



Centre for Systems Solutions

# CONTENT REPORT

# 2018

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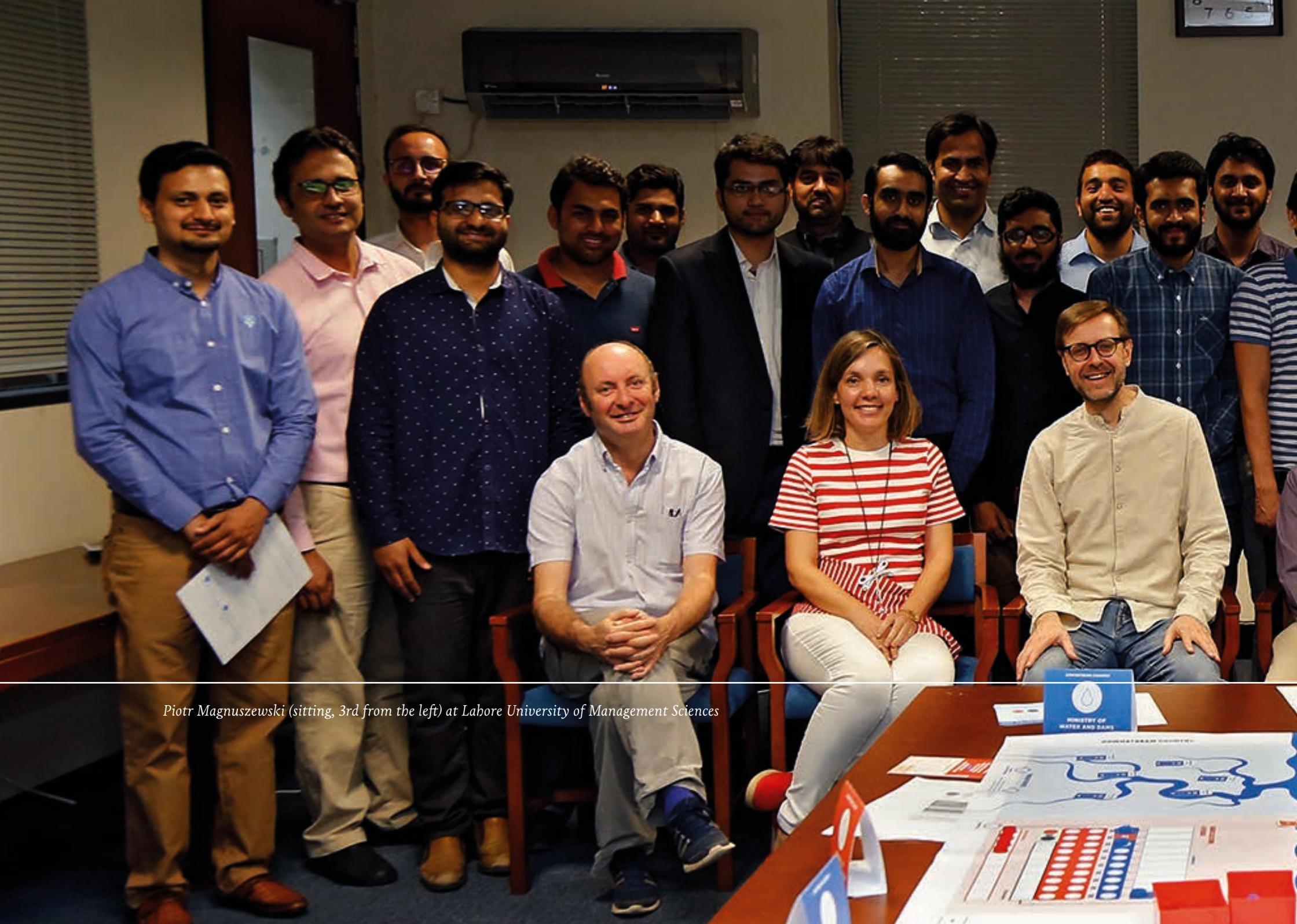




## SPECIAL THANKS

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*The Centre for Systems Solutions would like to express great appreciation to Jan Sendzimir. Our organization wouldn't be the same without his support and creativity. Not only was he one of its main ideators but has also offered assistance in implementing it.*



*Piotr Magnuszewski (sitting, 3rd from the left) at Lahore University of Management Sciences*



# PROJECTS

PRINCIPAL  
MEMBER



# RURITAGE

Duration: **2018-2022**

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RURITAGE is a 4-year project funded under the EU Horizon 2020 programme. Its main goal is the creation of an innovative rural regeneration paradigm, based on Cultural and Natural Heritage. In this way, the project aims to consolidate the role of culture as the fourth pillar of sustainable development and contribute to economic growth, social inclusion and environmental sustainability in rural areas. By establishing a new heritage-led rural regeneration approach, RURITAGE aims to exploit the unique heritage potential of the selected rural areas and turn them into sustainable development demonstration laboratories. Based on past research and experiences, RURITAGE has identified 6 Systemic Innovation Areas, namely, Pilgrimage, Resilience, Sustainable Local Food Production, Integrated Landscape Management, Migration and Art & Festival, and 11 Cross-cutting Themes, which represent the ways in which cultural heritage acts as a driver for the regeneration of rural areas and their economic, social and environmental development.

Through the analysis of 13 selected Role Models (i.e. rural communities that have demonstrably and successfully pursued a heritage-led regeneration within one of the 6 Systemic Innovation Areas), RURITAGE will support the co-creation and implementation of heritage-led regeneration strategies in 6 Replicators (i.e. rural communities that replicate the heritage-led regeneration strategies of the Role Models to fit their particular contexts).

The Centre for Systems Solutions has been chosen for the design and development of social simulations within the project. The project partnership is planned to last until 2022.

The project received funding from the European Union's Horizon 2020 research and innovation programme, under the grant agreement No 776465.



# KEY EVENTS

## JUNE

### **RURITAGE KICK-OFF MEETING WAS HELD IN BOLOGNA, ITALY**

The RURITAGE Kick-off meeting was held in Bologna. It was a very busy time for all the partners involved in the project - these four days were spent on discussions about conceptual and operational sides of the project, a collective community management approach and capacity building activities. On the 5th of June, we participated in the open conference “Cultural heritage as a driver for rural sustainable growth: challenges and opportunities in Europe and beyond.” As part of the event, we had a unique opportunity to listen to some inspiring lectures delivered by Mr Pierluigi Sacco (IULM University, Special Adviser to the EU Commissioner for Education and Culture) and Mr Christer Gustafsson (Professor at Uppsala University).



# NAURU GAME

## FOR ACTIVE CITIZENSHIP OF EUROPE

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Duration: **2017 - 2019**

Project coordinator/contact: **Aleksandra Solińska-Nowak**

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The two-year project “Nauru Game for Active Citizenship of Europe” was funded by the European Union within the Erasmus+ programme. It was implemented from February 2017 to January 2019 in partnership with the Rogers Foundation for Person-Centred Education (Hungary) and TANDEM n.o. (Slovakia). The main objective of the project was to shape citizens’ attitudes and increase the awareness of social participation, sustainable development and climate change among young citizens of Europe. To reach these aims, the partnership developed innovative Internet tools – a multiplayer Internet game and an e-learning platform. In 2017/2018, informational events for educators and test events were held in all three partner countries. In 2018/2019, trainings for future moderators were organized in Poland, Slovakia and Hungary, reaching 148 educators altogether.

This project was funded with support from the European Commission.



# KEY EVENTS

## JANUARY



### NAURU PROJECT MEETING IN POLAND

On 25-26 January 2018, the consortium of the „Nauru Game for Active Citizenship of Europe” met in Poland to conduct the final test of „New Shores - a Game for Democracy” and set the strategy for the following months. On the first day, we organized a dynamic session of the New Shores game for educators and others working with youth. Their comments and ideas were collected to help us improve the tool and adapt it to their needs. The second day was devoted to setting the promotional strategy and defining our priorities for the upcoming months. We also managed to set the date of the next, and last, partner meeting.

## APRIL



### NEW SHORES WORKSHOP FOR SZKOŁA LIDERÓW LOKALNYCH, WROCŁAW, POLAND

The Centre for Systems Solutions was invited to lead a game session with New Shores for students from the Wrocław University of Economics. The event was held as part of the Szkoła Liderów Lokalnych initiative. A group of 19 students took part in the workshop. First, they listened to a lecture about various types of activism: from volunteerism, social cooperatives and associations to the 4th sector. The lecture was followed by a session of the New Shores game. This online simulation made the participants experience the obstacles on the way to a common sustainable future. The workshop was moderated by Jakub Damurski and Władysław Zołoto.

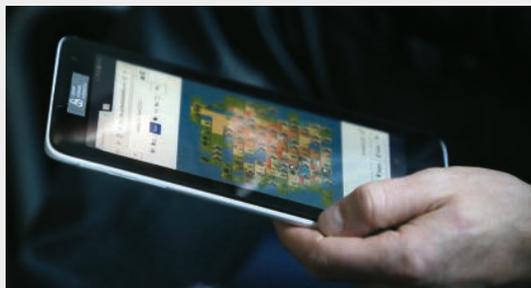
## MAY



### LAUNCH OF THE NEW SHORES CLASS ON THE EDMODO

On 31 May 2018, we launched the New Shores class on Edmodo, a global education network that helps connect teachers with the people and resources needed to reach their full potential. The New Shores class on Edmodo serves as a storage of all interesting text and audio-visual materials that support facilitation of the New Shores game. To start the 9-step e-learning course, the only actions necessary are deciding the language of the class you want to join - English, Polish, Slovak or Hungarian - and following the registration steps provided. Both registration to Edmodo and access to the game and its accompanying materials are free for non-commercial use.

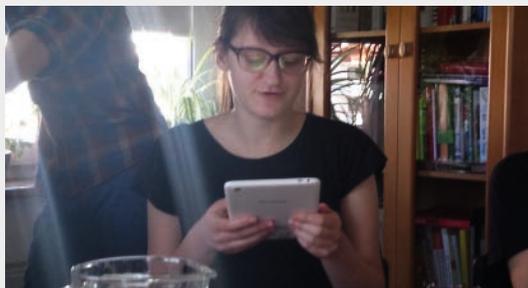
## JUNE



### OPEN NEW SHORES SESSION FOR THE WORLD'S ENVIRONMENT DAY

On 5 June 2018, on the occasion of World Environment Day, we held an open New Shores online session. A world in which individual and collective motivations of the players do not always go in line with the overarching goal of the UN initiative has become a witness to a truly exciting gameplay. Academic teachers and sustainability professionals from England, Greece, Italy and India took on roles as residents of the mysterious New Shores island and strove to manage common resources in a way that would promote economic and social development without compromising the environment. As they admitted after the game, it was not an easy task: „New Shores is an important educational experience that highlights the interplay between social, environmental and economic dimensions of sustainability and how personal interest and well-being can undermine collective decisions and strategies” - said Mrs Vasiliki Kioupi, PhD researcher at the Centre for Environmental Policy of Imperial College London.

## JULY



### TEST SESSION FOR NEW SHORES' MODERATORS

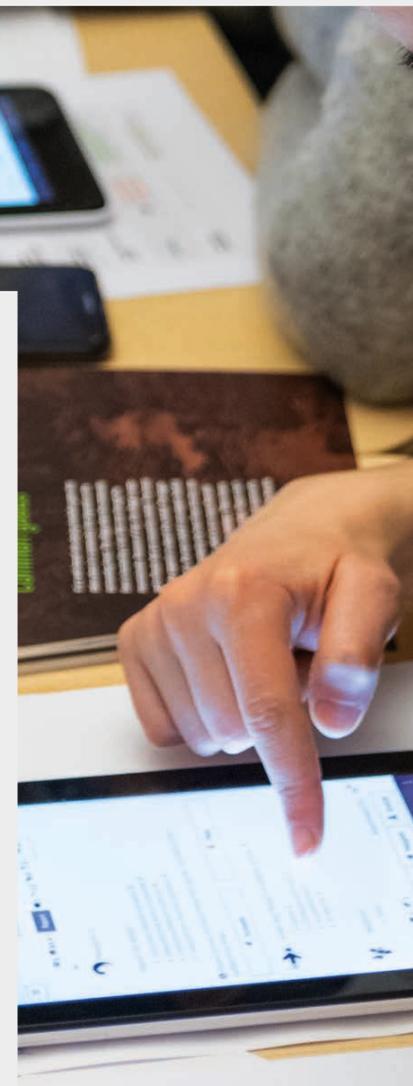
In preparation for the October workshop for future moderators of New Shores, we organized an open face-to-face game session for people interested in getting to know this tool better. During the two-hour meeting, the profession- and age-diverse group (academic researchers, high school students, facilitators and NGO employees) not only played the game but also had a lively discussion about its educational potential. The brainstorming process helped us clarify the most important issues that we would address during the October workshop.

## AUGUST



### EXPLORING NEW SHORES WITH STUDENTS OF SYRACUSE UNIVERSITY

On 25 August 2018, we had the pleasure to host a group of students from Syracuse University in New York, USA. Visiting Central Europe as part of „The European Identity Seminar”, they began in Berlin, moved to Wrocław and then to Vienna. In each country, they explored the multilayered nature of cultural and political identity of the region, shaped by the two world wars of the 20th century and the relatively recent transition from communism to capitalism, among other factors. During the visit in Wrocław they had an opportunity to play New Shores - a Game for Democracy that touches upon similar topics, triggering discussion on the state of democracy and ways we can strengthen its position within Europe and beyond.





## SEPTEMBER



### **5TH TRANSNATIONAL PARTNER MEETING / NAURU GAME FOR ACTIVE CITIZENSHIP OF EUROPE**

On 4 September 2018, the last face-to-face meeting took place as part of the New Shores project. Its main objective was to prepare for the final event - trainings for future New Shores moderators in Poland, Slovakia and Hungary.

### **RECRUITMENT FOR THE TRAIN-THE-TRAINER WORKSHOP**

Recruitment for the New Shores train-the-trainer workshop was launched in September. Our objective was to promote this innovative tool among people working with youth. To assist educators and youth leaders in using the game in their day-to-day work, the Centre for Systems Solutions in cooperation with Rogers Foundation and TANDEM n.o, promoted free, certified train-the-trainer workshops in Poland, Slovakia and Hungary. People interested in the workshop could register via the registration form throughout September.

## OCTOBER



### **TRAIN-THE-TRAINER WORKSHOP IN POLAND**

On 6 October, we invited educators, librarians, NGO and cultural workers to a whole-day train-the-trainer workshop for future moderators of the New Shores game. During the meeting conducted by Damian Dec from Instytut Inspiracji, Ola Solińska-Nowak and Michał Pająk from the Centre for Systems Solutions, the participants gained knowledge and skills on how to prepare a News Shores workshop, based on the methodology guide and workshop scenario developed within the project. The future New Shores moderators got familiar with the functionalities of the Edmodo platform, where we host the e-learning course together with a lot of useful information about the game.

## NOVEMBER



### **SECOND TRAIN-THE-TRAINER WORKSHOP IN WROCŁAW, POLAND**

A little over a month after the first training for New Shores moderators, we organized yet another event for people willing to use the game with youth. On 29 November, 10 people from various educational fields met at the CRS office to play New Shores – a Game for Democracy and learn how to use it to trigger discussion about social and ecological responsibility, ethics, or sustainable economy. The positive energy they brought into the play and discussion exceeded our expectations.

## DECEMBER

### THE NEW SHORES GAME SESSION AT THE UNIVERSITY OF MACEDONIA, THESSALONIKI, GREECE

A little over a month after the first training for New Shores moderators, we organized yet another event for people willing to use the game with youth. On 29 November, 10 people from various educational fields met at the CRS office to play New Shores – a Game for Democracy and learn how to use it to trigger discussion about social and ecological responsibility, ethics, or sustainable economy. The positive energy they brought into the play and discussion exceeded our expectations.





# SUSTAIN

## GAME-BASED LEARNING ON URBAN SUSTAINABILITY

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Duration: **2017 - 2020**

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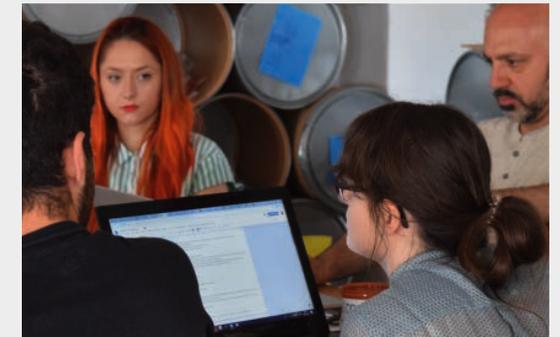
The objective of the SUSTAIN project is to commence and promote sustainable literacy among students of higher education (and young people in general) through an innovative and student-centered education programme.

In the SUSTAIN project, the Centre for Systems Solutions is tasked with translating the simulation models into the game elements, mechanics and playing scenarios. The result of this “translation” will be summarized in an e-book. Furthermore, we will prepare a state-of-the-art board game that deals with sustainability issues.

This project has been funded with support from the European Commission.

# KEY EVENTS

MAY



## SECOND TRANSNATIONAL PROJECT MEETING IN CLUJ-NAPOCA, ROMANIA

We started May with a transnational meeting of the Sustain partners! It took place in a beautiful city of Cluj in Romania and was hosted by our partners and friends from the Society for Responsible Consumption Romania. During the meeting, we focused on our progress in the first work packages. We also took a moment to define our future goals and ideas on how to spread the word about Sustain!

# ADDRESSING ENERGY TRANSITION GAPS IN CLIMATE AND ENERGY MODEL REGIONS OF AUSTRIA THROUGH POLICY CO-DESIGN

Duration: **June 2017 - May 2019**

Contact: **Michał Pająk**

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The two-year project is funded by the Austrian Climate Research Program (ACRP). It has been implemented since June 2017 by the International Institute for Applied Systems Analysis in partnership with The Wegener Centre for Climate and Global Change. The main objective of the project is to analyze the existing policy implementation gaps in Austria's Climate and Energy Models (CEMs) program. The analysis is carried out from three different angles and aimed to further accelerate Austria's transition to a low-carbon future. The first angle focuses on the underlying contextual factors, including overarching governance landscape and heterogeneous actor group motivation. The second one considers energy transition as a collective action problem. The third angle takes into account user-experience and design considerations that facilitate voluntary actions. To meet the project goals, we are going to conduct interviews with stakeholders and map the context of the energy transition in CEM Baden and CEM Freistadt. This data will be used to create simulations that address the specific challenges of these two regions, enable local stakeholders to reflect on their current situation and explore potential solutions to their current problems. In this project, policy exercises will be combined with design thinking workshops that will help stakeholders work on the solutions for their current challenges.



# KEY EVENTS

MAY



## CO-DESIGN CASE STUDY VISITS

In May, we took part in two study visits in CEM regions Freistadt and Baden to collect data necessary for the creation of two simulations. The activities were used to help CEM communities confront challenges related to energy transition in their regions.



## CO-DESIGN POLICY EXERCISES TEST AT IIASA, LAXENBURG, AUSTRIA

On 2 August, Michalina Kułakowska, Piotr Magnuszewski, Sarah Nobis and Michał Pająk from the Centre for Systems Solutions took part in a Co-Design project meeting at IIASA, Laxenburg. The goal of the meeting was to test 2 strategic simulations designed within the project. The main goal of those simulations is to support Freistadt and Baden CEM regions in their energy transition.



## CO-DESIGN WORKSHOP IN FREISTADT

On 15 October, the Centre for Systems Solutions team, including Piotr Magnuszewski, Michał Pająk, and Sarah Nobis, and two project members of the International Institute for Applied Systems Analysis (IIASA), Jenan Irshaid and Junko Mochizuki, arrived in Freistadt, Austria, to jointly facilitate the workshop with stakeholders and partners of the Co-Design project. The goal of the workshop was to confront the stakeholders with the challenges identified during the project.

# SUSTAINABLE MANAGEMENT OF WATER AND FISH RESOURCES (SUSFISH+)

Duration: **June 2017 - May 2019**

Contact: **Michalina Kułakowska**

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The Sustainable Management of Water and Fish Resources (SUSFISH+) project is led by a consortium of the Österreichische Austauschdienst (Austria), the Austrian Partnership Programme in Higher Education and Research for Development (Austria), the University of Natural Resources and Life Sciences (Austria), University of Vienna (Austria), Institute for Environmental and Agricultural Research (Burkina Faso), University of Ouagadougou (Burkina Faso), Polytechnic University of Bobo-Dioulasso (Burkina Faso), International Union for Conservation of Nature, General Directorate for Fish Resources (Burkina Faso), and the Ministry of Environment and Fish Resources (Burkina Faso). The main goal of the project is to produce reliable knowledge to improve policies, management, research and education in fisheries. The project zooms into the Nakambe (White Volta) basin in Burkina Faso, where the country and its residents face important development and environmental challenges. The Centre for Systems Solutions was tasked with designing and facilitating the Nakambe basin strategic simulation, which would further engage stakeholders in the process of identifying the water- and fish sector-related issues in Burkina Faso.



# KEY EVENTS

## SEPTEMBER

### SUSFISH+ MEETING IN VIENNA. TEST OF THE SUSFISH+ SIMULATION WITH STAKEHOLDERS

On 6 September 2018, the Centre for Systems Solutions team, including Piotr Magnuszewski, Marta Magnuszewska, and Michalina Kułakowska, arrived at the University of Natural Resources and Life Sciences, Vienna, to jointly test the simulation prototype with the SUSFISH+ partners. The goal of the test was to compare the existing prototype with the objectives proposed by the project partners and to gain their insight and comments on elements and mechanics included in the simulation. The test was preceded by a presentation on strategic simulation as a tool for creating possible future scenarios. The key element of the presentation was an overview of the simulation process and the previous applications of similar methods in other projects.



# ARRE

## ACCELERATING THE REBOOTING OF REGIONAL ECONOMIES VIA A SUSTAINABLE DEVELOPMENT GOALS SIMULATION GAME

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Duration: **July 2018 - June 2019**

Contact: **Jakub Damurski**

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The ARRE project was funded as part of the Climate-KIC Spotlight program. It is a one-year project that aims at developing and implementing a three-day online course entitled “Teaching sustainability – Using simulation to reach the SDGs in regional transformation.” The course was developed in 2018 and is targeted at trainers, educators, academics, business owners, NGOs, public administration managers and scientists who are interested in adopting an innovative game-based approach to communication about climate change and the transition to a sustainable economy. Via various blended learning methods (videos, webinars and immersion in an exciting online simulation), participants gain practical knowledge and skills how to set up and engage their audience in a transformative learning experience using The World’s Future Online social simulation.

The World’s Future Online is a social simulation, based on the 17 Sustainable Development Goals (SDGs), and set in the context of global climate change. As leaders of three economically diversified countries, players embark on a difficult task to ensure their fictional nations a more sustainable and fair future. Thanks to the dynamics of direct interactions among players, the experiential environment of the simulation reveals the complexity behind social, economic and environmental systems, highlighting the potential trade-offs and synergies that emerge while collectively pursuing the SDGs.

The project is implemented within the Climate-KIC partnership, funded by the European Commission. Climate-KIC (Climate Knowledge and Innovation Community) is Europe’s largest public-private innovation partnership focused on climate change, consisting of dynamic companies, the best academic institutions, and the public sector.





# PIONEERS INTO PRACTICE

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Contact: **Michał Pająk**

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The Centre for Systems Solutions has been part of Climate-KIC's Pioneers into Practice programme since 2013. During this time, it acted both as a sending and hosting organization. It provided placements for Pioneers from various European countries, including the United Kingdom, Germany, and Hungary.

Since 2014, the Centre for Systems Solutions has also been involved in mentoring activities within Pioneers into Practice programme. Michał Pająk took up the role of Climate-KIC Regional Coach. His responsibilities involve guidance and counseling in Pioneers' Regional Assignment. He conducts workshops on Transition Theory and helps Pioneers introduce its principles into their work.

During this collaboration, multiple games developed and applied by the Centre for Systems Solutions were used at Pioneers into Practice workshops, including Lords of the Valley, Climate Game, and Amoeba.

The project is implemented within the "Climate-KIC" partnership, funded by the European Commission. Climate-KIC (Climate Knowledge and Innovation Community) is a Europe's largest public-private innovation partnership focused on climate change, consisting of dynamic companies, the best academic institutions, and the public sector.



# KEY EVENTS

## APRIL



### **CLIMATE-KIC TRAIN-THE-TRAINERS WORKSHOP IN BERLIN, GERMANY**

Like each year, Climate-KIC organized a Train-the-Trainer workshop event for its network of coaches.

The training aimed at developing the facilitation skills of coaches who are involved in the Pioneers into Practice and Journey programmes. Michał Pająk from the Centre for Systems Solutions is also one of the Regional Coaches in the Pioneers into Practice programme and represented CRS at the event.

## MAY



### **PIONEERS INTO PRACTICE INTRODUCTORY WORKSHOP**

The Pioneers into Practice programme 2018 was launched in Warsaw. It began with an Introductory Workshop whose aim was to familiarize the pioneers with the current programme and methodology. During the event, the participants were also divided into working groups that would cooperate on a group assignment. Michał Pająk from Centre for Systems Solutions was co-facilitating the training as a Regional Coach. This year Michał provided supervision and counselling to pioneers throughout the project.

## NOVEMBER



### **FINAL WORKSHOP IN THE 2018 EDITION**

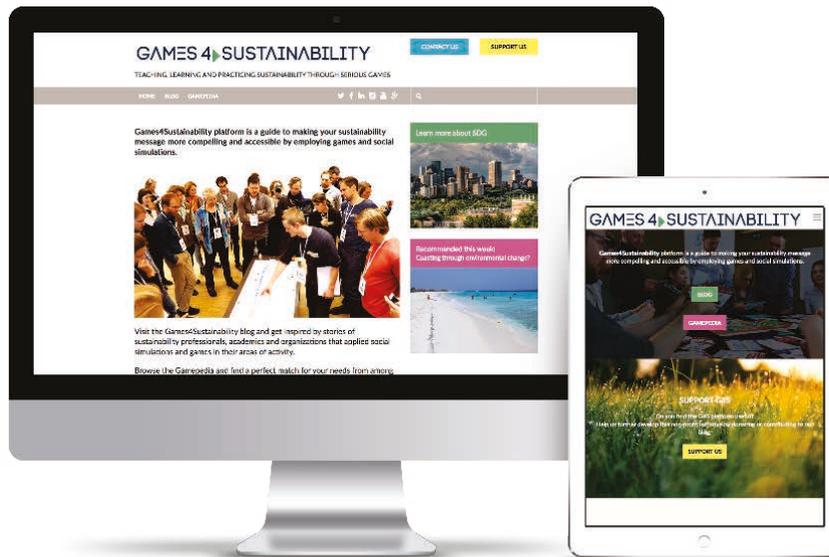
The Pioneers into Practice programme 2018 came to a conclusion in November, with the final Workshop in Warsaw. During the event, the Pioneers had the opportunity to exchange their experiences of cooperating on their assignments and share their results with others.

# GAMES4SUSTAINABILITY

Contact: **Michalina Kułakowska**

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The Games4Sustainability platform is a guide to games and social simulations that can be used in the sustainability education and transition planning contexts.

The Games4Sustainability blog collects a variety of success stories on how sustainability professionals, academics and organizations make use of social simulations and games in their areas of activity.

The Gamepedia, meanwhile, enables users to find a perfect match for their needs from among 100+ games and simulations which are categorized according to The Sustainable Development Goals they address.

## KEY EVENTS

### MARCH

**Water Games**

Water Games is a joint initiative of the International Institute for Applied Systems Analysis (IIASA) and the Centre for Systems Solutions to celebrate the World Water Day.

We have collected and described a number of different games addressing different water challenges. These games differ with respect to time required to play, a number of participants, type (computer, board, or role-play).

UN WATER  
22 MARCH  
WORLD WATER DAY

Centre for Systems Solutions

International Institute for Applied Systems Analysis  
IIASA www.iiasa.ac.at

### WORLD WATER DAY 2018

It may seem that we have unlimited access to water. All you have to do is turn on the tap or buy it bottled in any store. Fresh water is a resource that is not only essential to life but also, to some inhabitants of our planet, hardly accessible.

It is estimated that 663 million people in the world live without clean water.

The Centre for Systems Solutions and International Institute for Applied Systems Analysis (IIASA) celebrated World Water Day together by collecting and describing a number of games on water challenges. We called this initiative Water Games for World Water Day 2018.



## DEVELOPMENT OF THE CENTRE FOR SYSTEMS SOLUTIONS IN POLAND

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Project coordinator/contact: **Magdalena Liszka**  
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The project, implemented thanks to the financial support from The Sendzimir Foundation, includes the following activities: Development of social simulations, strategic simulations and systems thinking tools to improve sustainable development education; workshops to facilitate dialogue on the management of adaptive social and ecological systems; data collection and analysis; financial and administrative management; and IT services.

The team involved in the project includes Magdalena Liszka, Jakub Damurski, Piotr Magnuszewski, and Łukasz Jarzabek.





**SOCIAL AND STRATEGIC SIMULATIONS**

*„The Prince” - test, “Na Świebodzkim” Stage of Polish Theatre in Wrocław, 08 Jan 2019*

# THE WORLD'S FUTURE GAME ONLINE

Number of players: **9-34**

Duration: **2-3h + 1h debriefing**

Requirements: **web connection, at least 9 mobile devices, one computer for moderator**



In 2015, the global community set 17 major targets for the year 2030. Called the Sustainable Development Goals (SDGs), their aim is to end poverty, protect the planet and secure prosperity for all.

The World's Future Game Online is an interactive mobile role-playing simulation which enables players to face the great challenges of our time: How to use limited resources and still achieve the SDGs? Is it possible to meet competing needs without trade-offs? Can food production provide for

all and have no negative effects on essential natural ecosystems? How can we increase our efforts to adapt to and mitigate climate change, at the same time generating enough energy for all? And what role do we – consumers, producers, governments and NGOs – play in the implementation of the goals?

You can shape the future of this micro-world and its inhabitants. Each player takes on a unique role in this complex global landscape. The simulation offers space to develop creative strategies and to cooperate

with other participants. It not only simulates the complexity of the global system but also triggers new ideas that can be used to face real-world challenges.

The online version of The World's Future Game was developed by the Centre for Systems Solutions in collaboration with Wuppertal Institute, Leuphana Universität, and Freie Universität Berlin. It was sponsored by the Deutsche Bundesstiftung Umwelt.

# NAKAMBE BASIN SIMULATION

Number of players: **up to 40**

Duration: **4h + 1h debriefing**

Requirements: **a few tables in the size of the game boards**



Nakambe Basin Simulation is a strategic simulation that combines interactive scenarios, role-playing, and game-like mechanisms. It is realistic, based on real water and fish data, yet it provides a safe environment for better understanding of specific challenges that stakeholders face. With innovative use of physical objects which support a process of systematic “discovery” of interlinkages that rule the Nakambe Basin, stakeholders gain a unique outlook into potential solutions for those challenges. The simulation exercise is divided into three main parts, in which stakeholders look at the present and explore various futures for the Nakambe Basin.

The main goals for the simulation were achieving enhanced and shared understanding of the implications of different investments in the basin, and partnerships to support the fish and water management in the Nakambe basin in Burkina Faso.

Nakambe Basin Simulation was developed by the Centre for Systems Solutions in the framework of the SUSFISH + project funded by OEAD and APPEAR.

# FREISTADT STRATEGIC SIMULATION

Number of players: **12-30**

Duration: **3h + 1h debriefing**

Requirements: **a few tables in the size of the game boards**

The main objective of this strategic simulation was to accurately depict the daily operations of the OurPower platform. The strategic simulation enables participants to experience the potential issues related to the operations of a system, including dealing with its weaknesses and taking advantage of the opportunities. It addresses the complexity in creating and fulfilling arrangements between producers and consumers in the P2P energy market. The strategic simulation tackles both social and technical aspects of the operation, i.e., the various energy needs as well as the various capacities to produce energy and to balance it within the system.

Freistadt Strategic Simulation was developed by Centre for Systems Solutions in collaboration with International Institute for Applied Systems Analysis as a part of the Addressing Energy Transition Gaps in Climate and Energy Model Regions of Austria Through Policy Co-Design project. The project was funded by Austrian Climate Research Program (ACRP).



# SUSTAINABLE URBAN HEATING SIMULATION

Number of players: **7-28**

Duration: **3h + 1h debriefing**

Requirements: **web connection, one computer for moderator, a few tables in the size of the game boards**

The Sustainable Urban Heating Simulation serves as a testing and training tool that offers numerous possibilities to practice decision-making under pressure as well as negotiation and consensus building. It also helps to identify specific challenges, risks, and hot-spots, triggering creative thinking and inspiring participants to seek more realistic solutions for their homes and cities.

The Sustainable Urban Heating Simulation enables people to have a controlled, game-like outlook into possible approaches to local energy transition. By taking risks and making mistakes, participants may either experience eye-opening failures or come up with new solutions they would otherwise never discover. In both cases, they receive instant feedback and thus safely experience the consequences of their decisions.

Sustainable Urban Heating Simulation was developed by Centre for Systems Solutions in collaboration with International Institute for Applied Systems Analysis as a part of the Addressing Energy Transition Gaps in Climate and Energy Model Regions of Austria Through Policy Co-Design project. The project was funded by Austrian Climate Research Program (ACRP).



# THE PRINCE

Number of players: **60-150**

Duration: **3,5h or more**

Requirements: **web connection, 4 laptops for moderators, a printer, a few tables in the size of the game boards, PA system, a camera, projector and big screen, a few chairs**



The newest social simulation in development, The Prince will be integrated with a theatre performance inspired by the work of Niccolo Machiavelli. The theatre performance will be directed by Paweł Świątek and staged in September 2019 by Polski Theatre in the underground. Among the players, there are actors who are taking an active part in the simulation and can influence it.

The Prince simulation draws from Polish politics, but the core of the game is universal. Participants take roles of citizens of a fictitious country, organized in clans that run different kinds of enterprises. The citizens can not only grow their businesses, but also run for office and become politicians, or explore other forms of political organization. The parliament creates the law, while the president and ministers take care of the country's development. The country faces many problems such as pollution and inequality.

The goal of the simulation is to recreate the challenges of modern, polarized politics in a safe environment. As participants enter the simulation with their real-life worldviews, they clash and cooperate with players who come from different backgrounds.

The Prince is being developed by Centre for Systems Solutions in collaboration with Polski Theatre in the underground.









# OTHER EVENTS

*Photo: Luiza Puiu*



**LORDS OF THE VALLEY FOR EUROPEAN FORUM ALPBACH IN VIENNA, AUSTRIA**

The goal of the workshop was to present problems related to resilience, specifically adapting the economy to mitigate negative effects of climate change. The key element of the workshop was the Lords of the Valley game, designed by the Centre for Systems Solutions, which presents this problem in the context of management of a floodplain valley. Thanks to this social simulation, participants from the European Forum Alpbach were able to experience the dilemmas of adaptive management. The workshop gave them an opportunity to learn and practice collaboration, build social trust and engage all stakeholders in decision-making process.



**NEXUS GAME AT THE WATER MODELLING APPROACHES TO EGYPTIAN ACADEMICS: INTRODUCTION AND EXPLORATION OF PROJECTS AND MODELLING APPROACHES TRAINING IN CAIRO, EGYPT**

Piotr Magnuszewski participated in a 5-day workshop organized by the International Institute for Applied Systems Analysis and the Egyptian Academy of Scientific Research and Technology (ASRT). The workshop’s main goal was to introduce Egyptian academics to different water modelling approaches. Through Nexus Game, one of the Centre for Systems Solutions’ leading simulations, participants had the chance to explore differing needs and approaches to the synergies and trade-offs between countries in ensuring sufficient water, food, and energy.

Read more about the Water Modelling Approaches to Egyptian Academics on the official IIASA blog.

**NEXUS GAME WORKSHOP SESSION AT LAHORE UNIVERSITY OF MANAGEMENT SCIENCES - CENTER FOR WATER INFORMATICS & TECHNOLOGY, IN LAHORE, PAKISTAN**

The Indus river basin covers four countries (Pakistan, India, China, and Afghanistan). Those four countries also have something else in common: various issues related to shared resources, climate change, and changing demand for water, food and energy, all which have political, economic and environmental implications for the region. Piotr Magnuszewski, together with representatives from the International Institute for Applied Systems Analysis, led workshops with local stakeholders and students of the Center for Water Informatics & Technology at Lahore University of Management Sciences (LUMS) using the Nexus Game simulation, designed by the Centre for Systems Solutions. The players deeply immersed themselves in the simulation and easily connected the problems observed during the session to the real-life issues they face in their work and research. The event was a part of the stakeholder engagement process that is being developed within the Integrated Solutions for Water, Energy, and Land (ISWEL) project in the Indus Basin. The ISWEL project is led by IIASA in partnership with the UN Industrial Development Organization (UNIDO) and Global Environment Facility (GEF).

# OTHER EVENTS

## APRIL

### **PUBLICATION OF GUEST POST “PLAY THESE TWO GAMES FOR CLIMATE ADAPTATION” ON THE CLIMATE INTERACTIVE BLOG**

There is a growing number of games that may enhance communication about climate change processes and their related risks. In our guest post on the Climate Interactive blog, we presented our suggestions for climate-related play, namely Climate Game and Flood Resilience Game.

### **PUBLICATION OF THE ARTICLE “UMWELT AUF DEM SPIEL” (“ENVIRONMENT AT STAKE”) IN THE ADA-MAGAZINE**

We were asked to contribute an article about Nexus Game to the first 2018 edition of the Austrian Development Agency ADA-magazine Weltnachrichten. Our Marketing Specialist Sarah Nobis sat together with IIASA-researcher Robert Burtscher and wrote the “Umwelt auf dem Spiel” article. With statements from Centre for Systems Solutions’ Science Director Piotr Magnuszewski and David Hebart-Coleman of the African Development Bank, the article gave a concise insight into nexus-thinking and the interconnectedness of various factors in taking measures for climate protection. You can find it on pages 12-13 here (in German).

### **HOW TO BECOME A SUSTAINABLE DEVELOPMENT LEADER? THE IDEA OF SUSTAINABLE DEVELOPMENT IN THE WORLD, IN BUSINESS AND ORGANIZATION**

We had the pleasure of organizing the workshop „How to become a sustainable development leader? The idea of sustainable development in the world, in business and organization” for high-ranking employees of KGHM Polska Miedź S.A. One of the most important parts of the workshop was a policy exercise prepared specially for the occasion. The exercise gave space to the participants, who were managers of the main KGHM business units, to comfortably discuss what additional solutions related to sustainable development KGHM could introduce and what results they could bring. The workshop, conducted by the Centre for Systems Solutions, was a part of a larger process aimed at positioning KGHM as a leader in implementing sustainable development solutions in the mining industry in Poland.



### **SIMULATING SUSTAINABLE DEVELOPMENT GOALS (SDGS) IN THE CONTEXT OF EXTERNAL RELATIONS AND FOREIGN POLICY: THE WORLD’S FUTURE WORKSHOP FOR THE EUROPEAN EXTERNAL ACTION SERVICE**

European External Action Service invited us to facilitate The World’s Future social simulation workshop. The workshop was developed and facilitated by experts from the Centre for Systems Solutions and International Institute for Applied Systems Analysis, Piotr Magnuszewski and Gerid Hager.

Participants were actively involved in the simulation, facing the challenges of sustainability dynamics and related cross-boundary issues, e.g. food and energy security. They also explored strategies to foster resilience across nations as well as face the challenge of pursuing strategic autonomy.

## MAY

### **MARINE ANTHROPOGENIC POLLUTION PRESENTATION BY OLGA MIRONENKO**

We had the pleasure of hosting Olga Mironenko, a marine sustainability researcher and a co-founder of the Russian marine plastics recycling project Holy Jelly, and the initiative Taiga (awarded by Moscow government as the best environmental start-up of 2016). With her past research projects, Olga brings expertise in marine pollution into her business of reversing pollution in the seas. On 8 May, she led a presentation for the Centre for Systems Solutions' team about marine anthropogenic pollution and unsustainable fishing practices.

### **TRANSFORMATIVE INNOVATION LABS WORKSHOP - KICK-OFF MEETING IN WUPPERTAL, GERMANY**

We were invited to participate in the Transformative Innovation Labs Workshop project kick-off meeting in Wuppertal, Germany. The project aims to empower students to carry out transformative, transdisciplinary master thesis projects built on a systematic understanding of complex sustainability issues, targets like the SDGs, and planetary boundaries. A workshop with The World's Future game for the participating students served as one of the introductory activities. Thanks to this project's funding, CRS was able to create an online version of The World's Future game. The project and the online game development were sponsored by the Deutsche Bundesstiftung Umwelt (DBU).

## JUNE

### **3RD INDUS BASIN KNOWLEDGE FORUM: MANAGING SYSTEMS UNDER STRESS: SCIENCE FOR SOLUTIONS IN THE INDUS BASIN AT INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS IN LAXENBURG, AUSTRIA**

During the last day of the Indus Basin Knowledge Forum (IBKF), Piotr Magnuszewski led one of the Centre for Systems Solutions' simulations, the Nexus Game. In 2018, the initiative built on the experience from previous years' meetings and initiatives such as the Indus Forum, the Upper Indus Basin Network, and the Global Environment Facility-funded Integrated Solutions for Water, Energy and Land Project (ISWEL). The aim of the IBKF is to bring together researchers and policy-makers from the four countries in the basin and beyond to share knowledge and advance collaborative efforts for sustainable resource management. The IBKF was co-convened by the International Centre for Integrated Mountain Development (ICIMOD), the International Institute for Applied Systems Analysis (IIASA), the International Water Management Institute (IWMI) and the World Bank.

### **“SHAPING ORGANIZATIONAL NETWORK STRUCTURE TO ENABLE SUSTAINABLE TRANSFORMATION FOCUSES ON THE AREA OF ORGANIZATIONAL TRANSFORMATION”: AN ARTICLE CO-AUTHORED BY THE CENTRE FOR SYSTEMS SOLUTIONS MEMBER FELICJAN RYDZAK**

A special issue of the System Dynamics Review “Celebrating the 60th Anniversary of the System Dynamics field” was published, with guest editors John D. Sterman and Nelson P. Repenning, professors at MIT Sloan School of Management. This special issue included an article by Paul A. Monus and a member of the Centre for Systems Solutions - Felicjan Rydzak, on the role of organizational transformation in enabling sustainable transformation (Felicjan Rydzak and Paul A. Monus: Shaping organizational network structure to enable sustainable transformation).



# OTHER EVENTS



JULY

## NEXUS GAME WORKSHOP IN HARARE, ZIMBABWE

Piotr Magnuszewski co-organized and co-conducted a workshop on the nexus approach in the Zambezi Basin as part of the ISWEL project (Integrated Solutions for Water, Energy, and Land), led by the International Institute for Applied Systems Analysis (IIASA), the Global Environment Facility (GEF), and the United Nations Industrial Development Organization (UNIDO).

The workshop's overarching objective was to gather the representatives of National Stakeholders' Coordination Committees of the Zambezi Watercourse Commission (ZAMCOM) and other experts on energy, agriculture, and environment, to jointly discuss desirable futures for water-energy-land in the Zambezi basin and its riparian countries. As part of the initiative,

Piotr Magnuszewski led a session for young researchers using the Nexus Game, designed by the Centre for Systems Solutions.

All the participants were actively engaged in the process and found the tool was very useful for grasping the complexity of transboundary water management and starting discussions about investments, pollution, dam water releases and legal policies and legislations. As one of the players said: "I have learned that focus should not be put on issues of income only, but also on water preservation in preparation for dry seasons and drought. I have also learned that climate change is real and anything can happen in any year, e.g. droughts or floods, and one needs to be prepared for these extreme events."

## AUGUST



### **INTEGRATED, INDEPENDENT, INSPIRING - SOUTHERN AFRICAN SYSTEMS ANALYSIS CENTRE 2018**

“Integrated, independent, inspiring” was the theme of the 2018 edition of Southern African Systems Analysis Centre’s Emerging Researchers Program, which was launched 9 August 2018 in Johannesburg, South Africa. This three-week program gathered participants interested in increasing their systems thinking skills. Through workshops, including one with the Nexus Game, designed by the Centre for Systems Solutions, participants were exposed to the leadership and collaboration skills.

Facilitated by Piotr Magnuszewski, the Nexus Game once again elicited positive reactions from the players. The SASAC program, launched in 2016, is being implemented by a consortium of four universities, including the Universities of the Western Cape, Limpopo, Witwatersrand, and Stellenbosch.

## SEPTEMBER



### **“USE OF GAMES AS AN EFFECTIVE TOOL IN LEARNING ABOUT SUSTAINABILITY”: A PRESENTATION AT THE BALATON GROUP MEETING 2018**

Piotr Magnuszewski participated in the 2018 edition of the Balaton Group meeting. Balaton Group, founded by Donella and Dennis Meadows, brings together researchers and professionals to Lake Balaton to discuss the future of our world. Piotr’s presentation on the use of games as an effective tool in learning about sustainability, support provided an innovative approach to the conference’s main them on role of education and learning in sustainability.



### **“AN OVERVIEW OF SERIOUS GAMES FOR DISASTER RISK MANAGEMENT – PROSPECTS AND LIMITATIONS FOR INFORMING ACTIONS TO ARREST INCREASING RISK”: AN ARTICLE IN THE INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION**

In September 2018, the Centre for Systems Solutions, International Institute for Applied Systems Analysis and Red Cross/Red Crescent Climate Centre collaborated on an article about disaster risk management, which was published in the International Journal of Disaster Risk Reduction. The paper offers a comprehensive overview of 45 non-commercial digital and analog serious games/simulations addressing issues related to disaster risk management (DRM) and serving as educational and engagement tools for affected communities, policy-makers, and other stakeholders. The research reveals that, with a capacity of reaching diverse audiences and of realistically simulating disaster reality, serious games/simulations have the potential to foster engagement and disaster preparedness. For more details, read the whole article.



# OTHER EVENTS

## OCTOBER

### ENERGY TRANSITION GAME COMPETES FOR THE BEST CLIMATE SOLUTIONS PRIZE

Energy Transition Game entered the prestigious Best Climate Solutions competition, organized by the Euro-Mediterranean Center on Climate Change in cooperation with Festival for the Earth. The fifth edition of the competition focused on the promotion of innovative educational tools and methods that spur dialogue on the climate crisis. The voting for the best entry closed on 15 October.

### “A GAME OF COMMON-POOL RESOURCE MANAGEMENT: EFFECTS OF COMMUNICATION, RISKY ENVIRONMENT AND WORLDVIEWS”: AN ARTICLE IN ECOLOGICAL ECONOMICS

The article on the use of gaming in common-pool resource management and its effects on communication, risky environment and worldviews, penned by researchers from International Institute for Applied Systems Analysis and Centre for Systems Solutions: Peter Bednarik, Joanne Linnerooth-Bayer, Ulf Dieckmann and Piotr Magnuszewski, was finally published. The article is available here.



### THE WORLD'S FUTURE WORKSHOP FOR RESEARCH INSTITUTE OF ORGANIC AGRICULTURE IN SWITZERLAND

Piotr Magnuszewski and Bartek Naprawa facilitated The World's Future workshop for the FiBL (Research Institute of Organic Agriculture) team in Grindelwald, Switzerland.



Photo: Luiza Puiu

### DANCING WITH THE FUTURE - WORLD PREMIERE AND NEW YORK PREMIERE

The International Institute for Applied Systems Analysis (IIASA) and the Program for Evolutionary Dynamics (PED) of Harvard University (USA), collaborated on Dancing with the Future, a production that pushes the boundaries of art and science. Mixing dance, evolutionary dynamics, and an interactive game designed in cooperation with Centre for Systems Solutions team, the performance took place during the International Conference on Sustainable Development, held 27 September at the United Nations General Assembly in New York. During the forum, participants discussed how technologists, scientists, and engineers are contributing to the sustainable development space, as well as the importance of co-design and local ownership, use of standards, ethics, and informed consent, and more.



*Nexus Game at 9th GEF conference*

### **THE WORLD'S FUTURE ONLINE AT THE TRANSFORMATIVE INNOVATION LABS WORKSHOP**

Students taking part in the Transformative Innovation Labs Workshop at Wuppertal Institute had the opportunity to play the first release of The World's Future Online game. The workshop with the game was run by Lukasz Jarzabek from the Centre for Systems Solutions with support from project partners from Wuppertal Institut, Leuphana Universitaet, and Freie Universitaet Berlin. It was also the first official session with the online version of the game. The project and the development of the online version of the game was sponsored by the Deutsche Bundesstiftung Umwelt (DBU). The World's Future game will be also used within the project in upcoming years.

### **NEXUS GAME WORKSHOP AT 9TH GEF BIENNIAL INTERNATIONAL WATERS CONFERENCE**

The Centre for Systems Solutions was invited to participate in the 9th GEF Biennial International Waters Conference, which brought together around 300 participants from around the world — including members of governments, representatives of non-governmental organizations, transboundary management institutions, UN Agencies, the private sector, and the GEF—to discuss how to further improve on the international cooperation towards a more sustainable use of freshwater and marine resources. Magdalena Liszka and Piotr Magnuszewski brought to the conference a more interactive approach by facilitating a workshop session with the Nexus Game, which ignited a fierce discussion on transboundary management of the water resources.

### **GREEN & GREAT AT COLLEGIUM CIVITAS, WARSAW, POLAND**

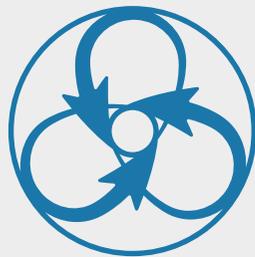
We organized a game session with the Green&Great game for the postgraduate course „CSR Manager” organized by Collegium Civitas (in Warsaw, Poland) in collaboration with CSRinfo. At the workshop led by Piotr Magnuszewski, participants could put their management skills into practice while assuming the role of managers in large consulting firms. By facing the consequences of their own decisions, players learn and experience the importance of business sustainability as a source of competitive advantage.



### THE WORLD'S FUTURE AT THE UNIVERSITY OF KOBLENZ-LANDAU, GERMANY

The International Institute for Applied Systems Analysis (IIASA) and the University of Koblenz-Landau (Germany) came together to use The World's Future social simulation, developed by IIASA researchers and the Centre for Systems Solutions on the Sustainable Development Goals. The simulation event was held on 11 and 12 December at the Landau Campus and gave participants the opportunity to enter an experiential playground for learning and understanding complex systemic decision making. Interdisciplinary oriented staff and student participants gained insight into the interconnected and systemic nature of the SDGs, including synergies and trade-offs, while learning about the use of serious gaming in education.





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