



DELIVERABLE 6.3Report on the Eco-Bot dissemination activities Version 1

RISA October 2019

www.eco-bot.eu



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D6.3: Report on the Eco-Bot dissemination activities

Summary

This document has been prepared in the context of Task 6.2: "Eco-Bot dissemination activities" and aims to present the dissemination and communication activities that have been carried out by the consortium partners during the first 18 months of the project.

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List of Acronyms and Abbreviations

CO: Confidential

ESCO: Energy Service Company

EU: European Union

IT: Information Technology

KPI: Key Performance Indicator

NGO: Non-Governmental Organisation

PU: Public

WP: Work Package



Executive summary

This document describes the dissemination work carried out by the consortium partners during the first 18 months of the project in the context of Task 6.2: "Eco-Bot dissemination activities" of WP6: "Communication, Dissemination and Liaison Activities". The aim of the deliverable is to present the dissemination and communication activities that have been performed during the first reporting period and to evaluate the progress made against the Key Performance Indicators that have been defined in D6.2: "Dissemination strategy and action plan".

As described in D6.2, there are three main dissemination and communication phases, namely awareness creation and raising, engagement of stakeholders, and dissemination of results. Given that all three phases are dependent of each other, many of the dissemination and communication activities are overlapping. All these phases have already started, in accordance with the action plan presented in D6.2, and this deliverable presents the progress of the relevant activities, which is in line with the defined Key Performance Indicators.



1 Introduction

This deliverable presents the dissemination work carried out by the consortium partners during the first 18 months of the project in the context of Task 6.2: "Eco-Bot dissemination activities". The aim of the deliverable is to present the dissemination and communication activities that have been performed during the first reporting period and to evaluate the progress made against the Key Performance Indicators that have been defined in D6.2: "Dissemination strategy and action plan".

The deliverable is structured as follows:

- Chapter 2 presents the strategic overview
- Chapter 3 presents the work carried out toward the creation of the brand identity of the project and the preparation of the dissemination toolkit
- Chapter 4 describes the dissemination and communication activities carried out during the first 18 months of the project
- Chapter 5 outlines the progress made in the dissemination efforts, taking into account the action plan and the Key Performance Indicators.



2. Strategic Overview

Our dissemination strategy and action plan, which has been described in detail in D6.2, takes into account the three main project phases in terms of work progress, namely the initial phase (M1-M28), the intermediate phase (M29-M36), and the final phase (M37-M43). The reporting period falls within the initial project phase, during which it is essential to start creating project awareness and to involve key stakeholders in order to take into account their needs and interests in the system development.

According to our action plan, we identify three main dissemination and communication phases, as follows:

- · Awareness creation and raising
- Engagement of stakeholders
- · Dissemination of results

All these phases have started within the reporting period, and given that they are dependent of each other, many of the dissemination and communication activities are overlapping. In accordance with our action plan, the dissemination and communication activities of Eco-Bot for the first 18 months of the project include:

- Creation of the brand identity (Eco-Bot logo, templates)
- Creation of dissemination material (leaflet, poster)
- Creation and updating of the website
- Creation and updating of social media accounts
- Publications in journals and participation in scientific conferences and workshops
- Participation in external events (exhibitions, trade fairs, forums, etc.)
- Organisation of Eco-Bot events
- Press Releases
- Training and education activities

The following chapters present the above activities in detail. It should be noted that the activities that aim to make liaisons with major stakeholders in the areas of energy efficiency, consumers behaviour, other prioritised relevant projects (funded by EC or international funds), and standardization bodies, are presented in detail in D6.9 for the period M1-M12 and in the forthcoming deliverable D6.10 for M13-M28.



3. Eco-Bot Identity and Dissemination Material

This Chapter presents the progress made during the first 18 months of the project in the creation of the Eco-Bot brand identity and dissemination material.

3.1. Creation of Brand Identity

The creation of the brand identity of Eco-Bot took place in the beginning of the project, aiming to develop an EU wide recognisable brand that visually translates the project's idea and concept in all outreach activities. Thus, a coherent visual identity has been developed, comprising the logo and the templates that will be used by the consortium partners when presenting Eco-Bot in electronic and printed material. These are described in detail next.

3.1.1. Logo

The consortium partners have developed and selected the logo that is presented in Figure 1. It captures the main vision of Eco-Bot, namely a "robot" that chats with the user on energy. The logo will be used in all project materials so as to secure consistency and wide recognition.



Figure 1: Eco-Bot Logo

3.1.2. Templates

Templates for the Eco-Bot deliverables, documents and presentations have been developed and will be used by the project partners in both internal and external events to ensure consistency in the project's communication. The templates include recommendations on the use of typography and colours, the appropriate reference to the project and the acknowledgement of the European Commission funding. An example of the cover slide of the presentation template used for project meetings is shown in Figure 2.





Figure 2: Cover slide of the PowerPoint presentation template

3.2. Dissemination Toolkit

The dissemination and communication toolkit consist of leaflets, posters, e-newsletters, and videos and will be used for project awareness raising through Eco-Bot's dissemination and communication channels as well as through the consortium partners' websites, social media and networks. The dissemination material that has been produced in the first 18 months of the project is presented in the following subsections.

3.2.1. Leaflet

A leaflet presenting the project's concept and objectives was produced on M8, to be used for distribution at all relevant key events as well as through the website. The leaflet was updated after the replacement of the partner BOTEGO with ERRA.

The front and back covers feature the project name and photos, as well as the consortium partners and contact details.

The leaflet inside describes:

- What is Eco-Bot
- Overview of work
- Pilot demonstrations

Eco-Bot leaflets are regularly distributed to stakeholders at various events. It is planned to create a new leaflet in the later phases of the project, so as to provide updated and stakeholder-tailored information.





Figure 3: Eco-Bot leaflet front and back covers





Figure 4: Eco-Bot leaflet inside

3.2.2. Poster

A roll-up poster outlining the project's concept and objectives was prepared on M8 to be presented at exhibitions, workshops, trade fairs and other relevant events, as well as at the events that will be organised by Eco-Bot. The poster was produced using the graphics of the leaflet as well as its core content, presenting it in a more summarised and succinct way.

It is planned to create a new poster in the later phases of the project, so as to provide updated and stakeholder-tailored information.





Figure 5: Eco-Bot Poster

3.2.3. Newsletter

There have been no Eco-Bot newsletters produced during the first 18 months of the project. According to the dissemination and communication plan presented in D6.2, the first newsletter is planned to be published upon the start of the small scale validation phase (M25), to announce the release of the first working prototype of Eco-Bot and to raise awareness about the forthcoming launch of the main demonstration activities.

However, certain partners have already included information about Eco-Bot in their companies' newsletters. Indicatively, adelphi included such information in the newsletter they sent in June 2018 to 2149 recipients on a national level and 1374 recipients on a worldwide level, including general public, policy makers, media, industry, the scientific community, and NGOs. The newsletter is also available at the company's <u>website</u>.



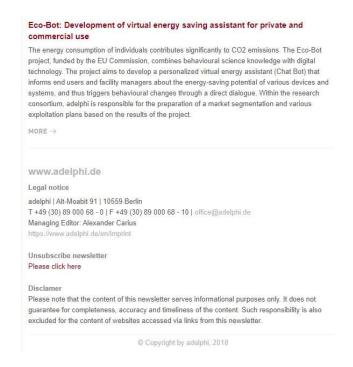


Figure 6: adelphi's newsletter presenting Eco-Bot

3.2.4. Video

There have been no Eco-Bot videos produced during the first 18 months of the project. According to the dissemination and communication plan presented in D6.2, our first video is planned to be prepared until M28.



4. Dissemination Activities

This Chapter presents the dissemination activities that have been performed during the first 18 months of the project. It should be noted that the liaison and clustering activities of the first year of the project have been presented in D6.9, while D6.10 will describe the liaison, clustering and standardisation activities that will have been performed by M28.

4.1. Website

The Eco-Bot website (www.eco-bot.eu), shown in Figure 7 below, has been created on M2 with relevant project information and will be updated throughout the project. Pages have been added to present publications, public deliverables and news. It also provides direct links to the project's social media accounts. The consortium plans to reform and enrich the website as the project progresses, in order to highlight achievements and competitive advantages, following a stakeholder-oriented approach.



Figure 7: Eco-Bot website homepage

In order to monitor the website activity, we have set up Google Analytics since April 2018 (M7). In the period from April 1, 2018 until March 31, 2019 (M7-M18), the number of new visitors reached 1445. The distribution of visitors per month for this period, as well as other additional website usage metrics, are shown in Figure 8.



Moreover, Figure 9 shows the distribution of visitors by country for the 10 top countries that have visited the website. As shown in the figure, the majority of visitors are from Spain (14.19%), followed by Germany (12.33%).



Figure 8: Eco-Bot website analytics



Figure 9: Eco-Bot website visitors by country



Project announcements are also published on the partners' websites. Indicatively:

- Direct link to Eco-Bot's website on EYPESA's website homepage: https://www.estabanell.cat/
- Project's description on adelphi's website German version:
 - https://www.adelphi.de/de/projekt/eco-bot-entwicklung-virtueller-energiesparassistenten-f%C3%BCr-die-private-und-gewerbliche
- Project's description on adelphi's website English version:
 - https://www.adelphi.de/en/project/eco-bot-development-virtual-energy-saving-assistants-private-and-commercial-use
- General article about Eco-Bot on adelphi's website:
 - $\underline{https://www.adelphi.de/de/news/energiesparen-leicht-gemacht-virtueller-assistent-hilft-nutzern-von-elektro-ger\%C3\%A4ten}$
- Article introducing the Eco-Bot project on SEC's website:
 - https://www.senercon.de/projekte/eco-bot/
- Project description on DEXMA's website:
 - https://www2.dexma.com/es/innovacion-energia/
- Article announcing the launch of the Eco-Bot project on DEXMA's website:
 - https://www2.dexma.com/energy-efficiency-chatbot-eco-bot/
- Project's description and links to outputs (activities and papers) from UEKAT on UEKAT's website:
 - https://pureportal.strath.ac.uk/en/projects/eco-bot-personalised-ict-tools-for-the-active-engagement-of-consu
- Project's description on PLEGMA's website: http://pleg.ma/research/
- General article about Eco-Bot on UEKAT's website:
 - https://www.ue.katowice.pl/no cache/en/university/news/article/european-research-project-eco-bot-has-started.html
- Information about the 1st Plenary Meeting of partners in Marathon, Athens on UEKAT's website:



https://www.ue.katowice.pl/no_cache/uczelnia/wydzialy/wydzial-ekonomii/wydarzenia/article/2-plenarne-spotkanie-partnerow-projektu-eco-bot-relacja.html

Report from the 2nd plenary meeting of partners in Katowice on UEKAT's website:
 https://www.ue.katowice.pl/no-cache/uczelnia/wydzialy/wydzial-ekonomii/wydarzenia/article/2-plenarne-spotkanie-partnerow-projektu-eco-bot-relacja.html

Additionally, information about the Eco-Bot project has been published also on other websites, indicatively:

• Polish Science website:

https://polishscience.pl/pl/naukowcy-uniwersytetu-ekonomicznego-w-katowicach-naspotkaniu-projektu-eco-bot/

Verdantix's website:

https://www.verdantix.com/newsroom/real-estate-facilities-news/dexma-an-energy-management-firm-launches-r-d-project-eco-bot-to-develop-an-energy-efficiency-chatbot-that-can-deliver-personalized-information-on-disaggregated-energy-usage-through-an-interactive-virtual-assistant

4.2. Social Media

Social media channels are used to reach a wider audience frequently and cost-effectively, in order to create and raise awareness and communicate progress and results. Project news, achieved milestones, Eco-Bot events, participation in external events, videos, and any other relevant project announcement will be shared through the social media of Eco-Bot. Project-related announcements will also be published in the social media of the consortium partners.

4.2.1. LinkedIn

As a first step to complement the website and draw key stakeholders to the published information, a dedicated LinkedIn account was set up for Eco-Bot at https://www.linkedin.com/company/eco-bot/.

During the first 18 months of the project, the number of followers has reached 21; however it is expected that in the forthcoming period, when substantially more news on project's progress and reached milestones will be published, it will attract a wider audience and the number of followers will increase significantly.



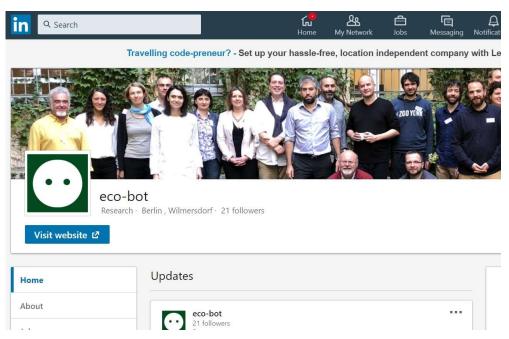


Figure 10: LinkedIn account

4.2.2. Twitter

A Twitter account (https://twitter.com/ecobotproject) has been created and updated with news and information about the project. The number of followers until M18 has reached 55. It is expected that in the forthcoming period, when more tweets regarding Eco-Bot's progress and reached milestones will be published, the number of followers will grow significantly higher.



Figure 11: Twitter account

4.2.3. YouTube

We have also set up a <u>YouTube account</u>, which is currently not used, but will be customised and promoted as soon as we prepare the first Eco-Bot video.



4.2.4. Partners' Social Media Accounts

News and announcements about the project are also communicated to mass audiences through the social media accounts of the partners. Indicatively:

 EYPESA disseminates information about Eco-Bot through the company's Twitter and Facebook accounts. Indicatively:

https://www.facebook.com/EstabanellEnergia/videos/1998538586823262/

https://www.facebook.com/EstabanellDistribucio/posts/412588385844073

https://www.facebook.com/EstabanellDistribucio/posts/451213798648198

https://www.facebook.com/EstabanellEnergia/posts/2370591019618015

https://www.facebook.com/EstabanellDistribucio/posts/549826272120283

https://www.facebook.com/EstabanellEnergia/posts/2454222681254848

https://www.facebook.com/EstabanellEnergia/posts/2480067582003691

 adelphi published a Facebook post and a tweet, referencing the company's article on Eco-Bot that was published on their website in August 2018:

https://twitter.com/adelphi_berlin/status/1036485201348780033

https://www.facebook.com/adelphi.de/photos/a.235364839814533/2443497979001 197/?type=3&theater

DEXMA disseminates information about Eco-Bot through the company's Twitter,
 Facebook and LinkedIn accounts. Indicatively:

https://twitter.com/dexma/status/948865584606973954

https://twitter.com/dexma/status/955830352290963457

https://www.facebook.com/DEXMAtech/posts/1560750360669193

 PLEGMA disseminates information about Eco-Bot through the company's Twitter and Facebook accounts. Indicatively:

https://twitter.com/PlegmaLabs/status/991962532989587456

https://twitter.com/PlegmaLabs/status/1008975930004525056

https://twitter.com/PlegmaLabs/status/1047150097098772482

https://www.facebook.com/plegmalabs/photos/a.657525834305630/1755225314535671



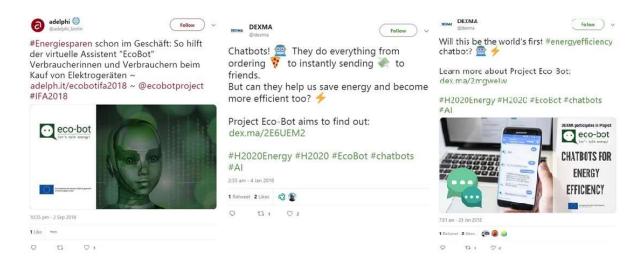


Figure 12: Partners' indicative tweets on Eco-Bot

Figure 13 presents the results of an Eco-Bot campaign that was run by DEXMA on social media between January and March 2018. Twitter received most clicks, while interactions show the number of likes, reactions (Facebook), and comments on the social posts.

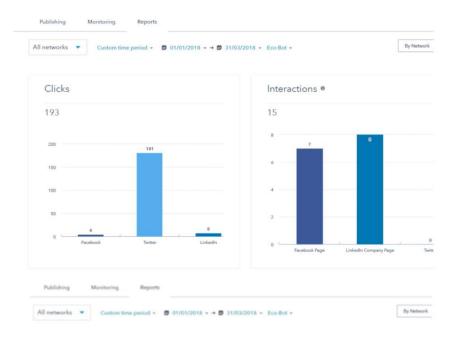


Figure 13: Results of DEXMA's Eco-Bot campaign between January and March 2018

4.3. Scientific Journals and Conferences

This section presents the efforts made so far to disseminate the project's research findings and outcomes to the scientific community, through publications in journals and participation in scientific conferences and workshops.



4.3.1. Publications in Journals

There have been no publications in journals during the first 18 months of the project. However, two papers have been submitted by USTRAT and UEKAT and are currently under review, while other papers are currently being prepared for submission. Table 1 shows the current status and planning in terms of publications.

Table 1: Planned publications for the next period

Paper Title	Partner involved	Journal	Status
Hourly profile disaggregation	USTRAT	Applied Energy – Elsevier	Submitted and under review
Identification and analysis of factors influencing the behaviour of energy consumers in eco-bot project	UEKAT	Research Papers of Wrocław University of Economics	Submitted and under review
NILM via Deep Neural Networks for varying sampling rates	USTRAT	IEEE Trans. on Signal and Information Processing over Networks (IEEE TSIPN)	Writing up
Scalable deployment and assessment of NILM	USTRAT	Energy and Buildings – Elsevier	Writing up
Modelling approaches for individual energy consumption – input factors, methods and selected theories. The case of Eco-Bot project.	UEKAT	Not yet decided	Writing up

4.3.2. Scientific Conferences and Workshops

One of the main dissemination channels used to reach the scientific and academic audience is the presentation of the project at scientific conferences and workshops. During the first 18 months of the project, partners participated in conferences and workshops where they disseminated Eco-Bot and presented work performed in the project. These conferences and workshops are outlined in Table 2.

Table 2: Overview of Conferences and Workshops with Eco-Bot presentations

Conference / Workshop	Date	Location	Partner involved
EU NILM Workshop 2017	November 6-7, 2017	London, UK	USTRAT
4th International Workshop on Non- Intrusive Load Monitoring (NILM 2018)	March 7-8, 2018	Austin, TX, USA	USTRAT
International Scientific Conference on Information Civilization and its Influence on Economic and Social Transformation	May 22-25, 2018	Szczecin, Poland and Copenhagen, Denmark	UEKAT



Conference / Workshop	Date	Location	Partner involved
5 th IEEE International Energy Conference (ENERGYCON2018)	June 3-7, 2018	Limassol, Cyprus	USTRAT
25 th Workshop on Environmental Information Systems (Umweltinformationssysteme - UIS 2018)	June 7-8, 2018	Nuremberg, Germany	RISA
EU NILM Workshop 2018	October 1-2, 2018	Duisburg, Germany	USTRAT

More details regarding the participation of partners in the above conferences and workshops are given below:

EU NILM Workshop 2017

USTRAT participated in the EU NILM Workshop 2017 (http://www.nilm.eu/nilm-workshop-2017/) that was held in London, UK on November 6-7, 2017 and presented the work to be carried out in Eco-Bot. The presentation is entitled:

• L. Stankovic, K. He, V. Stankovic, S. Lulic and S. Sladojevic, "Online accuracy estimation and improvement of event-based NILM algorithms without resorting to submetered individual loads," EU NILM Workshop, November 2017, London, UK.

The presentation is available at:

https://www.youtube.com/watch?v=LxgSg5QpOPg&index=11&list=PLJrF-gxa0ImgaQswhzhRDFTMHnXRYfebi

4th International Workshop on Non-Intrusive Load Monitoring (NILM 2018)

USTRAT participated in the 4th International Workshop on Non-Intrusive Load Monitoring (NILM 2018) (http://nilmworkshop.org/2018/) that was held in Austin, Texas, USA on March 7-8, 2018 and made a poster presentation of the very low rate NILM work pertinent to Eco-Bot. The following publication was released:

 B. Zhao, L. Stankovic and V. Stankovic, "Electricity usage profile disaggregation of hourly smart meter data", 4th Int. Workshop on Non-Intrusive Load Monitoring, March 2018, Austin, TX USA (https://zenodo.org/record/1217064#.XZk1U1UzbX4)

<u>International Scientific Conference on Information Civilization and its Influence on Economic and Social Transformation</u>

UEKAT participated in the International Scientific Conference on Information Civilization and its Influence on Economic and Social Transformation



(http://www.lacznosc.wzieu.pl/2018/?page=index&id article=13) that was held in Szczecin, Poland and in Copenhagen, Denmark on May 22-25, 2018, and involved various topics and projects concerning the influence of modern technologies on social and economic spheres. On the 23rd of May, UEKAT presented at the Aalborg University in Copenhagen the main idea behind the Eco-Bot project during the session focused on different applications of modern technologies undertaken with EU funding. The presentation was well received as it fit within the overall theme of the session, i.e., human behaviours and expectations towards ICT. Different applications of modern technologies influencing the various aspects of human life, e.g. e-learning, quality of sleep, interoperability of various media platforms, energy behaviours, were discussed in the session.

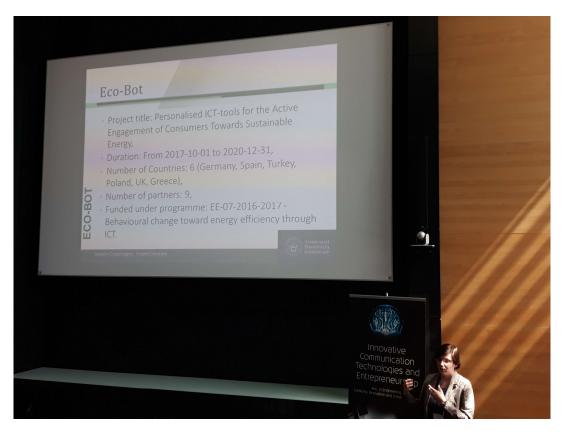


Figure 14: Eco-Bot presentation at the International Scientific Conference on Information Civilization and its Influence on Economic and Social Transformation

5th IEEE International Energy Conference (ENERGYCON2018)

USTRAT participated in the IEEE International Energy Conference (ENERGYCON2018) (https://www.easyacademia.org/energycon2018) that was held in Limassol, Cyprus, on June 3-7, 2018, and presented a tutorial that included NILM challenges and approaches needed for Eco-Bot, entitled "Unlocking the potential of smart meter data via energy analytics" and delivered by L. Stankovic and V. Stankovic.

25th Workshop on Environmental Information Systems (Umweltinformationssysteme - UIS 2018)



RISA participated in the 25th Workshop on Environmental Information Systems (Umweltinformationssysteme - UIS 2018), held on June 7-8, 2018, in Nuremberg, Germany (http://www.ak-uis.de/ws2018/WS AK-UIS-2018 Nuernberg Programm final.pdf). RISA made an oral presentation regarding Eco-Bot and the following publication was released:

 S. Camarinopoulos, T. Karali and U. Hussels, "Eco-Bot Presentation – Chat-Bot for Advising Users on Individual Energy Efficiency Models", Proc. of the 25th Workshop on Environmental Information Systems (UIS 2018), Nuremberg, Germany, June 7-8, 2018 (http://ceur-ws.org/Vol-2197/paper3.pdf)

EU NILM Workshop 2018

USTRAT participated in the EU NILM Workshop 2018 (http://www.nilm.eu/nilm-workshop-2018/) that was held in Duisburg, Germany on October 1-2, 2018 and disseminated the NILM work pertinent to Eco-Bot that is based on transfer learning. The presentation is entitled:

 D. Murray, S. Lulic, L. Stankovic, V. Stankovic and S. Sladojevic, "Transferable low rate NILM using deep neural network architectures" EU NILM Workshop, October 2018, Duisburg, Germany

The presentation is available at: https://www.youtube.com/watch?v=xL4NGFnJrdg&t=3s.

4.4. Events

Attendance and organisation of events, as well as networking activities, will enable large scale dissemination of Eco-Bot and engagement of key stakeholders, and will help ensure project's sustainability and future exploitation. In this deliverable, we are focusing on the external events where Eco-Bot was disseminated during the first 18 months of the project, and briefly summarise the Eco-Bot events of this period, which are described in detail in D6.9 and in the upcoming D6.10.

4.4.1. Participation in external events

During the first 18 months of the project, partners have attended several events, where they presented Eco-Bot. Table 3 gives an overview of these events.

Partner Conference / Workshop Date Location **Activity Type** involved Stand in the Exhibition **EYPESA** November Barcelona, Jornada Connect-EU 2017 space for EU projects / 6, 2017 Spain **DEXMA** Oral presentation XIV Forum Nowej Gospodarki June 8, Katowice, UEKAT Oral presentation (XIV New Economy Forum) 2018 Poland

Table 3: Overview of Events



Conference / Workshop	Date	Location	Partner involved	Activity Type
Internationalisation Day at the University of Economics in Katowice	June 20, 2018	Katowice, Poland	UEKAT	Oral presentation
Transforming Energy Demand through Digital Innovation (TEDDI) Event	June 15, 2018	London, UK	USTRAT	Poster presentation
International Conference and Meeting BIN@ (Business & Innovation Network)	July 2-3, 2018	Gliwice, Poland	UEKAT	Oral presentation
25 th Anniversary Conference – Geographic Information Systems Conference and Exhibition "GIS ODYSSEY 2018"	September 10-14, 2018	Perugia, Italy	UEKAT	Oral presentation
NTRI Conference	November 8, 2018	Berlin, Germany	adelphi RISA	Oral presentation
Día de la Cambra	November 20, 2018	Grannolers, Spain	EYPESA	Video presentation
Startup Olé	March 26- 28, 2019	Salamanca, Spain	EYPESA	Oral presentation

More details regarding the dissemination of Eco-Bot performed by partners in the above events are given below:

Connect-EU 2017

EYPESA and DEXMA attended the Jornada Connect-EU 2017 event (https://www.accio.gencat.cat/ca/activitats/grans-actes/jornada-connecteu/2017/) that was held in Barcelona, Spain on November 6, 2017. The aim of the event was to bring together Catalan companies and other stakeholders to discuss EU investment in research and innovation projects, to identify new opportunities and to promote new collaborations. EYPESA and DEXMA presented Eco-Bot in the plenary session of the event, as well as in the Exhibition space for EU projects, where they had a stand dedicated to Eco-Bot.





Figure 15: Eco-Bot presentation at Connect-EU 2017



Figure 16: Eco-Bot at Connect-EU 2017 Exhibition space

XIV Forum Nowej Gospodarki (XIV New Economy Forum)

UEKAT participated in the XIV Forum Nowej Gospodarki (XIV New Economy Forum) that was held on June 8, 2018, in Katowice, Poland



(https://www.dziennikzachodni.pl/interactive/partner/XIV-forum-nowej-gospodarki/). The goal of the New Economy Forum is to build a sustainable cooperation platform in the business – science – administration triangle, supporting the development of the 'new economy' in Poland. During the workshops of the forum, representatives of science, business, administration and social organisations talked about sustainable energy transformation for the Silesian Voivodeship. The workshops were conducted in the modern Living Lab formula, i.e. the Innovation Laboratory. Participants together with experts discussed future technologies in the field of prosumer energy and renewable energy, and focused on joining efforts in the development strategy and analysis of the needs of the energy sector. UEKAT presented the Eco-Bot project both on the main panel of the forum and during one of the living labs.

Internationalisation Day at the University of Economics in Katowice

UEKAT participated at the Internationalisation Day that was held by the University of **Economics** Katowice, Poland, in on June 20, 2018 (https://www.ue.katowice.pl/no_cache/uczelnia/aktualnosci/article/dzien-internacionalizaciirelacja-i-galeria.html). The aim of the conference and the meeting was to promote projects implemented in the region financed from external funds, EU grants and programs, mainly scientific research and other international projects. The event was attended by representatives of institutions and organisations that grant financial resources for research and teaching activities, experts from external institutions, as well as academics from the academic centres in the region.



Figure 17: Eco-Bot presentation at the Internationalisation Day at the University of Economics in Katowice

In the context of the conference, UEKAT made an oral presentation entitled "Eco-Bot project towards sustainable energy consumption – implementation of the Horizon 2020 program



objectives", where Eco-Bot objectives, partners of the consortium and their involvement in the project, as well as the individual stages and work tasks planned for implementation and the effects assumed were presented. The presentation aroused a lively discussion about raising the awareness toward energy efficiency in the society and the need for education regarding ecological issues in the region.

Transforming Energy Demand through Digital Innovation (TEDDI) Event

USTRAT participated in the Transforming Energy Demand through Digital Innovation (TEDDI) Event that was sponsored by the Engineering and Physical Sciences Research Council (EPSRC) and was held on June 15, 2018, in London, UK (https://teddinet.org/ted-cms/resources/downloads/teddinet-final-event15juneagenda.pdf). This event was attended by stakeholders including the scientific community, policy makers, and industry.

USTRAT made a poster presentation on the work they have performed in the context of Eco-Bot, entitled "Low-rate energy disaggregation: Lessons learnt from pilot studies and key challenges for widespread adoption" and co-authored by D. Murray, B. Zhao, K. He, L. Stankovic, and V. Stankovic.

International Conference and Meeting BIN@ (Business & Innovation Network)

UEKAT participated in the International Conference and Meeting BIN@ (Business & Innovation Network) that was held in Gliwice, Poland, on July 2-3, 2018 (http://bin-gliwice.polsl.pl/index.php?a=view&id=5). The goal of the Conference was to connect partners across different disciplines and industry sectors to create opportunities for collaboration and cooperation, as well as support partnerships in order to deliver value and impact.

On the 3rd of July, UEKAT made an oral presentation entitled "Smart energy – Eco-Bot – an exemplary project", where the main assumptions and goals of the project were presented to a wide audience at the conference, which was attended by representatives of science, business and enterprises from the modern technologies sector. The Eco-Bot project aroused wide interest among participants and speakers. The discussion was mainly focused on the possibilities of applying behavioural economics in IT projects and on instruments contributing to changes in consumer behaviour so as to educate and encourage energy saving.





Figure 18: Eco-Bot presentation at the International Conference and Meeting BIN@ (Business & Innovation Network)

<u>25th Anniversary Conference – Geographic Information Systems Conference and</u> Exhibition "GIS ODYSSEY 2018"

UEKAT participated in the 25th Anniversary Conference – Geographic Information Systems Conference and Exhibition "GIS ODYSSEY 2018" that was held on September 10-14, 2018, in Perugia, Italy (http://www.gis.us.edu.pl/index.php/past-gis-conferences/251-gis-odyssey-2018). In 2018, the interdisciplinary conference organised by the SILGIS Association (https://www.silgis.us.edu.pl) together with its partners also focused on issues related to climate protection, the environment and management of land resources.

UEKAT had the opportunity to present the Eco-Bot project and its contribution to research on changes in the behaviour of energy consumers. During the discussion, the impact of the project on the possibility of reducing carbon dioxide emissions was widely commented and consumer attitudes regarding energy consumption in EU countries were analysed. In addition, during the conference there was an exchange of research experiences and ideas for international cooperation in the field of renewable energy sources and climate protection in combination with the use of modern IT instruments.

National Top Runner Initiative (NTRI) Conference

adelphi and RISA participated at the National Top Runner Initiative (NTRI) Conference that was held by the German Ministry of Economy and Energy in Berlin, Germany, on November 8, 2018. The conference was attended by approximately 100 stakeholders including industry, policy makers and the scientific community. In the context of the conference, a session



(workshop) was dedicated to Eco-Bot, where adelphi and RISA presented the project to approximately 30 stakeholders.

An excerpt of the NTRI agenda is given in Annex B. The full agenda of the conference is available at: https://www.deutschland-machts-effizient.de/KAENEF/Redaktion/DE/PDF-Anlagen/A-ntri-fachforum-programm.pdf? blob=publicationFile&v=2



Figure 19: NTRI's tweet on Eco-Bot presentation at the NTRI's conference

Día de la Cambra

EYPESA participated in the event "Día de la Cambra" held by the Barcelona Chamber of Commerce (Cambra de Comerç de Barcelona), in Grannolers, Spain, on November 20, 2018 (https://www.naciodigital.cat/naciogranollers/noticia/28559/cambra/guardona%20/empreses/dia/cambra/al/valles/oriental). This event brings together annually the founders and representatives of approximately 150 companies, as well as their collaborators, with the number of attendees reaching about 350 stakeholders.

EYPESA won the Innovation Prize for the year of 2018 by the Barcelona Chamber of Commerce. The prize was given for innovation activities performed at EYPESA, of which Eco-Bot forms part. This prize was presented in "Día de la Cambra", where a video was shown outlining innovation projects performed at EYPESA, including Eco-Bot (http://eco-bot.eu/2018/12/02/estabanell-wins-innovation-prize-with-eco-bot-mention/. The video is available at: https://www.youtube.com/watch?v=UxvVF3MyJPg.



Startup Olé

EYPESA participated in the Startup Olé event (https://startupole.eu/), which was held in Salamanca, Spain, on March 26-28, 2019.

Farah Cheaib of EYPESA participated in the panel of the session "Accelerating Sustainability with a Community of Change Agents", where she presented Eco-Bot. More information is available at: http://eco-bot.eu/2019/03/28/eco-bot-startup-ole-2019/ and https://eco-bot.eu/2019/03/28/eco-bot-startup-ole-2019/ and https://eco-bot.eu/2019/03/28/eco-bot-startup-ole-2019/ and



Figure 20: StartUp Olé "Accelerating Sustainability with a Community of Change Agents"

4.4.2. Organisation of Eco-Bot events

During the first 18 months of the project, the consortium has also organised a number of activities aiming to disseminate the project progress and results and to receive feedback from targeted stakeholders. These activities are described in detail in D6.9 and the forthcoming D6.10, which aim to present the liaison and standardisation activities, clustering with other projects and organisation of Eco-Bot events.

The events that were organised by the consortium within these 18 months are briefly presented below:

 The consortium organised its first workshop in Granollers, Barcelona Spain on M3, hosted by EYPESA. The aim of the workshop was to bring out important issues that



- need to be taken into account in the following steps and to give the consortium a wider view of the project, its context, and its use cases.
- PLEGMA organised, on behalf of the consortium, the 'Building Energy Efficiency Workshop' in Athens, Greece, on June 19, 2018 (http://eco-bot.eu/2018/06/19/presentation-of-eco-bot-in-building-energy-efficiency-workshop-in-athens/), which involved view sharing and knowledge exchange with six other EUfunded projects, and was also an official EU Energy Day, taking part in the "EU Sustainable Week" initiative (https://www.eusew.eu/energy-days/building-energy-efficiency/).

4.5. Press Releases

The consortium produced the first Press Release for the European, national and local press regarding the launch of the project in November 2017 (M2). The project partners forwarded the Press Release to their local and national press contacts and also published it on their websites. The template of the first Press Release is given in Annex A.

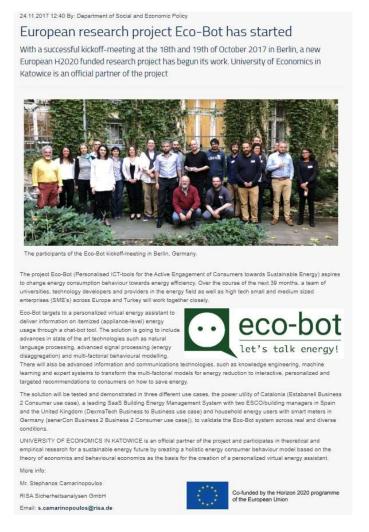


Figure 21: First Press Release



4.6. Training and Education

Education activities for students and training activities for academic researchers on the project's research methodologies and results have already been organised by USTRAT as follows:

- USTRAT provides training to academic researchers through the following means: individual one-year projects taken up by 4th year undergraduate students, MSc project students project dissertation, contribution to PhD student dissertation, one-year group projects for 5th year MEng students, 3-month group project on energy data analytics for 1st year undergraduate students within the Python Programming class.
- Training of academic researchers outside USTRAT through a tutorial entitled "Unlocking the potential of smart meter data via energy analytics" presented at IEEE Int. Energy Conference, Cyprus, June 2018.

In addition to the above, USTRAT gave a series of seminars on methods they developed for energy disaggregation, all in July 2018 at the following Universities:

- University of Sydney
- University of Technology Sydney
- University of New South Wales
- Newcastle University

Morever, EYPESA has organised several sessions throughout the reporting period with InnoEnergy Master students from the Polytechnic University of Catalonia (UPC) and the KTH Royal Institute of Technology in Stockholm, to discuss the Eco-Bot project and give them feedback on the work they developed around the project, including work on psychological reasoning, reward system, prototype, and business model. More information can be found at: http://eco-bot.eu/2018/05/29/innoenergy-students-from-upc-kth-discuss-the-eco-bot-project/ and http://eco-bot.eu/2019/02/11/estabanell-discusses-eco-bot-with-students/.

The students presented the Eco-Bot project and their own work based on the project idea in the SELECT Spring Seminar that was held in Aalto University, in Helsinki, Finland.





Figure 22: EYPESA's training session with InnoEnergy Master SELECT programme students



Figure 23: Eco-Bot presentation at the SELECT Spring Seminar in Aalto University



5. Dissemination activities against KPIs

Table 4 presents the dissemination activities performed in the first 18 months of the project against the Key Performance Indicators that have been defined for the three main project phases and presented in detail in the final dissemination and communication plan (D6.2). Taking into account the targets set for the initial phase of the project (M1-M28), the dissemination activities that have been performed during the first 18 months are in line with the defined plan and the project is on the right track as regards the foreseen dissemination efforts.

More detailed evaluation of the dissemination performance will take place in the next reporting period that will coincide with the conclusion of the initial phase of the project and will thus allow direct comparison between the dissemination achievements and the defined targets of the whole initial phase. These findings will be documented in D6.4, due on M28.

Table 4: Dissemination activities against KPIs

تِ				Timeline and targets				
Category	Activity	Monitored parameter	Achieved until M18	Initial phase (M1-M28)	Interm. phase (M29-M36)	Final phase (M37-M43)	Total	
~ ÷		Project logo	Ready on M2	Ready on M2				
Brand identity	Creation of Brand Identity	Project templates (leaflet, poster, deliverable)	Ready on M2	Ready on M2				
	Leaflet	2 leaflets	1	1	1	-	2	
. kit	Poster	2 posters	1	1	1	-	2	
Communication kit	e-newsletters	Number of e-newsletters	-	2	1	1	4	
ommu	e-newsietters	Number of recipients	-	5000	5000	5000	5000	
O	Promotional videos	Number of videos	-	1	1	-	2	
site	Project	Creation of Eco- Bot website	Ready on M4	Ready on M4				
Website	website	Number of unique visitors	1445	2000	500	1000	3500	
Social media	LinkedIn account	Number of followers	21	50	120	200	200	
Soc.	Twitter account	Number of followers	55	50	130	250	250	



<u></u>					meline and t	targets	
Category	Activity	Monitored parameter	Achieved until M18	Initial phase (M1-M28)	Interm. phase (M29-M36)	Final phase (M37-M43)	Total
	YouTube account	Number of video views	-	-	250	250	500
	Partners' individual social media accounts	Number of Eco- Bot related announcements	16	18	9	9	36
tific tions	Publications in journals and magazines	Number of published papers in journals	-	-	2	4	6
Scientific publications	Presentations in scientific conferences / workshops	Number of presentations in conferences / workshops	6	2	4	4	10
nts	Participation in external events (exhibitions, workshops, EU events)	Number of Eco- Bot presentations	9	6	4	4	14
nd eve		Number of Eco- Bot events	2	2	3	1	6
Networking and events	Organisation of Eco-Bot	Number of attending stakeholders	40	20	30	80	130
Net	events	Number of non- specialist attendees	-	At least 50 r	non-specialist	attendees	50
		Number of webinars	-	At I	east 1 webina	r	1
lia		Number of press releases	1	1	2	1	4
Mass Media	Press releases, media articles and interviews	Number of media articles	-	1	1	3	5
Ma	and interviews	Number of interviews	-	-	-	1	1
g and tion	Educational activities for students	Number of educational activities	6	At least 2 e students durin	ducational act g the course o		2
Training and education	Training activities for academic researchers	Number of training activities	5		ning activity fo during the cou project		1



6. Conclusions

During the first 18 months of the project a number of dissemination and communication activities have been performed. These activities have created awareness about the Eco-Bot project and paved the way for diffusing the Eco-Bot results and benefits to all relevant stakeholders. The dissemination work performed during the reporting period is in line with the action plan and the Key Performance Indicators defined in the "Dissemination strategy and action plan" (D6.2).

More detailed evaluation of the dissemination performance will take place in the next reporting period that will coincide with the conclusion of the initial phase of the project, thus enabling direct comparison between the dissemination achievements and the defined targets of the whole initial phase of the project. These findings will be documented in D6.4.



ANNEX A: First Press Release Template

Active Engagement of Consumers Towards Sustainable Energy -European research project Eco-Bot has started



With a successful kickoff-meeting at the 18th and 19th of October 2017 in Berlin, a new European H2020 funded research project has begun its work. The project Eco-Bot (Personalised ICT-tools for the Active Engagement of Consumers towards Sustainable Energy) aspires to change energy consumption behaviour towards energy efficiency. Over the course of the next 39 months, a team of universities, technology developers and providers in the energy field as well as high tech small and medium sized enterprises (SME's) across Europe and Turkey will work together closely.

Eco-Bot targets to a personalized virtual energy assistant to deliver information on itemized (appliance-level) energy usage through a chat-bot tool. The solution is going to include advances in state of the art technologies such as natural language processing, advanced signal processing (energy disaggregation) and multi-factorial behavioural modelling. There will also be advanced information and communications technologies, such as knowledge engineering, machine learning and expert systems to transform the multi-factorial models for energy reduction to interactive, personalized and targeted recommendations to consumers on how to save energy.

The solution will be tested and demonstrated in three different use cases, the power utility of Catalonia (Estabanell Business 2 Consumer use case), a leading SaaS Building Energy Management System with two ESCO/building managers in Spain and the United Kingdom (DexmaTech Business to Business use case) and household energy users with smart meters in Germany (senerCon Business 2 Business 2 Consumer use case)), to validate the Eco-Bot system across real and diverse conditions.

NAME OF YOUR INSTITUTION HERE is an official partner of the project and participates in the research for a sustainable energy future by whatever your institution is contributing to the project. (Please add the missing information if you want to be mentioned within the article, if not, just delete the whole paragraph)

More info:

Mr. Stephanos Camarinopoulos

RISA Sicherheitsanalysen GmbH

Email: s.camarinopoulos@risa.de





The participants of the Eco-Bot kickoff-meeting in Berlin, Germany.



ANNEX B: Events' Agendas

Agenda of the BIN@Gliwice2018 Conference:



BROKERAGE MEETING BIN@GLIWICE 2018

PROJEKTOŻERCY

Organized by:

Regional Contact Point and Center of Innovation and Technology Transfer at Silesian University of Technology together with Business Innovation Network, under Honorary Patronate of Rector of the Silesian University of Technology, Professor Arkadiusz Meżyk and Marshal of the Silesian Voivodeship, Wojciech Saługa

Programme

Date: 2-3.07.2018

Venue: Education and Congress Centre at Silesian University of Technology, Gliwice, Konarskiego 18b

Day 1: Monday 02.07.201

Time	Session Type	Title & Speaker		
8:00-9:00	Registration			
Opening Session				



		Opening Session Room A		
	Moderator	Professor Marek Pawełczyk, Vice Rector for Science and Development, SUT		
9:00-9:20	Keynote	Welcome to PROJEKTOZERCY – BIN@Gliwice2018 conference – Opening by Professor Arkadiusz Mężyk, Rector of SUT		
9:20-9:40	Keynote	University of Porto & BIN@ Carlos Oliveira, Director of Communication & Cooperation at FEUP		
9:40-10:00	Keynote	Jakub Miler, KIC Innoenergy		
10:00-10:20	Keynote	Special Guest: Kazimierz Karolczak, President of Silesia Metropolis		
10:20-10:45	Coffee Break			
		Circular Economy Room A		
	Moderator	Marcin Górski, PhD, SUT		
10:45-11:05	Keynote	International and intersectoral aspects of European projects as the way for success – Agnieszka Wyżgolik, SUT		
11:05-11:20	Keynote	Clara Goncalves, UPTEC		
11:20-11:35	Keynote	Energy: Marcin Lewenstein, KIC Innoenergy		
11:35-11:55	Keynote	Energy optimization for train operation - Professor Armando Araújo, FEUP		
11:55-12:15	Keynote	EU Funds – Glenn Cezanne, Managing Director, Time & Place Consulting		
12:15-12:45	Coffee Break			
12:45-14:15	Brokerage meeting/ Action Tank	AC1.1 Engineering Materials of the Future Room A	AC1.2 Circular Economy - Materials Room B	
		Professor Andrzej Katunin, SUT Professor Marcin Adamiak, SUT John Oriard, Plastivaloire Poland	Professor Maria de Lurdes Lopes, FEUP Paweł Poneta, PhD, Tauron S.A. Krzysztof Lampert, PhD, Tauron S.A.	
14:15-15:00	Lunch			
15:00-16:30	Brokerage meeting/ Action Tank	AC2.1 Chemistry in Circular Economy Room A	AC2.2 Innovations in Civil Engineering Room B	
		Professor Przemysław Data, SUT Dawid Janas, PhD, SUT	Professor João Pedro Poças Martins, FEUP Professor Wit Derkowski, fib Poland	
18:00	Dinner & Concert S	ilesian University of Technology Staff C	luh Ranacha 3	



Day 2: Tuesday 3.07.2018

Time	Session Type	Title & Speaker		
		Industry 4.0, Room A		
		Moderator: Grzegorz Kłapyta, PhD, SUT		
9:00-9:20	Keynote	Education – Dual studies – Professor Anna Timofiejczuk, SUT		
9:20 - 9:40	Keynote	Smart Mobility - Professor Rosaldo Rossetti, FEUP		
9:40-10:00	Keynote	Smart Cities - Artur Pollak, APA Innovative		
10:00-10:20	Keynote	Academia-Companies Relationships - Professor Raul Vidal, FEUP		
10:20-10:40	Keynote	Smart energy - ECO-BOT - an exemplary project - Sylwia Słupik, PhD University of Economics in Katowice		
10:40-11.00	Coffee Break			
11:00-13:00	Brokerage meeting/ Action Tank	AC3.1 Virtual & Augmented Reality Room A	AC3.2 Mechatronics Room B	
		Łukasz Lipka, IT Silesia Weronika Kiersztejn, MUSK Piotr Czekalski, PhD, SUT	Professor Joaquim Gabriel Mendes, FEUP Professor Tomasz Trawiński, V-ce Rector for Student Affairs and Education, SUT	
13:00-13:45	Lunch			
		Closing session, Room A		
13:45-14:00	Keynote	Gabriel Grigorescu, AVISSO		
14:00-14:15	Keynote	Professor Ryszard Białecki, SUT		
14:15-14:30	Keynote	Closing speech - BIN@PORTO, Pedro Coelho, FEUP		
14:30-15:00	Keynote	Closing speech and "The Best PROGRES 3 Master Thesis Award Ceremony" – Professor Marek Pawełczyk, Vice Rector for Science and Development, SUT		
		IV. Bilateral contacts		
15:00-18:00	A2A, A2B, B2B meetings / coffee			



Agenda of the NTRI Conference:









Geräumige Kühlschränke, kompakte Wäschetrockner, innovative Smart-Home-Lösungen: Nie haben die deutschen Verbraucherinnen und Verbraucher so viele elektrische Produkte und Anwendungen genutzt, wie heute. Dementsprechend wächst auch das Potenzial der Haushalte, Energie einzusparen. Doch obwohl Neugeräte in den letzten Jahren deutlich effizienter geworden sind, ist der Stromverbrauch privater Haushalte in Deutschland zuletzt kaum zurückgegangen.

Wie können Verbraucherinnen und Verbraucher lernen, effizienter mit Energie umzugehen? Können Produkte dahingehend weiterentwickelt werden, dass sie besser zu den Nutzergewohnheiten der Menschen passen – und Ihnen das Energiesparen so leichter machen? Diese und weitere Fragen möchten wir beim Fachforum Produkteffizienz gemeinsam mit Ihnen diskutieren.

Die Veranstaltung ist Teil der Nationalen Top-Runner-Initiative (NTRI) des Bundesministeriums für Wirtschaft und Energie (BMWi).



Programm

8. November 2018 12:00 - 18:00 Uhr

12.00 Uhr Begrüßung

nnar Will, adelphi

Eröffnungsrede

Thomas Bareiß, Parlamentarischer Staatssekretär beim Bundesminister für Wirtschaft und Energie

12.20 Uhr "Wie entstehen innovative Ideen für effiziente Produkte? Perspektiven aus Industrie und Forschung Vortrag: Dr. Peter Goetz, Executive Vice President Region Europe, BSH Hausgeräte GmbH

Vortrag: Prof. Sebastian Feucht, Hochschule für Technik und Wirtschaft, Berlin

12.45 Uhr "Neue Ideen für energieeffiziente Lösungen" – Ergebnisse des Open-Innovation-Wettbewerbs der NTRI

 $Wie \ lassen \ sich \ Wohnkomfort \ und \ Energieeffizienz \ im \ Alltag \ mit ein ander \ verbinden? \ Welche \ M\"{o}glichkeiten$ gibt es, Heizen, Klimatisieren oder Beleuchtung in Deutschland energieeffizienter zu gestalten? Präsentiert

werden ausgewählte Ergebnisse des NTRI-Innovationswettbewerbs. 13.30 Uhr

Publikumsvoting zur Auswahl der innovativsten Produktideen aus dem Open-Innovation-Wettbewerb 14.30 Uhr

tten: "Produkteffiezienz: Trends, Innovationen und Herausforderung

15.00 Uhr Ideenwerkstätten zu aktuellen Fragen der Produkteffizienz

Ideenwerkstatt 1

"Die EU-Produktdatenbank kommt. Eine Einführung in die wichtigsten Funktio

Leitung: Karsten Schischke/Anton Berwald (Fraunhofer IZM)

Im Rahmen der Überarbeitung der EU-Energieverbrauchskennzeichnung steht 2019 die Einführung einer europaweiten Produktdatenbank bevor. Die Datenbank soll sämtliche in Europa verfügbaren Produkte abbilden, die Arbeit der Marktüberwachung unterstützen und Verbraucherinnen und Verbrauchern Unterstützung beim Kauf energieeffizienter Geräte bieten. In diesem Workshop werden Funktionen der neuen Datenbank vorgestellt. Gemeinsam mit Vertretern von Marktüberwachung und Herstellern haben die Teilnehmer die Möglichkeit, die Datenbank und ihre Funktionen und Anforderungen kennenzulernen und über Auswirkungen zu diskutieren.

Ideenwerkstatt 2

"Nutzerzentrierte Methoden für energiesparende Produkte und Anwendungen.

Leitung: Dr. Alexandra Büttgen (Wuppertal Institut)

Nutzerzentrierte Methoden wie Design Thinking spielen in der Produktentwicklung zunehmend eine Rolle. Doch wie und unter welchen Bedingungen sind diese Ansätze geeignet, um privaten Verbrauchern das Thema

Energieeffizienz näher zu bringen? Dieser Workshop bietet die Möglichkeit, teilnehmerzentrierte Methoden auszuprobieren

Gemeinsam erarbeiten die Teilnehmerinnen und Teilnehmer – mit Hilfe von Design Thinking-Elementen -Lösungsansätze für alltägliche Problemstellungen aus dem Bereich der Produkteffizienz.

Ideenwerkstatt 3

"Von Chatbots und digitalen Einsparhelfern: Welche Rolle können virtuelle Energiespar-Assistenten in privaten Haushalten spielen?

Leitung: Lena Domröse (adelphi)

Digitalen Formaten wird großes Potenzial zugeschrieben, um Verbraucher für Energieeinsparpotenziale zu der Frank dsensibilisieren. Virtuelle Energieassistenten (Chatbots) könnten Endverbraucher künftig im direkten Dialog $\ddot{u}ber\,das\,Energiesparpotential\,verschiedener\,Ger\"{a}te\,informieren\,und\,individualisierte\,Energiespartipps\,f\ddot{u}$ die Nutzer erstellen. In diesem Workshop diskutieren wir mit Ihnen die Potenziale, Grenzen und Erfolgsfak-

toren solcher Vorhaben - anhand des von der EU-Kommission geförderten Projekts "ECO-Bot".

Kaffeepau Ausblick: "Wie geht's weiter?"

90 min.

17.00 Uhr Vorstellung der Ergebnisse im Plenum

17.15 Uhr Zusammenfassung und Ausblick

Thorsten Herdan, Leiter Abteilung II "Energiepolitik - Wärme und Effizienz",

Bundesministerium für Wirtschaft und Energie (BMWi)

Vortrag: "Nachhaltige Produkte. Von der Nische in den Massen 17.30 Uhr

Lovis Willenberg, Geschäftsführer Forum Futura (angefragt)

18.00 Uhr Ende der Veranstaltung