



Centre
for Systems
Solutions

Centre for Systems Solutions

ACTIVITY REPORT

2020

*Aleksandra Solińska - Nowak preparing for the speech about New Shores game,
TV Polsat studio, September 2020.*



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SPECIAL THANKS

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 its mission.

5 SOCIAL & STRATEGIC SIMULATIONS

IN 5 LANGUAGES



2



TIM
SUSTAINABILITY EXPERT



HUBERT
CONTENT
WRITER / WEB
PUBLISHER

NEW MEMBERS IN OUR TEAM

9

INTERNATIONAL PROJECTS

CASCADES: Cascading climate risks: towards adaptive and resilient european societies

RURITAGE: Rural regeneration through systemic heritage-led strategies

REBOOST: A Boost for Rural Lignite Regions

Deep Demonstration Forging Resilience

Deep Demonstration Long-termism

Pioneers into Practice

Young Innovators Lab

CEE Community Lab

Journey

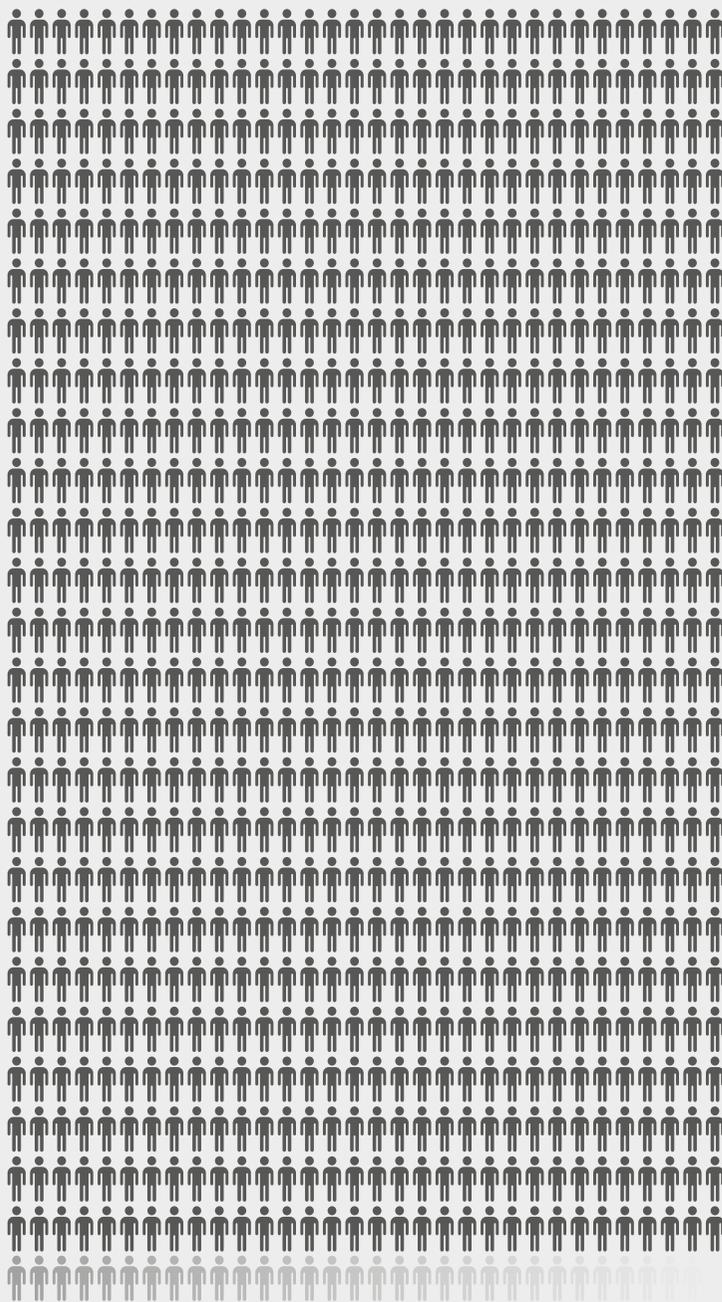
95%

OF OUR ACTIVITIES
TOOK PLACE ONLINE



TEMS SOLUTIONS

IN NUMBERS



> **800**
PARTICIPANTS

IN OUR ONLINE
WORKSHOPS
AND WEBINARS



> **70**
PARTNERS

FROM MORE THAN
20 COUNTRIES FROM
AROUND THE WORLD



With their car battery... abundance of renewable energy... become a leader in driving the deployment of electric cars. European carmakers have already started claiming that they have capacity to stand up to a juggernaut in electric car production.



Like Dislike

Write a comment and press enter

Global approach, not a... that global industry... chains are scoured

...navirus was tough but it is won and people... their normal lives. Many aspects of the reality will... we travel less for both business and leisure, we... work and online collaboration... There are... that remain the same. Urgent climate action or a... to global production and trade are among them.



European Union

Europe is progressing with the European New Green Deal. Its overarching aim is to ensure low-carbon economy, without reducing prosperity and while improving people's quality of life. An undisputed leader of the clean energy transition is still Germany, which has positioned itself as an innovator and exporter of green technologies. Fossil fuels still have their share in global energy demand, however the transition is undoubtedly advancing.



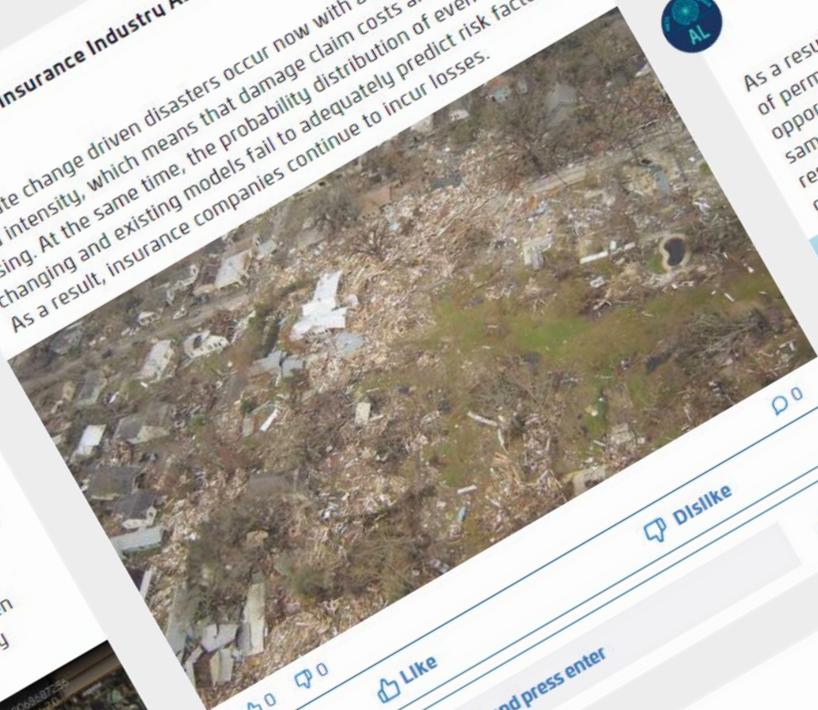
Like Dislike

Write a comment and press enter



Global Insurance Industry Association

Climate change driven disasters occur now with a greater regularity and intensity, which means that damage claim costs are constantly rising. At the same time, the probability distribution of events is changing and existing models fail to adequately predict risk factors. As a result, insurance companies continue to incur losses.



Like Dislike

Write a comment and press enter



Asia-Europe Trade Association

Asia remains the world's fastest-growing region and the largest contributor to global growth. Asian investors, particularly from China, are breaking into European markets, gradually increasing their share in the European green tech sector. The continent's economy is still heavily dependent on fossil fuels and this situation will not change soon, despite the pressure from the US and Europe.

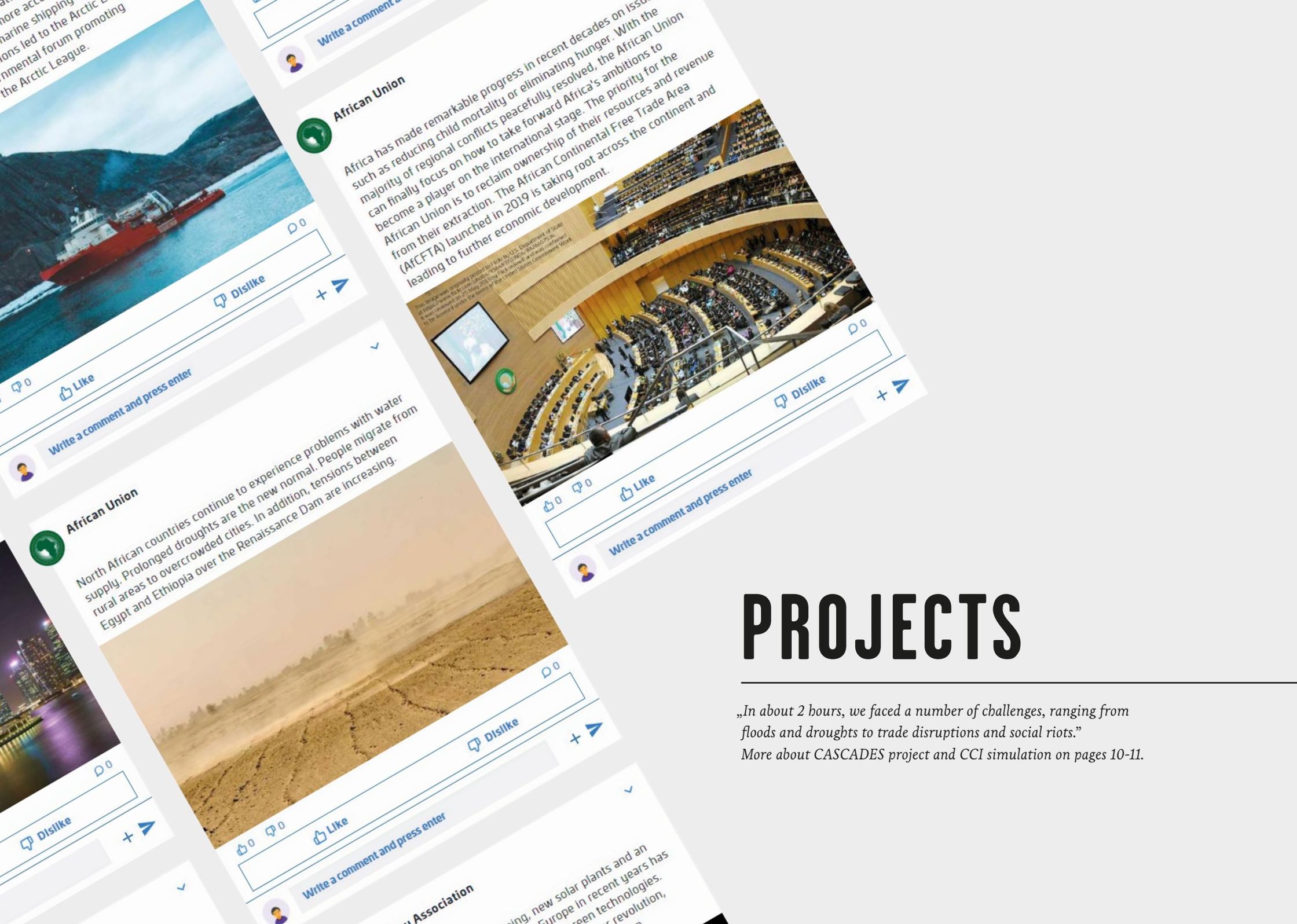


Arctic League

As a result of the global average temperature rise and the depletion of permafrost, the Arctic has become an opportunity for a reliable year-long shipping route. At the same time, increasing political tensions and the need for international resolution. The leading intergovernmental organizations are promoting cooperation in the Arctic is now

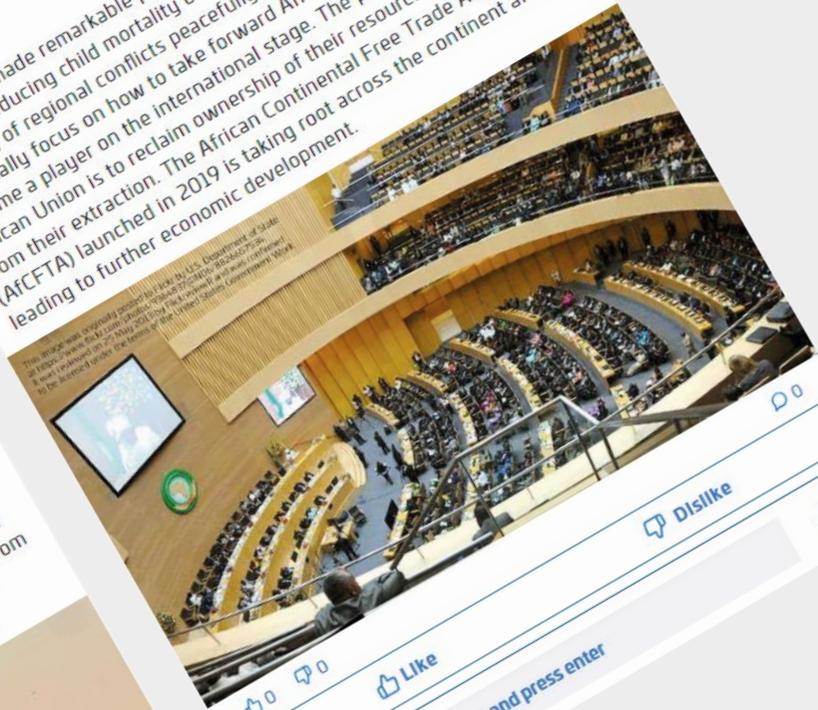


temperature rise and the depletion... are accessible, creating the... shipping route. At the... Arctic League... nting



African Union

Africa has made remarkable progress in recent decades on issues such as reducing child mortality or eliminating hunger. With the majority of regional conflicts peacefully resolved, the African Union can finally focus on how to take forward Africa's ambitions to become a player on the international stage. The priority for the African Union is to reclaim ownership of their resources and revenue from their extraction. The African Continental Free Trade Area (AfCFTA) launched in 2019 is taking root across the continent and leading to further economic development.



African Union

North African countries continue to experience problems with water supply. Prolonged droughts are the new normal. People migrate from rural areas to overcrowded cities. In addition, tensions between Egypt and Ethiopia over the Renaissance Dam are increasing.



PROJECTS

„In about 2 hours, we faced a number of challenges, ranging from floods and droughts to trade disruptions and social riots.”
More about CASCADES project and CCI simulation on pages 10-11.

RURITAGE

RURAL REGENERATION THROUGH SYSTEMIC HERITAGE-LED STRATEGIES

Duration: **June 2018 - May 2022**

Contact: **Anna Koch**

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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 a contributing factor to economic growth, social inclusion and environmental sustainability in rural areas. By establishing a new heritage-led rural regeneration approach, *RURITAGE* aims to utilize 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, as well as 11 Cross-cutting Themes that 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* supports 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).

We've 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

MAY

RURITAGE GENERAL ASSEMBLY

On May 27 and 28, all *RURITAGE* partners met online for the General Assembly of the project. The general assembly allows all parties involved to be up to date with activities carried out in the project. On the first day of the meeting, all coordinators of work packages updated partners on the progress of their tasks. Michał Pająk and Anna Koch shared our activities, focusing on the *Ruritania* game. The second day was devoted to brainstorming sessions, which were intended to diagnose threats and opportunities that arose in connection with the global situation (COVID-19) for the development of the project's Replicators.

SEPTEMBER

FEASIBILITY REPORT

We participated in the Exploitation Feasibility Study to explore the potential for the *RURITAGE* Methods and Tools. As the Team Leader responsible for the *Ruritania Game* and its developer,, our team members facilitated a serious game session and discussion on the future usage of our tool.

The study ended with a *Feasibility Report*, which will support the whole consortium in exploiting the tools created for the *RURITAGE* beyond the project.

OCTOBER

RURITAGE ONLINE FINE-TUNING WORKSHOP

The workshop was aimed at enabling Replicators and Role Models to receive feedback which will be crucial for fine-tuning their implementation efforts. On the first day, Replicators presented their heritage-led rural regeneration strategies and received feedback and further suggestions from other participants. Participants from the Board of Investors have also been invited to this meeting in order to explore the possibility of investment creation for Replicators. On the second day, Replicators shared the main issues that still needed to be solved in their implementation plans. Role Models presented the outcomes of the first activities to hear partners' feedback.

Our goal for the workshop was to introduce Role Models and other participants to the concept of the *Ruritania Game* as well as the outline of the *Ruritania Game Kit*.

CASCADES

CASCADING CLIMATE RISKS: TOWARDS ADAPTIVE AND RESILIENT EUROPEAN SOCIETIES

Duration: **September 2019 - December 2022**

Contact: **Łukasz Jarzabek**

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CASCADES identifies how the risks of climate change to countries, economies, and peoples outside Europe might cascade into Europe. It does so by analyzing how these risks interact with major challenges facing European societies. We are working with a diverse range of stakeholders – both within and outside Europe – to address these risks from a multitude of approaches.

The main objective of *CASCADES* is, within four years, to analyze the trade, political and financial channels through which climate change impacts might cascade into Europe from the outside, significantly altering Europe's risk exposure; and to support the design of a coherent European policy framework to address these risks.

We lead the stakeholder involvement process and are responsible for developing the Policy Simulation and the *CASCADES* multiplayer Social Simulation.

Stakeholders will be actively involved in the research process and co-develop the Policy Simulation. The goal of the series of workshops with Policy Simulation is to integrate research generated by partners, present results to stakeholders, gather their input about cascading risks and their recommendations on approach and results – and ultimately to develop an effective and efficient science-policy interface.

An online multiplayer serious game will also be developed to secure the project's impact beyond its lifetime. This serious game's main topics will be policy learning, education and awareness rising. The setting of the game will be stylized, i.e. it will work as a metaphor of given problems. The project received funding from the European Union's *Horizon 2020* research and innovation programme under grant agreement No 821010.

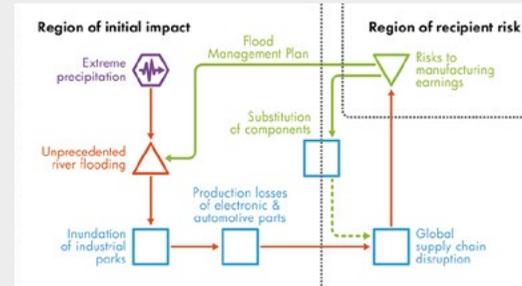
KEY EVENTS

FEBRUARY



FIRST TEST OF THE CASCADING CLIMATE IMPACTS SIMULATION

On the 14th of February, all employees of our organization took part in a test of a new, exciting social simulation. All participants took on the roles of advisors for various countries and organizations from all around the world, including Germany, Poland, Russia, China, the European Union and more. The online interface was supported by video narration and facilitation.



CASCADES CONCEPTUAL FRAMEWORK MEETING IN POTSDAM

On the 18th of February Łukasz Jarzabek and Piotr Magnuszewski participated in a conceptual framework meeting of our *Horizon 2020 CASCADES* project. The meeting took place in Potsdam and was organized by the project coordinator, the Potsdam Institute for Climate Impact Research. Łukasz and Piotr presented a concept for the social simulation based on social media and the results of the prototype test from the previous week.

MARCH

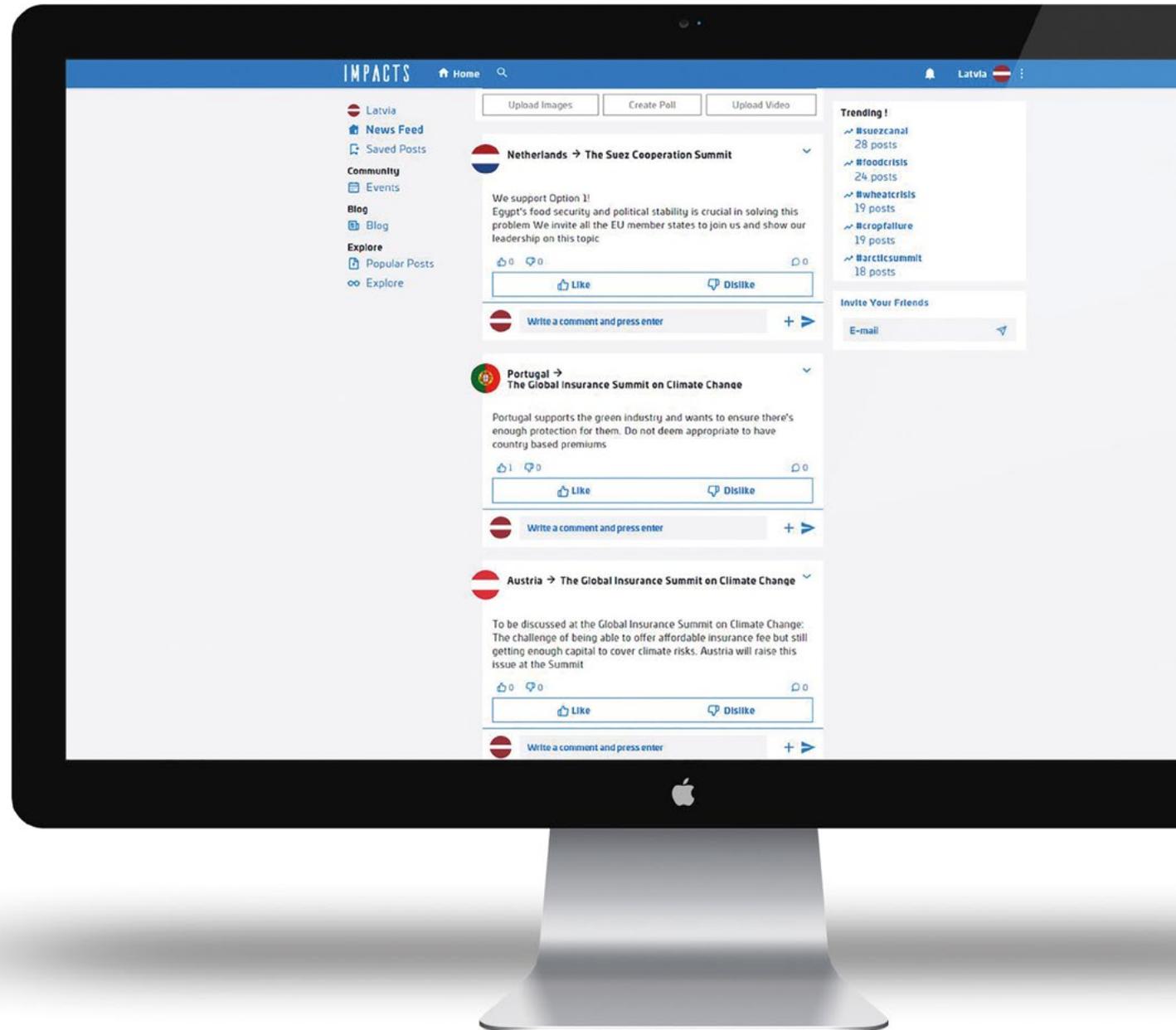
CASCADES CLIMATE IMPACTS SIMULATION TEST WITH PROJECT PARTNERS

On March 30, 2020, our team, together with project partners, tested a *Cascading Climate Impacts* simulation developed as part of the *CASCADES* project. 15 testers took part in the event moderated by Piotr Magnuszewski. In about 2 hours, we faced a number of challenges, ranging from floods and droughts to trade disruptions and social riots. Most players appreciated the fast pace of the simulation. Yet some reported feeling confused and overwhelmed. The test helped us introduce the last changes and improve the game flow.

APRIL

CASCADING CLIMATE IMPACTS CORE WORKSHOP

On April 1, 2020, we led the first of the stakeholder “core” workshops in the *CASCADES* project. A part of the workshop was a session of the *Cascading Climate Impacts* simulation focused on cascading impacts of climate change-related hazards. The event engaged 50 international stakeholders from financial institutions, governments, public administration, NGOs, and academia. Gathered on a fictional social network *IMPACTS*, they had to make difficult decisions related to worldwide crises and accumulated climate disasters. All participants were highly engaged, noticing that the simulation requires cooperation, multifaceted thinking, and strategizing skills.



KEY EVENTS

JUNE



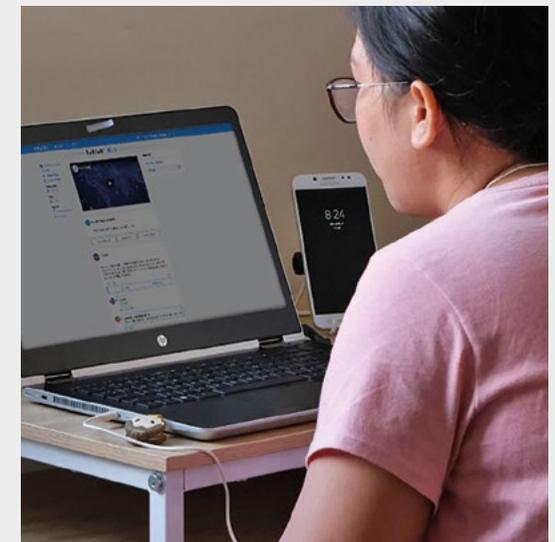
CASCADES POST-WORKSHOP WEBINAR

On the 26th of June, we met with over 20 stakeholders for the post-workshop webinar. The purpose of this meeting was to summarise the learning from the first *CASCADES* core workshop and the follow-up activities. Agata Śliwa facilitated the webinar while Piotr Magnuszewski took the virtual floor to present key learnings from the results of the *Cascading Climate Impacts* policy simulation. During the webinar, stakeholders shared their experiences and compared outcomes of 3 different thematic sessions - trade/finance/security. It was also an opportunity for asking questions about cascading climate change impacts and risks and the *CASCADES* methodologies to our consortium experts.

JULY

CASCADES SIMULATION PRESENTATION AT CLIMATE-RESILIENT TRADE AND PRODUCTION SEMINAR

On 9th of July, our Science Director Piotr Magnuszewski presented the *Cascading Climate Impacts* simulation during an online seminar. The presentation was a part of the seminar on the [European policy implications of transboundary climate risks](#), hosted by the Stockholm Environment Institute on behalf of *Adaptation Without Borders* project, in collaboration with the *CASCADES* project. Audience consisted of EU policy makers, trade experts, and researchers.



REBOOST

A BOOST FOR RURAL LIGNITE REGIONS

Duration: **September 2019 - December 2022**

Contact: **Timothy Giger**

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A Boost for Rural Lignite Regions aims to support stakeholders in three European lignite regions (Lusatia in Germany, East Greater Poland Voivodeship in Poland, and Gorj in Romania) in the transition from the current high economic dependence on lignite to a low-carbon future. The three regions share some characteristics that make the transition process difficult, including the economic downturn, aging populations, lack of job opportunities, and weak stakeholder cooperation. However, the regions differ with respect to the availability of political support from governments and funding for the transition process.

Where possible, the project supports the actual implementation of promising alternatives to lignite-fired power generation with the potential to feed into a Deep Demonstration Just Transformations.

Within the project, we designed a policy simulation for each case study. The main goal of the simulations was to involve and empower local stakeholders in the design and exploration of alternative future pathways. Players explored an interactive environment that reflected the main socio-economic and geographical characteristics of the actual regions. The results of the simulations were shared to stimulate mutual learning and innovation diffusion across the three regions. At the end of the project we will also develop a multiplayer online game for dissemination purposes.

The project has been implemented within the EIT Climate-KIC, funded by the European Commission. EIT 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.



AUGUST



REBOOST PROJECT KICK-OFF

The *REBOOST* kick-off meeting was online (ZOOM) on August 12, 2020, from 9:30 to about 16:00. The meeting marked the beginning of the project and presented all the partners, the work plan, and the WP. The first half of the meeting was a presentation where different partners introduced themselves, their work and their involvement in the WPs. We did a short presentation on policy simulations and demonstrated the *Nakambe* simulation and Andalucía system mapping exercise as examples of what the planned end-of-the-year workshops of WP could look like. During the afternoon session, there were discussions about the workplan and the overall project. The focus was on the late start of the project (which was supposed to be in April) and changes to the 2021 budget.

NOVEMBER

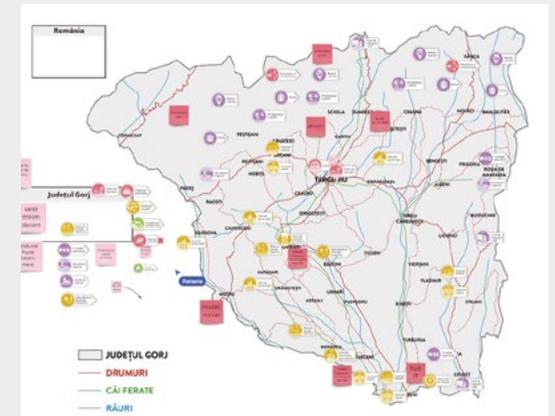
TRAIN-THE-TRAINER EVENTS FOR LOCAL FACILITATORS

We organized 4 train-the-trainer meetings to train future facilitators of the *REBOOST* simulation. (3 people each from the project partners for a total of 9 participants). The events prepared the moderators to conduct workshops using the strategic simulation in their regions in their native languages. The future facilitators received a compact training that focused on facilitation tips, specific training content, and hints on how to pass this training content to others. The first session was a general introduction for all partners to learn more about workshop methodology, the tools, such as Miro and Zoom. It took place on November 19, 2020 at 13:00 - 16:00 CEST. The second session was a 2 hours session held separately for each regional workshop. During this session, we went through the specifics of each workshop's elements and process.

EASTER GREATER POLAND WORKSHOP

The Policy Simulation Workshop for Easter Greater Poland was held online on the 25th of November. This was the first of 3 regional workshops in the *REBOOST* project. The workshop, hosted in Miro in Polish by our partner Instytut Zielonej Przeszłości, combined a series of activities to discuss and develop future vision and pathways for the region's transition process. We supported our partner's team before and during the workshop, as well as afterward in gathering results and feedback.

KEY EVENTS



DECEMBER

GORJ WORKSHOP

The Policy Simulation Workshop for Gorj was held online on the 9th of December. This was the second out of 3 regional workshops in the *REBOOST* project. The workshop was hosted in Miro in the Romanian by our Romanian partner. Similar to the Polish workshop, participants engaged in systems mapping exercises that guided their discussions on future vision and pathways for their region's transition process. We supported our partner's team before, during, and after (to gather results and feedback) the workshop.

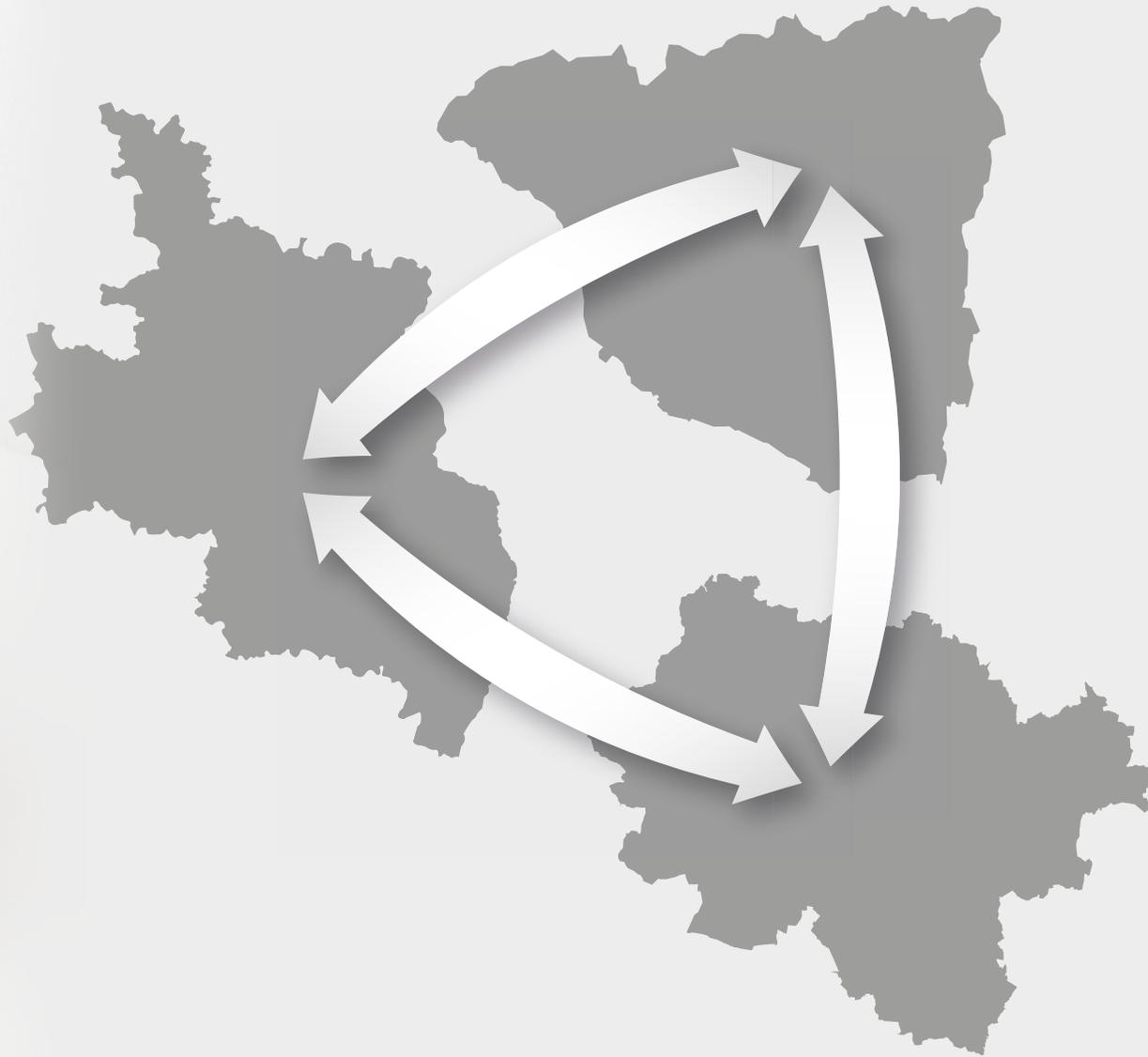


LUSATIA WORKSHOP

The Policy Simulation Workshop for Lusatia was held online on the 12th of December. Following the Polish and Romanian regional workshops, the online session for Lusatia gathered relevant stakeholders to develop future pathways for their region. As before, the workshop was hosted by the regional partner in the local language. Once again, both organizers and participants had our technical support throughout the whole process.



KEY EVENTS



REBOOST: SHARING EXPERIENCES WEBINAR

Lusatia, Gorj, and eastern Greater Poland are each a region in a European country. What connects them is a long mining tradition and a desire for a region-wide transformation.

To facilitate the realization of that desire, several regional policy simulations, called *REBOOST*, were led by our partners: University of Graz, Potsdam Institute of Climate Impact Research, Climate-KIC, Brandenburg University of Technology, CEE Bankwatch Network, and Instytut Zielonej Przyszłości. After that, we invited representatives of all the three regions to this year's final workshop. It was hosted online on the 11th of December, 2020, and allowed participants to share their insights and conclusions on the simulations.

Our organization was represented by Timothy Giger, Jakub Damurski, Hubert Brychczyński, and Bartosz Naprawa.

DEEP DEMONSTRATION FORGING RESILIENCE

Duration: **June 2019 - December 2019**

Contact: **Timothy Giger**

e-mail: **timothy.giger@systemssolutions.org**



Deep Demonstration Forging Resilience Through a Systems Approach project focused on the transformation of selected vulnerable regions in Europe. The project, implemented in the second half of 2019, concentrated on enhancing a long-term shift from hazard-by-hazard risk reduction practices to an integrated resilience-building approach. The overarching aim of this initiative is to help individuals, communities, and systems withstand and recover from shocks, persist through slow-onset stresses and transform through crises. All of the cross-cutting partners are constantly supporting the regions of Andalusia, Nouvelle Aquitaine, the Dolomites and Glasgow in “forging” resilience and empowering the systems innovation approach.

The project was coordinated by the International Institute for Applied Systems Analysis (IIASA) and has its continuation in 2020 as a second proposal.

The project was implemented within the EIT Climate-KIC partnership, funded by the European Commission. EIT 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.

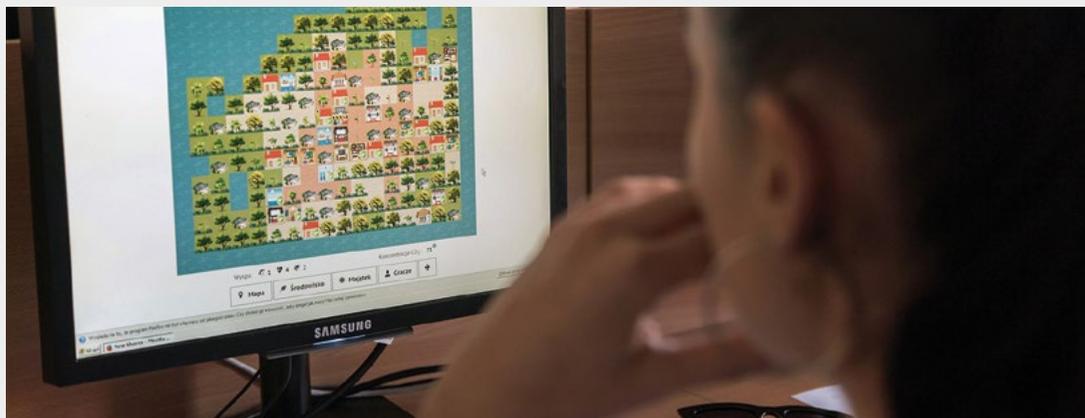
DEEP DEMO: FORGING RESILIENCE SECTORIAL WORKSHOP FOR ANDALUSIA

Between June 22nd and June 29th, we co-organized sectorial workshops for the Andalusia region. The main objective of the workshops was to identify challenges, impacts and vulnerabilities as well as to present resilient elements and solutions throughout the Andalusian provinces with the aim of providing an input to the Deep Demonstration Road Map and Andalusian Climate Action Plan (PAAC).

The workshops were originally planned in a face-to-face setting, but had to be moved online due to COVID-19 restrictions and were eventually hosted fully online. For this occasion, we developed an online systems mapping exercise with the elements of policy simulation that was the core activity of the sectorial workshops.

Workshops were prepared with the support of EIT Climate-KIC and close collaboration of the project partners: Centre for Systems Solutions, International Institute for Applied Systems Analysis, Red Cross Red Crescent Climate Centre, The Foundation for Climate Research (FIC), Aquatec and Tecnalia.





NEW SHORES WORKSHOP FOR DOLOMITES

Climate KIC Journey workshop was conducted online on 21st of July. The goal was to present participants with the problems connected with forging resilience and sustainable development in the Dolomites area. Our part was to conduct the *New Shores* social simulation to show participants how important it is to find common understanding of problems and create a common vision for the future. The participants were a selected group of practitioners connected with sustainable development and with the introduction of low-carbon economy. The workshop was organized by Climate KIC in cooperation with Fondazione Edmund Mach, Università degli Studi di Trento, and HIT - Hub Innovazione Trentin. We were also supported by other partners from the *Forging Resilience* project who introduced the concept behind our activities in *Forging Resilience* case studies.

SENSEMAKING WORKSHOP

Together with IIASA, we supported EIT Climate KIC staff in the design, organization, and facilitation of the Sensemaking Online Workshops which took place between the 1st and 3rd of July. We created space for discovery and discussion between partners. We have also motivated partners to share lessons learned and their experiences on the regional and cross-cutting partners' level. Franziska Gaupp from IIASA led the Warm Data Lab session. Our team was responsible for incorporating the tools and exercises to make the workshop process more engaging and diverse.

KEY EVENTS

MULTISECTORAL WORKSHOP

On the 29th of July, we supported the organization of the Multisectoral Workshop for stakeholders engaged in the project. The multisectoral workshop's objective was to present, validate and complement the information gathered during the five June workshops. Stakeholders from those workshops were invited to discuss the results.

DEEP DEMONSTRATION LONG-TERMISM

Duration: **January 2020 - December 2020**

Contact: **Timothy Giger**

e-mail: **timothy.giger@systemssolutions.org**



Many of the investments needed for mitigating future impacts of climate change, such as those in infrastructure and energy, will require long-term orientation as well as a financial system that is able to produce financial flows for remedial and preventive climate action. Rethinking notions of value and shifting towards long-term thinking are necessary to create the ecosystems that can collaboratively change our economy from an extractive to a regenerative one.

The *Long-Termism* project focused on the transformation of mindsets and the establishment of mechanisms to enable shifting towards long-term thinking to facilitate sustainable behaviors and investments into sustainability. The Deep Demonstration process was co-creative and evidence-based, engaging international and academic institutions, private enterprises and the financial sector, as well as grass-roots movements and civil initiatives.

We were responsible for developing the *Save the Future* simulation prototype as a platform for creative experimentation around systemic levers. The simulation was tested as a collaborative tool for exploring alternative policies and institutions that could be combined to build a more sustainable and long-term oriented financial system.

The project has been implemented within the EIT Climate-KIC and funded by the European Commission. EIT 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.

KEY EVENTS

MARCH

SENSEMAKING WORKSHOP

On March 23rd, 24th and 25th, 2020, the partners of *Long Termism Deep Demonstration* met online for an internal Sensemaking Workshop. The aim of the workshop was to explore the work done so far in the field of long-term thinking, both by project partners and by others, and to generate insights. This was used to find interconnections between the partners' work and find new areas for collective action.

MAY

POLICY BRIEF WORKSHOP

On May 18th and 19th, 2020, *Long-Termism* project partners met online to research and conduct experiments, as well as to start formulating a portfolio brief - a collection of areas of interest for the project. This first meeting was focused on presenting the ideas of project partners. In subsequent workshops and calls, both consortium-wide and bilateral, these ideas are to be refined and combined into a coherent portfolio brief that will map out future activities.

JUNE



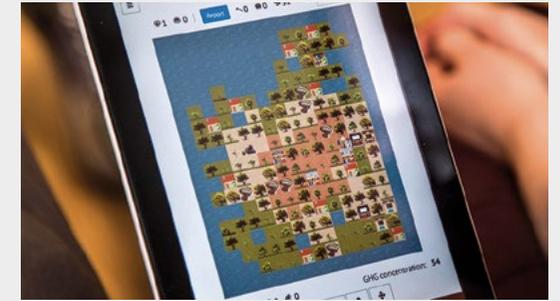
SAVE THE FUTURE WORKSHOP WITH PROJECT PARTNERS

On the last day of June, we organized a short workshop with the main objective of showcasing the simulation to our partners. This was the first full gameplay test with partners and it gave us the opportunity to see what needed further improvement or calibration. This test provided important insights on how the simulation was played.



KEY EVENTS

APRIL



NEW SHORES MODERATOR TRAINING FOR PARTICIPANTS OF THE YOUNG INNOVATORS LAB

On April 15, 2020 we led a training on how to facilitate the *New Shores* simulation and debriefing sessions. The online event was held as part of the Climate-KIC *Young Innovators 2020 Cyprus* program and gathered teaching staff of the Cyprus University of Technology. They learned what social simulations are and how they can be used to promote sustainability education. Participants were very positive about the tool, asking a lot of interesting questions, and expressing their will to use the simulation with their students.

YOUNG INNOVATORS LAB

Duration: **January 2020 - December 2020**

Contact: **Aleksandra Solińska-Nowak**

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We were among 3 partners included in the Climate-KIC *Young Innovators 2020 Cyprus* program. The program, initiated and funded by the EIT Climate-KIC, aims to foster a systemic view on current climate challenges and empower young people to develop innovative solutions through Problem-based Learning (PBL) experiences.

The Cyprus edition was led by the Cyprus University of Technology and supported by the Cyprus Energy Agency. The overarching aim of the initiative was to support secondary and high school students in developing their 21st-century skills and competencies related to climate innovation through the PBL pedagogy. Among other competencies, the project promoted systems thinking and analysis, critical thinking, creative problem-solving, and entrepreneurship.

As part of the project, our simulation *New Shores* was translated to Greek and used as a basis for Problem-Based Learning on sustainability and civic responsibility among youth.

The project has been implemented within the EIT Climate-KIC, funded by the European Commission. EIT 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.

JOURNEY

Duration: **January 2020 - December 2020**

Contact: **Jakub Damurski**

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The *Journey* develops capacities needed to achieve a zero-carbon future, through an intensive 1.5 week summer school program touching on all impact goals of the KIC and using a high volume of KIC partners for delivery. *The Journey's* unique education format is designed to support graduates in forming the Knowledge Innovation Community with the base knowledge needed to be system innovators, entrepreneurs, and intrapreneurs.

The Cyprus University of Technology aims to support the creation of the group culture led by the coaches and expose them to local, global, and “glocal” challenges.

The Centre for Systems Solutions was responsible for delivering a workshop using *The World's Future* social simulation.

The project has been implemented within the EIT Climate-KIC, funded by the European Commission. EIT 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.



The Cyprus University of Technology. Photo by Xaris333.

KEY EVENTS

JULY

THE WORLD'S FUTURE ONLINE WORKSHOP FOR PROJECT'S PARTICIPANTS

Once again, we had the pleasure to conduct workshops with *The World's Future Online* during the EIT Climate-KIC Summer School *Journey 2020*, organized by the Cyprus University of Technology.

We facilitated two sessions of *The World's Future Online* for over 40 participants. Players stepped into the roles of policymakers managing decisions that affect the fate of their countries. An extended debriefing session was an essential part of the whole workshop. Participants exchanged their reflections on the challenges and connections between the simulation and the real world. We made a great effort to include the methods and activities that create an engaging and interactive online experience.

CEE COMMUNITY LAB

Duration: **January 2020 - December 2020**

Contact: **Jakub Damurski**

e-mail: jakub.damurski@systemssolutions.org

The *CEE Community LAB* is a network and co-creation 'LAB' consisting of EIT Climate-KIC, Cleantech ForEst, Impact Hub, Ashoka, 4CF Strategic Foresight and the Centre for Systems Solutions that aims at bringing together representatives from the public and private sectors to address climate change challenges in central and Eastern Europe (CEE).

The project has been developed as three parallel Streams:

Stream 1: *Unlocking new ways of thinking and increasing impact,*

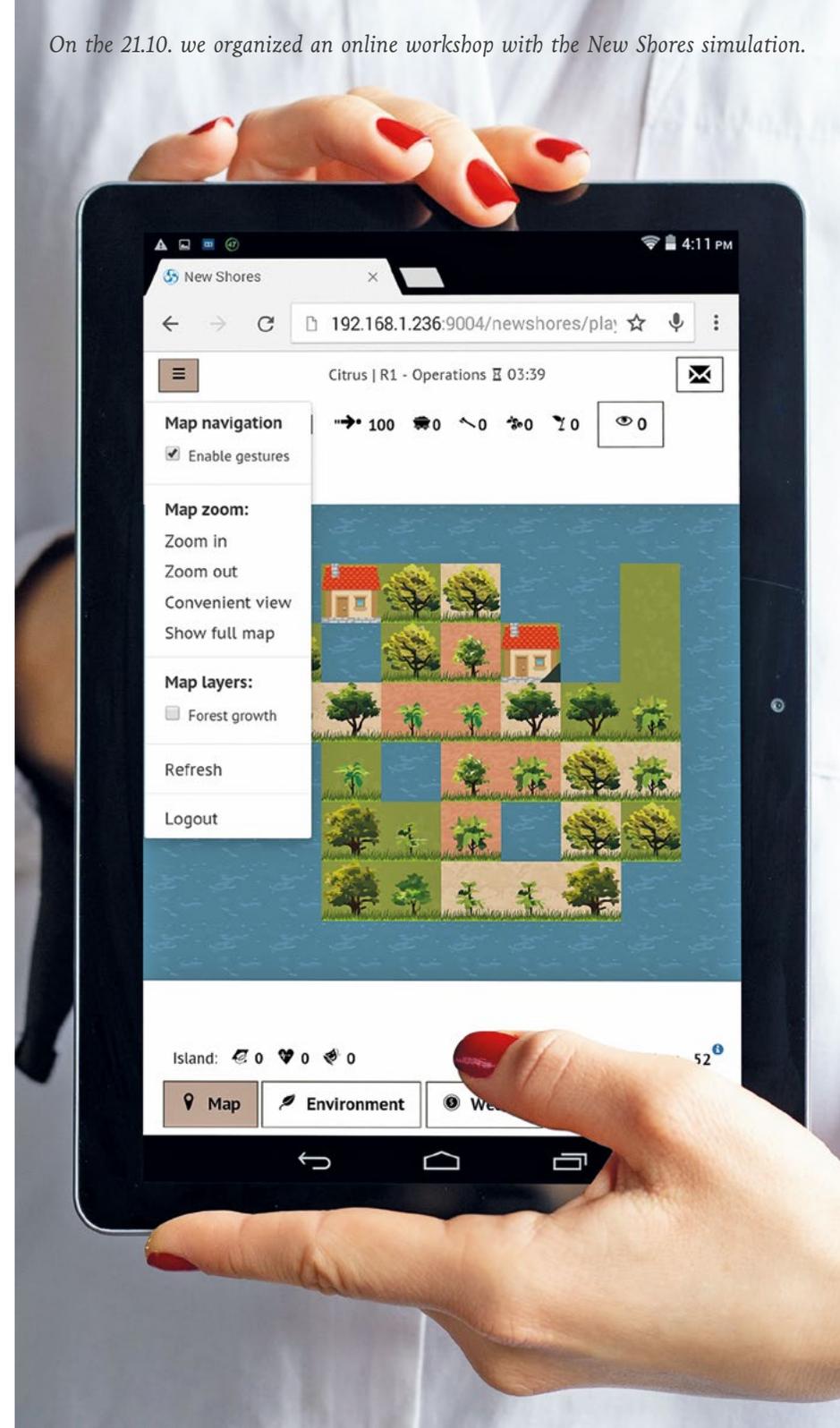
Stream 2: *Addressing lack of collaboration and a low level of trust in the region,*

Stream 3: *Financial innovations addressing climate emergency.*

The main goals of the *Community LAB* is building the trust, capacity and cross-sectoral collaborations that are needed to trigger transformative, systemic change.

CRS, as part of Stream 2: Addressing lack of collaboration has been responsible for designing and executing a series of workshops on ideation and creative process with usage of *The World's Future* and *New Shores* simulations. The workshops increased the understanding of community view and cross sectoral and cross border cooperation.

The project has been implemented within the EIT Climate-KIC, funded by the European Commission. EIT 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.



KEY EVENTS

AUGUST- SEPTEMBER

SERIES OF CONSORTIUM MEETINGS

The project was designed as a fast track, that has been developed and implemented in response to the need from ‘systems innovators’ in CEE being already involved in past activities led by EIT Climate KIC and Ashoka. During the August - September series of consortium meetings we have set the agenda for the coming months and looked for synergies between the Stream 1, 2 and 3.

OCTOBER

COMMUNITY LAB KICK-OFF EVENT

On the 1st day of October, we launched the *Community Lab* to the community innovators from the CEE. We shortly presented our organization and plans to the consortium.

NEW SHORES SIMULATION + NETWORKING / IDEATION WORKSHOP

On the 21st of October, we organized an online workshop guided by our facilitator Krzysztof Grynienko with the *New Shores* simulation targeted at individuals passionate about Environment and Climate. We split the workshop into two parts. The first part included the *New Shores* playthrough, the second part was a networking session. Our main goal for the session was to create a space for collaboration between the participants within the “Energy Efficiency” theme.

THE WORLD’S FUTURE WORKSHOP + NETWORKING / IDEATION WORKSHOP

On the 22nd and 23rd of October, we organized our third and fourth workshop within the *Community Lab* project. This time we focused on *Reindustrialization*.

To discuss this topic, we invited interested individuals to participate in *The World’s Future Online* session, which we supplemented with a discussion and a networking session. Participants also had a chance to explore opportunities for collaboration among each other, as well as brainstorm ideas for initiatives and potential collaborative projects.

DECEMBER

NEW SHORES WORKSHOPS FOR COLLABORATION IN “ENERGY EFFICIENCY” + NETWORKING / IDEATION WORKSHOP

On the 4th and 11th of December, Krzysztof Grynienko led our last workshops in the year, which were similar to the 21st of October ones.

SENSE MAKING WEBINAR

On the 17th of December, the project consortium met again for a debriefing session and learnings for 2021. A project follow-up was envisaged in 2021.

KEY EVENTS

PIONEERS INTO PRACTICE

Contact: **Michał Pająk**
e-mail: michal.pajak@systemssolutions.org

We had participated in EIT 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, we've also been involved in mentoring activities within the *Pioneers into Practice* programme. CRS team member Michał Pająk took up the role of EIT 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. In the delivery of this project and since 2017 CRS collaborates also with Adam Błażowski, a coach, trainer, sustainable energy expert who takes the role of Head Coach.

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 has been implemented within the EIT Climate-KIC, funded by the European Commission. EIT 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.

JUNE

PIONEERS INTO PRACTICE INTRODUCTORY WORKSHOP 2020

Pioneers into Practice introductory workshop was conducted between the 8th and 11th of June. It was the first online workshop in the regular *PiP* program. Michał Pająk was one of the regional coaches involved in the process.

It was an opportunity for the „Pioneers” from different backgrounds and parts of Europe to meet each other. Facilitators, including Michał, introduced the general vision shared by the Climate-KIC EIT community and practical approach as defined in the Visual toolbox for system innovation. Participants also learned about the regional challenges that they will have to tackle during the program.

NOVEMBER

PIONEERS INTO PRACTICE 2020 FINAL WORKSHOP

The workshop on the 6th of November marked the closing of the 2020 edition of the program. We emphasized outcomes and values that pioneers have got out of the main practical activities - the international placement and the group projects. We also devoted time to reflect on the main lessons learned, the overall program, and how to follow up, both at a personal level and at the EIT Climate-KIC level. Finally, the workshop provided some time for networking and sharing experiences among pioneers.

GAMES4SUSTAINABILITY

Contact: **Michalina Kułakowska**

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michalina.kulakowska@systemssolutions.org

The *Games4Sustainability (G4S)* platform is a guide to games and social simulations that can be used in the sustainability education and transition planning contexts.

The *G4S* 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*, a subsection/subpage of *G4S*, meanwhile, enables users to find a perfect match for their needs from among 100+ games and simulations, which are categorized by The Sustainable Development Goals they address.

DEVELOPMENT OF THE CENTRE FOR SYSTEMS SOLUTIONS IN POLAND

Project coordinator/contact: **Magdalena Liszka**

e-mail: **magdalena.liszka@systemssolutions.org**

The project, implemented thanks to the financial support from The Sendzimir Foundation, includes the following activities: Development of social and strategic simulations and other 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 Jarząbek.

AFTER ACTION REVIEWS - WHAT WE GAINED FROM THEM

As most of our team members worked remotely for the duration of the 2020, the After Action Reviews became more important than ever. As we couldn't see each other in person, every opportunity to meet via Zoom or Google Meet with our cameras on was a nice change of pace. All projects, events and simulations were reviewed by the participating members after the fact. The coordinators or organizers were tasked with gathering feedback on all aspects including the preparation, development and implementation of the processes.

SHARING COMPETENCES WITH OTHERS

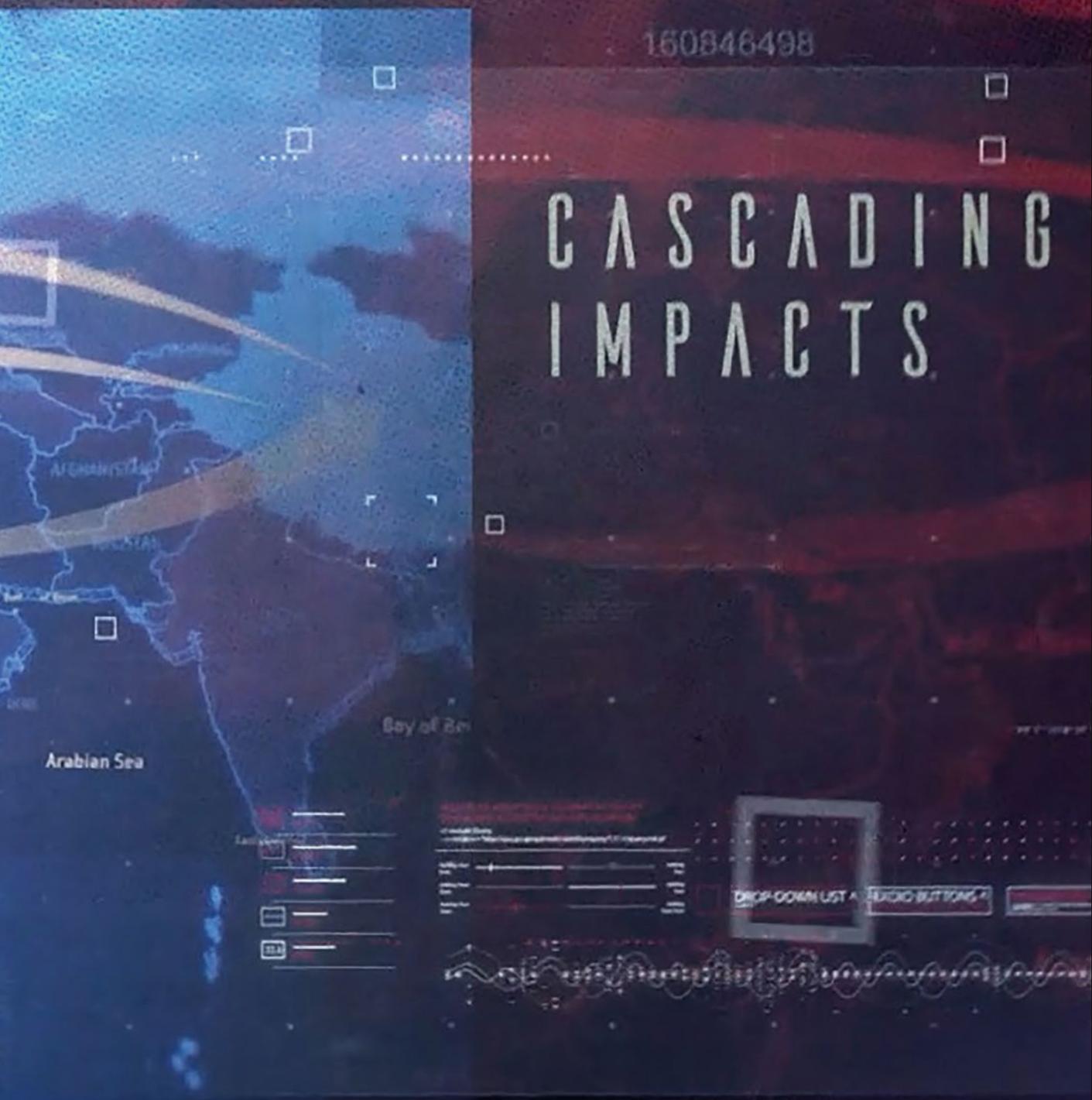
In 2020, we organized a lot of internal online workshops and webinars. Our team members facilitated occasional "Share your competences" workshops on using wordpress, Miro and Zoom, or facilitating one of our simulations. Occasionally we also met during internal webinars about different methodologies used for our projects, for example about policy simulations.



SOCIAL AND STRATEGIC SIMULATIONS

Screenshot from *Cascading Climate Impacts*. The simulation met with great acclaim for its dramatic and suggestive videos.

Read more on page 33.



OCTOBER

NEW SHORES WINS 2014-2020 BEST EDUCATIONAL PROJECT AWARD

We are proud to announce that one of our games, *New Shores*, received 2014-2020 Best Educational Project Award for Non-Formal Youth Education in the competition *EDUinspiracje*. The competition was organized by the Foundation for the Development of the Education System. *New Shores* bears the subtitle *a game for democracy* because its purpose is to educate young people on social participation, sustainable development, and climate change. It was developed as part of the project *NAURU Game for Active Citizenship of Youth* and inspired by the bittersweet story of Nauru, an island country in Micronesia. The jury praised the game as a timeless achievement that promotes lifelong learning and takes an innovative approach to education. The award ceremony took place in Warsaw on October 2, 2020, during the *Third Congress on the Development of the Education System*. Our finance director Magdalena Liszka (above, second from the left) accepted the award on behalf of the organization.



SAVE THE FUTURE

Number of players: **9 - 30**

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

Requirements: **web connection, at least 1 mobile device or computer per each participant**

Save the Future is set in a stylized world, where players make choices about industrial investments, international trade, social development, and environmental management, balancing their own short-term goals with long-term consequences on their country and surrounding lands. The simulation supports introducing new economic ideas, such as alternate currencies, into the system to explore how they would shape the economic choices of participants.

Each player enters the game as one of three possible roles: a businessperson, an investor, or a government official, in one of three available countries: Kenorland, Laurentia, or Vespugia.

The game is played in real time. However, its passage is accelerated so that 30 minutes in the game are roughly equivalent to a full year in the real world. This conversion rate can be adjusted in the settings.

The player starts with a set amount of money and resources. There is a range of production facilities that business owners can set up to produce food, energy, and other goods, as well as extract fossil fuels, metals and minerals. Each has a specific impact on the society and environment. Business owners can observe it in real time by following the indices, as well as by looking at status icons. A business owner can also enter the stock market, where he or she can issue stocks. These, in turn, can be bought by investors. After a game's year has elapsed, businesspeople may choose whether to pay dividends to the investors or not. However, they risk

their reputation if they fail to do so or if the dividends are considered too small.

At one point during the game, the moderator informs players about the possibility of introducing an alternative, green currency. It can be implemented by a government official. Since it is designed to incentivize and penalize particular actions, the government official first sees a detailed list of all such actions, for example: natural area restoration, greenhouse gas emission, building a polluting facility, building a clean tech facility, and others. Then, he or she must set rewards or fines for each. Once the new currency is introduced, the old one still remains in circulation, but one significant advantage of the former is that it can be used to pay taxes at the end of each year.

The game was developed as part of the Deep Demonstration of *Long-Termism* project, in collaboration with Climate-KIC, Culture Initiative, Dark Matter Labs, Edgeryders, ETH: Eidgenössische Technische Hochschule Zürich, IOTA, Red Cross Red Crescent Climate Centre, Finland Futures Research Centre (FFRC) – University of Turku, 2degrees Investing. The project is supported by EIT Climate-KIC, EIT is a body of the European Union.

CASCADING CLIMATE IMPACTS

Number of players: **30 - 150**

Duration: **1,5 - 3h**

Requirements: **computer with an internet connection and headset for every participant**



These are just some of the fictional organizations we created for the simulation.

The *Cascading Climate Impacts* simulation is a narrative-oriented experience that brings participants to the near future. Participants assume roles of representatives of various countries and organizations responsible for global safety and well-being. In these roles, they discuss and react to current affairs on an online platform. They are confronted with a scenario of dramatic events caused by the climate crisis, that starts from a global agricultural crisis leading to trade and supply chain disruptions. The participants are invited to working groups where they are asked to give their advice regarding some propositions for counteracting the emerging crises. The *Cascading Climate Impacts* simulation was developed within the CASCADES project, funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 821010.

THE ARCTIC FUTURE SIMULATION

Number of players: **30 - 150**

Duration: **1,5 - 3h**

Requirements: **computer with an internet connection and headset for every participant**



Building on the premise of a future ice-free Arctic, the simulation explores possible challenges and tensions anticipated to arise in the region with regards to international trade routes and security. Participants, assuming the roles of high officials from Arctic countries, negotiate and vote on a treaty that regulates economic, social, and environmental issues in the region. The debate, revolving around trade routes, extra fees, and marine environment, is interrupted by a series of unexpected, narrative interludes - like news about the blockade of Suez and Panama canal.

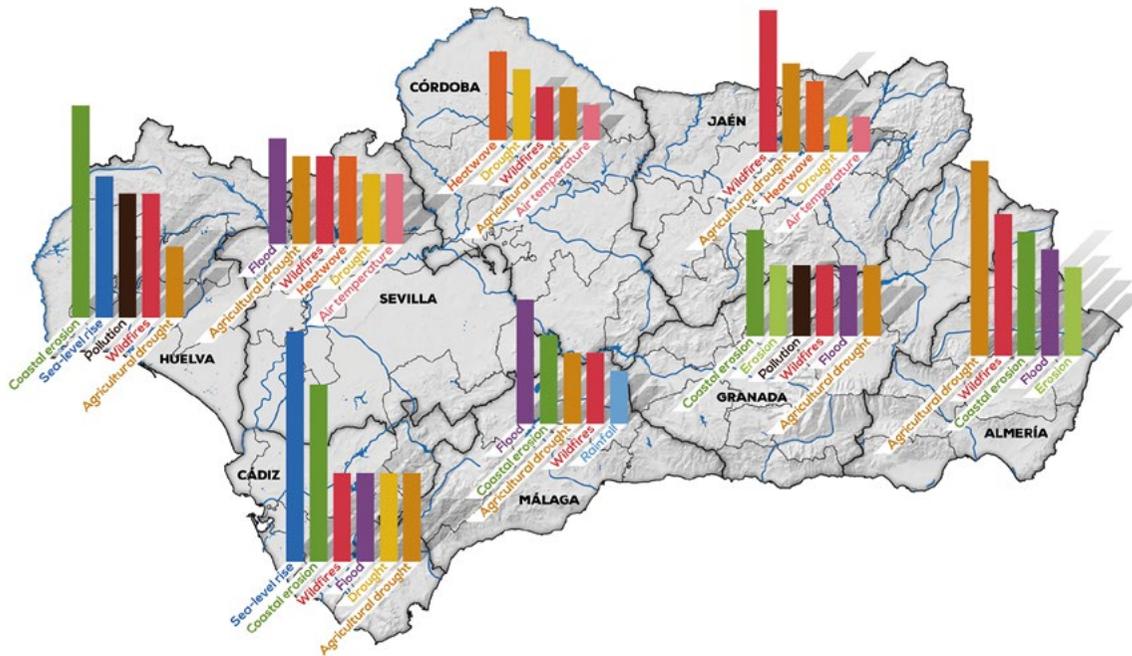
The Arctic Future Simulation was prepared for the Canadian Science Policy Conference 2020 in collaboration between Centre for Systems Solutions, International Institute for Applied Systems Analysis, and Institute for Science, Society and Policy, University of Ottawa. It was created based upon the *Cascading Climate Impacts* simulation that was developed within the *CASCADES* project, funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 821010.

FORGING RESILIENCE POLICY SIMULATION

Number of players: **5 - 60**

Duration: **3h**

Requirements: **computer with an internet connection and headset for every participant**



Forging Resilience Policy Simulation was developed specifically for the region of Andalusia. The simulation mixed the elements of interactive systems mapping exercise with other stakeholder engagement activities, for example pathways creation. The exercise focused on Andalusia, where the region and its residents face important development and environmental challenges due to climate change. Our methodology allowed participants to spatially map the key elements of the existing situation followed up by representations of causal chains and feedback found within the system.

The main objective of the tool was to identify challenges, impacts and vulnerabilities as well as presenting resilient elements and solutions throughout the Andalusian provinces. The simulation was first planned as a workshop tool to be used in in-person sectoral meetings. We had to quickly change the design to accommodate the new reality of online collaboration. We achieved it by using Miro software, an already existing online whiteboard collaboration tool, which we adapted to our own needs.

This policy simulation was developed as a core activity of sectoral workshops in Andalusia with stakeholders in the context of the EIT Climate-KIC Deep Demonstration project *Forging Resilience Regions*, which aims to support European regions in their transformation to a net-zero emissions, climate-resilient, future.

REBOOST POLICY SIMULATIONS

Number of players: **5 - 60**

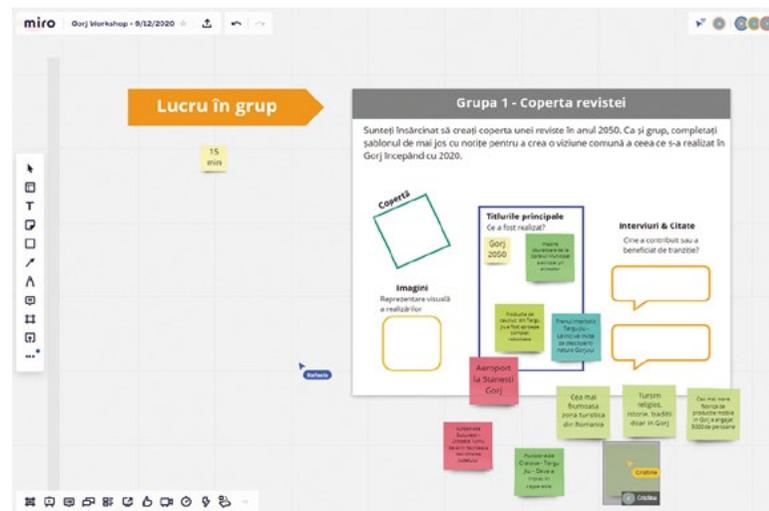
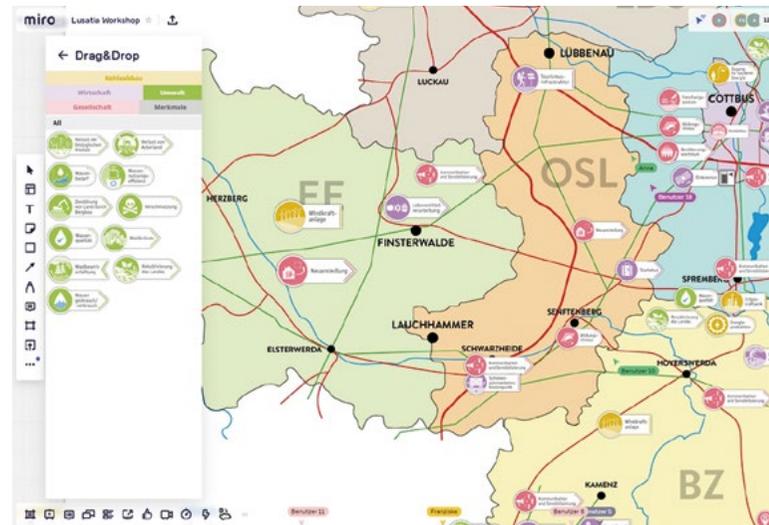
Duration: **3h**

Requirements: **computer with an internet connection and headset for every participant**

In 2020, we developed not 1 but 3 *REBOOST* simulations. Each of them was created with a different region in mind: Lusatia, Gorj Eastern Greater Poland, from 3 European countries. We aimed at supporting local communities to reflect on the shape of their regions at the moment, and in 10-20 years through the use of visual elements such as virtual cards and maps.

The *REBOOST* simulations were tailored to the regional stakeholders. We customized everything to facilitate the discussion on the priorities and challenges of the lignite mining transition and the transformation of their regions.

The whole creative process was funded by the European Commission through EIT Climate-KIC. We used those simulations during regional workshops, where our local partners provided facilitation in their national languages.





OTHER EVENTS

Since November, the book created by the SUSFISH+ partners is available on the project's website. More on page 42.

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MULTIPLE-LINE IDENTIFICATION OF SOCIO-ECOLOGICAL STRESSORS AFFECTING AQUATIC ECOSYSTEMS IN SEMI-ARID COUNTRIES: IMPLICATIONS FOR SUSTAINABLE MANAGEMENT OF FISHERIES IN SUB-SAHARAN AFRICA, ARTICLE PUBLISHED

The research article *Multiple-Line Identification of Socio-Ecological Stressors Affecting Aquatic Ecosystems in Semi-Arid Countries: Implications for Sustainable Management of Fisheries in Sub-Saharan Africa* was published in the MDPI Water Journal.

The article, co-written by Piotr Magnuszewski and Michalina Kułakowska, explains how the *SUSFISH+* project implemented the Driver–Pressure–State–Impact–Response (DPSIR) framework to better understand the dynamic interlinkages between the different sources of multiple stressors in the aquatic ecosystems of Burkina Faso. The study includes findings from the workshops with *Nakambe Simulation* developed by our team.

The article is available on the [MDPI Water Journal website](#).



OTHER EVENTS

JUNE

EDU INSPIRACJE POST-CONTEST PUBLICATION

In June 2020, the Polish National Agency of the Erasmus + program, the Foundation for the Development of the Education System issued a [publication](#) summarizing the results of the *EDUinspirations 2019* competition. This is one of the most important FRSE initiatives, which awards the best educational projects every year. The promotion of innovative solutions increases the quality of education and contributes to the activation of the local community. On page 42 you can read about our *New Shores* game, which won the 1st prize in the non formal education of the youth category. Thank you for this honor.

JULY

**PRESENTATION ON SOCIAL SIMULATIONS
(SYSTEMS THINKING ONLINE CLASS)
(KELAS ONLINE CARA BERPIKIR SISTEM)**

Indonesian organization Kuncup Padang Ilalang invited us to present our ideas on teaching systems thinking and sustainability during a series of online webinars called *Systems Thinking Online Class*. On the 23rd of July, Piotr Magnuszewski and Michalina Kułakowska presented, before around 100 spectators, the theory behind social simulations and a closer look at some of our most prolific simulations. After the presentation, there was time to answer questions from the audience. This marked the 8th online class in the series. Speakers leading other classes included members of the Balaton Group, among others, Masse Lo, Virag Suhajda, and Riichiro Oda.



NEW SHORES WORKSHOP FOR SYSTEMS THINKING ONLINE CLASS (KELAS ONLINE CARA BERPIKIR SISTEM)

On the 31st of July, Michalina Kulakowska again met with participants of the Kuncup Padang Ilalang's *Systems Thinking Online* class. She facilitated a short complementary *New Shores* workshop to give them a hands-on experience

with social simulations. Michalina highlighted the most important elements of the systems thinking workshop with social simulations - exploring systems interconnections and the possible domino effects for players' actions.



OCTOBER



THE WORLD'S FUTURE ONLINE FOR UNIVERSITY COLLEGE OF LONDON

Without the possibility of meeting their new students face-to-face due to anti-covid measures, staff from The Bartlett School of Environment, Energy and Resources took a chance and organized an online event with The World's Future Online. The event took place on the 2nd of September. Through the simulation, players could get acquainted with one another. Another goal for the workshop was to give students a taste of what they will learn in the coming months but from a more practical perspective. With support from the university, we facilitated 3 simultaneous workshops (moderated by Krzysztof Grynienko, Ania Książczak, and Michalina Kułakowska) for over 60 participants. Though we organized such events in the past, each new one brings some uncertainty and new challenges. It was a learning experience for us, too!

ECODIGITALIZATION - NEW SHORES WORKSHOP FOR CHILDREN

On the 17th of October, Anna Książczak and Krzysztof Grynienko facilitated a short but engaging workshop with *New Shores* social simulation. This time we invited kids from primary schools located in Gdańsk and Wrocław to join us on a new adventure on the *New Shores* island. Children quickly realized that it's difficult to keep the balance between economic development and the condition of the environment. Through collaboration, they were able to understand each other and work out a common consensus.

The event was organized thanks to the WCRS (Wrocławskie Centrum Rozwoju Społecznego), and was a part of the WCRS-led project *EkoCyfryzacja (EcoDigitalization)*.

OTHER EVENTS

CASCADING CLIMATE IMPACTS WORKSHOP DURING THE ESCD CLIMATE CHANGE AND SECURITY TRAINING COURSE

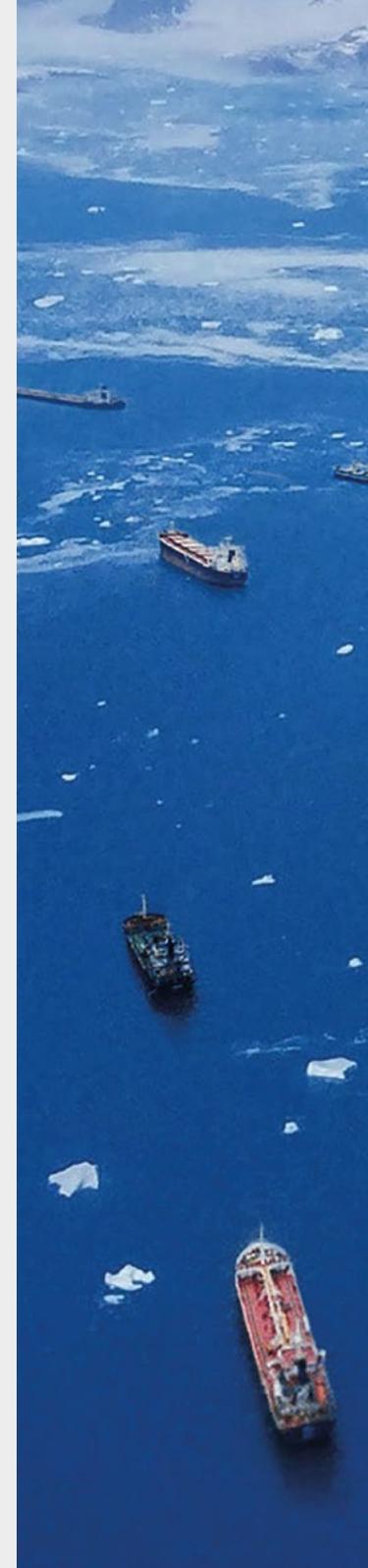
Together with our project partner, adelphi, we run a workshop with the *Cascading Climate Impacts* simulation. The session was part of the course about climate change and security organized by adelphi for European Security and Defence College (ESDC) and the French Higher Institute for National Defence Studies (IHEDN). We were very pleased to engage the military and diplomatic staff of EU member states in a simulation. Players had to deal with challenges that could have very well happened in real life.

NOVEMBER

SUSTAINABLE FISHERIES AND WATER MANAGEMENT - TRANSFORMATION PATHWAYS FOR BURKINA FASO, SUSFISH+ BOOK AVAILABLE

The book *Sustainable Fisheries and Water Management - Transformation Pathways for Burkina Faso* created by the SUSFISH+ project partners is now available on the project's website.

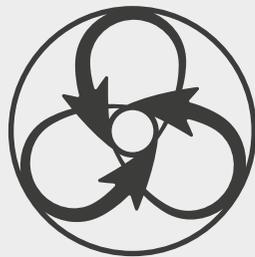
The book, co-written by Piotr Magnuszewski and Michalina Kułakowska, describes the process and learning of various activities from the project. The chapter *Social Simulation and Scenario Workshops* focuses specifically on our contribution - the *Nakambe Simulation*. We developed this simulation for the stakeholder workshops in Burkina Faso. You can download the book [here](#).





SCIENCE AND POLICY EXPLORED IN THE ARCTIC FUTURE SIMULATION AT THE CANADIAN SCIENCE AND POLICY CONFERENCE

We joined forces with the International Institute for Applied Systems Analysis (IIASA), and University of Ottawa's Institute for Science, Society and Policy (ISSP) to organize an online policy simulation workshop. It took place during the *Canadian Science and Policy Conference* on November 16, 2020. Over 30 participants logged in to a custom-made, fictitious social network called *Impacts*. Then, they used it to explore various economic, societal, and environmental challenges facing the Arctic region in the context of rapid climate change. Finally, they engaged in a lively discussion to reflect on what had happened. The entire session took 1.5 hours. Our science director Piotr Magnuszewski moderated it over Zoom.



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