018; Co-organizers of the Bioeconomy Village at Maker Faire 2018 (Rome); Invitation to the STARProBio General Assembly to present the BIOWAYS lesson learnt; Invitation as speakers at the STAR-ProBio's first Focus Group Webinar; Invitation as speakers at the STAR-ProBio Workshop in the context IFIB 2018; Synergy within the EUROPEAN BIOECONOMY NETWORK;
Synbra Technology	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Socrate	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
Swedish Bioenergy Association	Networking with coordinator
Thrive final conference (UK)	Invitation to give a presentation
TRADEIT	Synergy within the EUROPEAN BIOECONOMY NETWORK;
Transition to Green Economy	Synergy within the EUROPEAN BIOECONOMY NETWORK;



INITIATIVE/PROJECT /PLATFORM	NATURE AND RESULTS OF THE INTERACTION WITH BIOWAYS PROYECT
Turbliss	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
UNIMORE University of Modena and Reggio Emilia	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
University of Bari	Participation as guests at the Bioeconomy Village at Maker Faire Rome 2018 to present their research;
University of Bologna	Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
University of Rome 'La Sapienza'	Supporting partner at the European Researchers' Night 2017; Participation as guests at the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research
University of Rome Tor Vergata	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
University of Rome Unitelma Sapienza	Co-organizers of the Bioeconomy Village at Maker Faire 2017 and 2018 (Rome) to present their research; Co-organizers of the BIOECONOMY Village in the context of the Festival of Sustainable Development 2018; Co-organizer of the Bioeconomy Village at European Researchers'Night Rome 2018;
University of Tartu Institute of Molecular and Cell Biology	Participation as speaker in BIOHACK event
ValoriBio project	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research
Wile Alpacafarm	Participation as guests at the Bioeconomy Village at Maker Faire 2017 (Rome) to present their research

Table 4 - Synergies and collaborations

4. IMPACT CREATED

Expected impact – from the call text	BIOWAYS approach to increase the impact	
"Measured increase of societal confidence related to (new) bio-based products and bio-based industries."	 BIOWAYS approach to increase the specific impact consisted in: The organisation of more than 30 events in Slovakia Belgium, Greece, Estonia, Italy, Czech Republic, Spain and Portugal 	
"Measured increase of awareness and acceptance of bio-based products by society."	 The development of innovative training tools such as: 3 Serious games 14 "Sixty seconds science educational videos" 7 Educational multimedia presentations 	



"Increased engagement	bv	 57 Application areas Factsheets
end-consumers in	a	 8 Bio-based products factsheets
bioeconomy."	u	The development of the BioWatch platform
biocconomy.		The development of the e-Library
		 Constant monitoring of project expected impact
		EU-wide collaboration with relevant stakeholders and/or
		EU funded projects in the context of the organisation of
		BIOWAYS events and training tools
		The creation of the Bioeconomy Network

Table 5 - Impact created



5. DISSEMINATION ACTIVITIES AND EXPLOITATION OF RESULTS

5.1. DISSEMINATION

The BIOWAYS project partners have been very active in disseminating the project outcomes and activities which have been supported by a set of dissemination materials. We believe that the project has reached the expected impact in terms of dissemination.

For dissemination purposes the project developed:

- Visual identity and a brand manual
- Brochure
- Poster
- Roll-up
- Folder
- Pens
- Letterhead sheet
- Project's PPT presentation
- Newsletters
- Videos
- LinkedIn, Twitter and Facebook

For dissemination purposes, BIOWAYS consortium members made synergies with the several projects or initiatives, which led to valuable collaborations and mutual exchange of experiences (see section 3.8 above and D6.12. Report on the synergies and exchange of experience established with other initiatives for more details).

In the website <u>www.bioways.eu</u> there is all the information about the dissemination activities and outreach like for instance:

- Events
- Toolkit
- BIOWAYS Videos
- Results
- Articles
- Gallery

5.2. EXPLOITATION

The output of the BIOWAYS project was to develop excellent promotional and educational material and design and implement all public engagement activities about the huge potential of bio-based products and the bio-based industry. BIOWAYS worked towards the need for better communication of bio-based products and applications and the economic, environmental and social benefits they bring.

The communication services and tools developed and provided by BIOWAYS are all available for projects to full exploit and they included, all available on the website, namely:



- Multimedia presentations
 - Training contents to be used in workshops, seminars and training activities.
- Serious Games
 - o 4 games about bioeconomy to be played online or in a smartphone.
- Educational printed material
 - Factsheets of the most up-to-date research in all different fields of the bioeconomy and Factsheets about bio-based products.
 - Bio-art panels
 - Publications and deliverables
- Educational videos
 - Several videos produced during the BIOWAYS implementation including information about bio-based products and testimonials.
- Biowatch platform
 - BioWatch is an interactive online platform that provides projects in the bioeconomy sector with a free service to position themselves alongside one another and provide direct access to industry, political stakeholders, the media and the general public.
- E-library
 - The BioWatch Platform is also an interactive repository for the <u>BIOWAYS e-</u> <u>Library</u>, with all content available through simple search functionality, providing access to specific documents, searchable by type, author, owner, thematic focus and date.
- Policy recommendations
 - Design and organize more awareness creating activities and events about bioeconomy, focusing on different stakeholders and age groups and targeting mainly bigger events/ exhibitions/ conferences to ensure maximum visibility and acceptance among the public;
 - Inform people on what matters to them regarding bioeconomy, and namely basic definitions, possible biomass feedstocks, origin and processes of bio-based production as well as environmental and societal benefits, with concrete, specific everyday examples in layman language;
 - Show case examples of bio-based products, to offer a hands-on visualized experience of the bioeconomy concept;
 - Use appropriate tools for each target group, exploiting knowledge assets already developed such as the BIOWAYS toolkit;
 - Target children and young people, by involving education infrastructure in the communication loop;
 - Facilitate people to voice their views and interests, by activities that promote open dialogue and involvement of all relevant stakeholders, including research and business community, policy makers and the general public.
 - Increase the impact of public-funded projects, through collaboration among projects and active involvement of all possible stakeholders





Figure 4 - BIOWAYS Tree of knowledge

Moreover, BIOWAYS was one of the founders of the **European Bioeconomy Network** (www.eubionet.eu). The European Bioeconomy Network (EuBioNet) is a proactive alliance of EU funded projects dealing with Bioeconomy promotion, communication and support. The main goal is to maximise the efforts, increasing the knowledge sharing, networking, mutual learning, coordination of joint activities and events.