

ANNUAL
REPORT
2017



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Brigitte Hasewend
Director of eseia

"Since the founding days eseia has made a special effort to strengthen the role of women in renewable energy research and innovation. Today 100% of our EU projects are coordinated by women. The leadership on our working groups is shared equally among women and men while the share of women experts involved can still grow. There is also room for improvement on the level of governance and the participation of women in our Education and Training courses."

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Message from the President of eseia

In 2017 the eseia Team undertook a tremendous effort to develop new projects for the years to come. Members have benefited from working with eseia on a total of **10 proposals** requesting funding of an order of magnitude of **54 Mio EUR**.

As a result of this work eseia **achieved cross-sector partnerships in virtually all of the European countries** expanding her network to a total of some **120 European partners** from all sectors, of which one third each from business, higher education and research, and government including 30 cities. In addition, eseia also reached out to partners from outside Europe.

Among the eseia assets, our **experts are our most valuable resource**. In 2017 the eseia Team revamped the **eseia expert data base** which currently holds the competence of nearly 200 experts. They represent an impressive cross-section of expertise spanning the entire renewable energy system.

About our four running EC projects, I am particularly proud to mention that BioEnergyTrain reached an important milestone with the launch of **two new European Master's Programmes** in fall, jointly run by UT and TU Graz.

More than ten companies participated in the BET Buying-in Event celebrating the occasion which goes to show how much genuine interest there is in **new skilled work force** for the bio-resource sector.

I wish to thank all the active eseia players for their cooperation in 2017.

Graz, December 2017



Harald Kainz
President of eseia

"Thanks to your joint effort, eseia achieved for her members an **extraordinary yearly return of 1,2 Mio. EUR** compared to 75,000 EUR on average per year in membership fees. **1 EUR multiplied by 16!**"

About eseia: Vision & Mission

eseia is a leading European non-profit association of **29 organisations** in renewable energy research and innovation from 15 European countries. The Alliance embraces the full value chain from research, higher education.

VISION

eseia strives to become the **premier European address for renewable energy systems innovation by 2020**, and supports the European Union in taking the leading role to make Europe the most innovative energy region in the world.

MISSION

eseia has identified three major challenges to fulfil her mission, namely to act as a **FORERUNNER** in agenda setting, as a **PROVIDER** in the area of capacity-building and as a **BROKER** in international cooperation.

FORERUNNER: Setting the Agenda for RES in the European market

The four eseia Working Groups advise European decision-makers on the **key trends, existing knowledge gaps** and necessary implementation instruments to bring about the changes necessary to achieve a sustainable and highly competitive renewable energy system in Europe by 2050.

In 2017 eseia focussed on the identification of research and innovation gaps as outlined in the expert section of this report. eseia was also involved

in developing new cooperative training formats for renewable energy transition of interest to the EC.

PROVIDER: Capacity Building for both people and institutions

eseia is devoted to supporting capacity building for **both individuals and institutions**. The eseia Education and Training Programme (ETP) targets students, academics and professionals with training courses and ensures their participation in European programmes. So far a total of close to 900 individuals have been trained in eseia training courses since 2010.

eseia is also assisting organisations in preparing proposals under the **Spreading Excellence and Widening Participation Programme** of Horizon2020. For example, under EC funded SuPreme, eseia experts trained staff for the development of IMP-PAN's KEZO Centre of Excellence in Jablonna, Poland. Moreover, eseia has supported the Technical University of Vilnius, Lithuania, in drafting the ERA Chair project proposal for the development of a regional centre of excellence in the field of smart building.

BROKER: Forging International Strategic Partnerships

eseia continued to raise her international visibility with other major international groups for international cooperation in research and innovation. In 2017 eseia focused on the **Eastern Partnership countries** as well as on cooperation with **Chinese partners**.

Organisation

eseia GENERAL ASSEMBLY

The GA is eseia's highest decision making body consisting of eseia members.
The GA votes on decisions proposed by the GC twice a year.

eseia GOVERNING COUNCIL



Harald Kainz
TU Graz, AT

President



Teresa Ponce
de Leão
LNEG, PT

**Vice-President,
Record Keeper**



Brian Norton
DIT, IE

**Vice-President,
Treasurer**



Ion Visa
UTBv, RO

Vice-President



Josef Furlinger
RIC GmbH, AT

Vice-President



Jan Kiciński
IMP-PAN, PL

Vice-President



Brigitte
Hasewend
eseia, AT

Director

eseia WORKING GROUPS

www.eseia.eu/working-groups

WG 1
Bioresources

WG 2
Smart Cities
and Regions

WG 3
Education and
Training

WG 4
Smart Energy
Materials

EXPERTS

www.eseia.eu/experts

The four eseia Working Groups gather together 400 experts who focus their work on agenda-setting and project generation activities under Horizon 2020.

eseia TEAM

www.eseia.eu/eseia-team/

The eseia Team, headed by the Director Brigitte Hasewend, manages and co-ordinates the services and operations of the Alliance. In 2017, the Team included Daria Delnevo, Soraya Foubert, Anna Gabbert, Katalin Kovacs, Elena Markočič, Aigul Murat kyzy, Ramona Oros, Sabine Sill, Linette Viertelhausen, and Richard Wheeler.

eseia Expertise

Ranking

200 Experts

4 Working Groups,
of which 50% Led by
Women

18 Organisations operating in the field of **Industrial Process Optimization**

17 Organisations operating in the field of **Sustainable Energy Innovation**

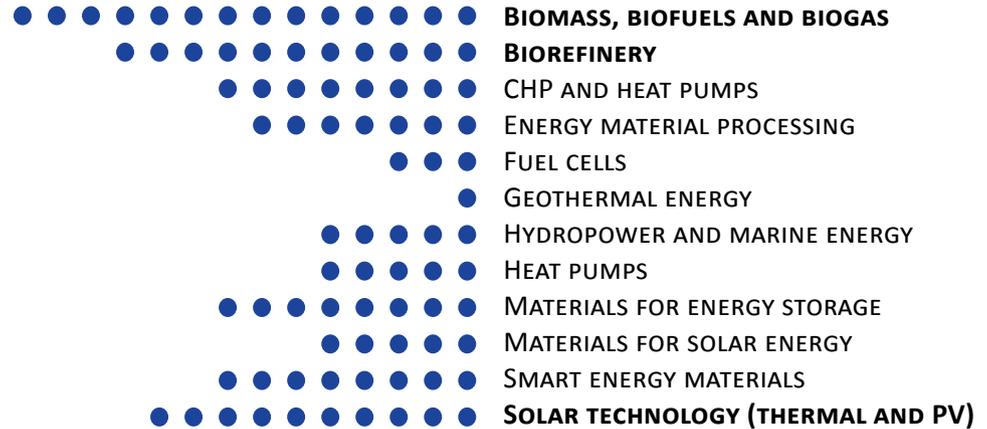
15 Organisations operating in the field of **Life Cycle Assessment**

14 Organisations operating in the field of **Waste Management**

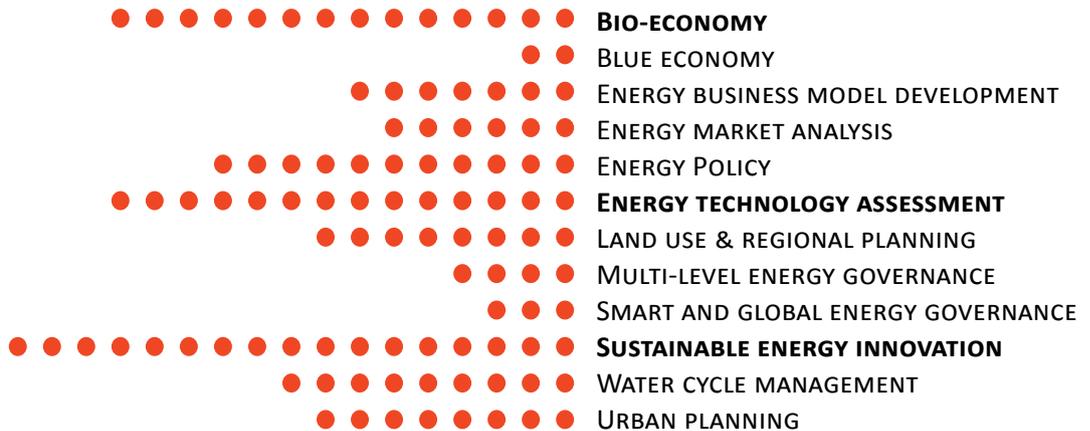
14 Organisations operating in the field of **Biomass, Biofuels and Biogas**

14 Organisations operating in the field of **Energy Management and Control Systems**

Energy Provision



Energy Policy and Integration



● One circle represents one eseia Member Organisation operating in the field

Education and Training Programme (ETP)

In order to become the **premier European provider of practice-oriented education and training** in the field of renewable energy systems, eseia has set up the **Education and Training Programme (ETP)** in 2010 with **900 participants to date**. The ETP brings together four different alternative learning formats: International Summer Schools, Interdisciplinary Student Camps, Pilot Plant Courses, and Professional Training Courses.

International Summer School (ISS)

Through its university members, eseia offers two-week intensive training courses for excellent postgraduate students and professionals. The aim of the eseia ISS is to present a comprehensive overview of green tech, economic and social developments in the thematic area of sustainable energy innovation systems.

The eseia courses provide project-oriented interdisciplinary mini-workshops designed to the needs of the participants, one-to-one expert exposure and the opportunity to test new tools and methods .

The 2017 edition of the ISS was hosted by the University of Zagreb in Dubrovnik, Croatia, and focussed on the exploitation of biomass and its conversion into biofuels and biochemical products. Nearly 20 participants participated in two site visits to the Dubrovnik Hydroelectric Power Plant and the Wind Power Plant in Rudine.

Interdisciplinary Student Camp (ISC)

The eseia Interdisciplinary Student Camps offer to postgraduates with multidisciplinary backgrounds the unique opportunity to work with eseia industrial partners to solve present and future challenges.



eseia International Summer School 2017, visit to the Hydroelectric Power Plant in Dubrovnik, Croatia, 25 June-1 July.

For one week Master and PhD students are challenged to extrapolate their expertise to future company needs.

Participants are divided into guided groups to offer students a better understanding of how the company works. The Student Camp format includes interaction with top management and a tour of the facilities. At the end of the Student Camp participants are invited to present their work and discuss their findings with company representatives and academics.

Pilot Plant Course (PPC)

The eseia Pilot Plant Courses focus on lab experiments to experience the technology of the pilot plant installations of eseia industry partners. The three-day training offers the opportunity to professionals and students to improve their **technical and managerial skills**.

In 2017 the eseia Pilot Plant was hosted by BAV in the :metabolon waste disposal site Leppe in Germany. 12 participants worked and researched on sustainable resource efficiency, material conversion, and environmental technologies and techniques related to :metabolon's three sites: Biogas Pilot Plant, Leachate and Process Water Pilot Plant, and Pellet and Wood Chip Furnace. Students monitored, assessed and controlled the current state of the pilot plants, and analysed different fuels used in biomass combustion plants.

Professional Training Courses (PTC)

The eseia Professional Training aims at professionals interested in developing or advancing their own project in renewable energy systems as well as gaining entrepreneurial skills. In the three-day programme, scientists and practitioners coach participants in small work group sessions. In the past, eseia accommodated courses on smart mobility and energy transition.



Students working at the lab scale leachate treatment plant, and the pellet and wood chip furnace, during the eseia PPC in :metabolon, Germany, 18-20 October 2017.

**OPEN KNOWLEDGE ON
SUSTAINABLE ENERGY SYSTEMS:
the eseia Best Lecture Library**
www.etp.eseia.eu

The eseia Best Lecture Library is a **comprehensive online archive of lectures on sustainable energy systems** with a focus on Sustainable Smart Cities, Regional Integrated Energy Development, Societal Energy Storage and Smart Grids, and EU Project Management.

Projects

BioEnergyTrain

In the fall of 2017 Wolfgang Bauer, TU Graz, and Maarten Arentsen, UTwente, welcomed the **first 35 students** to their respective classes in the two master's programmes developed in the framework of BET: **Bioresource Value-chain Management (BVM)** and **Biorefinery Engineering (BRE)**.



The Consortium worked closely together to ensure the highest quality of the courses, and to implement the BET Buying-In Strategy for sustainable cooperation.



BioEnergyTrain EAB in Brussels, BE, 7 November 2017.

www.bioenergytrain.eu

🕒 May 2015 - April 2019

€ 3,7 Mio. €

👥 15 Partners from 6 EU countries

Coordinator: Brigitte Hasewend, eseia

Grant Agreement No. 656760



CESEPS



In 2017 the CESEPS Consortium successfully submitted **progress reports to ERA-Net Smart Grids Plus, NWO and FFG**. Furthermore, partners concluded the meta study on stakeholders, end users, market places, services and products in smart grids. Smart grid pilot projects were selected to identify the best standards for the development of future energy products and services sensitive to the needs of the stakeholders and the end-users.

Two national meetings in Austria and one transnational meeting in the Netherlands were held to fully engage all partners of the Consortium.



CESEPS Transnational Meeting in Enschede, NL, 23 May 2017.

www.ceseps.eu

🕒 Feb. 2016 - Jan. 2019

€ 1,6 Mio. €

👥 7 Partners from 2 EU countries

Coordinators: Angèle Reinders, UTwente

Lothar Fickert, TU Graz

Grant Agreement No. 645782



Phoenix

The MSCA **Phoenix Mid-term Review Meeting** took place in Dubrovnik in 2017. Oscar Perez Punzano, Programme Officer of the Research Executive Agency (REA) and Consortium members got together to assess progress of eight deliverables achieved.

In 2016 and 2017 a total of **76 PM were achieved. 33 research staff**, two thirds men and one third women, benefited from Phoenix, of which 17 experienced, 14 early-stage and 2 managerial research staff. On average researchers were 34 years old, the youngest secondee was 25 years old. 23 participants originated from six EU countries (AT, FI, HR, NL, PT, RO).



Phoenix Review Meeting in Dubrovnik, HR, 25 June 2017.

www.etp.eseia.eu



Dec. 2015 - Nov. 2019



1,3 Mio. €



15 Partners from 6 EU countries

Coordinator: Brigitte Hasewend, eseia

Marie Skłodowska-Curie Grant Agreement No. 690925



SuPREME

As a result of the involvement in SuPREME, IMP-PAN was able to secure **5 Mio. Euro funding within the Polish BIOSTRATEG Programme** on eco-energy technologies in 2017.

At the SuPREME International meeting held in Jabłonna, Poland, representatives of IMP-PAN, Aalborg University, University of Twente, and eseia agreed to strengthen cooperation in research through joint publications and joint initiatives. In 2017 AAU and UTwente provided training to IMP-PAN staff on site visits and during the ISS held at UT, while eseia involved IMP-PAN in three EC project proposals.



SuPREME Transnational Meeting in Jabłonna, PL, 21 November 2017.

www.h2020-supreme.eu



Nov. 2015 - Oct. 2018



€ 1 Mio.



4 Partners from 3 EU countries

Coordinator: Ewa Domke, IMP-PAN

Grant Agreement No. 692197



SuPREME

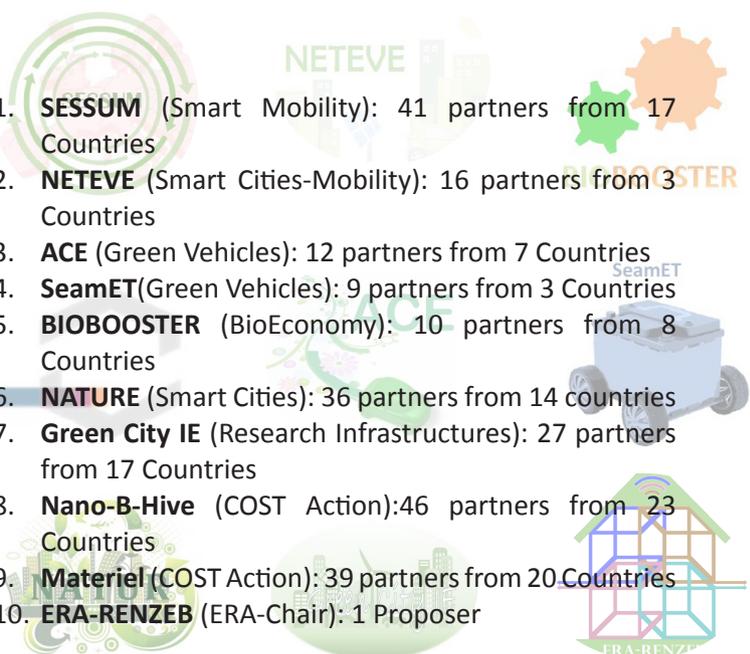
Membership Benefits

Project Acquisition

In 2017 the eseia Team placed a huge effort on project acquisition. eseia organised **three Proposal Workshops** for members and partners with a total of 42 participants from 10 organisations and an uncountable number of virtual meetings.

The proposal workshops were held in Dubrovnik and the eseia premises in Brussels, yielding a **total of 10 proposals submitted in 2017**. In total eseia bid for **54 Mio. EUR funding under H2020**.

The proposals were on the topics of smart mobility, green vehicles, bio-economy, nature-based solutions for smart cities, research infrastructures, smart energy materials for near zero energy buildings.

- 
1. **SESSUM** (Smart Mobility): 41 partners from 17 Countries
 2. **NETEVE** (Smart Cities-Mobility): 16 partners from 3 Countries
 3. **ACE** (Green Vehicles): 12 partners from 7 Countries
 4. **SeamET** (Green Vehicles): 9 partners from 3 Countries
 5. **BIOBOOSTER** (BioEconomy): 10 partners from 8 Countries
 6. **NATURE** (Smart Cities): 36 partners from 14 countries
 7. **Green City IE** (Research Infrastructures): 27 partners from 17 Countries
 8. **Nano-B-Hive** (COST Action): 46 partners from 23 Countries
 9. **Materiel** (COST Action): 39 partners from 20 Countries
 10. **ERA-RENZEB** (ERA-Chair): 1 Proposer

eseia Team: Agile, International, Interdisciplinary, Highly Committed

- 8 professionals from 8 countries, speaking 11 EU and non-EU languages, assist you and your organization in attracting EU funds. The team are fully interdisciplinary, comprising backgrounds in engineering, sustainable energy, economics, material science, and international relations.
- The eseia Team connect you with the vast expertise of 400 experts, and promote cooperation to identify and fill research and innovation gaps;
- The eseia Team build and consolidate consortia, create proposal strategy and approach and facilitate proposal submission. The Team also coordinate and manage large scale initiatives, while offering easy access to world markets on the basis of strategic partnerships;
- Thanks to the eseia premises in Brussels, the Team will grant you first-hand information from the EU institutions, contacts to the EC and intelligence on funding lines;
- The Team are well versed in fostering capacity building through education and training, and continuous dissemination, communication to raise awareness about renewable energy systems.

Business Creation

The eseia Team facilitates the creation of new business solutions by offering a platform for the full value chain to meet and broker best ideas.

On 14 September eseia organised the BioEnergyTrain (BET) Buying In Event, hosted by TU Graz, to promote cooperative educational formats developed by the BET Consortium to businesses active in the region.

19 new courses were presented to 11 businesses, namely Borealis, BioEnergy2020+, RIC-BRP, Bio-C, Energy Agency Styria, Styrian Chamber of Agriculture, Green Tech Cluster, Mondi Frantschach, Papierholz Austria, Zellstoff Pöls, and InnoEnergy.



Marlene Kienberger, TU Graz, AT, and Maarten Arentsen, UTwente, NL, presented BET's innovative training to players from industry.



Speakers of the BioEnergyTrain Buying-In Event, Graz University of Technology, Graz, Austria, 14 September 2017

List of Members



By the end of 2017, eseia counted **29 MEMBERS** in **12 EUROPEAN COUNTRIES**, representing **higher education, research and business**.

16 Higher Education Institutions (HEI), 10 Businesses, of which 2 clusters grouping almost 300 members, and 3 Research Organisations coordinated by the eseia umbrella.

BAV - Bergischer Abfallwirtschaftsverband, Germany

Bio-C - The Green Energy Innovative Biomass Cluster, Romania

Bioenergy2020+, Austria

DIT - Dublin Institute of Technology, Ireland

EAS - Energy Agency Styria, Austria

IMP PAN - Polish Academy of Sciences Research Centre, Poland

Johannes Kepler University, Energy-Institute, Austria

JSI - Jožef Stefan Institute, Slovenia

KFUG - Karl-Franzens University of Graz, Austria

KYAMK - South-Eastern Finland University of Applied Sciences, Finland

LNEG – National Laboratory of Energy and Geology, Portugal

ELES - Elektro-Slovenija, Slovenia

e-mobility Graz, Austria

FH Joanneum Gesellschaft mbH, Austria

GreenTech Cluster Styria, Austria

RIC - Regionales Innovations Centrum GmbH - BRP Powertrain, Austria



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Josef Furlinger, RIC-BRP, and Maria Ortner, Green Tech Cluster at the BET Buying-in Event, Graz, 14 September 2017.

STU - Slovak University of Technology in Bratislava, Slovakia

TORBEL - Engineering and manufacturing company in Ílhavo, Portugal

TH Köln - **University of Applied Sciences**, Germany

TU Graz - **Graz University of Technology**, Austria

TUHH - **Hamburg University of Technology**, Germany

TU Vienna - **Vienna University of Technology**, Austria

UCC - **University College Cork**, Ireland

UL - **University of Ljubljana**, Slovenia

University of Zagreb, Croatia

UTBv - **Transilvania University of Braşov**, Romania

UTwente - **University of Twente**, the Netherlands

VG TU - **Vilnius Gedminas Technical University**, Lithuania

Wood K plus - **Kompetenzzentrum Holz GmbH**, Austria



University of Ljubljana



University of Zagreb

UNIVERSITY OF TWENTE.



VILNIUS GEDIMINAS TECHNICAL UNIVERSITY



eseia Accounts 2017

eseia continues to be a highly performing organisation. Nearly two thirds of the eseia members directly benefit from the four running projects with a total volume of 4,6 Mio. EUR. On average the yearly income for members from EC projects amounts to 1,2 Mio. EUR compared to yearly membership fees amounting to 75,000 EUR. For 1 EUR spent members earn 16 EUR. In addition, eseia earned 360,000 EUR per year on average from projects.

From a profit and loss accounting perspective the net result was positive in 2017. A stable membership fee income covered basic management and dissemination expenses, as well as partly investments in new project

Fig. 1: Profit and Loss 2010-2017

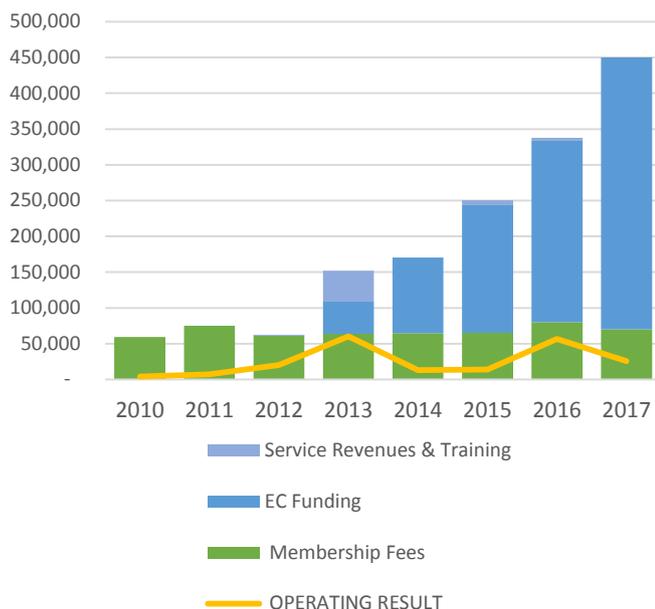


Fig. 2: Shared Project Income 2015-2019



Shared Project Income with total volume of 7,9 Mio. €

acquisition. With a growing project income resulting from the successful project acquisition from previous years, necessary reserves for personnel and working capital management could be accrued.

In addition to the accounting of income and expenditure, which naturally shows fluctuation due to expected delays in grant payments, eseia introduced a profit and loss accounting to show the adjusted performance of a given year and in answer to legal requirements. In 2017, eseia management laid the focus on building human resources for project management and dissemination for running projects but also for further project acquisition in 2018.

eseia in the World

Corresponding to the EU Strategy for International Cooperation in Research and Innovation, eseia reached out to partners in third countries, and established cooperation with all Eastern Partnership countries, namely Armenia, Belarus, Georgia, Moldova and Ukraine in 2017.

Eastern Partnership (EaP) Countries

In 2017 eseia successfully supported **10 research staff from Armenia and Belarus for a total of 30 person-months** of staff exchanges to eseia member organisations in the framework of the Phoenix project, implemented under the Maria Skłodowska-Curie Action RISE. Armenian and Belarusian researchers refined their skills to develop innovative solutions for a European economy based on non-conventional bio-resources.

China

On 18 October 2017, eseia was invited to support the foundation of the **Alliance of China and Central European Universities** in the field of Science, Innovation and Technology which took place in Bratislava. During the meeting, Ramona Oros, eseia Head of Project Acquisition, discussed potential future collaboration in the fields of smart eco cities, smart mobility and transportation as well as the use of information technologies for open innovation.

On the Right, Opening Symposium of China-Central European Alliance of Universities for Innovations, Science and Technology, Bratislava, Slovakia, 17 October 2017.



Darya Muslina

Experienced Researcher
Field of Expertise: Mechanical Engineering, Naval Architecture.
Belarusian National Technical University (BNTU), Minsk, Republic of Belarus.
Host Organisation: University of Zagreb.
Exchange Duration: 1 Month



Lusine Saghatelyan

Early Stage Researcher
Field of Expertise: Microbiology, biotechnology, biochemistry.
National Academy of Sciences of the Republic of Armenia, Yerevan, Armenia.
Host Organisation: LNEG, Portugal
Exchange Duration: 3 Months



Volha Liubchyk

Early Stage Researcher
Field of Expertise: Renewable Energy
Belarusian National Technical University (BNTU), Minsk, Republic of Belarus.
Host Organisation: University of Twente, Enschede, Netherlands.
Exchange Duration: 1 Month



Brussels Links



eseia General Assembly, Brussels, Belgium, 25 April 2017.

eseia would not be eseia without her premises in Brussels. The location, a stone-throw from the European Parliament, encourages European decision-makers to interact with the 400 eseia experts in all fields of renewable energy systems innovation. eseia members are at the pulse of EU development. They benefit from news from the grapevine ahead of their competitors.

On the occasion of the eseia business meetings held in Brussels, in April and November 2017, the Netherlands House for Education and Research, shared news with eseia members about the next R&I Framework Programme FP9 to be completed in 2018 by the Austrian Presidency.

A total of ten eseia meetings took place during each of the three day meetings which was only possible given the special environment and a highly efficient eseia Team that is much appreciated by the members.



eseia Policy Update on Horizon 2020 and FP9 led by Andrea Bos, Neth-ER, Brussels, Belgium, 7 November 2017.



eseia Business Meetings, Brussels, Belgium, 7 November 2017.

Looking to 2018

eseia Working Groups		TOPICS	CALLS	ACTIONS	BUDGET
Working Group 1: Bioresources		Nature-Based Solutions for Urban Ecosystems	SC5-13-2018	RIA	5 M
		Smart Cities and Communities	LC-SC3-SCC-1-2018	RIA	20 M
Working Group 2: Smart Cities and Regions	Focus Group Smart Mobility	Urban Mobility: Smart, Green and Integrated Transport	EIT's Call for KIC Urban Mobility	KIC	100 M
		Urban Mobility	MSCA-RISE-2018	MSCA	0.8 M
		Urban Transport	MG-4-2-2018	CSA	2 M
	Focus Group Smart Grids	Transnational RDD Projects on Smart Grids	ERA-Net Smart Grids Plus Regsys	ERA-Net SG+	2 M
Working Group 3: Education and Training		Educational Capacities for Energy Transition	LC-SC3-CC-5-2018	CSA	2 M
		Smart Near Zero Energy Buildings	WIDE-SPREAD-04-2018: ERA-Chairs	CSA	2.5 M
		Energy Transition	WIDE-SPREAD-03-2018: Twinning	CSA	0.8 M
Working Group 4: Smart Energy Materials		Nano-Materials for Eco-Buildings	COST Action	COST	0.5 M
TOTAL					135.6 M



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