

Dissemination of DEMEAU outcomes

From dissemination strategy to implementation



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Title: Dissemination of DEMEAU outcomes From dissemination strategy to implementation**Summary:**

The dissemination activities of DEMEAU were planned in the beginning of the project and outlined in the dissemination strategy (von Toggenburg et al. 2013). After three years of project work, we have a look at the achievements of these dissemination activities. These are analysed according to their effectiveness and impact throughout this report.

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Summary

The dissemination activities of DEMEAU were planned in the beginning of the project and outlined in the dissemination strategy (von Toggenburg et al. 2013). After three years of project work, we have a look at the achievements of these dissemination activities.

As the DEMEAU activities cover a wide field of technologies and application possibilities, the overview of the interplay of these activities does not immediately become clear to the observer. In order to highlight the synergies of DEMEAU's work areas and thus the technologies, a storyline was developed that helped to prepare dissemination messages used for a variety of means and activities. DEMEAU's target groups comprise water utilities as the end users of the technologies, policy makers, scientists and technology developers as well as the general public. The report outlines the possibilities to convey the general message of DEMEAU to these target groups.

Although the main target groups are easily determined, the activities in the project are very target group specific. To target utilities, so called utility events were organised to present at the demonstration sites the respective technology and to present to the participants the interim research results of the DEMEAU activities. Workshops were organised in conjunction with the utility events and targeted at all relevant stakeholder relevant for the implementation of the technology, ranging from authorities, to utility operators, to laboratories. In order to reach the scientific community, DEMEAU staff participated in conference and presented the research.

As mentioned above, dissemination in DEMEAU used many activities and thus a variety of channels for dissemination. Most importantly to mention are digital channels such as the project's website, social media and online networks as well as events that were organised by the DEMEAU team for dissemination and knowledge exchange purposes.

With the knowledge of the target groups, messages and channels, the dissemination material could be tailored to those specific needs. Using the five main dissemination goals, different communication means were developed. For awareness raising, a video animation, a leaflet and technology brochures were prepared. Information was mainly sent through the website and the social media channels. Utility events were aimed at raising awareness on the innovative technologies. To influence policy for fostering uptake, external events were used to reach out to policy makers, e.g. the WssTP annual conference in Brussels 2015 or the Resource Efficiency Cluster Events. Stakeholder participation was aimed at with the organised workshops. Within utility events or through work within European working groups such as the Catalan Water Partnership, the project consortium reached out to technology clients. With the sum of dissemination commitment of the stakeholders was secured.

At the end of the three year long dissemination period, a facilitated discussion between consortium members was held to assess the results and impacts of the activities. It was concluded that the collaboration of the variety of stakeholders within the project and beyond led to a fruitful experience of knowledge transfer. For enhancing the implementation of advanced treatment tackle emerging pollutants, awareness raising at utilities and the general public is the key.

1 Key Message and Storyline (WHAT)

Establishing one key communication message that weaves together all promotional material, presentations, articles, print and media messages was central to effective dissemination of the DEMEAU project and its results. Because DEMEAU is a complex project, addressing five diverse technologies that tackle emerging pollutants, the project used an integrated approach to communicate the key message in a consistent manner. The key message was designed to be accessible to actors across the drinking and waste water sector, from scientists of different disciplines to technology developers to utilities to policymakers to the general public.

Put together by consortium members, the aim of the key message was fourfold: i) to raise awareness of the technologies to address emerging pollutants; ii) to influence specific policies and policy-makers; iii) to encourage increased stakeholder participation in the project and the sectors it addresses; and iv) to secure future technology clients. To achieve these objectives, it was crucial to establish a clear storyline that connects the different spheres of the project and shows how they can support each other in achieving the main goal of the DEMEAU project: addressing emerging pollutants in drinking water and waste water.

1.1 Elaboration of a common storyline for the project

The storyline was developed upon incentive of the member to the Project Advisory Committee Rüdiger Wolter (German Federal Environment Agency). As an expert on topics pertinent to water quality that always need an inter-disciplinary approach to problem solving, he supported a message that is tangible to policy makers and the general public. Those audiences do not have expert knowledge and need to be approached by different means than normally are produced by very specific research projects.

1.1.1 Objectives and Target Groups

The storyline is a narrative that aims to connect societal challenges, research carried out, and the different technologies considered within DEMEAU. It puts the project in a broader context, while presenting it through simple and concise messages. The individual work packages that appeared to have only little in common show on closer inspection an abundance of logical connections upon which the project framework is built. These linkages were used as the foundation for the storyline that eventually provided the key message for DEMEAU.

Consequently, the development of the common storyline makes links among the various work packages visible, not only for enhancing understanding among work areas but also for increasing communication among them. In this way, the storyline describes the bigger picture and interconnectedness of the four key technologies. The storyline presents the overall context of DEMEAU and is thus aimed at all target groups. It contains specific versions for different target groups, to meet their specific information needs. The message is more than the general project description, because it tries to show each target group how the project is relevant for him/her.

1.1.2 Key messages

Short key message

Polluted and contaminated water is and has been the main source for diseases. In the developed world, this problem has been tackled since a century, whereas 768 million people worldwide still do not have access to safe drinking water. In Europe, there are upcoming challenges to react on. In face of demographic changes, climate change, ageing and deteriorating infrastructure, as well as the detection of emerging pollutants such as pharmaceuticals, personal care products and industrial chemicals, innovation in the

water and waste water sector is needed to ensure the long-term sustainability and quality of water resources. DEMEAU demonstrates technologies that address emerging pollutants in water and waste water, showcasing their benefits and feasibility through Life-Cycle and Life-Cost Assessments and highlighting current barriers such as regulatory and authorization issues. The project thus contributes to driving future development of legislation by compliance with current legislation in Europe. Companies and utilities need to work together to implement solutions that will drive down costs and improve both efficiency and water quality.

Long key messages

Scientists and technology developers

Worldwide, around 11,000 new substances are registered every day. These substances need to be tested and monitored. Cost-effective and efficient technologies need to be developed to ensure the provision of safe drinking water.

There is a need for more sustainable and lower footprint solutions. Scientific results need to be tested for their life cycle and related costs as well as their feasibility. Large-scale pilot projects help to demonstrate the effectiveness of these technologies to the utilities, who will be the ultimate users.

Technology users (water utilities)

- Innovation in the water and waste water sector may create higher operation costs. However, they contribute to a better quality and monitoring of our water resources. Consumers need to be made aware regularly and openly about changes in their water quality and the interconnection with water charges, in order to ensure consumer support.
- Technologies to deal with problems posed by emerging pollutants as their removal or monitoring already exist. They are being tested at small and large scales for their technical feasibility as well as for their (cost) effectiveness throughout their life cycle within the DEMEAU project. They include Managed Aquifer Recharge (MAR), Hybrid Ceramic Membranes (HCMF), Hybrid Advanced Oxidation (HAO) and Bioassays (BioA). These technologies, which offer more sustainable and lower footprint solutions for additional treatment and monitoring technologies, are a chance to keep costs low while increasing effectiveness.
- In the coming years, legislation in Europe and around the world will be tightened with regard to micropollutants in municipal waste water and in the discharge into surface waters. Innovating today will thus help ensure long-term sustainability and quality of water resources.

Policy makers

The application of innovative technologies to ensure safe water supply is crucial. Emerging pollutants are currently not included in routine monitoring programmes at the EU level. Scientists research the (eco)toxicity and potential health effects of these substances and monitor their occurrence in the environment. DEMEAU looks at several methods and technologies to ensure safe water supply:

- Bioassays for example are used to assess the toxicity of mixtures of chemical compounds in water. This is advantageous over regular chemical analyses, as those methods can only detect a specific compound that is being looked for. Therefore, environmental guidelines mainly include maximum allowable concentrations of specific individual compounds, leading to significant gaps for water quality as other compounds are left out. The major limitation of Bioassays is that a threshold for toxicity still needs to be defined. Once established, this threshold, or “trigger value”, needs to be integrated into policy guidelines for risk assessment of water quality.

- Managed Groundwater Recharge helps to ensure a resource efficient use of water and is included as a supplementary measure to reach good quantitative and qualitative status and replenish groundwater resources in the EU Water Framework Directive. The Groundwater Directive prohibits actions that deteriorate groundwater quality and thus MAR needs to be evaluated case-by-case. DEMEAU collects examples of worldwide regulations for MAR authorization as well as practices and characteristics of 270 European MAR sites, in order to provide recommendations for the authorization of European MAR sites in line with the current environmental EU legislation such as the Water Framework Directive and the Groundwater Directive.

General public

The water sector is facing huge challenges. One of these challenges is climate change. Due to changes in the climate, and therefore the water system, some regions are experiencing excess water availability, in the form of floods, while other regions are experiencing extreme periods of dryness. This latter case leads to a limited availability of water resources, particularly groundwater. Managed aquifer recharge (MAR) is a technology to overcome this shortage. It has been practiced in some regions whereas barriers in other regions hinder the implementation. Those barriers are the public perception and political regulation. DEMEAU aims to address these issues with improving information on the technique.

With the increasing number of chemicals in our environment due to the increasing use of pharmaceuticals, pesticides or personal care products and the increasing accurateness of measuring methods, more and more compounds are detected in the water resources. Those are emerging pollutants. They are present in normally very small concentrations in our urban waste water, the aquatic environment and our drinking water. How these pollutants react if they occur together in an environment is often unknown. Research to uncover their behaviour, as single compounds or in a mixture will take time. However, there are technologies like bioassays that can easily detect toxicity of compounds in environmental samples such as water. DEMEAU wants to foster implementation of bioassays in regulations to react on the risks that emerging pollutants pose on us and our environment.

To react on the challenges, water utilities need to innovate their purification techniques. Techniques that eliminate emerging pollutants from waste water will keep our environment - and with that our drinking water - clean and safe. DEMEAU wants to reduce barriers to implementation of those technologies. With a sustainability assessment, analysing economic, ecologic and social issues, the project aims to implementation of eliminating techniques with regards to emerging pollutants. Applying innovative techniques is costly; however the short-term investment will create long-term benefits, both in terms of resource availability, quality and price.

Media

All of the versions above are applicable but depending on who the media targets.

1.1.3 Interconnecting the technologies

Figure 1 demonstrates how the different technologies in DEMEAU are interconnected. Emerging pollutants is the central topic that the technologies and methods in DEMEAU address, as all technologies are promising means to address emerging pollutants in the water cycle (MAR (Managed Aquifer Recharge) in drinking water, HCMF (Hybrid Ceramic Membrane Filtration), HAO (Hybrid Advanced Oxidation) and bioassays in drinking and waste water and bioassays in the general water environment).

Each technology applies completely different functions at different times and locations. MAR and HCMF reduce emerging pollutants through filtration, HAO reduces emerging pollutants through ozonation or activated carbon, while bioassays allow monitoring and detection of toxic emerging pollutants.

Common to all technologies is that a lot of expertise and experience is available for each technology at the laboratory, pilot or even full scale, but they are not yet widely implemented in water utilities for various reasons. While the barriers to utilisation for MAR are the authorisation procedures and public perception, for bioassays regulation trigger values still need to be defined at the policy level. Other barriers include the lack of communication and information flow between research experts and the utilities that are looking to update their treatment plants. Additionally, there are also often legal and/or regulatory barriers, economic barriers, and barriers associated with maintenance. This is particularly true with ANCS. Despite these barriers, the LCA (Life Cycle Assessment) and LCC (Life Cycle Costing) carried out for all technologies prove the effectiveness and cost-benefit of HCMF and HAO.

Through its cooperation with utilities, which act as launching and demonstration sites, DEMEAU thus aims to show the effectiveness and feasibility of these technologies and encourage their wider application.

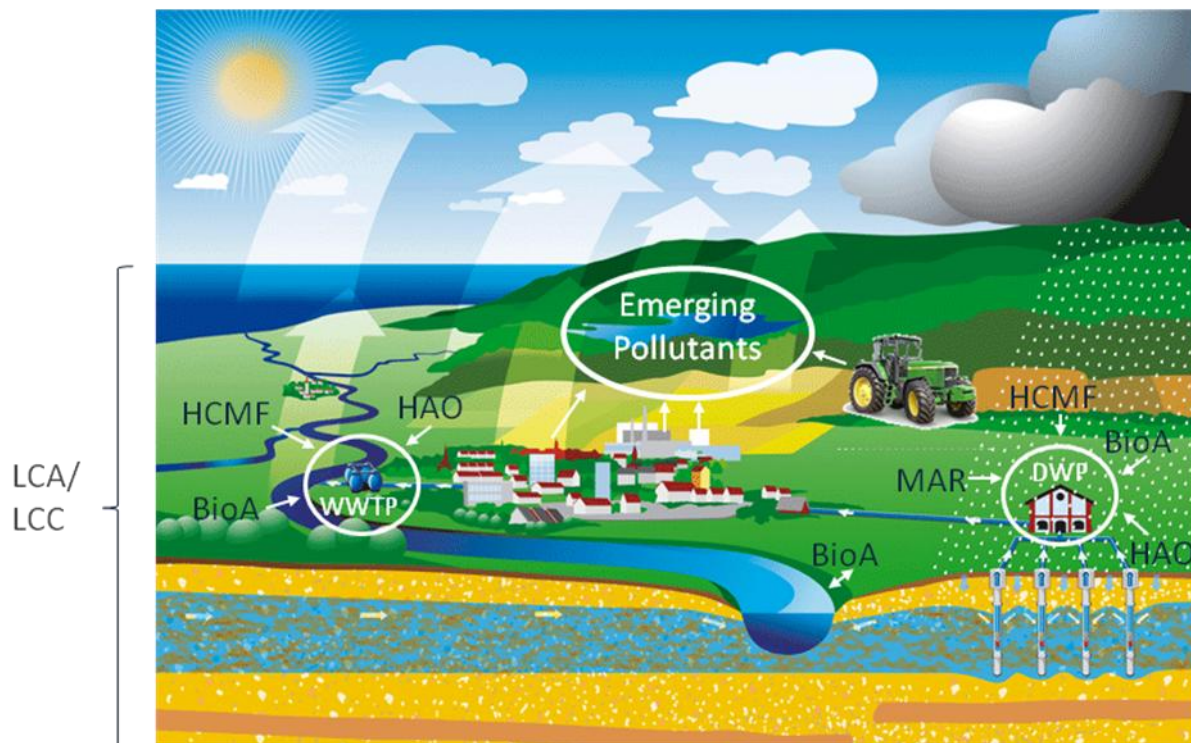


Figure 1: The technologies and methods that are subject to demonstration in DEMEAU provide many synergies when applied together. MAR – Managed Aquifer Recharge; HCMF – Hybrid Ceramic Membrane Filtration; HAO – Hybrid Advanced Oxidation, BioA – Bioassays, LCA/LCC – Life Cycle Assessment / Life Cycle Cost; WWTP – Waste Water Treatment Plant; DWP – Drinking Water Plant

1.2 Discussion: How the project made use of the storyline

The storyline was prominently published on the website and also communicated to the project consortium. In addition, the storyline was also used when introducing the DEMEAU project more widely, such as at conferences, workshops and events. Over the course of DEMEAU, the storyline was helpful for the development of general outputs, including a short video animation, news story articles, the DEMEAU leaflet, and joint articles.

Website

The full storyline was published on the DEMEAU website, prominently displayed as one of the main headers under the ‘About’ tab. Here, a brief version of the storyline is provided, in addition to key definitions and key messages targeting the full spectrum of relevant stakeholders. This dissemination

strategy aimed to introduce the project for a wider audience, providing a broad overview rather than specifically customised information. The visual storyline (see next section) is also included here.

Video animation

The short video animation, 'Dare to drink? Emerging pollutants in our water,' provides a visual of the storyline, and targets policy makers and the general public. It illustrates what emerging pollutants are, how they enter water sources and what role individuals can take in improving the quality of their drink water. It currently has over 1,200 views, and has reached a wide breath of audiences (for more information see also section 4.1.1).

Newsletters

The DEMEAU newsletters provide a broad scoping of developments relating to the four key technologies, including project activities, general articles on technology developers, and external topics on emerging pollutants (for more information see also section 3.4). The newsletters directly engaged in the storyline, exploring various elements and target groups.

In the second newsletter (released in February 2015), a special piece and interview with Rüdiger Wolter, who helped develop the DEMEAU storyline, was included. The piece provided insight to the process behind developing the storyline and also understanding its broader purpose beyond the scope of DEMEAU.

Leaflet

A general overview of the project is also given in the DEMEAU leaflet (please also see section 3.4). As the leaflet was produced before the storyline was developed, it can be perceived as a predecessor to the narrative.

Articles

Several articles that are going to be published or that are already published provide an overview of the full range of project activities and highlight linkages among work areas of the project (see section 3.4). They represent more targeted communications of the general storyline.

For general dissemination activities beyond the ones mentioned previously, the widespread use of the storyline was limited due to the specific nature of most results produced by work areas of the project. As the project operated across diverse work areas that dealt with the application of one specific technique and that had different implementation stages, integrating the results from different work areas into the bigger picture was not necessarily aimed at due to the very different target groups. As the case for many EU research projects and outlined in the findings of the FP7 project WaterDiss2.0, dissemination is most appropriate and most effective after the run-time of the project as by that time results are finalised and researchers able to disseminate them. This limitation in timing was also identified as a hindrance to increased communication and diffusion of DEMEAU's key messages across the drinking and waste water sector.

2 Target Audiences (WHO)

Identifying the target audiences within the DEMEAU project was a crucial first step in increasing the effectiveness of uptake and use of research results. To accomplish this, a survey of potential target audiences was conducted in the first months of the project. The survey was circulated among all project partners. Partners were asked to provide three stakeholders or target groups they deemed most important for the project to target.

Collectively, DEMEAU partners compiled a list of 22 different stakeholder groups that are relevant for the project to consider. Though the list was not exhaustive, the selected target audiences provided a preliminary overview for informing dissemination activities of the project. As shown in Figure 2, partners identified relevant stakeholders mainly to be technology suppliers and users (including associations of drinking water and waste water technology), policy makers (ministries, water management organisations, scientific organisations and universities, and standardisation institutions).

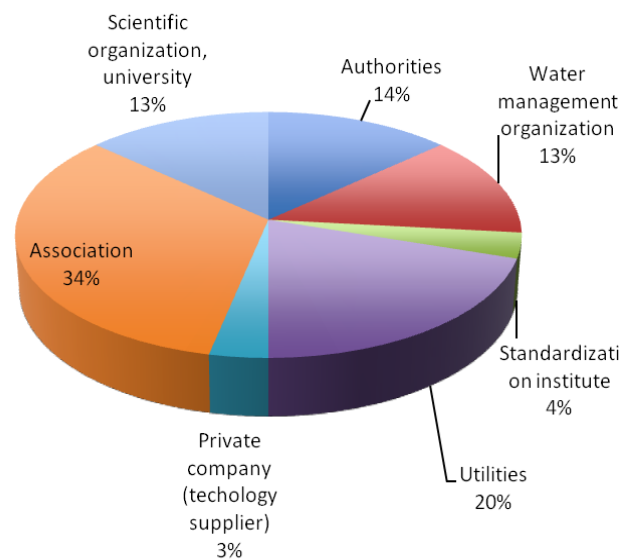


Figure 2: DEMEAU target groups as assessed in a survey for the dissemination strategy of the project (source: von Toggenburg et al. 2013).

The results aided in categorising the identified target groups into more general stakeholder groups summarising the general picture of the survey. The major target groups selected (policy, technology, science, general public), were further developed into the following categories and subcategories:

- Policy: ministries, water management organisations
- Standardisation institutes
- Science: scientific organisations, universities
- Technology: utilities, technology suppliers, associations
- General public: NGOs, civil society

The survey results also helped to lay the ground work for formulating and adapting the message, channels, and materials for dissemination to cater the needs of the project. This initial research was critical for successful communication from the outset. Understanding the target group landscape helped to tailor dissemination efforts to the groups pre-identified. It also allowed for more thought into the avenues that would provide the most outreach and impact over the course of the project.

In the end, based on the results, DEMEAU actively pursued outreach to the target groups shown in Figure 3. Here, a slightly different picture of outreach to target groups is shown than initially assessed. As displayed, dissemination activities were mainly targeted at the scientific community, followed by industry and utilities. Civil society and policymakers were also targeted, but to a lesser degree. One reason is that the development of results is a continuous process. From the view of the technology developers, interim results should not be made public as they might reveal insights in the technology developing process that should not be shared due to intellectual property rights. Also, interim results might not be of large interest to those target groups focussing on a functioning technology (e.g. utilities, associations) or those whose interest is the impact of the technology on the environment (e.g. policy makers). Secondly, the project results were addressed to different target groups than the ones deemed important beforehand. One example is the focus on authorities or policy makers. In fact, only one task out of 49 was targeted directly at this target group (T42.1: Regulatory acceptance), and only three tasks included authorities amongst other target groups. This can easily be continued for the scientific community and utilities. In this regard, the project fulfilled the promise to reach the target groups relevant to the produced outcomes.

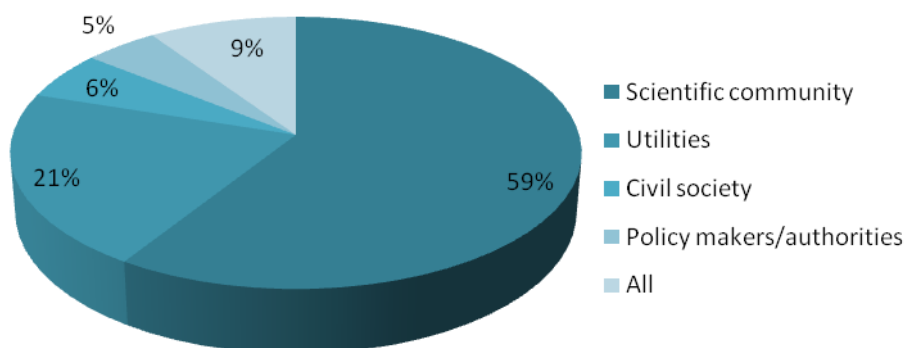


Figure 3: Stakeholder groups targeted by dissemination activities carried out within the project

To target utilities, so called “utility events” were organised in order to demonstrate the benefits of the water technologies. Utility events were held as 1-day events at the associated utilities (T.61.2). In order to avoid cases of stakeholder fatigue, the utility events were combined with tailored workshops (T.61.3). For more information on the organised events, please see Chapter 3.

In general, the demography of participants at utility events was diverse. As shown in Figure 4, the scientific community was generally best represented at such events, also due to the fact that the project staff consists to a majority of scientists. Representatives of authorities, utilities, and the private sector (primarily technology suppliers) were represented in relatively even shares. Very small proportions of participants

were from water management organisations and associations. This mix of representatives from each target group was seen as a positive outcome of the project’s outreach.

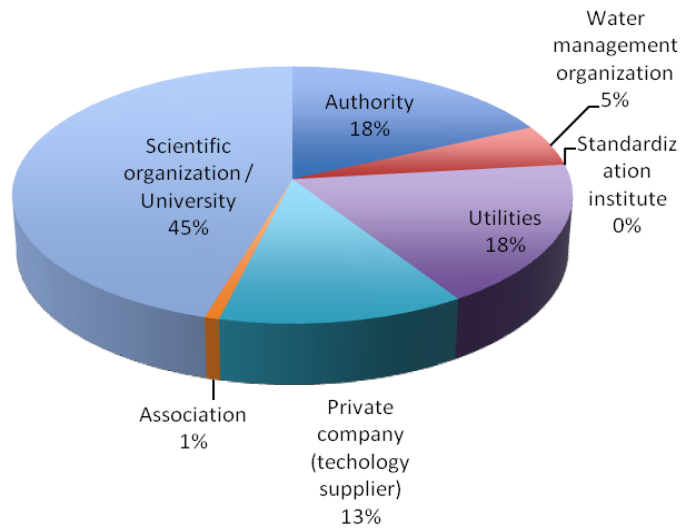


Figure 4: Participants of DEMEAU utility events and workshops according to target groups as defined in the DEMEAU dissemination strategy.

Overall, comparing the target groups identified by the survey results with the participants represented at utility events, it becomes clear that the project was successful in attracting the targeted level of utilities (compare 18% to 20%) and authorities (compare 18% to 14%). The level of water management organizations in attendance at events and workshops was noticeably higher than originally targeted (compare 13% to 5%). This was observed to be a positive sign for the great interest in the topic of emerging pollutants and the possibilities to deal with this issue. However, the scientific community was overrepresented at dissemination events (compare 13% to 45%). As mentioned above, this is easily explicable with the nature of project outcomes and composition of project staff and was not seen as an indication for failing the dissemination objectives.

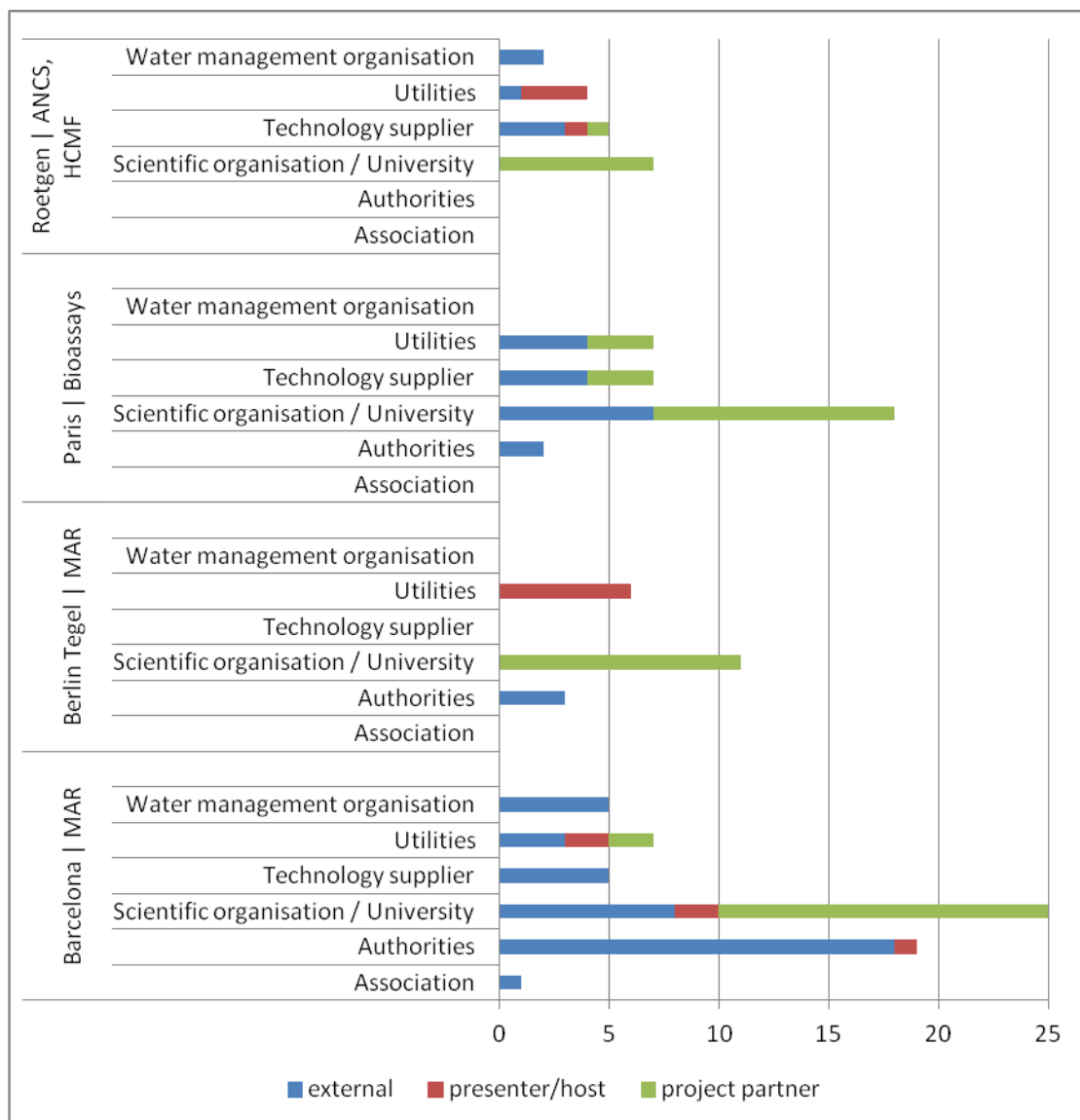


Figure 5: Participants according to stakeholder workshop, presented according to stakeholder group and role during the workshop

Taking a closer look at the four utility events, visualised in Figure 5, the breakdown of participants shows the high share of the scientific community, and particularly project-internal scientists. Associations were absent from three out of four utility events. One reason for this is the strong focus on scientific knowledge transfer at the utility events and the discussion of interim results that cannot yet be assessed for its impact. Authorities were present at three of the four utility events shown in the figure above for discussing the technologies where attention of authorities was intended (for MAR and bioassays). This was seen as a successful result of the project outreach.

Comparing the four utility events in greater detail, there is a clear difference in the breakdown of audience among the four technologies. This is due to the different dissemination goals for each of the four technologies as mentioned above. Apart from this, the technology development stage is another crucial reason. As bioassays are still being developed, many representatives of scientific organisations or universities were present. For MAR, where the technology is more developed, the audience at the utility event reflected its status as at the later stages along the dissemination timeline and thus more end-users of the technology could be attracted.

In addition to establishing a balanced mix of stakeholders that appropriately fit the stage of dissemination for each technology, the utility events primarily aimed to reach representatives of utilities, as suggested by the name of the event. However, this target group is historically particularly difficult to reach, as utilities are often overloaded with events. To address this trend, utilities were invited to participate in the event, rather than attend simply to receive information. Increased participation from utilities was observed when they were invited directly and asked to present their experiences. This kind of direct inclusion among the non-scientific community was observed to be a successful strategy for outreach of the project.

3 Channels for Dissemination (HOW AND WHEN)

3.1 Website

The website was the primary dissemination channel within the DEMEAU project. The website was launched on December 06, 2012. Over the course of the project runtime, DEMEAU observed a steady and large increase in website traffic from year to year. From the date of launching till the end of the project on August 31, 2015, there have been 35,409 cumulative visitors to the site, with the highest recorded website traffic in 2014 at 11,857 visitors (Figure 6). The DEMEAU website has been effective at attracting a large number of visitors, developing a wide network that spans across the entire globe from nearly every continent. Figure 7 visualises the full distribution of visitors for the website. Germany housed the highest number of visitors to the website (17.8%).

Much of the success of the website was due to the design and organisation of its elements. Table 1 highlights the main website elements, discussed in further detail below. Periodic feedback from regular users helped to optimise the design for greatest accessibility and ease of use. Analytics show that visitors of the website engaged, on average, in five actions per visit, suggesting that the website attracted users who continued on into the contents and services website offered. Following the website redesign in early 2015, a spike in downloads was observed, with a record high of 39 downloads in one day. The redesign aimed to increase organisation and intuitiveness of the site to encourage user action and downloads. The success of the website redesign confirmed the benefits of continue optimisation and user feedback over the course of the website’s lifetime.

Table 1: DEMEAU's main website elements.

Website element	Function of the element
Technology pages	Description of technologies
About	Description of the storyline, the project and partners
News	Summaries of recent results, events, and achievements
Events	Announcement of upcoming events; information repository for past events
Demo sites	Interactive map indicating the demonstration sites, locations, and profiles
Results	Publication of final versions of reports, deliverables, and results
Links	Provides additional information and interconnects with other networks
Internal area	Platform for internal communication amongst consortium members
Twitter, LinkedIn, RSS feed buttons	Allow interested stakeholders to follow discussions and new information through RSS feeds or social media

Banner

Prominently displayed on the banner of the website is the project name, logo and links to social media. The banner aims to engage the user and also provide links to more dynamic elements of dissemination and social media, namely Twitter and LinkedIn. In addition, the banner also provides easy access for contacting the project dissemination lead. Access to the internal website, discussed later in this section, is also provided for project partners here.

Header

Under the banner, the main website is organized such that the four main technologies (MAR, HCMF, HAO, and bioassays) in addition to the Life Cycle Assessment and Life Cycle Costing component are all displayed as headers across the landing page of the site. Clicking on each of these tabs directs the user to more information on the technology, including a brief introduction, specific news, and events.

Sidebar

On the sidebar, the ‘About’ tab provides further information on the storyline, the project, and the full list of partners. This setup leads the user through a brief but informative introduction to the key communication of the project as well as the main aims. In addition, the sidebar also hosts tabs linking most recent news about the project and also upcoming events. This was meant to provide a dynamic element to the website, to let visitors of the site know that the project is active and opportunities for further involvement.

Key to the dissemination strategy was the ‘Results’ tab, also included on the sidebar. This tab allowed users to see the full list of deliverables as well as peruse the deliverables by technology. This section is well-organised with eye-catching images that draw the attention of the user to each individual technology.

The sidebar also contained several other key elements, including the demonstration sites, the newsletters, and additional links. The aim of the website was to be well-organised and intuitive such that all content is readily available to find for users. It was also designed to be able to communicate deliverables and dissemination activities clearly and in real-time. As a result, the website also hosts an internal site for project partners to access and upload new web stories, scientific findings, technology brochures, and other pertinent deliverables.

Internal site

The internal site (hidden from the public domain) allowed registered users (in this case project partners) to post and search for documents. This feature helped to improve communication between consortium members and fostered knowledge exchange amongst DEMEAU partners. The collection of resources also were grouped into searchable categories - work package, deliverable, document type, file status, etc. - and allowed for a tagging system that makes it easy for internal users to locate the information they are looking for. In the end, the internal site was an important channel for communicating among project partners and also promoted better knowledge sharing across all areas of the project. The internal site also aided in keeping the diverse work packages informed about other work areas as the project was ongoing, which helped to produce a more cohesive project.

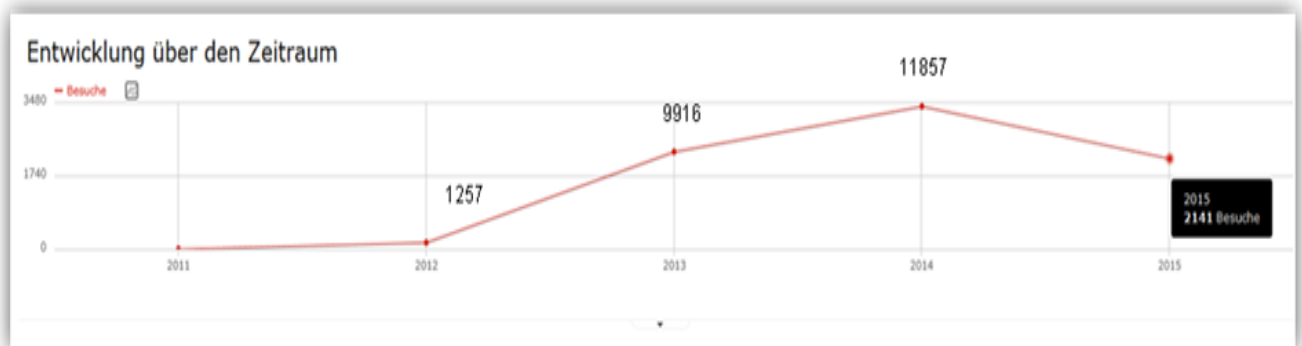


Figure 6: Development of website views during project runtime

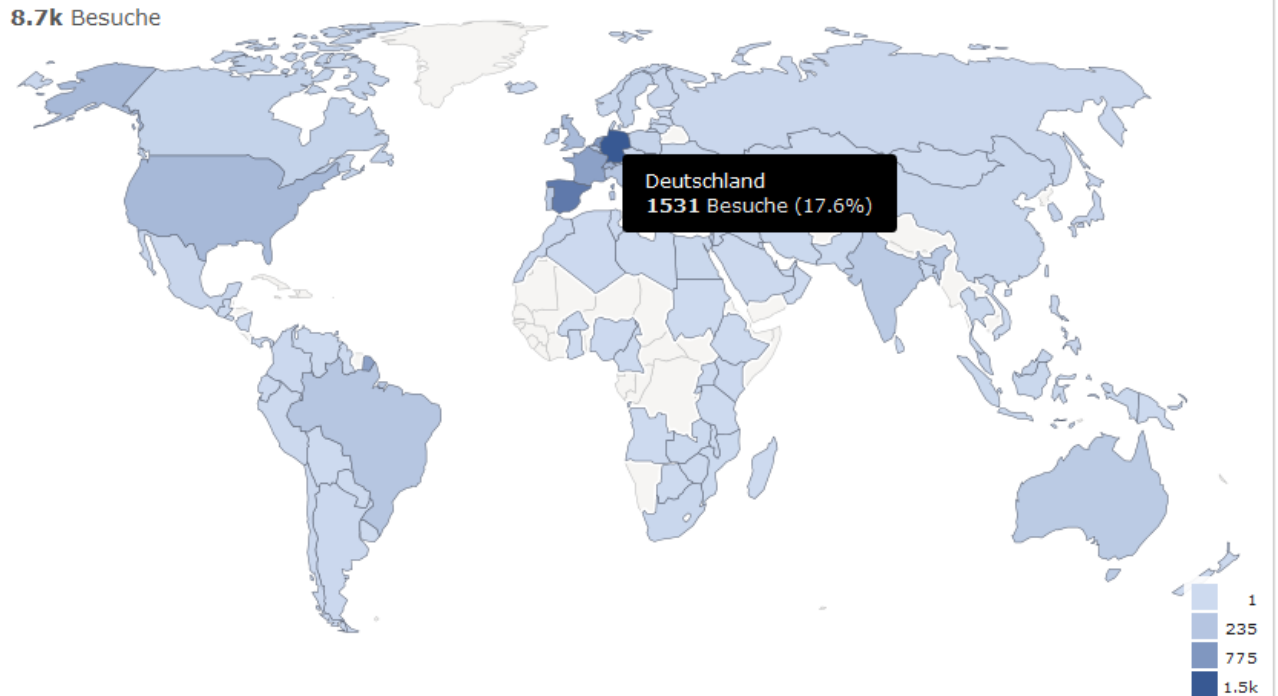


Figure 7: Distribution of visitors on the DEMEAU website according to country. Germany hosts the majority (17.8%) of website visitors.

3.2 Social media

Social media was also deployed as a channel for project dissemination. The social media strategy aimed to provide real-time updates to interested stakeholders on events, news, and project results. It was meant to supplement the website by providing a dynamic news flow to showcase the diverse activities of the project and for seeking new target groups and thereby a broader audience. Twitter and LinkedIn were selected as the main social media outlets maintained for the duration of the project, as these platforms were identified as the most used and trafficked among the relevant target groups. Twitter helped to reach a broader and more undefined audience, while LinkedIn was used for discussions, exchanges, and dissemination within a more professional and scientific community.

Twitter

The DEMEAU Twitter account was managed by Ecologic Institute with weekly tweets to maintain account activity and interest among followers regarding the DEMEAU project. Drawing initially upon the Twitter users among the network of the project consortium, the Twitter account garnered 300 followers over the course of the project (Figure 8). The account was also followed by a wide network of users in Twitter, including WssTP and WaterNewsEurope. These users have themselves large followership and provide important information to their audience.

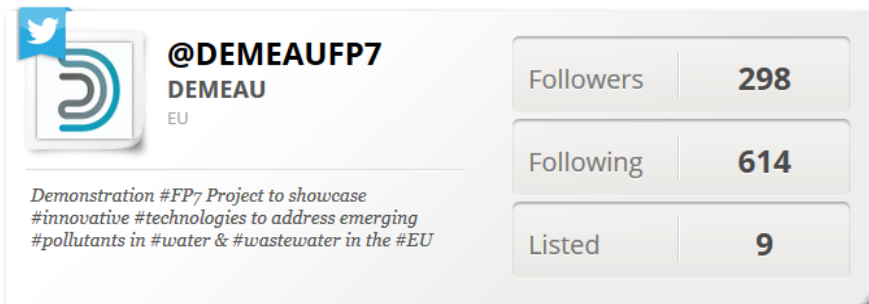


Figure 8: Overview of the Twitter account of DEMEAU.

WsstP is one of the project’s main followers and retweets DEMEAU’s tweets regularly. This has greatly aided in widening the reach of DEMEAU’s audience on Twitter and has facilitated acquiring new followers over the course of the project. Hashtags were also strategically used on the Twitter account, including popular ones such as #water and #innovation. This strategy helped to categorise tweets for the followers as well as broaden the reach of tweets. Additionally, project partners boosted the project’s online presence by performing live tweets at events that promoted the work of DEMEAU (Figure 9).



Figure 9: Example tweets of DEMEAU partners to promote the project.

Twitter was used to announce a wide variety of activities, including utility events, workshops, press releases for major project deliverables, interesting news articles, and retweets from other relevant tweeters across the drinking and waste water sector. Because the Twitter account and the website are linked, both channels helped to boost the other’s presence. For example, the release of the video animation was announced on Twitter, and helped to increase traffic on the website as well as increase the number of views of the animation (discussed in section 4.1.1).

3.3 Professional Networks

In order to maintain a professional presence, DEMEAU also engaged in building its professional networks. In the dissemination strategy, a list of the DEMEAU partners’ networks (Table 2) was compiled. This list was used to help organize joint activities, create awareness of innovation in similar projects, and share information throughout the project. WsstP and the European Water Community were two important networks to mention that facilitated promoting the project.

Table 2: Professional networks of DEMEAU

Networks	Consortium contact
Environmental Technologies Action Plan	ECOLOGIC, KWR: check for developments
European Innovation Partnership (Water)	ECOLOGIC, KWR: check for developments
European Water Community	ECOLOGIC
European Water Initiative	ECOLOGIC
FP7 2012 Resource Efficiency Cluster	ECOLOGIC
Innovation Seeds	ECOLOGIC
Nireas Intl Water Research Center, Cyprus	Eawag
Norman network	Eawag
Pharmas	ECOLOGIC, BDS
WISE-RTD	ECOLOGIC
WssTP	KWR
Aqua Research Collaboration (ARC)	KWR, IWW

LinkedIn was utilised at the primary online platform for sustaining and growing the professional network of the project. Harnessing the network of the entire project consortium, discussion threads and notifications on relevant topics were produced using this platform. Over the course of the project, the LinkedIn network for DEMEAU grew to 80 members. Of these members, a majority belong neither to the project consortium nor to partner institutions.

Though LinkedIn was the primary online platform for building DEMEAU’s professional network, person-to-person contacts from each partner also served to facilitate dissemination activities and bring in interested and relevant target groups. Partners were also asked to partake in the distribution lists for advertising events. For example, for the ANCS utility event and workshop in Roetgen, the diffusion list of the IWW Water Centre was used to post the event in several practitioners’ journals. This strategy proved to be very effective in reaching the target groups identified within the dissemination strategy.

3.4 Print Media

Print media served to complement digital and online media platforms by providing a more permanent record of the key communication messages of the project. These media, once published, remain in the final version for download. Print media took the form of newsletters and articles customised to the dissemination needs of the DEMEAU project.

The newsletters, released in every year of the project, provided an overview of the milestones of the project thus far. They included a variety of information, from interviews to work area updates to focus stories to the project timeline and upcoming events. The newsletters were prepared in a digestible and easily readable format that summarised the many other dissemination channels of the project in one place. For the most part, the newsletter targeted the broader DEMEAU network, including the professional network, with a special emphasis on utilities and water authorities.

The newsletters were emailed to the wider DEMEAU network and also distributed at external dissemination events e.g. at the WssTP annual conference in Brussels and at the World Water Week in Stockholm. The first newsletter focused on introducing the project and providing an overview of the status

of the research among the technologies. The second newsletter provided preliminary findings among the technologies, and also provided a special piece of the DEMEAU storyline to facilitate continuity as the project progressed. The third and final newsletter served to communicate the larger milestones of the project and also provide insights into any major conclusions.

DEMEAU also produced several articles. One article published in the German American Water Technology magazine served as a final dissemination product for the project. The article, titled “New approaches and technologies for tackling emerging pollutants in drinking and waste water,” explored the collaborative approaches of DEMEAU that in turn facilitated innovative and cross-cutting advances in the drinking and waste water sectors. In addition to describing the project, the article also provided insight to the key findings for each technology. This article is slated to be published in late 2015 and aims to target utilities in both Germany and abroad. Another article will still be submitted for publishing to the Environmental Engineering Management Journal with similar content. However, this journal article occupied a more scientific angle, providing more technical information on the applications for each technology and their uptake in relevant sectors. This article is still in the submission process when this report is being finalized.

In addition to the dissemination articles above, parallel scientific articles were also published by project partners, including one for HAO titled “Effects of UV/H₂O₂ process condition on Ames fluctuation assay response” presented at the World Congress of the International UV Association, and another for MAR entitled “Influence of a compost layer on the attenuation of 28 selected organic micropollutants under realistic soil aquifer treatment conditions: Insights from a large scale column experiment” published in Water Research. Results from bioassays research titled “Trigger values for investigation of hormonal activity in drinking water and its sources using CALUX bioassays” was also published in Environment International. These articles provided the scientific basis for communicating findings as part of the dissemination activities for the project.

3.5 Events

Events – organized in collaboration with the partners in the various Work Areas – were also used as opportunities for project dissemination. In the dissemination strategy, it was outlined that the types of events held for the purpose of dissemination should focus mainly on conferences, demonstrations, workshops, and seminars. Training courses, brokerage events, and briefings were also identified as appropriate, to a lesser extent, as highlighted in Figure 10.

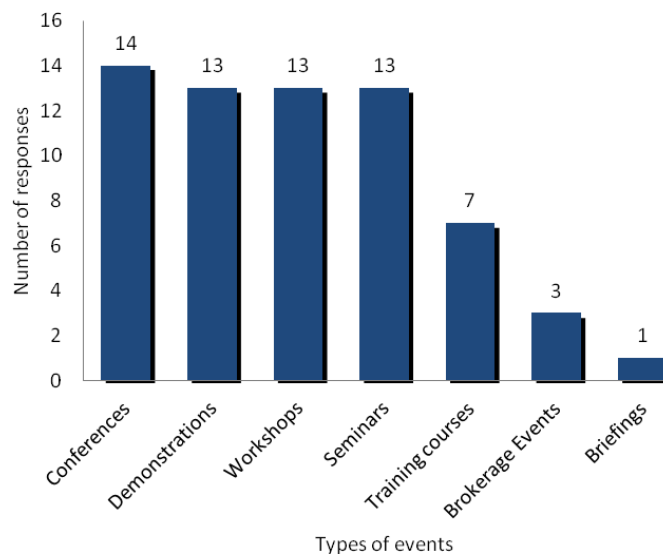


Figure 10: Type of events generally attended by DEMEAU's target groups (source: von Toggenburg et al. 2013).

Throughout the project, the choice of appropriate event type for dissemination was largely dependent on the target audience and the goal of the communication. Prior to holding an event, these two points were determined and the most effective type of event selected. If for example, new developments on a technology and its applications should be shared in the drinking and waste water sector, then a utility event possibly in conjunction with an on-site demonstration was used. This allowed scientists and technology developers to showcase their findings, while also allowing for utility stakeholders to experience the technology in action. Additionally, such events proved useful for bringing together a larger mix of stakeholders, including from policy, scientific, and technological audiences, to discuss the advantages and challenges with the technology at hand which was also exploited for stakeholder consultations in cooperation with WA5. These considerations as well as the intended format of events yielded the pattern of organised and attended dissemination events as outlined in Figure 11.

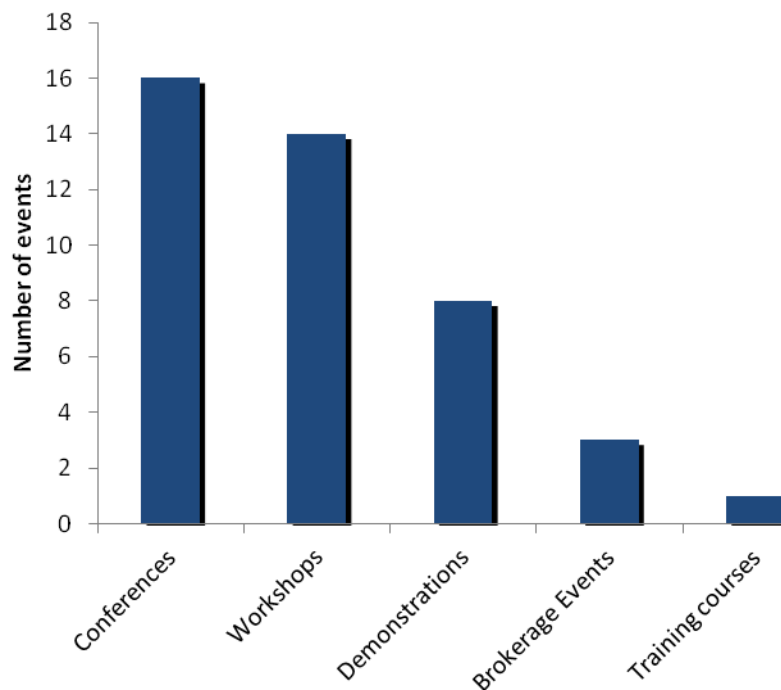


Figure 11: Dissemination events organised by DEMEAU and attended by DEMEAU partners.

Ecologic Institute was responsible for organising a large spectrum of events over the course of the project timeline. Dissemination events attended by DEMEAU partners included conferences, workshops, demonstrations, and brokerage events. A handful of trainings were also organised. For a full list of events, see ANNEX-A List of dissemination activities according to type.

No first set of events as outlined in the DOW was organised (see Figure 12). The reason for this was the reluctance of the utilities, technology developers and scientists to present technologies that were not fully developed to their potential, future customers. Another reason for this was the delayed construction work or development processes of the technologies. Therefore, for most technologies, no initial utility event could take place. The effort was then concentrated on the second series. Except for AOT, for all technologies stakeholder workshops or consultations were organised. For the pilot plants in Switzerland, stakeholders are involved on a general basis in such undertakings. Therefore it was decided to abstain from organising such a workshop in order to avoid stakeholder fatigue.

In the process it became clear that despite large efforts, the target group ‘potential clients’ was difficult to reach and motivate for the participation of the utility events and workshops. Though more events were originally planned, in the implementation, a majority of dissemination efforts were focused on social media and the project website instead. This helped to address the fact that utilities are often reluctant to travel to events, as they are usually already committed to too many events throughout the year.

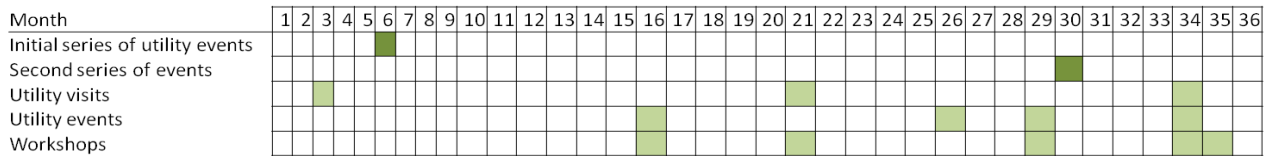


Figure 12: Scheduling of DEMEAU activities as planned in the DOW (dark green) and actual dates of the event (light green).

3.5.1 Associated utility events

Ecologic Institute organised several utility events to showcase the developments of the four technologies and their associated demonstration sites. Such events were considered promotion events for the launching utilities where a wide range of stakeholders from Europe or the respective country were encouraged to attend. Launching utilities (see Table 3) hosted one or two day events that included presentation and fields trips aiming to demonstrate the water technologies primarily to consortium partners, technology users, scientists, policymakers, and the boarder public. In addition to knowledge dissemination, the events aimed to raise awareness and also incite interest. Commercial exploitation of project outcomes was also discussed. In total, seven utility events took place as portrayed in Table 3.

Table 3: Utility events that were carried out during the project.

Technology	Date	Venue
MAR	8. – 9.11.2012	DUNEA, The Hague
MAR	5.12.2013	Berliner Wasserbetriebe, Berlin Tegel
MAR	2.10.2014	Aigues de Barcelona, Llobregat
HCMF	19.5.2014	PWN, Andijk
ANCS & HCMF	10.6.2015	WAG Nordeifel mbH, Roetgen
HAO	18.6.2015	Neugut & Waterworks Zürich, Switzerland
Bioassays	29.1.2015	Centre d’Analyses Environnementales, Paris

For the MAR technology, three utility events have been carried out. The first utility event took place at a utility of Dunea in association with the DEMEAU kick-off meeting in Den Hague, the Netherlands on 8 and 9 November 2012 (M3). Apart from participants of the project consortium, members of the project advisory committee took part in the event. The participants visited the MAR installation in the dunes of The Hague. At the sand dunes, water carried from 70 km west is filtered through the sand and then extracted to be treated with various procedures. The company delivers drinking water to 1.2 million customers in the

western part of South Holland every day. The second event has been executed on December 5, 2013 (M16) for the MAR technology in Berlin Tegel, Germany. The participants (WA1 & WA6 members, utility representatives and regional policy makers) approved of the success of the event. The participants visited the infiltration ponds and the river bank filtration of the Berliner Wasserbetriebe at Lake Tegel. On 2 October 2014 (M26), a third event was organised with Cetaqua in Llobregat, Spain. The audience comprised representatives of water utilities, academia, and local authorities. After several presentations about the project's results of WA1 and WA5 as well as several external presentations on MAR research, a group of participants visited the waste water reclamation plant located in El Prat del Llobregat of Aigües de Barcelona. The 12,600 m³/h of reclaimed water feed into the MAR system, providing recharge water to the MAR facilities located nearby.

On 19 May 2014 (M21), a utility event at PWN in Andijk, The Netherlands took place in association with the Project Steering Board meeting in Nieuwegein. The DEMEAU project team visited the newly developed CeraMac[®] plant, a highly efficient ceramic membrane installation, in which also the SIX[®] technology is applied. The plant produces 5,000 m³ drinking water per hour from the water of Lake IJssel. For the ANCS and HCMF technologies, a utility event was hosted at Wassergewinnungs- und Aufbereitungsgesellschaft Nordeifel mbH (WAG) in Roetgen, Germany in June 2015 (M34). The event was attended by practitioners and academia as well as multipliers that consult water utilities on the latest developments of the water technology sector. The event provided stakeholders involved in membrane filtration and automatic neural networks application with the opportunity to discuss their experiences and consult with the technology developers and implementers. Furthermore, the ultrafiltration plant was visited that produces 6,000 m³ drinking water per hour from the water of an adjacent freshwater reservoir. In a pilot, the treatment process was optimised with the ANCS tool of aquatune.

To present the HAO technology, the Waterworks Zurich and the Waste Water Treatment Plant Neugut hosted events on 18 June 2015 in association with the Final Consortium Meeting that was attended by an international audience of practitioners and academia (M34). In compliance with the amendments of the Federal Act on the protection of waters that will come into force from January 2016, the WWTP Neugut already implemented a treatment with ozone as the fourth treatment step for waste water in order to remove micropollutants from the water. At the Waterworks Zurich, a newly developed ozonation reactor was visited.

Bioassays were presented to academia and practitioners on 29 January 2015 in Paris (M29) hosted at the Centre d'Analyses Environnementales. During the morning session, bioassays were introduced and their application for assessing environmental and health effects of pollutants in water bodies illustrated. In the afternoon session, the event featured on-site lab demonstrations of two bioassays, the Microtox assay and the CALUX assay, and allowed for hands-on learning and exploration of these new, promising technologies.

3.5.2 Tailored workshops

Tailored workshops were used as targeted events with specific aims for project dissemination. In association with utility events, tailored workshops were carried out to address specific barriers to implementing the technologies that were identified in WP 5.2. In cooperation with WA 5, these workshops were tailored to the stakeholder audiences identified, including policymakers, representatives of standardisation institutions, technology suppliers and the broader public. The aim of the workshops is first, to understand the enabling and constraining factors for market uptake and second, to generate solutions for the market deployment of the technologies. They served to validate the results of the survey that was conducted by WA 5 in first phase of the project.

Most of the workshops were organised in association with utility events. However, for AOT and bioassays no stakeholder workshop could be organised. For AOT, the decision to apply advanced treatment at WWTP was taken on the highest policy level. As the stakeholders in Switzerland were frequently involved in the

implementation of the technology the willingness of participation in such events is expected to be limited. The stakeholder workshop for bioassays was substituted by interviews.

Table 4: Stakeholder workshops that were carried out during the project

Technology	Attendees	Date	Venue
MAR	Local authorities, practitioners, academia	2.10.2014	Aigues de Barcelona, Llobregat (ES)
ANCS	Practitioners, academia	10.6.2015	WAG Nordeifel mbH, Roetgen (DE)
HCMF	Practitioners, academia	10.6.2015	WAG Nordeifel mbH, Roetgen (DE)

The group workshops and individual interviews followed a clearly structured agenda, similar for each Work Area or case. WA5 partners developed the methodology to validate the findings of the analysis of drivers and barriers for the implementation of innovative water technologies in WP52. Firstly, the methodology of the analysis and its general outcomes were presented to the audience/interviewee. In a second step the audience/interviewee was prepared for the interactive discussion. General statements on drivers and barriers that were gathered via the stakeholder survey were presented. The audience was invited to show their agreement or disagreement by raising colour coded cards.

The participants split up in three working groups according to stakeholder group. Utility operators and technology developers, scientists and representatives of authorities were discussing in parallel sessions important barriers that each group encounters in relation to the implementation of the technology in questions, how the stakeholder group could contribute to overcome these barriers, and what would be required from the respective other stakeholder groups in order to overcome those barriers. Furthermore, the most important drivers were discussed with regards to the implementation of the technology in questions, how the stakeholder group would benefit from these drivers and how they could be beneficial also to other stakeholder groups. The members of WA 5 considered the outcomes to be a valuable input for their research. The outcomes contributed to the definition of recommendations for impact (D52.2 available at <http://demeau-fp7.eu/content/d522>).

3.5.3 Final dissemination events

The final dissemination of the DEMEAU project took place during several occasions. The approach that is usually taken by FP7 projects, to organise a final conference, was adapted to the experiences gained by the project consortium within this project and other projects in order to achieve a greater dissemination impact of the project.

Therefore, the project team aimed at dissemination in four packages:

- firstly, a final consortium meeting open to the public;
- secondly, a presentation of DEMEAU at the WssTP Water Innovation Europe conference;
- thirdly, a booth at this conference to reach out to water managers and representatives of the water sector and fourth, a contribution to the FP7 Resource Efficiency Cluster meeting on 16 September in Brussels with policy makers as the target audience. Although taking place after the formal completion of DEMEAU, we thought it useful to disseminate policy related project outcomes at this event.



Figure 13: DEMEAU project consortium at the final project meeting at Eawag, Dübendorf (CH).

The final consortium meeting was held on June 17 and 18 in Dübendorf, Switzerland, at the premises of Eawag. The meeting was attended by all consortium partners and several external people, who engaged in collaborative knowledge exchange and discussions on the final research results, conclusions and contributions of the project. During the first day, the Work Areas presented their research. After the participants received the overview of all project outcomes, they discussed in working groups in a “world café” atmosphere the contributions of the project to society focusing on technological and non-technological innovation, decreasing environmental impact, the creation of new markets and knowledge transfer. The result was gathered for the project’s final report and taken up in the presentation of DEMEAU at the WssTP conference in Brussels by the project coordinator. On the second day of the event, the project’s work on the oxidation plants at WWTP Neugut and at the drinking water plant at Waterworks Zurich was presented before the attendees had the chance to attend a visit to either of the sites.



Figure 14: Theo van den Hoven presenting DEMEAU at the annual WssTP meeting.

Several representatives of the project attended the WssTP conference “Water Innovation Europe” from June 24 to 26, 2015 in Brussels at the Diamant Conference centre. The project coordinator, Theo van den Hoven, presented the project in a slot of presentations of several FP projects on June 24 for an audience of 80 representatives from the EC, research institutes, utilities and industries. His presentation created great interest in the project’s outcomes, which became apparent due to the interested questions by the audience.

Furthermore, the project was represented with a booth in the exhibition area of the conference. The booth was coordinated by Ecologic Institute. The booth enjoyed great popularity. During the breaks of the conference, many of the 250 conference participants discovered the prepared dissemination material. They could choose from the project’s technology brochures on managed aquifer recharge, bioassays and automatic neural net control systems, information provided by the SME’s that were involved in the project and general information on the project in a leaflet and the newsletters. The booth was also accompanied by two posters presenting the automatic neural net control systems and bioassays, as well as the broadcasting of the recorded presentations of the scientific presentations at the final consortium meeting in Dübendorf and the screening of the DEMEAU animated video.

During the contact with the visitors at the booth several interests could be served. Most of the visitors were interested in the involvement of the SME’s in the project and wanted to get in touch with a specific company in whose product they were interested.

A last dissemination activity was scheduled for September 16, 2015. On this date, the final event of the Resource Efficiency Cluster took place, of which the DEMEAU project is part. Ecologic Insitute represented the project and made use of this event to reach out to EC policy makers and to exchange with other projects working on eco innovation.



Figure 15: DEMEAU booth at the WssTP conference.

4 Dissemination Material (WITH WHAT)

DEMEAU’s dissemination strategy is based on key communication goals and relies on appropriate dissemination material, including digital and print media for the identified target groups. Consortium members largely agreed, based on a survey administered at the outset of the project, that the primary goal of the dissemination of the project results was to raise awareness (Figure 16). Tailored dissemination materials that contained the desired communication messages were therefore key to successfully achieving this goal. For DEMEAU, such materials were produced in a wide variety of forms, the nature of which were tailored to the target audience, the goal itself, and the dissemination channel in question. The project prioritised consistency and clarity in communicating the appearance, with focus amongst others on appropriate message design with a corporate design for the project.

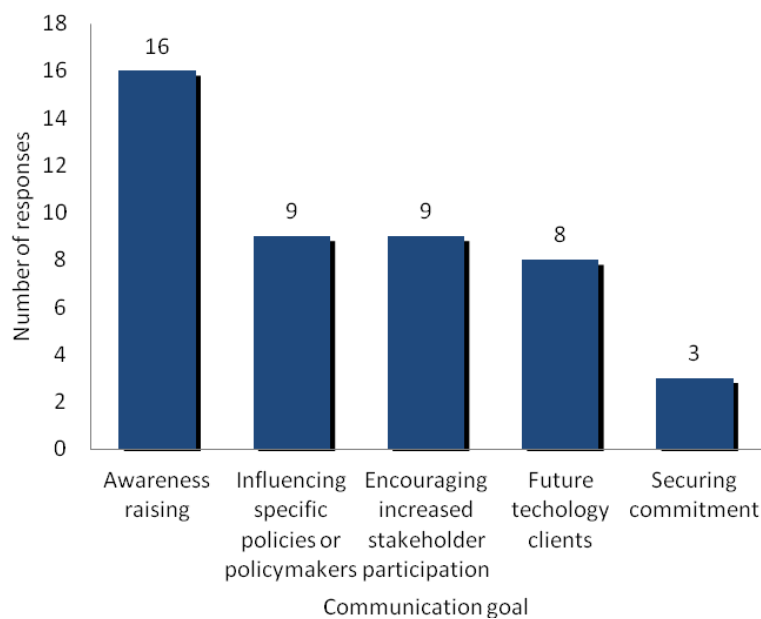


Figure 16: Communication goal according to the DEMEAU consortium members assessed in a survey in the beginning of the project (von Toggenburg et al. 2013).

The survey among consortium members also determined that the most relevant dissemination products for the target groups identified were scientific articles, newsletters, reports, and flyers (most mentioned in Figure 17).

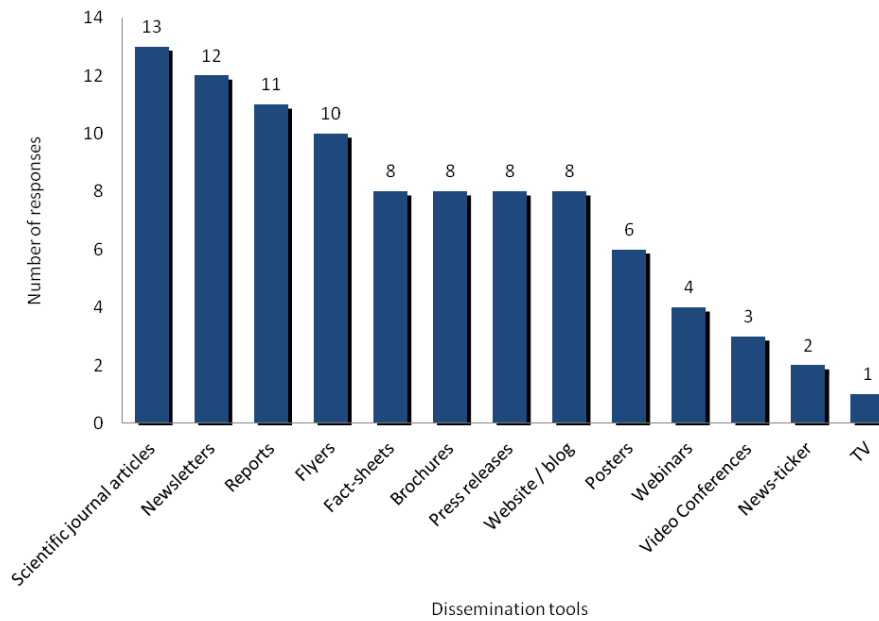


Figure 17: Dissemination tools as considered relevant to the target groups, assessed in a survey in the beginning of the project (von Toggenburg et al. 2013).

Figure 18 shows in further detail dissemination products, which included reports, press releases, flyers, web content, posters, scientific articles, video animation, presentations, and popular press articles. Report and press releases were the most frequently utilised dissemination product. When comparing the means used with the means considered most appropriate a deviation is apparent. This deviation stemmed on the one hand from the shift to more online dissemination. On the other hand, the scientific articles that were deemed most appropriate are currently being written are therefore not portrayed yet. As many results were only finalised in the end of the project, the scientific results could not yet be transformed in scientific articles.

In addition to using surveys from consortium members, the choice for material and content was adapted based on the expertise and experience with the target group from previous projects. Because the communication goal determines the communication goal and the material, tailoring was needed. Within DEMEAU, digital materials, such as news stories, newsletters, and video animation, and print media such as technology brochures, leaflets, and posters were designed to present the research. Work Area 6, in charge of dissemination, determined the highest impact dissemination materials for each purpose and thus for each communication goal. Although the scientists involved in the development of technologies ranked the more general dissemination material such as the video animation with lower importance; the number of viewings confirms that the video animation was a high impact tool for communicating the key message of the project. In the end, the video animation had a broad scope, and reached a wider spread of audience than the other dissemination materials that was tailored to specific target groups.

In the following figure, the dissemination means and channels used for reaching a specific communication goal are portrayed in greater detail (Table 5).

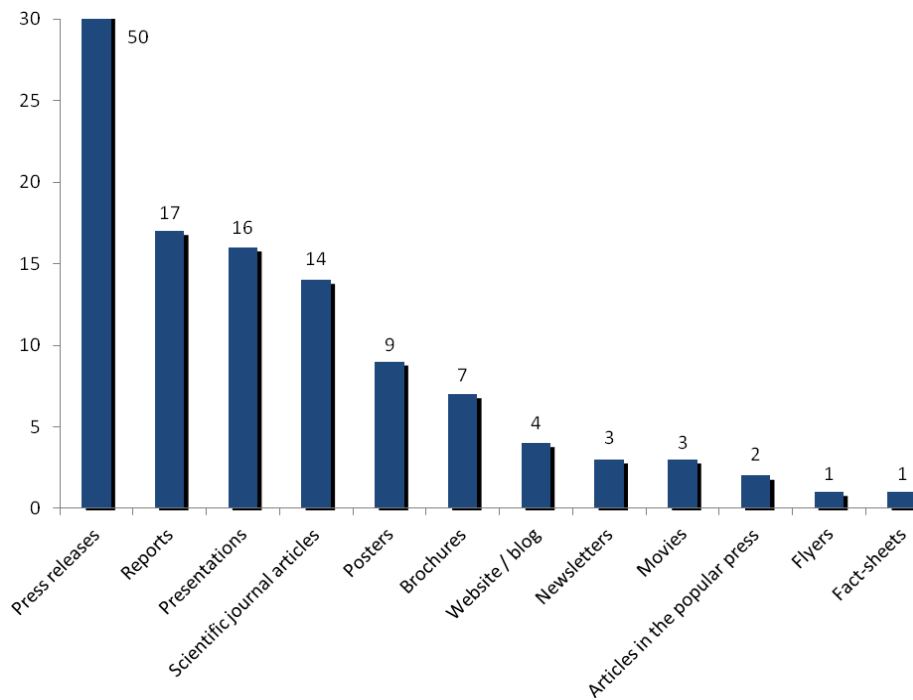


Figure 18: Dissemination products produced by the project.

Table 5: An integrated overview of the DEMEAU communication goals and strategies used.

Communication goal	Dissemination material	Dissemination channels					Achievements
		Website	Social media	Professional networks	Print media	Events	
Awareness raising	Leaflet, video animation, technology brochures, utility events	++	++	+	+	++	++
Influencing policy	Presentations at external events, utility events	0	+	0	+	++	+
Encouraging stakeholder participation	Workshops	++	++	++	+	++	+++
Building future clients	Events (utility and external events), technology brochures	++	+	++	++	++	+++
Securing commitment	Events, newsletters	+	0	+	++	++	++

4.1 Awareness raising

Raising awareness was the key communication goal that also supported achieving other communication goals of the project. The diversity of awareness raising materials and activities were carefully designed to achieve high impact results. For DEMEAU, awareness raising focused primarily on dissemination and demonstration of the technologies to address emerging pollutants across all target groups. Additionally, awareness raising activities varied depending on the target group audience. For utilities, for example, raising awareness included dissemination of print and digital materials about possible technologies to modernise their plants. For local authorities, on the other hand, awareness was built through inclusion in tailored workshops.

4.1.1 Video animation

Animated videos that reach many views in social media channels and thus a high impact should be short. For the project, it was decided that a short animation is an excellent way to explain emerging pollutants and the benefits of the DEMEAU technologies for the wider public. The idea to use a web animation to communicate the science on the topic to the broad public arose from several earlier good examples of animations produced for similar topics at Ecologic Institute. It supports to present the complex topic of emerging pollutants in a visual way, which would not be possible with a filmed movie.

The animation's objectives, as defined by the project management and the dissemination leaders, were:

- help increase the awareness of the public of the necessity of advanced technologies in water treatment,
- to provide the information required for a good understanding of the topic in a simple format.

In this sense, the starting point to the development of the animation was the storyline developed for the project (see section 1.1). The animation's storyline has the following structure:

1. Introducing emerging pollutants and their source
2. State of the art and future potential developments of waste water treatment
3. Options for further treatment with a call for action

The animation only has a duration of 3:49 minutes and therefore quite likely to be watched completely. The images contain only little text, which is not relevant to understand the message of the video and is therefore easy to watch for the majority of people. The animation was produced in two versions of different resolution and file size. One version is appropriate for its display on the internet; the higher resolution version can be used for large screenings during events.

The animation's full title is "Dare to Drink? Emerging Pollutants in Our Water". It can be viewed on YouTube under the following link:

<https://www.youtube.com/watch?v=v8iihsQYOos>

Furthermore, it can be viewed on Vimeo under the following link:

<https://vimeo.com/123715008>

Development and Production Process

The animation was an in-house production of Ecologic Institute. The development and production process was organised in the following steps, described in detail below: script, design style, storyboard, music, voice recording, animatics, animation, sound design, compositing & finalising.

Script: The draft animation script was developed by Ecologic Institute, with input in the form of comments and suggestions for improvements from the DEMEAU project consortium. The script defines the spoken text of the video and a brief description of the scenes. Multiple text revisions were necessary to get to a high quality result. Technical terms needed to be avoided. Sentences needed to be shortened in order to match spoken word, image and sound perfectly.

Design Style: While working on the storyboards, the basic design style for the animation was developed. Therefore comparable web animations were researched and discussed. Based on the team preferences, the storyboard was developed in this style.

Storyboard: After the script was finalized, the storyboard was the next step that was carried out by the Ecologic Institute's web designer. A storyboard consists of simple drawings, at least one per camera shot that show how every picture in the film tells a specific part of the story. They were used as the first step to illustrate the visualisations and attempt to conceptualise its workings. The art in the storyboard was rough pencils.

Music: In parallel with developing the storyboards and the design, the music was composed by Nick Evans, a young musician currently involved with Ecologic Institute as a Transatlantic Fellow.

Voice recording: The recording of the voice-over was the model for the animatics. The voice-over, spoken by a native speaker, was recorded at Ecologic Institute.

Animatics: The drawings of the storyboard were coloured and combined in the so called animatics. They served to the designer to start the animation.

Animation: In the animation process every storyboard drawing was transformed into a fully animated film scene. What formerly was a single drawing now became moving characters and backgrounds. There were several rounds of changes on the animated movements and scene transitions of the film.

Sound Design: The voice-overs were created first. Based on the sound and music, the sound design was done in several steps. The ideas within the production team were collected and served as an idea for the research on necessary sound effects and ambiances, which were taken from sound archives.

Compositing & Finalising: When the animation was done it was taken to the compositing process. The final soundtrack, including all voice-overs, sounds and music, was added to the animation. The final videos were delivered in several formats suitable e.g. for websites, or streaming.

Dissemination Strategy

YouTube was chosen as the main platform for the dissemination of the animation. As well as currently being the most widely used video-sharing website, it offers a clear advantage over other platforms as "clicks" of viewing users are recorded over time, enabling to measure impact. In addition, the platform is well-known and ubiquitously accessible.

The animation's target group, defined during the development process, was the general educated public. Intermediaries of this target group are representatives in professional networks dealing with the following topics:

- Water treatment: technologies, associations,
- Water management: water associations, fresh water,
- Emerging pollutants: toxicology, pharmaceuticals
- Education: water education

The already used channels for dissemination were also used for this task. For instance LinkedIn groups used as discussion forums by the identified stakeholder groups were targeted, posting messages about the animation with the invitation to spread the link in the users' professional and private networks. Twitter was used for the dissemination. In addition, information was spread through topic-related mailing lists. Ecologic Institute also published a newsletter article on the animation and it was featured in the 2nd DEMEAU Newsletter.

To also raise attention within the international water community, the video is also distributed via the "The Water Channel". This is a web platform dedicated at education focussed on water sponsored amongst others by Unesco-IHE, Meta Meta, Cap-Net "UNDP: Capacity Development in sustainable water management" and the International Fund for Agricultural Development. The video on the water channel can be accessed under the following link:

<http://www.thewaterchannel.tv/media-gallery/6112-dare-to-drink-emerging-pollutants-in-our-water>

Impact: Using YouTube as video-sharing platform provides an advantage over other platforms, as it records viewing "clicks" since the launch of the video. By August 31, 2015, the animation had been played 1,266 times on YouTube and viewed additional 891 times on The Water Channel.

4.1.2 Leaflet & brochures

The project leaflet was the predecessor to the technology brochures and serves to promote each technology. The leaflet (also referred to as flyer) aimed to generate interest in the research area of DEMEAU using mass distribution across a broad audience. The leaflets were distributed at all DEMEAU related events, including utility events, on the website, through social media and professional networks, and as hard copies at conferences. They were translated into several languages that are pertinent to the project consortium (English, German, Spanish, Catalan, and French).

In total, four technology brochures were published. They cover the technologies bioassays, ANCS, AOT and MAR. The technology brochures are aimed at utilities, water associations and technology suppliers. Therefore, they present information with a high level of technical detail. They present the following aspects:

1. Introduction: The technology is presented in brief, the technology design is described and its effectiveness with regards to emerging pollutants is highlighted.
2. Application of technology: The part contains requisite environmental conditions for application (e.g. residual time of water in aquifer, m³ of waste water to be purified), it portrays advantages of the technology application with a special focus on emerging pollutants. Scalability is described and recommendations for urban application are given (e.g. best fit of technology based on size of city, volume of drinking or waste water)
3. Recommendations for implementation: Opportunities for uptake including best audiences to target, or suggested scale of implementation are described. Barriers to Uptake with regards to legal and/or regulatory, and economic barriers are mentioned as well as other applicable barriers. Recommendations for impact are formulated (e.g. How can the technology make the most significant impact?)
4. Synergies: What other technologies when applied with this technology provide opportunities for beneficial synergies to improve drinking water or waste water?
5. LCA/LCC: The results of the analyses are portrayed including a description of the methodology of the analysis.

6. Case studies: the application of the technology in case studies is described including location, overview of utility, summary of technology design, key findings.

The brochures were distributed at the utility events as well as external events. They are also available for download on the project website and highlighted in news stories.

4.1.3 Website and social media

The website was designed with the key communication goal in mind. The layout of the website promotes the four technologies, while also providing insight to the storyline and key results of the project (see chapter 3.1). The website provides information on upcoming events and news stories on project updates, key elements of the DEMEAU dissemination strategy. The website also prominently displays links to social media platforms utilised by DEMEAU, both Twitter and LinkedIn.

Social media was used to promote the various activities and knowledge sharing for DEMEAU (see chapter 3.3). Twitter targeted a broader audience, including interested members of the general public. The account was regularly updated with real-time tweets on project happenings. Events, press releases, and new findings were actively disseminated and retweeted across the broader DEMEAU network with help from the project consortium and DEMEAU's Twitter followers. LinkedIn was also utilised and targeted the professional network of the project. This social media tool was used primarily as a platform for discussion of relevant topics related to DEMEAU research and activities. Both Twitter and LinkedIn contributed to an increased online presence of the project and both directly and indirectly promoted the website and its contents.

4.1.4 Utility events

As previously described, utility events were used as the main dissemination channel to the utilities, technology suppliers and water associations apart from the website and social media. They were hosted to raise awareness of the utilities about innovative technologies and show the benefits of the demonstrated water technologies compared to conventional ones. The events took the form of one or two-day events that included presentations from experts as well as demonstration field trips to the hosting utility (see chapter 3.5.1). The field trips helped showcase the technology to a variety of other target groups attending the event, including technology users, scientists, policymakers (where present), and in some instances the broader public. The events achieved the aims of the dissemination strategy by raising awareness about the technologies, engaging policy makers, and garnering interest from future technology clients.

4.2 Influencing policy

DEMEAU also regularly participated at policy events to raise awareness on the new technologies for water treatment and to work towards policy targets for sustainable water services with policymakers. Policy events were seen as appropriate venues for broaching the science-policy interface and push for more comprehensive policy surrounding emerging pollutants and innovative treatment technologies. It was also viewed as an opportunity to disseminate key messages and inform policymakers with the latest scientific knowledge. In this way, policy events also served as a method of knowledge transfer.

- DEMEAU was represented internationally in 2013, when results from the MAR catalogue were presented, at the 8th International Symposium on Managed Aquifer Recharge (ISMAR8) in Beijing China. An oral presentation to stakeholders present at the symposium helped to communicate knowledge gaps for the technology while also improving trust in the performance of MAR to overcome barriers to implementation.
- In April 2013, DEMEAU participated at Wasser Berlin International, a capital goods trade fair and congress for water technologies. Transfer of research results from the work areas of the project

was the primary goal and helped the project engage directly in the science-policy interface. The event served to improve communication between scientists and policymakers while also promoting market uptake of innovative research and developments surrounding the water technologies.

- Utility events occasionally served a dual purpose as policy events. Due to the diverse stakeholders attending utility events, including policymakers, policy-related pitches were explored and communicated during utility events. For MAR, for example, regulators and authorities were regularly present at the utility events. As a result, the events provided opportunity for inclusion of policy-related stakeholders and pertinent discussions regarding the policy barriers that currently exist for the water technologies.
- DEMEAU was also present at the annual WssTP Water Innovation Europe 2015 held in Brussels, Belgium. The project coordinator presented a pitch of the projects main activities and impacts to a broad range of stakeholders including policy makers of the European Commission. Furthermore, the project hosted a booth, where dissemination materials were distributed to attendees. The conference served as an important venue to promote the research findings from the project and to trigger policy-related discussions.
- The project was represented at World Water Week 2015, a key water policy event in Stockholm, Sweden. DEMEAU hosted a booth among the exhibitions, attracting a wide audience from around the globe. The international event attracted the full spectrum of target groups relevant to DEMEAU. The video animation was displayed at the booth, and helped to raise awareness about the importance of tackling emerging pollutants to policy makers that attended the conference.
- DEMEAU also engaged in a network of policy events through its participation in the Resource Efficiency Cluster, a cooperative effort between several FP7 projects that work on eco-innovative technologies, processes and services to increase the impact of dissemination activities that target the same stakeholders as DEMEAU. The cooperation helped widen the reach of DEMEAU's impacts in the policy arena, harnessing the contributions of other similar projects. This took the form of joint review meetings and exchanges of information across the cluster of projects. A joint kick-off event was held in October 2012 at DG Research and Innovation in Brussels, Belgium, to mobilise this effort. In addition, a joint final event was also hosted to conclude the cooperation and take stock of the milestones achieved from the cooperation on 16 September 2015 in Brussels.

4.3 Stakeholder participation

To engage stakeholders in direct participation, tailored workshops were held at utility events (see chapter 3.5.2). The workshops allowed the diverse stakeholder audiences in attendance at utility events to engage in facilitated discussions on the opportunities and challenges surrounding each water technology and its role in addressing emerging pollutants. Policy makers were encouraged to participate. During the workshops, participants worked together for the identification of barriers and opportunities for technology uptake on the side of science, practice and policy. The workshops helped to mobilise important dialogues on the way forward to uptake of technologies to address emerging pollutants in the drinking and waste water sector.

4.4 Technology clients

Acquiring future technology clients was an important goal of the project. Utility events provided an appropriate platform for garnering technology clients and promoting the uptake of the water technologies

for market deployment. The developed technology brochures presented all relevant information for the technology clients for their more specific information.

- Inviting interested technology suppliers to utility events proved to be an important strategy for dissemination. Their participation in the events helped to address knowledge gaps. In addition, launching utilities were able to share their experiences with the technologies, thereby providing useful and credible feedback to potential technology clients interested in implementing the technologies at hand. In this way, utility events helped to broaden the potential for market uptake of the water technologies among technology suppliers.
- Technology clients were also specifically targeted through attendance of conferences and establishment of partnerships. Attendance at the 7th Bio Detectors Conference, Amsterdam's International Water Week in 2013 and Berlin Water Week provided opportunities to engage with technology clients in Europe and disseminate findings that would facilitate uptake of the water technologies in the European context early on in the project timeline.
- DEMEAU's participation at events such as Wasser Berlin International, WssTP Water Innovation Europe 2015, and World Water Week 2015 also served to target future technology clients more broadly. Dissemination of print materials at exhibition booths attracted clients not only from Europe but also internationally, and helped to increase interest in the water technologies explored by DEMEAU.
- DEMEAU's work with the Catalan Water Partnership also enhanced the strategic incorporation of water technologies in the innovation sector in Spain. Such strategic partnerships were important drivers for acquiring trust from future technology clients.

4.5 Securing commitment

One of the main goals of the dissemination strategy was to improve commitment across the diverse stakeholders in the drinking and waste water sector with regards to the water technologies. Utility events served as important engines for securing commitment across a wide audience, from policy makers to technology suppliers to water authorities. The utility events helped to bring stakeholders together in the same room, facilitating dialogues that built trust and secured buy-in among major players. While scientists played a key role in providing the necessary scientific knowledge, utilities helped to share their experiences in formally implementing the technologies. This approach was critical for helping to secure commitment and advance the technologies beyond the scope of DEMEAU.

5 Conclusions

As mentioned throughout, dissemination in the DEMEAU project consisted of a wide spectrum of activities that aimed to reach a variety of actors. Due to the inherent diversity of the technologies themselves, the dissemination channels were broad enough to be applied across all the technologies, yet customisable and flexible enough to tailor to each technology. At the same time, overarching messages were also broadcasted to highlight the synergies between the technologies that only become obvious when regarding the larger picture.

Despite the inherent flexibility, the originally outlined plan for dissemination in the dissemination strategy needed to be adapted in some parts. This was necessary to overcome the challenges that the transdisciplinary collaboration posed on the project partners. Barriers that were not expected also made dissemination sometimes a tedious task, as inclusion of target groups depends to a high degree on their ability and willingness to collaborate (technology suppliers vs. potential users). However, due to the adaptations that this report outlined, and a broad range of dissemination means and possibilities used, the dissemination of the project was seen overall as a successful activity.

Dissemination Goals

As elaborated, the DEMEAU project focused on five main dissemination goals, identified in collaboration with the consortium and experts from Work Area 5. The goals included: raising awareness, influencing policy, encouraging stakeholder engagement, building future clients, and securing commitment of the stakeholders.

The goals illuminated the need for simultaneous buy-in among the public, policy, and utility sectors, and also touched on the economic and social dimensions that facilitate technology uptake. DEMEAU was perceived as an interactive, common platform for such transdisciplinary collaboration. All involved parties perceived this opportunity as very fruitful with regards to their learning experiences.

Dissemination Channels

To achieve the goals established, the DEMEAU project created a portfolio of activities and materials. Digital channels, including a project website, a video animation, social media, and online networks, and print channels, including newsletters, technology brochures, reports, and posters, were both used. In addition, dissemination activities, such as utility events, workshops, and conferences, that brought together specific target groups were also critical to achieving the goals. Creating a dissemination mix that balanced print, digital, and activity channels were essential to the overall success of the project dissemination and supported effective communication of the key message of the DEMEAU project.

In practice, knowledge of the target groups, messages and channels were used to customise the dissemination material to the specific needs of each group. For awareness raising, a video animation, a leaflet and technology brochures were prepared. Information was mainly sent through the website and the social media channels. Utility events were aimed at raising awareness on the innovative technologies. To influence policy for fostering uptake, external events were used to reach out to policy makers, e.g. the WssTP annual conference in Brussels 2015 or the Resource Efficiency Cluster Events. Stakeholder participation was aimed at with the organised workshops. Within utility events or through work within European working groups such as the Catalan Water Partnership, the project consortium reached out to technology clients. With the sum of dissemination commitment of the stakeholders was secured.

Successes and challenges

The transdisciplinary nature of the DEMEAU project, though a great asset on the whole, was at the same time a challenge for effective dissemination. Dissemination is a collaborative process that required input from many partners and feedback loops between research and practice. Collaboration is therefore key to effective dissemination on this front which was occasionally lacking. The internal area on the website that was inclusive and accessible to all partners supported collaboration eventually.

Because the end of the project coincides with the publication of the final findings, dissemination is tricky with regards to timing. To compensate this challenge, DEMEAU was proactive in engaging in dissemination in real-time, where appropriate, to keep target groups informed throughout the research project, as new developments were released. This helped to increase transparency while also producing staggered and digestible bits of information to relevant target groups, rather than a large flood of information at the end of the project. This method was particularly well-adapted to social media, especially Twitter. Nevertheless it also presented the dissemination team with obstacles as scientific findings are only presented when they are published. Despite this common approach, it is useful to technology clients, utilities, policy makers and other scientists to learn about the processes towards the findings.

Impacts

Due to the close cooperation of technology developers, utilities and scientists, DEMEAU was able to facilitate a sped-up, iterative learning process that mutually benefited all actors involved. However, in order to enhance reaching this goal to its full extent and to incite utilities to implement those technologies, problem awareness for the subject of emerging pollutants within the general public and water authorities is necessary. Increasing awareness at those target groups will build up the pressure on the utilities and create incentives for implementing novel treatment techniques or developing regulations to drive this implementation.

At the end of the three year long project and dissemination period, a facilitated discussion between consortium members was held to assess the results and impacts of the activities. It was concluded that the collaboration of the variety of actors within the project, and beyond, led to a fruitful experience of knowledge transfer. For enhancing the implementation of advanced treatment tackle emerging pollutants, awareness raising among utilities and the general public is at the heart of effective dissemination and technology uptake. Trust building at the customer and consumer side was also highlighted as essential to building commitment. This was achieved through the real-life demonstration sites, where the technologies were tested and refined in real time. To enhance the trust building process, dissemination activities were designed to involve other utilities, technology suppliers, water associations and policy makers.

References

Von Toggenburg, J., M. Lange, B. Goeller, U. Stein (2013). Dissemination and Communication Strategy. Report for DEMEAU. Granted within European Community's Seventh Framework Programme under Grant Agreement No.308339.

ANNEX-A List of dissemination activities according to type

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
articles published in the popular press	rwb	Medicijn tegen vervuiling	19/12/2014	Almelo	scientific community
articles published in the popular press	Ecologic	New Approaches & Technologies For Tackling Emerging Pollutants In Drinking & Wastewater	September 2015	German Water Magazine 2015/2016	American Technology 2015/2016 industry
brochures	aquatune, IWW, Ecologic	TechBrochure: ANCS (German and English)	June 2015		industry
brochures	BDS, Veolia, Ecotox Centre, KWR; Ecologic	TechBrochure: Bioassays	January 2015		industry
brochures	KWB, CETaqua, Amphos21, HYDOR, KWR, Ecologic	TechBrochure: Managing Aquifer Recharge: subsurface treatment, storage, recovery	June 2015		industry
brochures	KWR, Veolia,	Recommendations for Impact: Bioassays	October 2015	demeau-fp7.eu	industry

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
	Quantis, KWB, FHNW, IWW				
brochures	KWR, Veolia, Quantis, KWB, FHNW, IWW	Recommendations for Impact: AOT	October 2015	demeau-fp7.eu	industry
brochures	KWR, Veolia, Quantis, KWB, FHNW, IWW	Recommendations for Impact: MAR	October 2015	demeau-fp7.eu	industry
brochures	KWR, Veolia, Quantis, KWB, FHNW, IWW	Recommendations for Impact: HCMF	October 2015	demeau-fp7.eu	industry
conference	KWB	European Innovation platform	5-6/11/2014	Barcelona, Spain	civil society
conference	Ecologic	Wasser Berlin International	27/04/2013	Berlin	industry
conference	CETaqua	Pharmaceuticals in wastewaters and surface waters under multistressors situation: Fate, Adverse effects, Risks and Removal Technologies POSTER PRESENTATION	02 - 03 /12/2014	Barcelona, Spain	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
conference	CETaqua	AQUACONSOIL conference	09 -12/06/2015	Copenhagen, Denmark	scientific community
conference	EAWAG	Micropol and Ecohazard 2013	16-20/06/2013	Zürich	scientific community
conference	FHNW, KWB, Quantis, IWW, Ecotox Centre	SETAC	7-10/9/2015	Zurich	scientific community
conference	KWB	ISMAR 8	15-19/10/2013	Beijing, China	scientific community
conference	KWB	R-User Conference	30/06-03/07/2015	Aalborg, Denmark	scientific community
conference	KWB	Can we trust in MAR to deal with emerging contaminants present in reclaimed water? IWA World Water Congress	21/-16/09/2014	Lisbon	scientific community
conference	BDS	7th Bio Detectors Conference: Dioxins,PCBs,POPs,endocrine disruptors, obesogens and emerging pollutants	7/-8/11/2013	Istanbul	scientific community
conference	Ecologic	Aquatech Amsterdam	06/11/2013	Amsterdam	industry

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
exhibitions	Ecologic	WSSTP Water Innovation Europe	25/ - 26/6-2015	Brussels	industry
exhibitions	Ecologic	ECCA	12/ - 14/05/2015	Copenhagen	scientific community
exhibitions	Ecologic	World Water Week Stockholm	23/8/ 28/8/2015	- Stockholm	scientific community
fact-sheets	KWR	D42.1 Position paper(s) how bioassay derived data can be applied for water quality assessment M12		demeau-fp7.eu	policy makers
flyers	Ecologic	DEMEAU flyer	December 2012		all
posters	aquatune	Process control with an automated Neural Net Control System	23/8/ 28/8/2015	- Stockholm	scientific community
posters	aquatune	Process control with an automated Neural Net Control System	24-26/06/2015	Brussels - WssTP	scientific community
posters	BDS	High throughput water-quality monitoring using CALUX bioassays	24-26/06/2015	Brussels - WssTP	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
posters	BDS	High throughput water-quality monitoring using CALUX bioassays	23/8/ 28/8/2015	- Stockholm	scientific community
posters	KWR	IUVA World Congress 2013	22-26/09/2013	Las Vegas	scientific community
posters	KWR	Occurrence and fate of pharmaceuticals and transformation products in the aqueous environment	19/06/2013	Zürich	scientific community
posters	VERI	Implementation of novel rapid and quantitative biassays for water quality monitoring	15/07/2013	Nantes	scientific community
posters	cetaqua	Pharmaceuticals in Wastewaters and Surface Waters Under Multistressors Situation: Fate, Adverse Effects, Risks and Removal Technologies	2-3/12/2014	Barcelona	scientific community
posters	Eawag	SETAC Europe 24th Annual Meeting: Detection and the identification of ozonation products in water by non-target approach	11/05/- 15/05/2014	Basel, Switzerland	scientific community
presentations	KWR	Hybrid ceramic membrane system for treatment of WWTP effluent	28/08/2015	Almelo (The Netherlands)	industry

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
presentations	Eawag	VSA-/PEAK-Tagung: Verhalten von Spurenstoffen und Zwischenprodukten in der Ozonung und biologischen Nachbehandlung	12/06/ and 19/06/2015	Dübendorf, Switzerland	industry
presentations	Amphos 21	Immersion Strategy and Applied Innovation	14 - 15/11/2013	Barcelona	scientific community
presentations	KWR, FHNW, Ecologic	WSSTP Water Innovation Europe	24/06/2015	Brussels	scientific community
presentations	BWB, Ecologic	European Water Policy: Challenges for Hydrogeologists	21-22/11/2013	Brussels	scientific community
presentations	Eawag	5th EuCheMS Chemistry Congress: Ozonation of cetirizine - kinetics and determination of transformation products	31/08/- 04/09/2014	Istanbul, Turkey	scientific community
presentations	Eawag	248th ACS National Meeting: Treatment of surface water by O ₃ or O ₃ /H ₂ O ₂ AOP: Cost-benefit of micropollutant elimination vs. formation of oxidation products and by-products	10/08/- 14/08/2014	San Francisco, USA	scientific community
presentations	Eawag	Environmental Engineering Seminar Series, EPFL: Treatment of Lake Zürich water by ozone-based processes: Effects on the elimination of micropollutants, the formation of oxidation	25/11/2014	Lausanne, Switzerland	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
		products and the mitigation of disinfection products			
presentations	Eawag	SETAC Europe 25th Annual Meeting: Implementation of the Swiss water protection act: results from the first mover with advanced wastewater treatment	03/05-07/05/2015	Barcelona, Spain	scientific community
presentations	Eawag	SETAC Europe 25th Annual Meeting: Reactivity of selected pharmaceuticals with ozone and their fate in advanced wastewater treatment	03/05-07/05/2015	Barcelona, Spain	scientific community
presentations	BDS	Transcriptomics and/or functional genomics tools for effect based analysis of environmental water	12-16/05/2015	Glasgow - SETAC Europe	scientific community
presentations	BDS	Linking high throughput screening data of chemicals and environmental mixtures to endocrine activity and sex organ deformities in experimental animals	3-7/ 05/ 2015	Barcelona - SETAC Europe	scientific community
presentations	BDS	High throughput toxicity screening of the priority substances in water quality assessment	3-7/ 05/ 2015	Barcelona - SETAC Europe	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
presentations	Ecotox Centre	Erste Schweizer Kläranlage mit grosstechnischer Ozonung: Ökotoxikologische Untersuchungen zur Beurteilung der Ozonung und verschiedener Nachbehandlungen	07-10/09/2015	Zürich - SETAC GLB	scientific community
presentations	FHNW, Ecotox Centre, BDS	Process performance of a PAC-UF system for the removal of micropollutants from a biologically treated municipal wastewater	07-10/09/2015	Zürich - SETAC GLB	scientific community
presentations	KWR, Ecotox Centre, BDS	EU DEMEAU project: Practical application of in vitro bioassays in water quality assessment	22-23/10/2015	Aachen - 4th International Symposium: Effect-related evaluation of anthropogenic trace substances - concepts for genotoxicity, neurotoxicity and endocrine effects	scientific community
presse releases	Ecologic	DEMEAU newsletter	30/11/2013	demeau-fp7.eu	industry
presse releases	Ecologic	DEMEAU newsletter	01/01/2015	demeau-fp7.eu	industry
presse releases	Ecologic	DEMEAU newsletter	28/09/2015	demeau-fp7.eu	industry

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
presse releases	Ecologic	News stories on website in total 45	continously	demeau-fp7.eu	scientific community
presse releases	CETaqua	CETaqua's website news: DEMEAU's 1st newsletter	05/12/2013	http://www.cetaqua.com/en/press-room/new/107/demeau-039-s-1st-newsletter	scientific community
presse releases	CETaqua	CETaqua's website news: Managed Aquifer RechargeChallenge or opportunity?	17/12/2013	http://www.cetaqua.com/en/press-room/new/111/managed-aquifer-recharge-challenge-or-opportunity	scientific community
presse releases	CETaqua	CETaqua's website news: DEMEAU PROJECT MEETING IN KWR FACILITIES (NEDERLANDS)	24/05/2014	http://www.cetaqua.com/en/press-room/new/176/demeau-project-meeting-in-kwr-facilities-nederlands-	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
presse releases	CETaqua	CETaqua's website news: WATER RESEARCH PUBLISHED AN ARTICLE BY DEMEAU	27/02/2015	http://www.cetaqua.com/en/press-room/new/251/water-research-published-an-article-by-demeau	scientific community
presse releases	BDS	Newsstory: Automated monitoring of estrogenic activity in drinking water using Bioassays	January 2015	demeau-fp7.eu	scientific community
publication	Cetaqua	Influence of a compost layer on the attenuation of 28 selected organic micropollutants under realistic soil aquifer treatment conditions: Insights from a large scale column experiment	14/02/2015		scientific community
publication	KWB	Application of Managed Aquifer Recharge in Europe: Past, present and future	in press		scientific community
publication	KWR	Effects of UV/H2O2 process conditions on Ames fluctuation assay response	10/10/2013		scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
publication	KWR, BDS	Trigger values for investigation of hormonal activity in drinking water and its sources using CALUX bioassays	30/09/2013		scientific community
publication	Eawag	Norman Bulletin, Issue 4, p. 36-37: The first full scale ozonation plant in the Dübendorf WWTP running; the new Swiss water protection act approved	March 2015	http://www.norman-network.net/?q=NORMAN%20Bulletin	scientific community
publication	KWR, BDS	Benchmarking Organic Micropollutants in Wastewater, Recycled Water and Drinking Water with In Vitro Bioassays	10/12/2013	Environmental Science & Technology	scientific community
publication	Ecotox Centre	In vitro bioassays to screen for endocrine active pharmaceuticals in surface and waste waters	05/03/2015	Journal of Pharmaceutical and Biomedical Analysis	scientific community
publication	Ecotox Centre	Effect-based tools for monitoring (xeno)estrogens in surface waters: Reproducibility and variability of sample preparation and 5 different in vitro assays with two approaches for EEQ-derivation	In preparation	Water Research (in preparation)	scientific community
publication		"DEMEAU (FP7): Work Activity dedicated towards implementation of novel rapid and	16-20/06/2013	Micropol & Ecohazard 2013	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
		quantitative bioassays for water quality monitoring"			
publication		Erste Schweizer Kläranlage mit grosstechnischer Ozonung: Ökotoxikologische Untersuchungen zur Beurteilung der Ozonung und verschiedener Nachbehandlungen	07-10/09/2015	20. Jahrestagung der SETAC GLB (Tagungsband)	scientific community
publication		Novel approaches to incorporate in vitro bioassays in risk assessment.		SETAC 2014	scientific community
publication		Process performance of a PAC-UF system for the removal of micropollutants from a biologically treated municipal wastewater	07-10/09/2015	20. Jahrestagung der SETAC GLB (Tagungsband)	scientific community
publication		Effect-based tools for monitoring (xeno)estrogens in surface waters: Variability and reproducibility of sample preparation and 5 different in vitro assays	07-10/09/2015	20. Jahrestagung der SETAC GLB (Tagungsband)	scientific community
publication		EU DEMEAU project: Practical application of in vitro bioassays in water quality assessment	22-23/10/2015	"4th International Symposium: Effect-related evaluation of anthropogenic trace substances - concepts for genotoxicity,	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
				neurotoxicity and endocrine effects"	
publication		Challenges and technological responses for tackling emerging pollutants in drinking and waste water in Europe	not yet defined	Environmental Engineering and Management Journal	scientific community
reports		D52.1 Implementation barriers	March 2014	demeau-fp7.eu	all
reports		D61.1 Dissemination strategy	March 2013	demeau-fp7.eu	all
reports		D61.5 Final dissemination report	October 2015	demeau-fp7.eu	all
reports		D11.2 Recommendations for optimum design & operation	October 2015	demeau-fp7.eu	industry
reports		D12.1 Decision trees for MAR impact evaluation	September 2013	demeau-fp7.eu	industry
reports		D22.1 Experiences with Hybrid Ceramic Processes for the ECO sanitation project in Hamburg M36	October 2015	demeau-fp7.eu	industry

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
reports		D23.3 Demonstration of the use and benefit of ANCS after six month operation in the large scale plant	October 2015	demeau-fp7.eu	industry
reports		D32.3 Decision basis for implementation of oxidation technologies M36	October 2015	demeau-fp7.eu	industry
reports		D41.1 Selection criteria to select bioassays for implementation and use	October 2014	demeau-fp7.eu	industry
reports		D41.2 Establishment of trigger values and validation of bioassay panel	November 2013	demeau-fp7.eu	industry
reports		D51.1 Unique selling proposition	October 2015	demeau-fp7.eu	industry
reports		D11.1 Catalogue of European MAR applications	September 2013	demeau-fp7.eu	policy makers
reports		D12.2 Pre-requisites and design criteria for new MAR systems in compliance with the EU WFD and GWD	October 2015	demeau-fp7.eu	policy makers
reports		D32.1 Compilation of kinetics and mechanisms for the transformation of organic substances	October 2015	demeau-fp7.eu	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
reports		D32.2 Chemical and toxicological assessment of transformation product and by-product formation	October 2015	demeau-fp7.eu	scientific community
reports		D51.2 Final guidelines for sustainability assessment of water technologies	October 2015	demeau-fp7.eu	scientific community
video	Ecologic	Video animation "dare to drink? Emerging pollutants in our water"	April 15	https://www.youtube.com/watch?v=v8iihsQYOos	civil society
videos	Ecologic, Eawag	Interview with ARA Neugut	October 2013	http://www.youtube.com/watch?v=JngZxVsbgN4	civil society
videos	Ecologic	Interview with Frederic Leusch	October 2013	https://www.youtube.com/watch?v=NzLEu0KjILU	civil society
web sites/applications	KWB, CETaqua, Amphos21, HYDOR, KWR, Ecologic	Tool Box for Managed Aquifer Recharge	June 2015	DEMEAU website http://demeau-fp7.eu/toolbox	civil society

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
web sites/applications	Ecologic, cetaqua, Amphos 21	Twitter	continously		industry
web sites/applications	Ecologic	DEMEAU website	Lauched in December 2012	demeau-fp7.eu	industry
web sites/applications	Ecologic	Linked In	continously		scientific community
workshops	BWB, Ecologic	Managed Aquifer Recharge in Europe – Challenge or Opportunity for the Environment?	05/12/2013	Berlin, Germany	industry
workshops	IWW, aquatune, WAG, KWR, Ecologic, RWB	Den Prozess im Griff!? Mit künstlichen neuronalen Netzen und Membranfiltration Wasseraufbereitung zukunftsweisend gestalten	11/06/2015	Roetgen, Germany	industry
workshops	Amphos 21	workshop on water innovation an immersion strategy organized by Catalan Water partnership	14-15/11/2013	Barcelona, Spain	industry
workshops	KWB	LCA workshop Leuben	06/02/2014	Leuben (Austria)	scientific community

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workshops	KWB	ISMAR 8	15-19/10/2013	Beijing, China	scientific community
workshops	Cetaqua, Ecologic	Managed Aquifer Recharge to Encounter Emerging Pollutants	02/10/2014	Cornellà de Llobregat, Barcelona, Spain	scientific community
workshops	Ecologic	Workshop: Pharmaceuticals in the Environment: Current scientific developments and policy responses	21/11/2013	Brussels, Belgium	scientific community
workshops	Ecologic	Water and Land Nexus	19/ - 20/03/2015	Bonn, Germany	scientific community
workshops	Ecologic, Eawag	Final Consortium Meeting	17/ - 18/6/2015	Dübendorf, Switzerland	scientific community
workshops	KWB	MAR-SAT expert forum	3/-4/12/2014	Tel Aviv, Israel	scientific community
workshops	KWB, CETaqua, Amphos21	Water Quality Workshop MARSOL project, Algarve Demonstration Site	25-26/06/2015	Faro, Portugal	scientific community
workshops	Veolia, Ecotox Centre, BDS, Ecologic	Effect-Based Monitoring Techniques: Novel Bioanalytical Tools for Water Quality Safeguard	29/01/2015	Paris, Paris	scientific community

Type of activities	Main leader	Title	Date (dd/mm/yyyy)	Place	Type of audience
workshops	Amphos 21	Invited speaker to workshop: LIFE10 INF/IT/000282 - SHOWW puShing aHead with field implementatiOn of best fitting WasteWater treatment and management solutions	07/02/2014	Girona (Spain)	scientific community
workshops	Ecotox Centre	Evaluation of ecotoxicological tests - Evaluation von ökotoxikologischen Tests	25-26/ 03/ 2015	Dübendorf, Switzerland	scientific community