



BUILDING THE BIOECONOMY CREATING IMPACT THROUGH COMMUNICATION

The final report from the CommFABnet project
December 2014



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FOREWORD

Communicating science is a challenge

Few journalists tackle the subject, few publishers dedicate enough space in their daily, weekly or monthly publications to the issue, and television needs drama, conflict, and drastic images to tell a story.

And scientists usually don't help the(ir) case, either. They tend to not care so much about 'media', its often non-professional readers and their fickle attention; they prefer peer group recognition.

Obviously, there is a disconnect between the importance of science and its allotted space in traditional media, between the real and the perceived relevance of the topic, between scientists and the public sphere.

Now, the old media model was one based on scarcity: a scarcity of space in the newspapers, a scarcity of spectrum for broadcast, a scarcity of access to resources, to data, to knowledge. A good argument, maybe, to accept limited coverage, reduced attention.

No more. The internet has changed all that: the 'place on a page' limitations of the print products have given way to limitless space on the web, and the rare spectrum we used for broadcast radio and TV has given way to podcasts, YouTube and a dozen other web based video platforms. And its contents reach out, in viral and non-linear ways, to professional and general audiences alike.

Writing also has changed. Once an occupation for the few with access to academic journals, or to commercial and expensive distribution networks, now writing is open to everyone who has something to say (and, admittedly, also to those just creating 'noise' and non-sense); the webspace, and the blogosphere, are sprawling, growing at an amazing pace, catering to multiple interests, tastes, and knowledge levels, churning out incessant 'copy', 24/7, worldwide.

Add to this the high speed multiplication of ideas enabled by Twitter and Instagram, as well as the community building opportunities afforded by Facebook and LinkedIn, and we can see the emergence of a wholly new ecosystem of interconnected and pervasive communication, one that is no longer based on scarcity, but, rather, on abundance.

And something similar is happening to scientific publishing as we know it: abundance is superseding scarcity here as well: more and more research is bypassing the traditional scientific publishing outlets, is being shared widely, often under creative common licenses, for 'the crowd' to pick it up, mix it, rip it, share it, and further build on it.

Still, structurally, covering the bioeconomy poses a variety of challenges.

This is not just a vertical science, one that quietly inhabits its own little niche in the big scheme of things. Rather, the bioeconomy is shaping up to be a horizontal topic, one that has relations not just to biology, and chemistry, and physics, but one with implications for engineering, manufacturing, and agriculture, creating solutions for energy sustainability, affecting the environment, raising questions about (and creating solutions for) sustainability, for feeding the planet, creating value from waste, changing the way we interact with 'nature', and with life itself.

I remember the days in the 1990s when the internet started to come alive outside its military research confines: my bosses at the TV station where I was working eyed the developments with suspicion, and I was told to fully focus on broadcast and treat all things web as a hobby, "just like fishing". Well, things turned out differently, and the web never relented, changed the paradigm of communication, and now has become the all-encompassing international platform everyone takes for granted (and seemingly cannot live without).

We will see a similar development with the bioeconomy and its inherent possibilities: while at present, the acceptance of the topic and its possible impact seems like an uphill struggle; while we are still faced with a scarcity of attention, not just from the wider public, but also from neighbouring disciplines, from decision makers in industry and politics, its true paradigm changing nature is becoming visible on the horizon: and while today bioeconomy is quite a young subject, still in its infancy, barely able to walk on its own feet, still helped along by its biology and chemistry parents, the baby is strong, and growing fast, and will be a grown up game-changing actor in its own right any time soon. Networks such as CommNet are playing a helpful role in 'pushing' scientists and 'pulling' journalists to engage and 'talk about' the important issues that research into the bioeconomy is addressing.

And in twenty years' time we will look back (fondly) to the toddler stages of the discipline, to the times when we had to fight for the topic to gain attention, and funding, and understanding. And we will smile. And think: Yeah. Been there. Done that.

Wilfried Ruetten, Chair of the European Journalism Centre and member of the CommFABnet Advisory Board

COMMNET – AN INTRODUCTION

The seeds of the CommNet network were sown in 2005 when a number of those involved in the dissemination of Framework 6-funded projects in food-related areas formed an informal network to discuss their activities and share best practice. The network tried to deal with many of the challenges faced by those aiming to get the results of EU research out to relevant stakeholders.

As the value of such a network in helping to support communicators was recognised, the CommFABnet project began in 2012 to continue the CommNet network, broadening the reach to cover projects funded under framework programmes 6 and 7 in the KBBE (Knowledge-Based Bioeconomy) areas of food, fisheries, forestry, agriculture and biotechnology. The aim of the project was to facilitate the communication of EU Bioeconomy research to the general public and to key target groups including: media, young people, industry and policy makers.

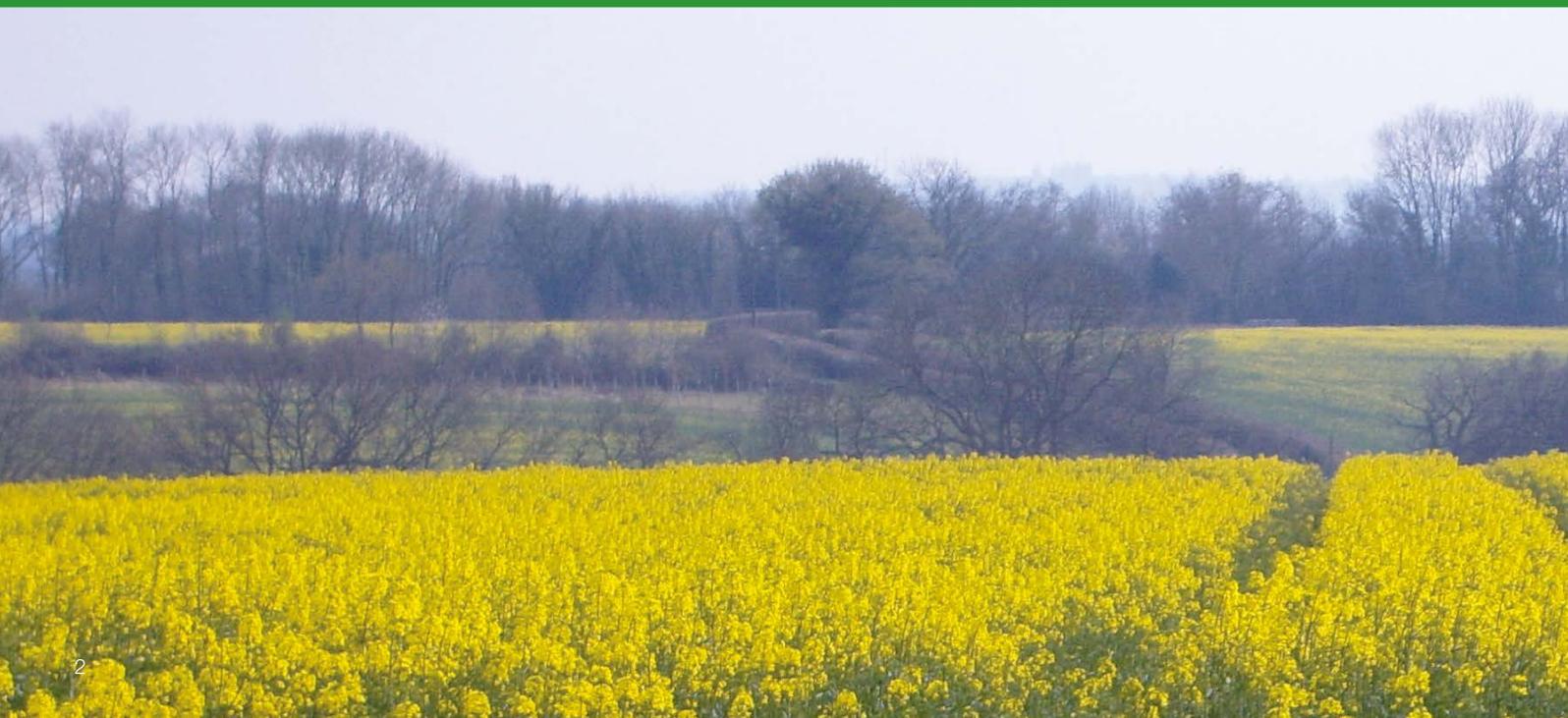
The CommNet network, as part of the CommFABnet project, included project members, individual members from EU-funded projects and subscribers, who received updates and newsletters after signing up on the project website www.commnet.eu. The CommNet networks have been key to the success of the CommFABnet project.

Projects in the network were offered a range of services when they joined: free communications training courses; support with communicating to the general public, to industry and policy makers and to children and young people. Further details of the activities and achievements in these areas are provided later in this report.

The project came to a close with a final event on the 2nd-3rd December 2014, 'Creating Impact through Communication - CommNet's 3rd Bioeconomy Forum and Final Conference – Dialogues, Debates, Awards'. This included the presentation of the CommNet Impact Awards, which recognised excellence in research communications by CommNet project members.

The final event also included a presentation from Alexandra Ruete, Directorate-General for Research and Innovation at the European Commission, about the requirement within Horizon 2020 (the current EU research and innovation programme) for communications and dissemination. Under Horizon 2020 there is a legal obligation for projects to communicate their findings under article 38.1 of the grant agreement: *'The beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.'*

This legal obligation for all Horizon2020 research projects puts effective communication of EU research firmly centre stage. The learnings from the CommFABnet project and the links generated by the CommNet network will provide the foundation for better planned, more creative and far-reaching communication by those involved in research, ensuring that European citizens gain the maximum value from the research they have helped to support.



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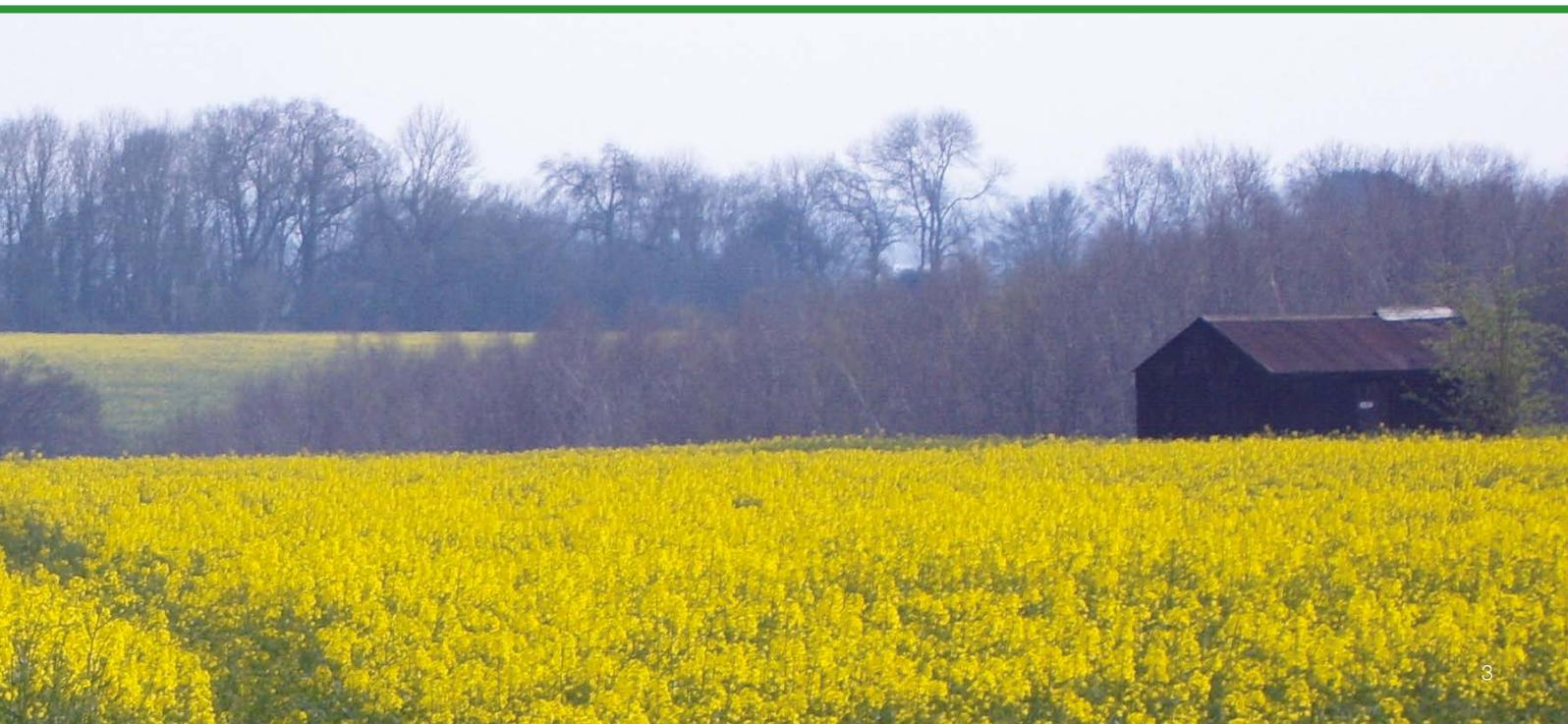
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EXECUTIVE SUMMARY

The CommNet network, which was supported by the FP7-funded CommFABnet project, offered four key services to member projects; communications training, and support with communicating to the general public, to industry and policy makers and to children and young people. CommNet communicated widely with members and a variety of other interested stakeholders via its website, newsletters and alerts and via social media.

Eight two-and-a-half day face-to-face training courses were delivered in locations around Europe, attended by 140 delegates from 18 countries. The courses covered strategic planning, message mapping, media interviews, presentations and social media. Guest speakers covered specific topics and working journalists gave delegates insights into their world. In addition, 14 webinars on a range of communications topics were delivered, which were accessed 784 times by scientists from 12 different countries.

With regard to communicating to the general public, many projects were given the opportunity to feature in online articles written by professional journalists. 80 articles were published featuring KBBE (Knowledge Based Bioeconomy) member projects and these have attracted over 22 thousand views on the project websites and facebook, and have been viewed over 171,000 times on news multipliers. Projects suitable for news coverage were selected to make 9 Video News Releases (VNRs), which have been broadcast in 31 countries.

In order to help projects communicate with industry and policy makers, projects were offered specialist support to assess their readiness for interacting with business and their relevance for policy makers. 30 projects featured in the CommNet Innovation Catalogues, showcasing projects close to market or relevant for policy interaction. 35 projects took part in business and policy dialogues, providing the opportunity for a 'reality check' on their stage of development by match-making with business and policy experts. In addition, CommNet's annual bioeconomy fora in Brussels reached 300 visitors over the course of the project.

To support outreach to children and young people, the project developed a framework and the FAB (Food, Agriculture and Biotechnology) toolkit of resources. The Competence Framework defined what young people should know and understand about food, agriculture, fisheries and biotechnology from 5 through to 16 years old, taking a phased approach to ensure progression through different age groups and levels of development. The FAB toolkit is divided into 3 main areas that encompass the range of relevant aspects of the bioeconomy; 'Where does food come from', 'Know your food' and 'Know yourself' and spiral themes such as sustainability and food safety that recur for each area. The toolkit comprises over 1000 resources in 6 European languages.

PROVIDING TRAINING TO SCIENTISTS

Scientists are trained to design and deliver research projects. It is also impressed on them throughout their career that publication in high impact peer-reviewed journals is of prime importance. However, despite an increasing understanding of the importance of scientists engaging and communicating with 'society' and transferring knowledge to key stakeholders, communicating effectively is not embedded in the scientific curricula, nor is it supported, acknowledged or rewarded. This Work Package was designed to help fill this gap and identified need. The two-and-a-half day face-to-face courses delivered training in strategic planning, message mapping, media interviews, presentations and social media. Guest speakers covered specific topics and working journalists gave delegates insights into their world. The webinars provided outreach training opportunities to the wider CommNet network.

TRAINING OPPORTUNITIES DELIVERED:

The two-and-a-half day face-to-face courses

Locations – Brussels (x 2), Rome, London, Dublin, Aberdeen, Vienna, Tallinn

Two Master classes on 'Citizen Engagement' delivered at ESOF 2014 in Copenhagen

140 delegates participated in the training courses representing 18 countries

14 webinars on communications topics

Topics covered include Open Access, Dealing with Journalists, Message Mapping, Outputs v Outcomes, What's your project's story?, Benefits of CommNet membership, Social networks, Science outreach events

Webinars accessed 784 times by scientists from 12 countries



Before attending a course delegates were asked to self-assess their competence & experience of three areas of work:

- Strategic planning
- Media communications
- Events & other actions

39% said they had no or low experience in strategy

47% said they had no or low experience in media communications

32% said they had no or low experience of events

"CommNet has developed and produced over 50 resources for researchers to help in the development of more effective communications and dissemination strategies and activities – checklists, case studies, slide sets, references, photos, templates, worksheets, contacts, alumni networking."

Delegate feedback on CommNet training and how it has supported their continuing development in communications planning & activity

Awareness of the variety of new and established communications channels

Dealing with journalists

Developing measures of success

Development of Strategic Communication Plan/s

Identification of stakeholder groups

Using social media communications

Writing key messages for different audiences

Writing press releases

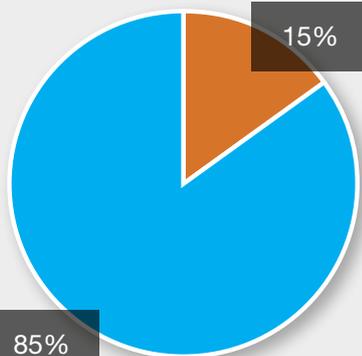
“It was a great experience and pleasure for me (as a pure scientist) to learn about all these dissemination and communication items for KBBE projects via the CommNet platform. I personally have learned a lot of new things with which I was not familiar before”.

“Rarely the teams coordinating projects are aware that they need training in communication, to learn what to put special attention on when writing press releases, presenting results, etc. and CommNet has put the finger in this wound.”

“I want to thank you again for the great training. I was just reading my notes and your training gave me a lot to think about and change and also use for new proposals so once again big THANK YOU!”

Writing Key messages for different audiences

Oliver Drzyzga of SYNPOL, a CommNet biotechnology member, said “CommNet is very important to us, it’s **free** and provides a **wide range of effective services** that help create impact. I encourage all KBBE projects to join-up,” adds Oliver. “It’s a no-brainer!”



Webinars accessed in real time v downloads

- 784 total

Real Time (115)

Downloads (649)

CommNet Effective & Entrepreneurial Communications Course: Framework Agenda

- Evening debate or tour of facility
- Why must scientists communicate?
- What help is available at EC level?
- Elevator pitch – sell your research story!
- Stakeholder & audience mapping
- Key messages – core & tailored
- Channels to choose – meetings, media, social, direct
- Strategic choices – timing, finance & human resources
- Message mapping – bringing it all together
- Meet the journalists – a day in the life
- Communications principles
- Outputs vs outcomes – how to measure?
- Media communications – why, what, how
- The press release – succinct communications
- The media interview
- Online & social media communications
- Engaging the project consortium
- Reflections & evaluations

Webinar Topics delivered:

- Why webinars?
- Open access
- Social networking
- Outputs v outcomes
- Measuring success
- Journalists – how to deal with them
- Press releases – why & how
- Message mapping – strategic planning & making choices
- What's your project's story?
- Risk communications
- Effective communications on a small budget

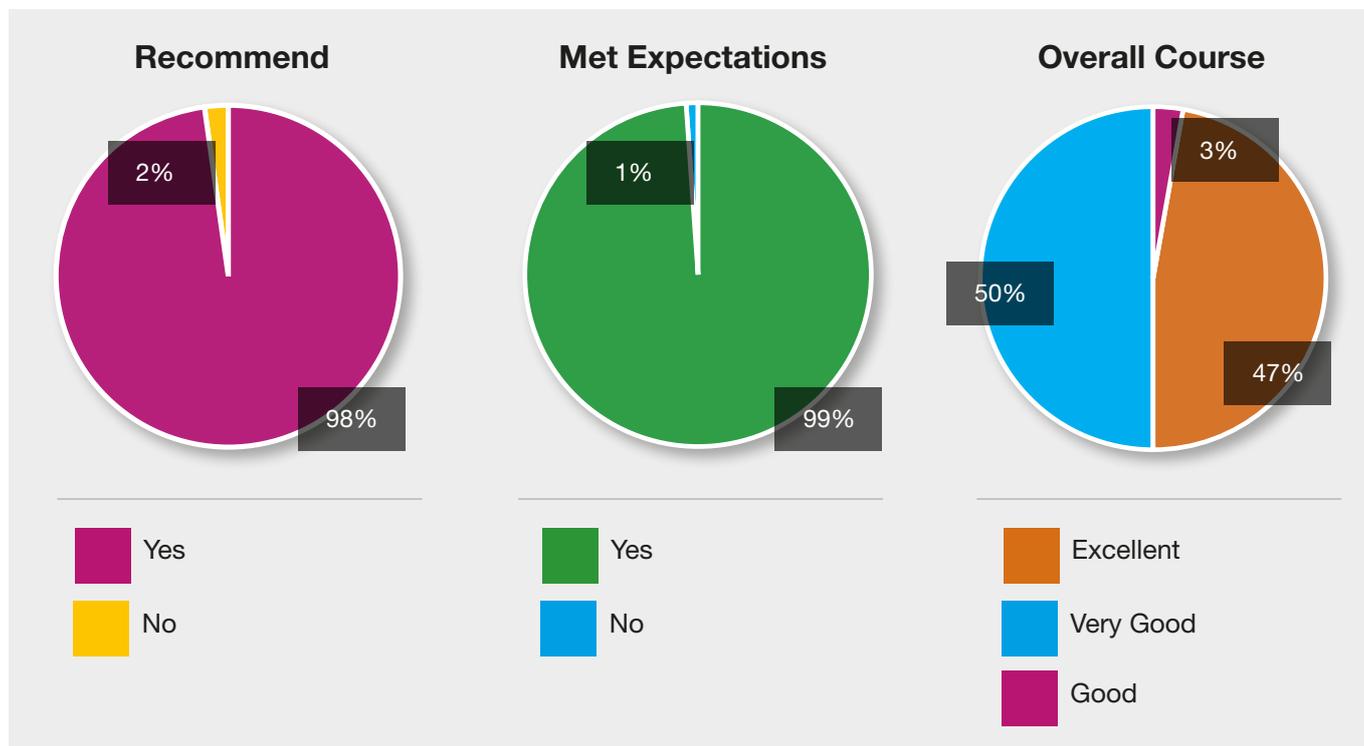


Working journalists – freelancers, TV editors, radio magazine presenters, academic PR officers, newspaper news editors – joined us at all the courses providing insights into their daily lives and how decisions are made regarding what 'makes the news'.

Three of the courses were held at Science Education Centres where the BioPROM Bioeconomy 'Mission Possible' travelling exhibition was being staged – Rome, Aberdeen and Tallinn. The aim was to encourage researchers to think more creatively about their communication aims & methods.



Feedback from 127 delegates attending CommNet's face-to-face communications courses



97% of delegates rated the course overall Excellent or Very Good

99% of delegates said that the course met their expectations

98% of delegates said that they would recommend the course to colleagues

CommNet's key Learnings – based on delivery of 8 face-to-face courses and 13 subject specific webinars

Scientists need more 'carrots' to make communications a priority – currently this activity is not acknowledged, supported or rewarded within the academic curricula.

Scientists need on-going support to further their understanding of the difference between communications and dissemination: Horizon 2020* Article 38 is a useful 'stick' to establish this difference.

Project co-ordinators and partners need support to develop an appropriate and proportionate strategic communications and dissemination plan ideally at the proposal stage and to be implemented from the start of the project.

All scientists within a project need to take greater responsibility for communicating about their research to a wide range of stakeholders and not delegate the activity solely to one Work Package or a professional service.

All research partners need opportunities throughout the life of their project to practise talking about the project overall, not just their specialist part in it, so they can become 'ambassadors' for their project overall and the societal challenge it is helping to address.

Scientists need to be introduced to journalists and the world of the media so that barriers and misunderstandings between these two 'worlds' can be reduced, and trust established so that more scientists are confident and competent enough to speak up and out, particularly on controversial issues.

Scientists are creative and innovative; they need to be encouraged to apply these talents to communications activities as well their research.

Peer reviewed publications (dissemination) are an ideal start for wider communications activities, not an end in themselves!

* Horizon 2020 is the current EU research and innovation programme



COMMUNICATING THE BIOECONOMY TO THE GENERAL PUBLIC

Many people are unfamiliar with the concept of bioeconomy and the benefit it brings to everyday life. Yet, consumers are increasingly aware of and interested in environmentally friendly agriculture, food safety and resource efficiency. It is necessary to bridge this information gap, showing people how the bioeconomy can address their concerns and improve everyone's quality of life. Better communication of bioeconomy research could influence consumer choices and make the public aware that a more sustainable consumption model is now possible.



The objective of the CommNet Work Package 'Address the general public' was to increase awareness of European bioeconomy research by supporting communication to the general public of KBBE (Knowledge-Based Bioeconomy) projects and their results. Since CommNet's start:

- **80 press articles** featuring KBBE projects have been published;
- **9 Videos** featuring 14 KBBE projects have been produced;
- 14,600 viewers have visited the CommNet's website commnet.eu
- CommNet has grown to 197 followers on **Twitter** and 171 members of its **LinkedIn** group.

"CommNet's press articles have attracted 22,300 viewers and CommNet's videos have been broadcast in 31 countries (ZDF, TVE, RAI, RTP, CNN, EuroNews, etc.)"



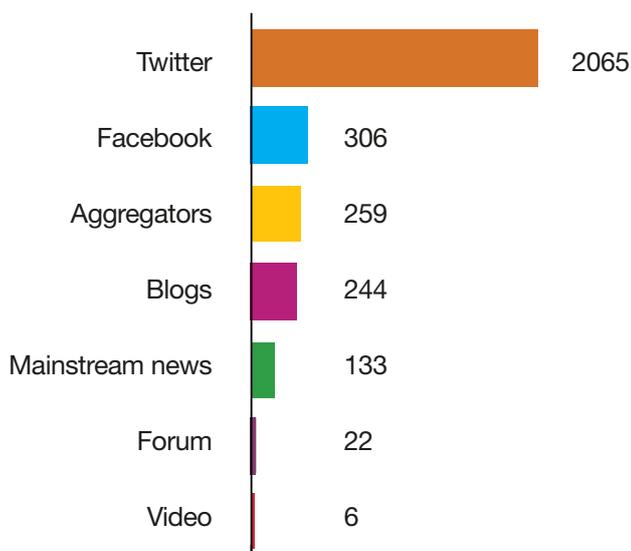
CommNet articles

Since July 2013, CommNet has published 80 journalistic articles which are distributed via multiple channels: CommNet.eu, youris.com, syndicated and social media. The articles' contents originate from KBBE research project members of the CommNet network.

Overall, 22,300 individuals have viewed our articles on CommNet.eu, youris.com and Facebook. Syndicated media (Alphagalileo, Phys.org and Cordis) have played an important role in making our articles accessible to a large professional audience, who could then cascade them down to citizens. As a result, CommNet contents have been viewed over 171,000 times on news multipliers.

While food is the most popular topic among CommNet.eu visitors, agriculture articles have been the most viewed on syndicated media. As multipliers target primarily a professional and scientific audience, this suggests there may be a strong demand for information related to agriculture from the business and scientific community.

One measure of the effectiveness of CommNet communication is also provided by the number of take ups. Overall, CommNet articles have been taken up over 2,700 times by external sources. About 75% of take-ups originate from Twitter, which has become a strategic channel in the distribution of scientific research results.



“CommNet effectively supported our dissemination activities- particularly in building our stakeholder database. Our CommNet Video News Release and article were most effective”.

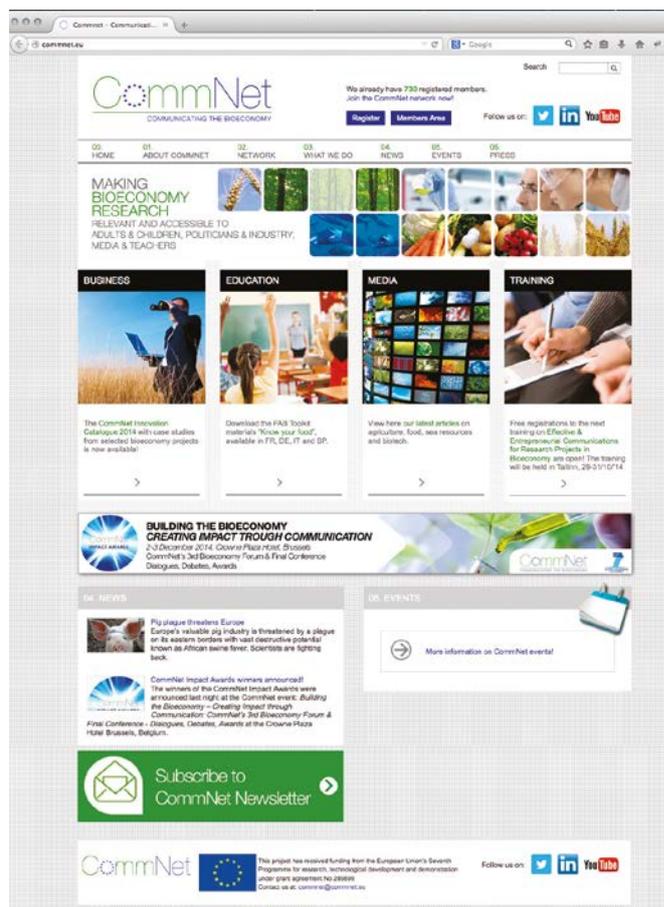
Wolfgang Ahrens, I Family Project
Coordinator



CommNet.eu and web activity

CommNet.eu is the primary communication platform for the exchange of information between bioeconomy researchers, journalists, experts and the general public. All public resources produced by CommNet are available online. CommNet's website offer is further integrated by the CommNet monthly eNewsletter. This has become the regular touch point within the CommNet community with monthly updates on bioeconomy events, press articles, videos and updates on CommNet activity. The monthly newsletter is received by over 700 individuals, half of which are from outside the KBBE community. The CommNet twitter account @CommNet_EU contributes to the dissemination of KBBE research results by reaching beyond the CommNet community. It is estimated that CommNet content could reach over 6,000,000 people. This has been calculated by adding CommNet's direct followers, their followers and all those further down the line who could be reached by re-tweeted contents.

The CommNet website is valued by regular users, who like to have one single source for a wide spectrum of bioeconomy related articles, videos and educational materials. Being able to offer a variety of contents captures interest but is not suitable to all communication channels. For example to fully exploit the potential of Twitter, tweets should be concentrated on a specific topic, so they can be targeted to a community with a strong interest in a particular subject. This makes Twitter unsuitable for generic communication and should be reserved only for projects with a very specific scope.





CommNet's key learnings from communicating the bioeconomy to the general public

One of the challenges of Horizon 2020 is to engage society by increasing access to research results. In the case of bioeconomy research, it will be necessary to start from the basics and explain to the general public what 'bioeconomy' means and how it can improve people's health and quality of life.

Based on CommNet's experience in communicating research results, people are easier to engage if research is presented with a focus on 'hot topics' in the current debate, rather than on individual projects. With this in mind, CommNet's approach has been to look for 'good scientific stories' among the member projects, stories which were interesting enough to appeal to the average TV audience. This approach has driven uptake and increased our potential to reach a wider audience.

When it comes to video communication, the format plays an important role too. Short videos are more popular among TV channels than 'institutional' ones. They are more likely to be broadcasted on thematic non-generalist distribution channels and more suitable for the web, where they can rely on viral distribution. Our recommendation for Horizon 2020 is to encourage up-to-date video communication instead of traditional institutional videos which are less likely to reach a wider audience.

Ultimately, communication of scientific research cannot be tailored uniquely to the researchers' needs, but should take into account the requirements of the media. TV, web platforms and social media operate as gatekeepers and dictate communication contents and format; failing to satisfy their requirements would stop research from fully reaching its dissemination potential, therefore missing out significant targets.



COMMUNICATING THE BIOECONOMY Newsletter N° 14 - April 2014

Editorial

Welcome to the April issue of the CommNet newsletter!

We have recently released two exciting videos about CommNet projects. The first one is on **fast detection of contaminated drinking water** through a test developed by the **AQUAVALENS** project. The second video follows a team of researchers from the **PROteINSECT** project, investigating the potential of **fly larvae as a novel protein source for animal feed**.

We also have an exciting programme for the months ahead with key events.

CommNet will be at **ESOF 2014** (Copenhagen, 21-26 June). Our stand will offer CommNet members the opportunity to meet and exchange information. Are you planning to attend? Let us know through [our survey](#).

CommNet will be also at **SIAL 2014** - Salon International de l'Agroalimentaire (Paris, 19 -23 October). We will organize a workshop to present KBBE food research projects. **Participation will be free of charge for CommNet members: a great opportunity to reinforce your project's dissemination!** For more information, [visit our website!](#)

Are you proud of your efforts to engage with your stakeholders? **Enter the CommNet Impact Awards and showcase your communication work to a European audience!**

Do not forget that entries to the **FAB Education Award** are still open: if you are a teacher, visit our website and spread the word.

Finally, don't miss our next webinar "**Effective communications on a small budget**" on Tuesday 6th May 12.30 CET/11.30 UK. Join us in real time or access it later at your leisure.

Join our community
You can now follow CommNet on social networks! Stay tuned with the latest news from the Bioeconomy on Twitter and join the conversation in our LinkedIn Group.

Join our group [in](#) [Follow @CommNet_eu](#) [YouTube](#)

CommNet eNewsletter

COMMUNICATING THE BIOECONOMY TO INDUSTRY, SMES AND POLICY MAKERS

An EU with smart, inclusive and sustainable growth will be largely knowledge-driven. Therefore, better knowledge transfer and exchange of knowledge from research with industry, especially SMEs, is a must to drive growth and to reach goals for growth. In the bioeconomy, the exploitation of knowledge generated in research projects to spur innovative products and services is a rather young discipline. Europe's science communication systems need to be more focussed on knowledge exploitation toward stakeholders. Thus, the Industry-and Policy related Work Package made some first steps to creating better knowledge transfer mechanisms and improved communication of CommNet bioeconomy projects' results by addressing industry, SMEs and policy-makers with customized business and policy relevant information.

Main activities, outputs and impacts:

Innovation Catalogues, Business Dialogues, Conferences

- Joint edition of Innovation Catalogues featuring case studies of those projects close to market (30 projects)
- Set-up of a self-assessment scheme for the projects to identify their position on the Innovation and Development Cycle (Technology Readiness) as a prerequisite to talk with the industry – part of the Innovation Catalogue edition process
- Offering three Business & Policy Dialogues with an opportunity for a 'reality check' and matchmaking with business & policy experts (35 projects)
- CommNet's annual Bioeconomy Forum in Brussels as 'the networking event' – Over 300 visitors
- Offering 40 speaking opportunities to projects at seminars and conferences to convey messages



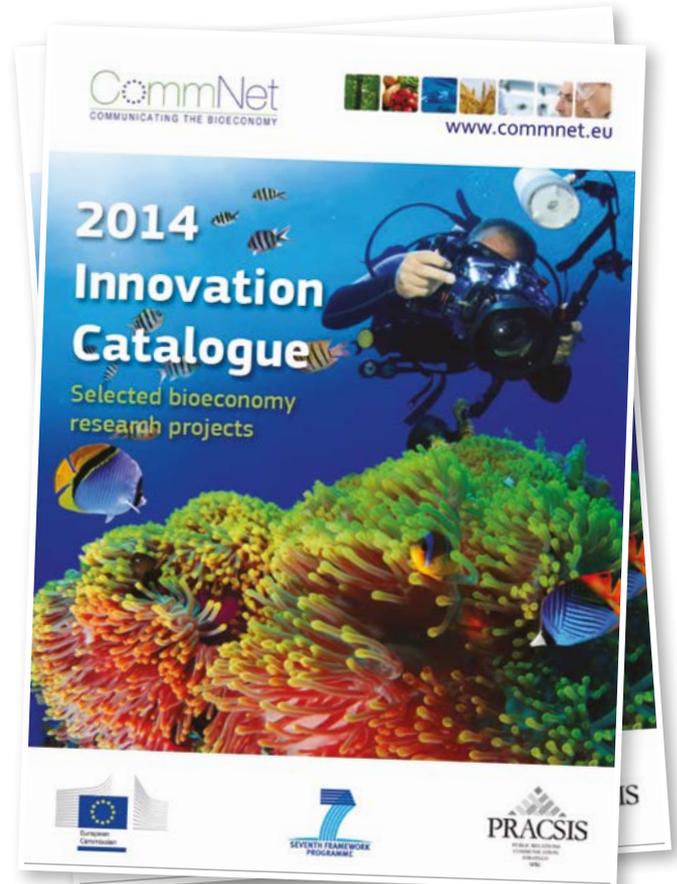
Case study – The PLEASURE Project:

‘Will a low-calorie, low-salt pizza ever please?’

PLEASURE is a healthy food project. The goal of the PLEASURE project is to optimize model-products – pizza dough, mozzarella-type cheeses, sausages and fruit/vegetable sauces – with five or six new recipes. The end products will contain 10% -30% less fat or salt or sugar. The project also makes an effort in market-uptake for new processing know-how.

PLEASURE benefited from CommNet’s Services:

- Success Story on the CommNet website
- Business Case-Study in the Innovation Catalogue 2013
- Presentation at the CommNet Business Dialogue 2013
- Presentation during Paris food show SIAL to manufacturers 2014, organised by CommNet
- Participation in webinars and education eSeminars



Feedback from the projects

“Excellent conference! For the future more interactions, more dialogue, more audience involvement, please”

“Please organise more such Business Dialogues!”

“A highly progressive workshop”

“It was a pleasure and a rich experience”

“Great work on both the catalogue and the business dialogues event!”

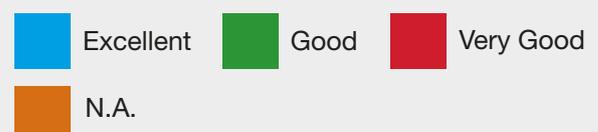
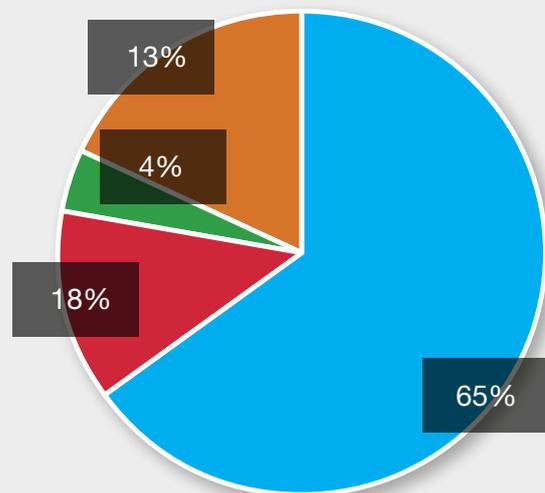
“I would like to include some info from the Innovation Catalogue in our website”

“We will be pleased to be kept in contact with you for future joint activities”

“I went to an interesting meeting yesterday on FP7 projects in the Bioeconomy organised by CommNet”

“That was my first business dialogue. I think the communication between different project groups with similar topics is very important. It enhances knowledge and helps to indicate future problems.”

Feedback on the Bioeconomy forum



A photograph of a conference room with several people seated at long tables. They are focused on their laptops and documents. In the foreground, a man with glasses and a beard is typing on his laptop. The room is well-lit, and there are water bottles on the tables. A semi-transparent white box with a pink gradient background is overlaid on the bottom right of the image, containing text.

87 % RATED THE BIOECONOMY FORUM AS 'EXCELLENT', 'GOOD' OR 'VERY GOOD'.



CommNet's key Learnings from communicating the bioeconomy to industry, SMEs and policy makers

All research information needs to be translated into understandable and business relevant language

Learn to customise messages for the business and policy world

Bioeconomy projects need to assess their position on the scale of Technology Readiness before making contacts with industry

Best exploitation of research results for projects in 2nd and 3rd generation – need to identify the generation stage of projects before starting business matchmaking

Not all projects are business projects – much Bioeconomy research aims at policy: healthy nutrition, environment, eco-systems and policy recommendations

Identify 'policy-type' or 'business-type' project before starting communication and exploitation

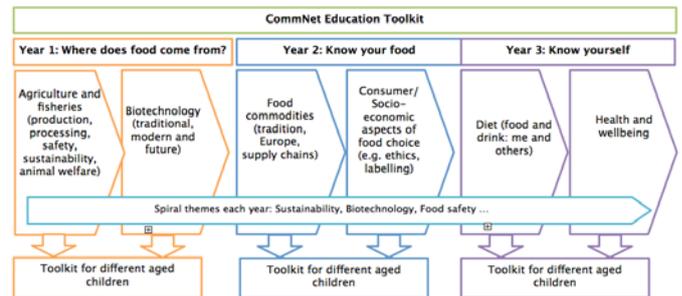
Innovation Catalogues were most helpful for the projects: Used case-studies for their dissemination strategy



COMMUNICATING THE BIOECONOMY TO YOUNG PEOPLE

Our rapidly changing technological society means that research and developments underway now may have a profound impact on our lives in the future. With regard to health, food security and sustainability, it is vital that our children and young people have a baseline knowledge and understanding of food, agriculture, fisheries and biotechnology to enable them to make informed decisions now and in the future.

The overall objective of this Work Package was to provide young people with a greater opportunity to increase their knowledge in this important area through engagement with resources suitable for their age and ability. Taking inspiration from FP6/7 projects, the FAB Toolkit (Food, Agriculture and Biotechnology) provides a carefully planned learning journey for children and young people, supporting schools to run engaging, relevant and up-to-date lessons.



Main outputs, activities and impacts

Development of a **Competence Framework for children and young people aged 5 to 16 years**, focusing on food, agriculture, fisheries and biotechnology. This builds on existing good practice for schools, the European Food Framework.

The FAB Toolkit, comprising 1,074 resources, available in six languages (Danish, English, French, German, Italian and Spanish). The resources comprised teachers' notes, presentations, worksheets, activity ideas, recipes and stimulus sheets.

Six videos, with supporting teacher notes and question guides.

12 eSeminars, live presentations by research project experts, each with its own '10 Key Points' sheet (in six languages).

A guide for FP6/7 projects to support them developing resources and communication approaches for school.

The FAB toolkit – a thematic approach

The FAB Toolkit was created to take the learner on a journey, developing learning in food, agriculture and biotechnology and how this may impact them and the environment.

The approach:

- divides the toolkit into three main focus areas;
- unpacks each area with two key themes, providing further focus and direction;
- provides spiral themes, which reoccur in each of the three areas to help consolidate learning and reinforce specific aspects of the programme, e.g. sustainability, food safety.

Each area is delivered through resources and support for four age phases, supporting progression and differentiation:

- Phase 1: 5-8 years
- Phase 2: 8-11 years
- Phase 3: 11-14 years
- Phase 4: 14-16 years

The resources represent the basic building blocks for educators to use to support learning.

"CommNet has produced over 1,000 resources for young people in 6 languages."



Establishing building blocks

To create the FAB Toolkit, a competence based framework for learning was developed. The CommNet Competence Framework is progressive tool that identifies three areas of knowledge for children and young people aged 5 to 16 years:

- where does food come from,
- know your food,
- know yourself.

These areas of knowledge were identified through analysis of European funded FP6/7 projects. Under each of these areas are key subject themes, supporting the development of children's and young people's knowledge. These themes are underpinned by the development of knowledge and understanding related to food sustainability, food safety and biotechnology. The nature of these subjects dictates that they are interrelated and therefore can be identified across themes. The Framework is based on classroom learning skills which increase in difficulty ensuring progression across the themes.

Using the food chain as a metaphor, the concept was to create a resource that takes the learner on a journey, from the origin of food/drink through to its consumption/impact on health and wellbeing. The aim is to ensure that future EU citizens have a firm foundation in different aspects of related science, helping to build understanding to become informed consumers. The Framework not only shows the areas of knowledge that children and young people should demonstrate an awareness for or understand, but also how this should be differentiated for different ages and abilities. The ages within these phases may be different depending on the Member State. These are therefore only to act as a guide, showing progression in understanding from one phase to the next. The competences are progressive and cumulative from one age phase to the next.

“ I realised that for a project like ours with limited resources, CommNet was a way to achieve much more than I had originally hoped for“

Heiner Lehr ALL-SMART-PIGS

Phase 1 (5-8 years)	Phase 2 (8-11 years)	Phase 3 (11-14 years)	Phase 4 (14-16 years)
By the end of Phase 1, young people should: Be aware that food safety and hygiene is important from farming through to consumption. Know about personal hygiene when preparing and cooking food	By the end of Phase 2, young people should: Be aware that there are systems in place for the safe production and processing of food throughout Europe Know that it is important to store, prepare and cook food safely and hygienically	By the end of Phase 3, young people should: Know about a range of systems and how they are used for the safe production and processing of food throughout Europe Understand how to buy, store, prepare and cook food safely for good health	By the end of Phase 4, young people should: Know about food safety and hygiene in different situations Explain how external factors such as lack of resources can affect food safety, e.g. refrigeration Know about HACCP and the importance of food safety throughout the phases of food

The Framework			
Area of knowledge: (1) Where does food come from? Themes: <ul style="list-style-type: none"> • Food origin • Food production and processing • Food safety • Food technology and biotechnology Interrelated themes: <ul style="list-style-type: none"> • Food sustainability • Animal welfare 			
Food origin			
Phase 1 (5-8 years)	Phase 2 (8-11 years)	Phase 3 (11-14 years)	Phase 4 (14-16 years)
By the end of Phase 1, young people should: Know that food comes from plants and animals Be aware that food can be farmed, caught or grown at home Be aware of the different types of agriculture and fisheries	By the end of Phase 2, young people should: Know the basic steps in the food production from farm to fork Know that food is farmed, caught or grown in Europe and all around the world Know that food is grown, farmed or caught on a large scale and sold Know that the food produced is dependent on climate, resources, and other factors	By the end of Phase 3, young people should: Understand the different stages in food production from farm to fork Understand how geography and climate impact on the availability of food and drink	By the end of Phase 4, young people should: Describe and evaluate food production in Europe and the rest of the world Explain the diversity of farming systems and fishing around the world
Food production and processing			
Phase 1 (5-8 years)	Phase 2 (8-11 years)	Phase 3 (11-14 years)	Phase 4 (14-16 years)
By the end of Phase 1, young people should: Be aware that some foods are changed between growing/farming and consumption Be able to name foods which have changed between farming and consumption	By the end of Phase 2, young people should: Explain some of the ways food is processed to make it edible and safe Know that food is processed around Europe and the world using different techniques	By the end of Phase 3, young people should: Know about a variety of food production and food processing techniques	By the end of Phase 4, young people should: Describe some new technologies that may impact on food production and processing Explain the effects of food processing, of food and drink fortification and cooking on the nutritional value of food and drinks

Using the Framework in the future

Framework could be used in a variety of ways in the future, including:

- a guide for developing resources for children and young people;
- as an audit tool for schools and other settings to plan lessons and activities;
- curriculum development guidance at national, regional and/or local levels.

Bringing projects to life

While it is preferable for children, young people and teachers to go on educational field visits, or to have experts from research to visit their school, this is often not possible. However, the use of e-conferencing does make this possible – providing schools throughout the EU with the opportunity to listen and engage with experts for a range of research projects.

In total, 12 eSeminars (live online seminars) were broadcast featuring a range of experts from FP6/7 research projects. This provided them with the opportunity to share their research, methods and results (where available), as well as answer questions from participants. Each eSeminar was also recorded, so that it was available to all at a time that suited their needs. Viewing figures show that on average, the recording was more popular than attending live.

All eSeminars were broadcast in English, although the key points from each were summarised and translated into five other languages.

eSeminars provide a valuable communication tool for researchers to engage with schools, as well as other stakeholders, in the future.



eSeminar screen shots



Video screen shots

Research for life

To inspire discussion around food production, food commodities and health, six videos were created based on real research projects from around the EU.

This resource acts as a stimulus in the classroom to motivate children and young people, as well as provide teachers with an insight into developments.

The videos are:

- Big brother in the pig sty (future production of pork and animal welfare);
- Protecting crops, naturally (horticulture and use of alternatives to pesticides);
- Eating insects (food culture and new protein sources);
- Too tasty for your own good (food addiction and food choice);
- Healthier pizza (developing products that have less fat, salt and sugar);
- Fighting childhood obesity (reviewing studies on understanding the reasons for childhood obesity in Europe).

CommNet's key learnings from communicating the bioeconomy to young people

The development of a thematic approach helped to plan the progression in understanding in three module areas, building on previous learning and allowing for FP6 and FP7 related projects to be included as case studies of good practice. In addition, it provided a structure which educators from throughout Europe can recognise and use to support learning. The modular approach was developed through the analysis of FP6 and FP7 projects.

The thematic modular approach helped to create the structure of the FAB Toolkit, developing a consistent format and ensuring that important aspects of FP6 and FP7 projects were included.

Once the thematic modules had been agreed, a Competence Framework for children and young people aged 5 to 16 years was developed, based on food, agriculture, fisheries and biotechnology (areas within the modules). The Competence Framework helped to provide structure, progression and continuity for the production of the toolkit. The framework was developed based on learning from a previous project, the European Food Framework.

The Competence Framework covers four phases of ages, from 5 to 16 years; represents knowledge in, and application of, six key areas of learning (based on the thematic approach); is progressive and cumulative from one age phase to the next, starting with awareness, knowledge and understanding and building to practical application and critical analysis (building of children's developmental learning and thinking skills); shows essential knowledge and capability, upon which educators can supplement; aims to help children and young people to develop the skills and knowledge to better understand the food production and processing, appreciate research and its impact from around Europe, and make and implement healthy food and lifestyle choices.

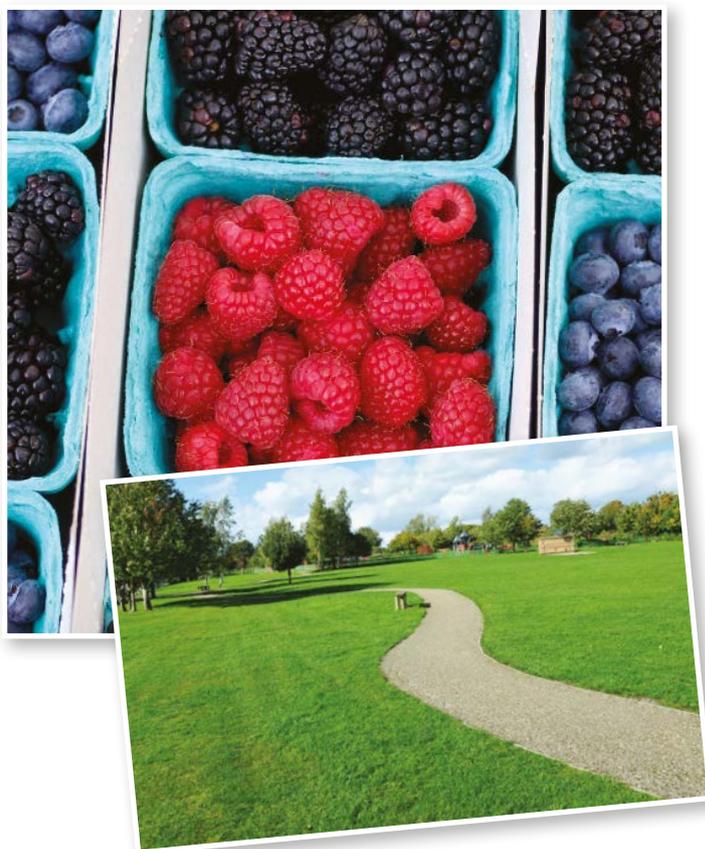
The Competence Framework could be used as a tool to: support teachers and other educators helping to plan and deliver lessons; support curriculum development, at school, local and national levels; guide those developing resources for children and young people, ensuring that content is up-to-date, accurate and consistent and to showcase Europe funded research work.

To showcase real research, the eSeminars and videos provided useful platforms to communicate to schools. These are both available online, for use at any time. Guidance was developed for both, supporting their use by teachers.

Live eSeminars provided the opportunity for educators and others to engage with research project experts. All eSeminars were recorded for viewing another time. In addition, key points from each eSeminar were created and translated into five additional languages (helping with accessibility).

The focus of the project has mainly been on the development of the toolkit. In the future, greater emphasis needs to be placed on communication with national authorities and agencies to engage them in the process, so that any results can be more easily disseminated through local channels. This could be through creating an expert panel of educationalists to review work and suggest communication strategies.

As with other projects, the outputs sometimes are lost due to the end of the formal project. The challenge is now informing schools and teachers about the resources available – helping to inform our future citizens throughout Europe.



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Wilfried Ruetten, Chair of the European Journalism Centre

Anna Paonessa, AIIPA, Italian Association of Food Manufacturers

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Wilfried Ruetten, Chair of the European Journalism Centre

Daniele Colombo, Innovhub, Milan Chamber of Commerce

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