

ANNUAL REPORT 2021

To advance global peace and prosperity through cooperative CBRN (Chemical, Biological, Radiological, and Nuclear) risk mitigation by supporting civilian science and technology partnerships and collaboration that address global security threats and advance non-proliferation



TABLE OF CONTENTS



About Us..... 2

Welcome from the STCU Governing Board Chair..... 4

Executive Director Statement..... 6

Highlights and Accomplishments..... 8

STCU to work with US to introduce SMR Technology to Ukraine..... 9

STCU successfully kicks-off CBRN CoE project P088..... 10

10 years of Nuclear Forensics Success.....and counting!..... 12

STCU’s Export Control TI completes its 4th Year..... 14

Financial Activity..... 16

Contact Information..... 20



This document was produced with the financial assistance of the European Union, and the governments of the United States of America and Ukraine as Parties to the Agreement Establishing the Science and Technology Center in Ukraine (STCU).

ABOUT US

2021 STCU ANNUAL REPORT

HISTORY

- The Science and Technology Center in Ukraine (STCU) is an intergovernmental organization with diplomatic status whose Parties use science and technology engagement and cooperation to promote international security and well-being. The STCU was established by international agreement in October 1993. The current Parties to the STCU are Azerbaijan, the European Union, Georgia, Moldova, Ukraine, the United States, and Uzbekistan.
- STCU activities fall in two broad categories: Research Projects, which employ scientists in the development of new science and technology (S&T) and Supplemental Programs, which include workshops, training, and other events to integrate scientists into the global S&T and industrial community. Over the past 26 years, the STCU has been active with over 21,000 scientists in more than 1,000 research institutes and universities engaged in STCU projects and activities, primarily across the GUAM countries (Georgia, Ukraine, Azerbaijan, and Moldova).
- The STCU is headquartered in Kyiv, Ukraine and currently has three branch offices in Tbilisi, Chisinau, and Baku.

FUTURE

- The Center is developing new targeted programs and activities in response to member countries' needs and priorities.
- The Center continues to investigate and engage new sources of funding for R&D projects and programs.
- The STCU is expanding synergistic cooperation with the EU's CBRN Centres of Excellence (COEs) and other governmental initiatives to support regional and local priorities.

STRENGTHS

- More than 26 years of experience funding and managing multi-national R&D projects and activities.
- A network of hundreds of institutes/universities and thousands of scientists with expertise in many fields, including biotechnology, material science, physics, and nuclear safety.
- Transparency in operations, as well as best practices in procedures to allow the Center to effectively manage more than \$350 million dollars of funded projects and activities.
- Full-service project planning and execution with on-site monitoring and audits.
- STCU's International agreement allows cost-effective operations within STCU partner countries as the Center is not required to pay any local duties and taxes.

Party	Total Amount in Millions of USD
European Union	\$91.14
United States of America	\$ 81.67
Canada	\$10.17
Japan	\$ 1.04
Sweden	\$ 1.67
Government Partners	\$107.56
Non-Government Partners	\$ 64.82
Total	\$ 358.07



VISION

To advance global peace and prosperity through cooperative Chemical, Biological, Radiological, and Nuclear (CBRN) risk mitigation by supporting civilian science and technology partnerships and collaboration that address global security threats and advance non-proliferation.

MISSION

- To address the global security threat of the proliferation of WMD-applicable chemical, biological, radiological, and nuclear knowledge and materials;
- To support the integration of scientists with WMD applicable knowledge into global scientific and economic communities through national, regional, and international research collaboration;
- To develop and sustain a culture of nonproliferation and CBRN security awareness and responsibility through education, mentorship, and training;
- To promote international best practices and security culture to mitigate CBRN security threats.

STCU 1995-2021



WELCOME FROM THE STCU GOVERNING BOARD CHAIR



*Eddie Maier
Chair of the Governing Board of the Science & Technology Centre in Ukraine*

When I started to write this editorial for the annual report 2021, the tentative invasion of Ukraine by Russian military just began. Despite intensive diplomatic work by the USA and several EU leaders to stop war, restore peace, save lives, nothing helped to change the plans of the Russian leader. Every day the news became more worrying about bombs, rockets, shells fall on the country. Kyiv was under severe attack, major cities suffered blind aggression. War. Thousands of soldiers, on both sides, Ukrainian civilians, men, women and children paid with their lives as a result of the Russian government's unjust war. Of course, the usual propaganda by the Russian services makes absurd accusations against the Ukrainian authorities and western democracies in a vain attempt to justify their horrendous actions. Several months later, war still goes on.

The science centres have been created on a common decision by Foreign Ministers Genscher (FRG), Kozyref

(RF) and Secretary of State Baker (USA) in 1992 to promote R&D on non-military endeavours and support the beneficiary countries in their transition to market-based economies. STCU and its sister organisation ISTC have fully fulfilled the objectives assigned by their founding fathers.

Both centres have been under severe accusations by the Russian authorities. The centres are accused of funding research on weapons of mass destruction, in particular bioweapons; the opposite of what they do and always have done. When they are dealing with research on biological topics, to fight against multi-resistant microbes, train top epidemiologists, fight against new emerging diseases, and advance WMD-non-proliferation, as the STCU does, in particular at times of Covid -19, accusing these scientists and their sponsors of bioterrorism is shameful. For sure a best seller in terms of disinformation for internal RF propaganda, but patently false.

For two years we have all been fighting a war against the Covid 19 pandemic that has killed millions around the world, we did not need another war.

When all that comes to an end and scientists can go back to their laboratories, teachers to their lecture halls, the STCU will have to show its ability, innovation and management capacity to help Ukrainians rebuild what has been destroyed. Not forgetting to associate the other member countries of the region, Moldova, Georgia and Azerbaijan, who will, anyway, also suffer from the side effects of war.

The STCU and ISTC will need to be reinforced to meet the challenge of modern, peaceful science, supporting the Parties in preventing the proliferation of weapons of mass destruction, and facing the world's challenge of climate change and its related destabilisation phenomena. In front of us lie new supply sources of energy, innovative technologies using fewer natural resources and low in carbon emission, new ways of assuring food security and safety, facing migration of crowds of people displaced by natural disasters or wars linked to lack of food and feed supply - words are wasted on a starving man -, protection from threats due to water shortage or excess. We will



also have to prepare our laboratories, universities, our agriculture and industry for nowadays unknown human, animal or vegetal diseases.

Science has to bring the solutions. The science centres and their networks will be a key to face such a wide challenge.

The situation, today, obliges us to tackle challenges in urgency. First, our STCU staff has to be protected in their daily lives. They had to hide; some of them in Ukraine others outside the country. But every day they report on their situation and remain active. All but a few projects are still working and advancing nearly as planned. As your board Chairman, I want to congratulate all of them for their engagement and courage. They deserve our deepest gratitude for all they have achieved and do every day for us.

In 2021, STCU achieved a lot.

1. STCU had a record year in 2021 with \$24.5M in funding. The 2021 funding means we had a year that was almost 25% higher in funding than our previous high (19.8 M in 2006).
2. Despite the pandemic, the STCU successfully managed the year with a hybrid combination of work environments - remote and in-person.
3. While the European Union adopted its 7 years Multiannual Financial Framework (MFF 2021-2027), assuring the science centres of its engagement for the next 7 years, the reorganisation of the European Commission services has introduced some delays in decision making.

How far the effects of the Covid 19 and now the war in Ukraine will affect the priorities of the Neighbourhood, Development, and International Cooperation Instrument that funds the Peace, Stability and Conflict Prevention Thematic Programme remains unclear. So far, a couple of very large EU projects were signed in 2021:

- the CBRN Centre of Excellence P088 - €5.4M for Strengthening CBRN Medical Preparedness and

Response Capabilities in South East and Eastern Europe (SEEE);

- the 3rd Stage of Emergency Implementation Measures for the Pridniproviskiy Chemical Plant (PCHP) - €5.7M for remediation of the contaminated site;

The EU continued work with US Department of Energy on the Nuclear Forensics projects. The EU contributed an additional €711K with DOE also contributing \$460K.

Science centres are peace-oriented organisations, helping scientists and researchers at large to work on non-weaponised topics or applications.

STCU is on the forefront of the action and members are praising the existence of the science centre. It gives us a good basis to prepare now for the future. When the war is over, STCU should assist our members in several activities to help scientists and researchers to reconstruct what was lost or destroyed. The practicalities need to be elaborated soon.

Both science centres have demonstrated several times since their creation that they can adapt to changing landscapes, severe external events. We can be sure that they will again tackle today's challenges

War still goes on.

We are now end of July 2022.

EXECUTIVE DIRECTOR STATEMENT



Curtis "B.J." Bjelajac
Executive Director

This statement was completed in early February 2022 and left as is, despite the Russian invasion a couple of weeks later, as this reflected the ED's thoughts about 2021 and not the events in 2022, which will be addressed in next year's ED statement.

What a difference a year makes! The STCU went from one of its leanest years in project funding in 2020 (\$4.8M) to its largest year of project funding ever in 2021 (\$24.5M). The previous record high in project funding occurred back in 2006 when the STCU received \$19.8M in new projects. To be fair, I think the more nuanced way to look at these numbers is as an average of the two years (\$15.2M), because in large part the difference between the two years of project funding comes down to timing differences. When you compare the average project funding of the two years (2020-21), you will notice that it is much more in line with the funding received in the four prior years (2016 = \$11.2M, 2017

= \$15.6M, 2018 = \$13.5M, and 2019 = \$12.2M). Thus, the 2021 funding number of \$24.5M makes for good headlines; however, management takes a more practical approach and sees the funding for the STCU staying steady in the ~\$13M/year neighborhood. This level of funding is healthy for the organization and allows the STCU to maintain its resources (i.e., human, offices, etc.) at a critical mass, thus ensuring the organization's competitiveness.

For a large part of 2021 the COVID-19 pandemic was still the main story, with the STCU maintaining a remote first policy, which meant for the bulk of the year the Center kept its offices closed (except for essential tasks and personnel). Furthermore, the continued pandemic also meant that the Center had almost no ability to conduct in-person workshops and conferences. However, the STCU team continued to use remote technologies (i.e., Zoom, WebEx, etc.) to perform everyday tasks, as well as to successfully conduct several events virtually. Towards the end of 2021, the continued buildup of Russian Federation military forces along the Ukrainian border forced the STCU to initiate contingency planning to ensure the safety of the team, as well as the continuation of operations in the event of an invasion. Despite these two challenges, the STCU did have many successes in 2021, which you will find outlined in this annual report. However, the year was dominated by the continued global pandemic and the threat of invasion of Ukraine by the Russian Federation.

In 2021, the surge in project funding was spearheaded by the European Union which approved two large projects that together combined for over half (\$13.1M) of the total project funding for the year. The first project was a €5.7M continuation of the project to implement New Emergency Measures for Pridniprovskiy Chemical Plant (PCHP) at Kamianske (formerly Dniprodzerzhynsk). This new project represents the 3rd stage of the overall project and is expected to complete any emergency measures not covered in the 2nd stage, as well as to implement additional activities identified during the 1st stage (risk assessment) of the project. The second large project funded by the EU was for €5.4M and is part of the EU's CBRN Risk



Mitigation Centers of Excellence Initiative and is entitled, "P088 - Strengthening CBRN Medical Preparedness and Response Capabilities in South East and Eastern Europe (SEEE) Countries". The overall goal of the project is to bolster medical emergency preparedness and response capabilities in the SEEE region partner countries to ensure minimization of health consequences and human losses following a CBRN accident and/or emergency.

2021 saw the extension of the the STCU Nuclear Forensics program, an effort which showcases the STCU's ability to promote international security through regional collaboration. Bringing together financing from the U.S. Department of Energy and the European Union, the STCU signed three new projects in Georgia, Ukraine, Azerbaijan, and Moldova which will allow these countries' scientific experts to better utilize information, enhance inter-agency cooperation, and transfer knowledge & develop scientific skills to deal with intercepted illicit nuclear and radioactive material.

During 2021, the STCU was fortunate to embark on two very important projects related to the possible implementation of Small Modular Reactor (SMR) technology in Ukraine. In November 2021, STCU was tasked by the U.S. Department of State to implement a \$400K project as part of their FIRST program in Ukraine. FIRST is an acronym for Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology and is a program that provides capacity-building support to partner countries as they explore the potential for SMRs and other advanced nuclear reactor technologies to achieve their clean energy goals under the highest international standards for nuclear security, safety, and nonproliferation. The first webinar for this initiative is scheduled for the end of January 2022. Furthermore, on December 15, 2021, the STCU signed a grant agreement with the United States Trade and Development Agency to act as a facilitator for a project with NuScale Power and the State Nuclear Regulatory Inspectorate of Ukraine in order to develop a regulatory regime that would enable the introduction of SMR technology into Ukraine. Both projects are extremely important for Ukraine as SMRs

can offer unique opportunities to complement Ukraine's already substantial nuclear power generating capacity and may have the potential to act as a valuable component of Ukraine's nuclear strategy going forward.

The STCU saw several changes to its Governing Board composition in 2021. In March, Ms. Natalie Pauwels (Head of Unit, Stability and Peace - Global and Transregional Threats at European Commission, Service for Foreign Policy Instruments) took over as the Board member representing the European Union and Mr. Oleksii Shkuratov, (Deputy Minister for European Integration of the Ministry Education and Science of Ukraine) did the same for the Ukrainian Party in September. Also, the STCU was reunited with an old colleague and friend when Mr. Eddie Maier was confirmed as the Chair of the STCU Governing Board in August. Given the challenges facing the STCU in the upcoming months and years ahead, the Secretariat welcomes these strong additions to the STCU governing team.

Despite the record year of funding in 2021, the STCU Secretariat looks forward cautiously to the upcoming new year. Once again, the shadow of conflict is falling upon Ukraine. The military buildup of the Russian Federation on the borders of Ukraine brings back painful memories of 2014, when Ukraine first faced the specter of Russian invasion with the illegal annexation of Autonomous Republic of Crimea and the start of the war in Donetsk and Luhansk oblasts. The STCU is hoping for the best but is planning for the worst. As was the case throughout the STCU's existence, the STCU will lean hard on its Governing Board and Party representatives in the new year, to ensure that the Center and the entire STCU team is prepared for whatever the new year brings. On behalf of the entire STCU team, I would like to thank the Governing Board and Party representatives for their continued support.

HIGHLIGHTS and ACCOMPLISHMENTS

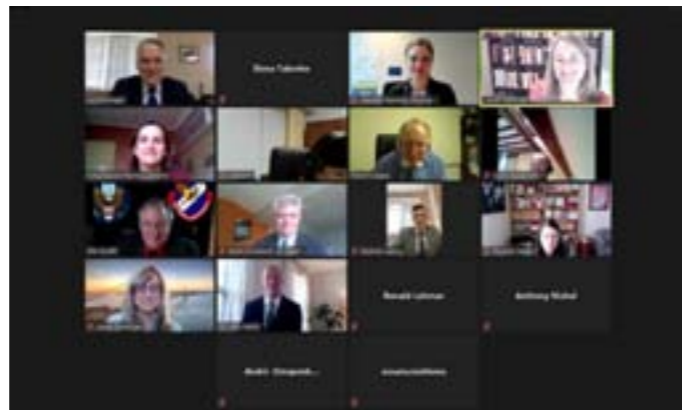
STCU CONDUCTS RECORD SETTING 53RD GOVERNING BOARD MEETING VIA ZOOM

The fifty-third (53rd) Meeting of the Governing Board of the STCU convened virtually on 30 November 2021. The Governing Board representatives from the European Union, Ukraine, and the United States of America, were joined by the STCU and ISTC executive management teams, and by representatives from the National Agency for Research and Development of Moldova, the Azerbaijan National Academy of Science, as well as the Georgian Shota Rustaveli National Science Foundation.

At this meeting, the Governing Board approved the largest amount of project funding of any Governing Board meeting in the history of the STCU (\$22.4M). Not only was this the largest amount of funding approved by any STCU Governing Board, but it also surpassed the largest funding year in the STCU's history (\$19.8M in 2006). Finally, to round off the list of funding accomplishments achieved by this Governing Board meeting, the STCU crossed the \$350M in total lifetime funding mark as well. None of these

significant achievements would be possible without the generosity and cooperation of all the STCU Parties.

Aside from the record amount of project funding, the 53rd Governing Board also approved the U.S. proposed FIRST Initiative in Ukraine with a budget of \$400,000.



STCU has successfully transitioned to the world of virtual meetings, as can be seen with the 53rd GB Meeting.

STCU CONDUCTS PRESS CONFERENCE TO PRESENT RESULTS AND PLANS FOR PChP PROJECT

Following the completion of Phase 2 and commencement of Phase 3 of the European Union funded project "Emergency Measures for Implementation at the former Pridniproviskiy Chemical Plant, at Kamyanske" aimed to improve safety at the site for both the public and environment, in partnership with the Ministry of Energy of Ukraine and the European Union, the STCU conducted a press conference on December 2, 2021 to present the project goals and achieved results of Phase 2 and plans for the newly signed Phase 3 project. The €5.7M Phase 3 project with the European Union signed by the STCU in September 2021, foresees the establishment of a Radioactive Materials Management Plan, which will be based on the 2016 Remediation Strategy Document and define the priority activities to be implemented. The project also foresees the establishment of interim safe storage and final disposal for radioactive materials located at the site, together with further strengthening of the legal and regulatory framework for uranium legacy sites in Ukraine.

The press conference was attended by high-level representatives of all key project stakeholders including: Mr.

Remi Duflot, Deputy Head of the Delegation of the European Union to Ukraine, Mr. Yuri Vlasenko, First Deputy Minister of Energy of Ukraine, Mr. Anatoly Operchuk, Department Head of the Ministry of Health, Ms. Victoria Lomidze, Department Head, State Nuclear Regulatory Inspectorate of Ukraine, Mr. Sergiy Karpenko, Deputy Head, Dnipropetrovsk Oblast Administration, and (by video link) Mr. Andrii Bilousov, Head of the Kamyanske City Council. Also in attendance were experts of the European Commission, Ministry of Energy of Ukraine, the Joint Support Office of the EU in Kyiv, the STCU, and members of the press.

After opening remarks from the key stakeholders, the STCU presented the video produced as part of the visibility plan of phase 2 of the project which informed the attendees of the important work done in the first two phases of the project, as well as the expected results for phase 3 of the project. After the viewing of the video, the floor was opened to questions from members of the press. The video was very well received and can be found on the STCU's website at the following link: <http://www.stcu.int/news/video/index.php>

STCU to work with US to introduce SMR technology to Ukraine

STCU WORKS WITH FIRST INITIATIVE



As the calendar edged closer to the new year, the STCU was fortunate to be contacted by two different US government agencies to help introduce SMR technology to Ukraine. First, at the 53rd STCU Governing Board conducted on November 30, 2021, the U.S. Department of State announced that the STCU will implement a \$400K project in Ukraine as part of their FIRST program. FIRST is an acronym which stands for Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology and is a \$5.3M Presidential initiative announced by the Biden-Harris Administration at the Leaders' Summit on Climate in April 2021 to provide capacity-building support to partner countries, such as Ukraine, as they develop

their nuclear energy programs to support clean energy goals under the highest international standards for nuclear safety, security, and nonproliferation. FIRST is designed to deepen strategic ties, support energy innovation, and advance technical collaboration with partner nations on secure and safe nuclear energy infrastructure. The STCU will look to work with our long-term partners in Ukraine such as the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU), State Scientific and Technical Center for Nuclear and Radiation Safety, the Ukrainian Nuclear Power Generating Company "Energoatom," the Kyiv Institute for Nuclear Research, and the National Science Centre Kharkiv Institute of Physics and Technology to develop and conduct webinars, table-top exercises, study tours to North America & Western Europe throughout 2022, culminating in a two-day SMR conference/symposium to be held in Kyiv at the end of 2022. The project will not waste any time getting started as the kick-off webinar is scheduled to be held in the latter part of January 2022.

STCU COOPERATES WITH USTDA



On December 15, 2021, the STCU along with the U.S. Trade and Development Agency (USTDA) and SNRIU signed a grant funding to provide technical assistance to develop a comprehensive regulatory analysis to facilitate the introduction of SMR technologies to Ukraine. NuScale Power, LLC (USA), will also work with STCU and SNRIU to implement the project.

This marks the first time that the STCU will work with USTDA, a U.S. government agency which helps companies create U.S. jobs through the export of U.S. goods and services for priority infrastructure projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project preparation and partnership building activities that develop sustainable infrastructure and foster economic growth in partner countries. In a sign of

confidence in the STCU and SNRIU, this project will mark the first time in ten years that USTDA has initiated a new project in Ukraine.

The aim of the project is to complement Ukraine's national energy strategy, which calls for greater renewable and nuclear power generation capacity. The main deliverable of the project will include the development of a licensing gap analysis to support the development of a regulatory regime that would enable the introduction of SMR technology into the country for the first time. The project will kick-off in earnest in the new year and is scheduled for completion in the middle of 2023.

STCU successfully kicks-off CBRN CoE project P088

On May 17, 2021, the STCU signed CBRN CoE project P088, entitled “Strengthening of CBRN Medical Preparedness and Response Capabilities in South East and Eastern European Countries”. The €5.4M project will run for four years and has an overall objective of strengthening and enhancing CBRN Emergency Medicine (EM) preparedness and response capabilities in SEEE region partner countries to ensure minimization of health consequences and human losses following a CBRN event. Over the course of the project, the STCU is expected to achieve the following results:

- Establish a sustainable national training system in each of the SEEE partner countries for competencies on CBRN EM preparedness and response,
- Enhance technical and methodological capabilities of relevant medical and paramedical institutions/ personnel in CBRN EM preparedness and response, and

- Ensure SEEE Regional and sub-regional CBRN EM preparedness and response cooperation

On 24th June 2021, the STCU hosted an on-line meeting with the SEEE CBRN CoE Regional Secretariat and the national representatives of Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, North Macedonia, Moldova, Montenegro, Serbia, and Ukraine to formally kick-off the project. The next step was to initiate the Phase 1 fact finding missions with the goal of arranging bilateral meetings that would allow the analysis of each country’s baseline status regarding CBRN EM preparedness and response, by identifying various ministries, competent national authorities, relevant local agencies, and expertise. Given the travel challenges posed by the COVID-19 pandemic, the fact-finding missions would prove to be more difficult; however, the STCU managed to carry on and start the process in the fall of 2021.

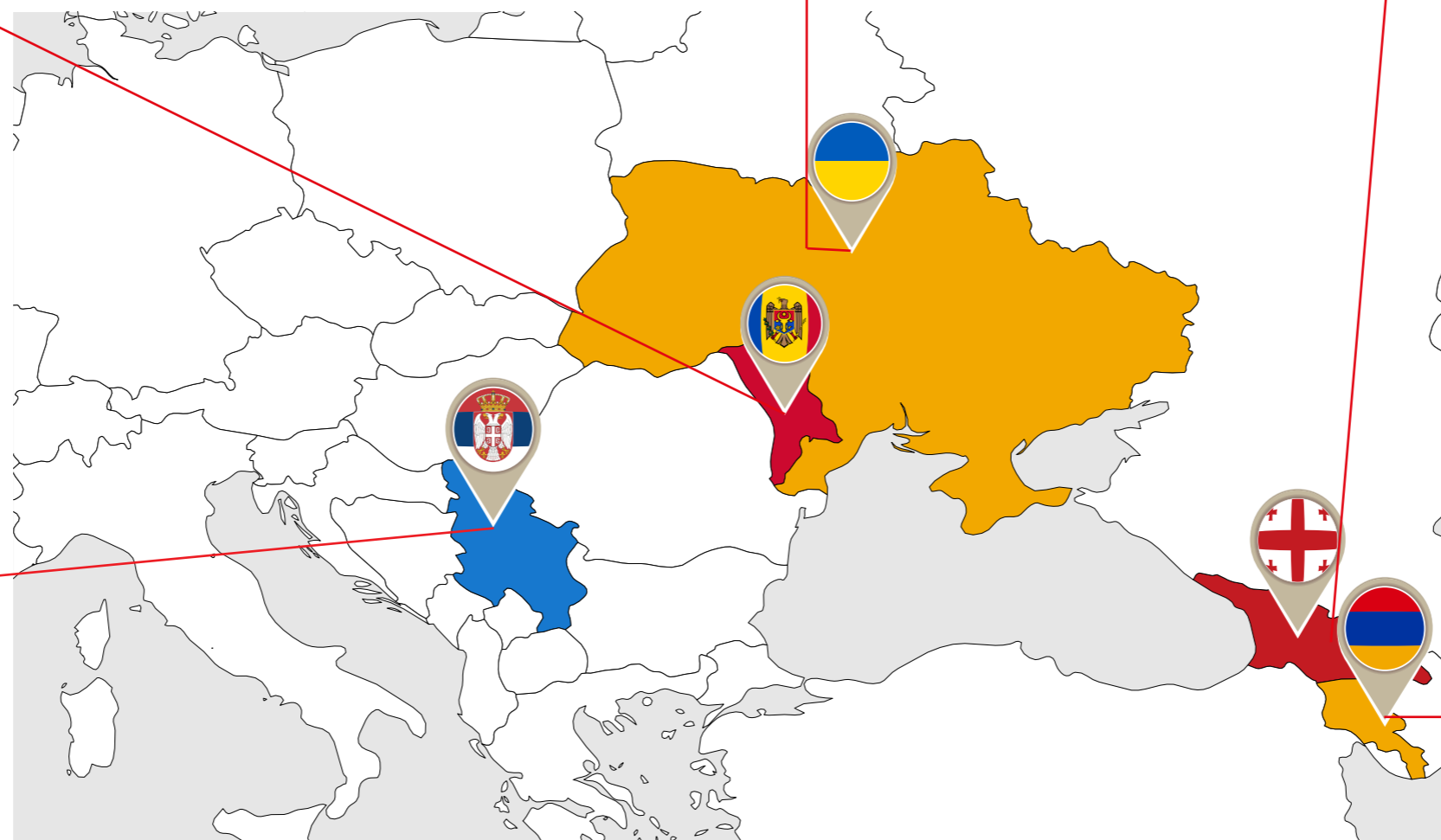
FACT-FINDING VISIT TO MOLDOVA

On November 18, 2021, P088 Team Leader Mr. Andrew Proudlove and Key Clinical Expert Dr. Mark Salter carried out the fact-finding visit to Chisinau, Moldova where they visited the National Agency for Public Health and were given a tour of the training, storage, and education facilities within the building by Mr. Dumitru Capmari, Head of the Operational Coordination Center for Public Health Emergencies (OCCPHE). The team then met the Director of the National Agency for Public Health, Dr. Nicolae Jelamschi and gave a briefing on the key aims of the project and together they discussed the suitability of the OCCPHE as a location for Moldova’s national CBRN EM Training Center, where the training of a small group of Master Trainers would run national CBRN EM Training Courses in the future.

FACT-FINDING VISIT TO SERBIA

On October 20, 2021, Mr. Proudlove and Dr. Salter carried out a fact-finding visit to Serbia where they visited the Military Medical Academy (MMA) in Belgrade and presented the key aims of Project 088 and discussed the following points:

- The consideration of MMA as as a CBRN EM Training Center
- The training of a small group of Master Trainers that would run national Training Courses in the future.



FACT-FINDING VISIT TO UKRAINE

On September 7, 2021, Mr. Proudlove and Dr. Salter carried out a fact-finding visit to Kyiv, Ukraine. The P088 team (including STCU Senior Specialist Elena Taberko) visited the Public Health Centre Ukraine (PHCU) and met with Dr. Liudmyla Chernenko, Acting Director of PHCU, and her team. They discussed the following key points:

- The consideration of PHCU as Ukraine’s CBRN EM Training Center.
- The role of the emergency operations center (under development) and rapid response teams

FACT-FINDING VISIT TO GEORGIA

On November 16, 2021, Mr. Proudlove and Dr. Salter carried out the fact-finding visit to Tbilisi, Georgia where they spent the day at the Emergency Management Training Facility (EMTF) within the Emergency Situations Coordination and Urgent Assistance Center. The P088 team was given a guided tour of the facility by the Director, Dr. Aleksandre Kalandia, who briefed them on organizations capabilities and resources. The P088 team then gave a briefing on the key aims of the project and together they discussed the suitability of the EMTF as a location for Georgia’s national CBRN EM Training Center, where the training of a small group of Master Trainers would run national CBRN EM Training Courses in the future.

FACT-FINDING VISIT TO ARMENIA

On September 9, 2021, the STCU P088 team carried out a fact-finding visit to Yerevan, Armenia where they met with Ms. Lena Nanushyan, First Deputy Minister of Health, who was briefed on the key aims of Project 088 including a fully equipped CBRN EM Training Centre in Armenia and the training of a small group of Master Trainers who would run national training courses in the future. After the meeting with the First Deputy Minister the STCU P088 team met with the National Focal Point of Armenia, Armenian Ministry of Health specialists, and other stakeholders to explain the goals of the project.

Finally, the project team visited the National Center for Disease Control Training Center on the outskirts of Yerevan and met with Dr Sergey Karapetyan, Director of the “Reference Laboratory Center” branch and with Dr Gayane Melik-Andreasyan, Head of the NCDC Training Center. Together they discussed the suitability of the NCDC as a Training Centre. Armenia subsequently chose the NCDC as the confirmed location for Armenia’s national CBRN EM Training Centre.

10 years of Nuclear Forensics Success.... and Counting!

History of the Nuclear Forensics Targeted Initiative

The origin of the Nuclear Forensics Targeted Initiative (TI) goes all the way back to an STCU sponsored Nuclear Forensics Experts' Workshop held in Tbilisi, Georgia in June 2009. The idea was to create a targeted research initiative that would allow the following:

- An interactive approach for developing project proposals
- The possibility for multiple Parties to co-fund projects
- The engagement of "new" government organizations as potential STCU partners
- To focus on a relevant regional issue of importance to both the GUAM countries and the donor parties

Over the course of the next two years, and as a result of training workshops and collaboration, proposals were generated jointly by the scientific teams representing the GUAM institutes and donors, resulting in the first Nuclear Forensics projects starting in September 2011. Since

2011, the STCU TI on Nuclear Forensics has received approximately \$7M to fund fifteen (15) projects from the European Union, the United States Department of State/International Security and Non-Proliferation, the United States Department of Energy/National Nuclear Security Administration (DOE/NNSA), and the Government of Ukraine.

In 2021, exactly ten years after the first project started and despite the COVID-19 pandemic, the Nuclear Forensics TI continued to move forward. Three new projects were signed and started in the amount of \$1.3M (co-funded by the EU and DOE/NNSA), which will help the scientific experts of the GUAM countries to better utilize information, enhance inter-agency cooperation, and transfer knowledge & develop scientific skills to deal with intercepted illicit nuclear and radioactive material. The accomplishments of the Nuclear Forensics TI in 2021 did not stop with the commencement of these three new projects, there were other accomplishments as well, highlighted below.

ACCOMPLISHMENTS OF THE NUCLEAR FORENSICS TARGETED INITIATIVE IN 2021

STCU Conducts Joint Field Exercise with the Agency of Nuclear and Radiation Safety of Georgia

On April 5th and 7th, 2021, the STCU jointly with the Agency of Nuclear and Radiation Safety, hosted a scenario-based exercise on combating the illicit trafficking of nuclear materials in Georgia. The training's primary purpose was to demonstrate, check, and coordinate joint actions of different authorities involved in the illegal handling of nuclear materials and radioactive sources. Georgian legislation includes various approaches to different types of cases of the illicit handling of radioactive substances as follows: 1). A case of smuggling nuclear material across the Georgian border (from Georgia or any neighboring country) - land borders, airports, seaports, and 2). Illicit trafficking of nuclear material or radioactive sources on Georgia's territory for sale, sabotage, terrorism act, etc... For this exercise, the case of smuggling of a radioactive source and its transportation across the Georgian border was selected as the scenario. The training was attended by all Georgian authorities involved in responding to a radioactive

source's illegal transportation across the border, including: the Ministry of Internal Affairs, the State Security Service, the Agency of Nuclear and Radiation Safety, the Customs Department of the Ministry of Finance, and the Prosecutor's Office.

In addition to the primary objective, the training also set out to test the different authorities' ability to remotely participate in such criminal cases, given the restrictions associated with the COVID-19 pandemic. The training also considered the possibility of including experts from other countries in the investigation and cooperation through new remote access methods. Finally, an additional goal was to show all the participants how to utilize the newly developed Library of Nuclear Forensics Software on a daily basis, including how to enter information, how to search for information on the criminal event itself, as well as find the objects associated with the criminal incident.

As a result of the training, each Georgian authority obtained a better understanding of:

- Its responsibilities during the process, including its complete understanding, and knowledge of the legislation;
- Its involvement in the chain of investigation of the criminal case;
- Its own technical capabilities in assessing the criminal situation, carrying out measurements, and collecting both radiation and non-radiation evidence;
- How it should interact and cooperate with the other investigators, especially the Prosecutor's office.



Participants in PPE participate in the exercise on combating the illicit trafficking of nuclear materials in Georgia on April 5th and 7th, 2021

STCU Conducts Joint Tabletop Exercise (TTX) with the Ministry of Transport, Communications, and High Technologies of the Republic of Azerbaijan

On May 18, 2021, the STCU jointly with the National Nuclear Research Center (NNRC) of the Ministry of Transport, Communications, and High Technologies of the Republic of Azerbaijan, hosted a TTX on Radiological Crime Scene Management in Azerbaijan. The purpose of the TTX was to bring together national law enforcement officials and nuclear and radiological experts, in order to facilitate joint work in the field of nuclear forensics, as well as to improve the skills and expertise of nuclear forensic specialists in Azerbaijan.

The training was attended by all authorities of Azerbaijan involved in responding to a radiological crime scene, including: the General Prosecutor's Office; the Ministry of Justice; the State Security Service; the State Customs Committee; the State Agency for Nuclear and Radiological Activity Regulations; the State Border Service; and the Ministry of Internal Affairs. Nuclear forensics experts from the EU, USA, Georgia, Moldova, and Ukraine participated in the event as observers as well.

The workshop had the following objectives:

- Familiarization with the capabilities (equipment, personnel, methodology, and experience) of government agencies capable of conducting nuclear and radiological analysis;
- Development of a comprehensive National Response Plan required for the conduct of nuclear forensics;
- Discussion of measures to respond to nuclear or radiological emergencies, taking into account the issues of national legislation of Azerbaijan;
- Determination of the necessary actions to be taken by the authorities, subsequent to a radiological incident at a crime scene;

The TTX participants discussed the possibility of planning a follow-on training exercise in order to address the following issues:

- Increase the preparedness of the relevant authorities for radiological incidents;
- Formation of coordinated actions between law enforcement officials and government bodies conducting nuclear and radiological analysis;
- Improvement of the skills and knowledge of radiologists working directly at the crime scene;
- Improvement of mutual assistance skills and experience;
- Improvement of the skills required to ensure the radiological protection of the investigator during the process of collecting evidence at the crime scene and ensuring the protection of collected evidence.



Participants use remote technology to conduct the joint STCU and NNRC TTX aimed at improving the skills and expertise of nuclear forensic specialists in the Republic of Azerbaijan

STCU's Export Control TI completes its 4th Year

The EU Export Control Targeted Initiative (TI) at the STCU was started back in April 2016, when the 42nd STCU Governing Board approved a decision which tasked the STCU Secretariat with working together with the GUAM countries to establish a program designed to fit their export control needs. The STCU Export Control TI from the outset was in close contact with the EU P2P Export Control Programme for Dual-Use Goods to coordinate activities to avoid duplicate effort, as well as ensure resources were coordinated across programs. The TI at the STCU started in earnest on January 1, 2018, with the onboarding of the project manager, Maria Espona, and her team of experts tasked with creating projects to raise awareness in the following communities:

- **Academic and Research communities** – especially in relation to technology transfer (both tangible and intangible), responsible science, and ethics;

ACCOMPLISHMENTS OF THE NUCLEAR FORENSICS TARGETED INITIATIVE IN 2021

Non-proliferation education and training of master students in the Technical University of Moldova

Dr. J. P. Zanders, an STCU Export Control specialist responsible for Academic institutions, conducted a series of virtual lectures for the period of February 2nd – 5th, 2021 focused on CBRN Export Control of Dual Use Materials and Intangible Technologies. Dr. Jean Pascal Zanders is an expert in the field of armament and disarmament, especially non-conventional weapons such as chemical, biological, radiological, and nuclear weapons.

The lectures were attended by Technical University of Moldova master students from the Schools of Micro-nanoelectronics and Biomedical Engineering, as well as fourth year undergraduate students from the School of Biomedical Engineering. In addition to the students from the Technical University of Moldova, master students from a wide variety of universities were also in attendance, including participants from the State University of Moldova (law and physics) and the University of Medicine and Pharmacy (general medicine).

The lectures contributed to the overall objectives of the Export Control TI, one of which was to develop new teaching modules on CBRN non-proliferation at the Technical University of Moldova, with an emphasis on export/import/transit control of strategic goods and technologies, as well as to upgrade existing teaching modules on these subjects, so as to bring current modules in line with EU standards.

- **Industry** – especially those companies involved with the production or consumption of strategic goods and technology by working with chambers of industry & commerce, and import/export companies;
- **Government** –including participating agencies in the national export control system, such as, ministry of economy/commerce; ministry of defense/security; ministry of foreign affairs; customs; ministry of industry; ministry of science and technology; and ministry of justice.

2021 was the fourth year of the Export Control TI and despite the COVID-19 pandemic, the effort continued to move forward as highlighted below.

The lectures helped attendees to better understand how their future work and responsibilities should fit in to the overall CBRN non-proliferation effort, not only as a professional but also as an individual. The lectures will help all attendees to better identify and address potential future security issues. All lecture presentations and notes were uploaded for future availability and study to the ELSE platform of the Technical University of Moldova and can be found at the following url: <https://else.fcim.utm.md/?lang=en>.



In early February 2021, the STCU conducted a series of virtual lectures focused on CBRN Export Control of Dual Use Materials and Intangible Technologies at TUM

Webinar series to Promote Responsible Science in Georgia, Azerbaijan, and Moldova

As part of the Export Control push to educate researchers as to the importance of Export Control issues, in June 2021 the STCU hosted an online seminar consisting of four sessions focused on issues related to “Responsible Science”. Dr. Richard Guthrie, the STCU Export Control specialist responsible for research institutions, conducted the seminar series which was aimed at postgraduate students and early-career researchers from Azerbaijan, Georgia, and Moldova, but generated interest amongst more senior researchers as well. In total, about 75 participants from the target countries took part in the series.

The goal of the series was to promote responsible science, to encourage thinking in relation to the implications of scientific and technological developments, and to enable scientists to communicate their work to people outside of their field.

STCU organizes Train the Trainer Workshop in Ukraine

On April 13th and 20th, 2021, the STCU organized an online Train the Trainers Workshop as part of its continuing work with Taras Shevchenko National University of Kyiv to develop an extra mural Master Program on Economic Security of Entrepreneurship. The workshop was designed to disseminate teaching and research skills related to Strategic Trade Control (STC) among the participants who hold management, teaching, and research positions at different universities in Ukraine. The event was attended by over 90 participants.

During the event, Dr. Jean-Pascal Zanders and Prof. Quentin Michel, STCU Export Control specialist responsible for Academic institutions, shared their knowledge and experience related to the research and education in STC. Dr. Zanders introduced the ‘dual-use’ concept and outlined the main aspects of the governance of dual-use technologies

STCU Conducts Training on “Identifying Dual-Use Goods and Technologies in Ukraine”

As part of its thrust to educate industry on export control issues, on June 23-25, 2021, the STCU jointly with the Ukrainian Chamber of Commerce and Industry (UCCI) hosted a workshop for UCCI’s experts which conducts non-state expertise in the field of export control.

The main goal of the workshop was to discuss the latest changes in the export control system of Ukraine, as well as to provide an intensive practical training on commodity identification using Ukrainian control lists. The latest changes in the European export control legislation and dual-use control lists, as well as potentially controlled emerging technology were discussed as well. The lectures and practical exercises were led by the experts from the Institute for Nuclear Research of National Academy of

A particular focus of the series was that advances in science and technology can provide possibilities for harm as well as providing benefits. But there is no objective measure about what is potentially beneficial and what is potentially harmful. Moreover, updates to regulations often lag far behind developments in scientific and technological understandings. Thus, the role of scientists in understanding the implications of their research and other activities is vital.

The participants heard from a variety of experts on topics ranging from personal choices in research activities to development of codes of conduct. The final session provided an opportunity for participants to present their own thoughts on the issues raised in the preceding sessions.

at the international and national levels. Professor Michel introduced the topic of essential responsibilities for different categories of actors.

The lecturers also discussed the potential challenges in designing and teaching the courses on Strategic Trade Control. They reviewed existing university degree programs in this field around the world. Rectors, Deans, and Professors from several Ukrainian universities attended the event.

Many of the universities that attended the workshop expressed an interest in launching specific modules (disciplines) devoted to export control and CBRN challenges that constitute the Master program Economic Security of Entrepreneurship (extramural form) within their universities in the near future.

Sciences, State Enterprise “Ukroboronservice”, and the State Customs Service of Ukraine.



Participants in the training conducted on June 23 - 25, 2021 in Kyiv, Ukraine!

FINANCIAL ACTIVITY IN 2021

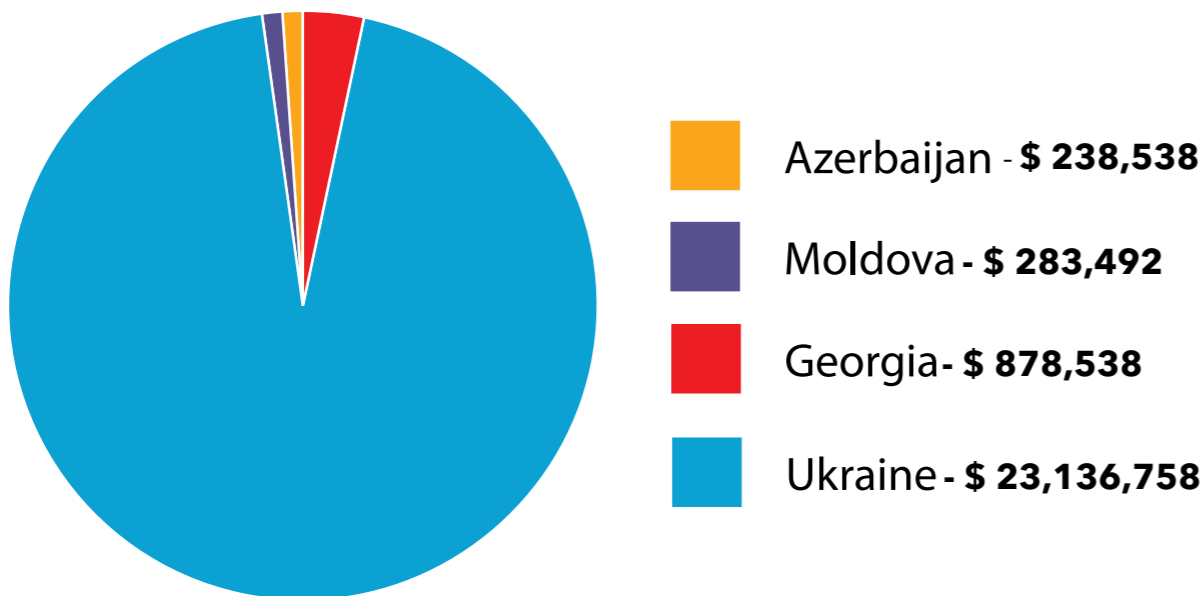
2021 saw an enormous increase in the amount of new STCU project funding compared with recent years. In 2021, the STCU Governing Board approved just over \$24.5M in new projects, an increase of approximately \$19.7M in total new project funding compared with 2020, and a new historic high in funding for the STCU. The drastic increase in total new project funding in 2021 was due in large part (just over half of the 2021 total) to the European Union funding two projects: a). Stage 3 of the New Emergency Measures for PChP and b). the P088 - Strengthening CBRN Medical Preparedness and Response Capabilities in SEEE Countries project. Overall funding in 2022 is expected to drop back down to the STCU's recent historical average of approximately \$10M-\$13M.

New partner project funding in 2021 was also drastically increased compared to 2020. The \$10.6M of new partner project funding in 2021 was \$5.8M more than that received in 2020. In 2021, new project funding from all partner organizations represented 43.1% of the total amount of new STCU project funding. This percentage is much lower than the 80% of total funding the STCU has historically received from partner organizations and reflects the continued pivot to much bigger regional/international projects such as the two EU funded projects highlighted in the paragraph above.

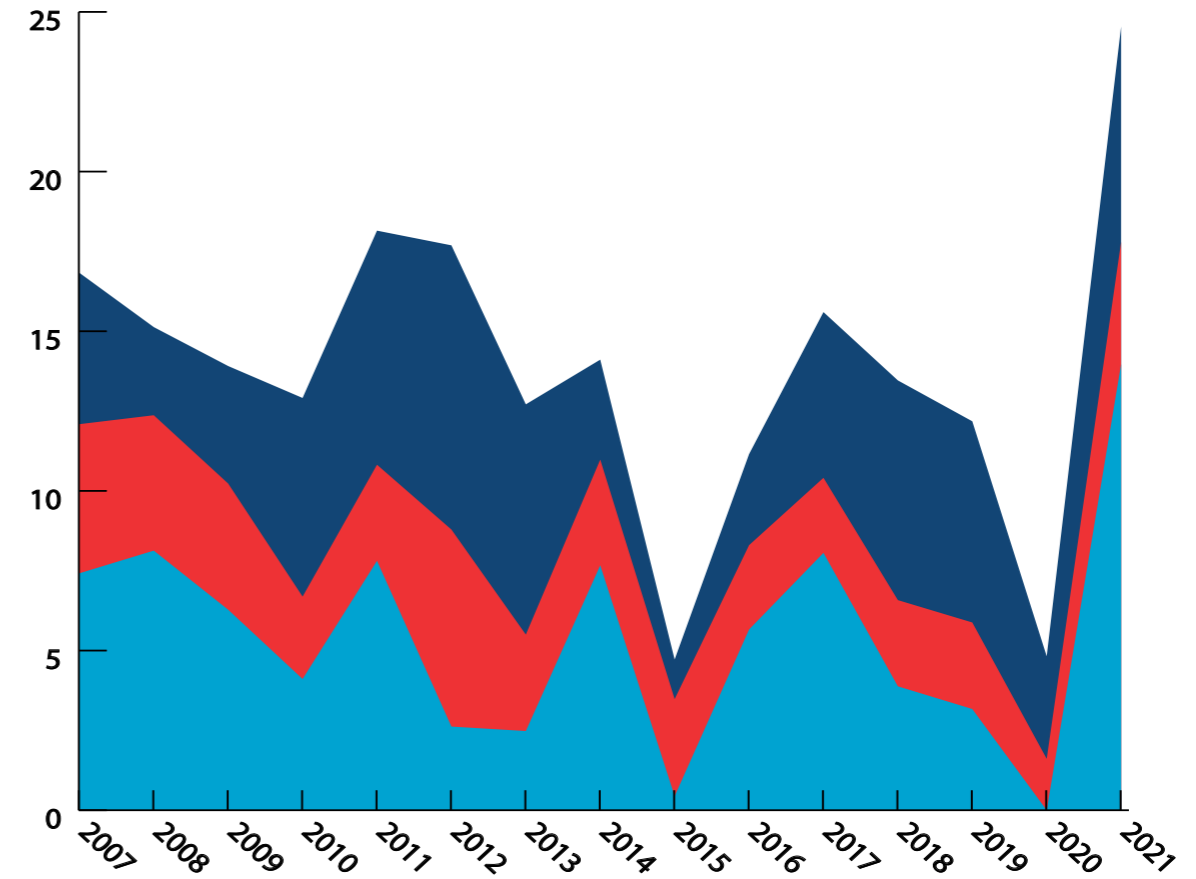
A historic milestone of note was that with the new project funding approved at the 53rd Governing Board meeting held on November 30, 2021, the STCU crossed the \$350M (\$358.1M as of the end of 2021) in total lifetime funding mark. This is a significant achievement for the Center made possible by the generosity and cooperation of all the STCU Parties.

For the first time, external auditors from Crowe Erfolg Ukraine audited the financial management and accounting systems, as well as the system of internal controls for both the operations of the STCU administration and STCU-funded projects. The results of this audit can be found on the STCU's website at: www.stcu.int/documents/stcu_inf/reports/audit/2021/. Some weaknesses were identified in conjunction with the December 31, 2021, financial statement audit and will be corrected during 2022.

New Project Funding in 2021 by LOCATION OF RECIPIENT ORGANIZATION:

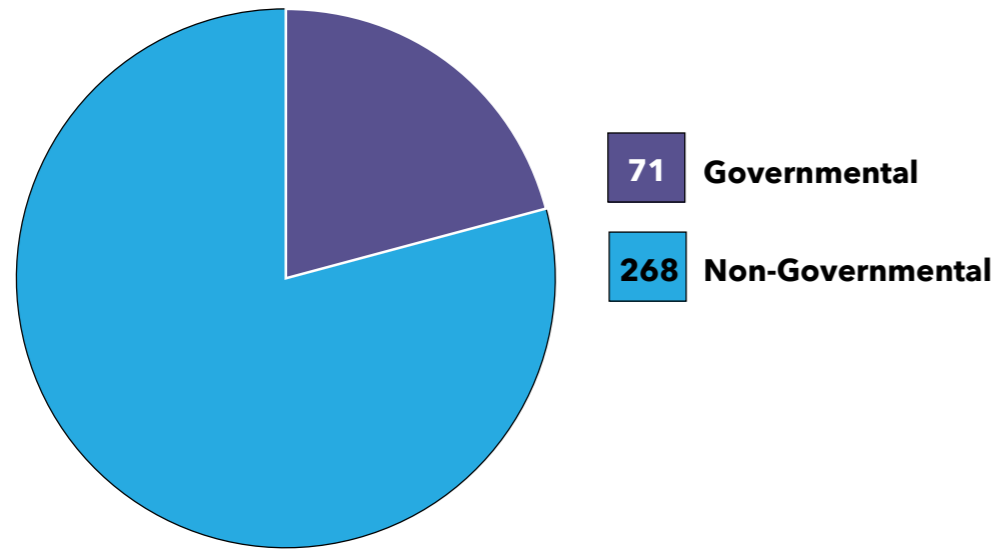


Regular/Partnership Funding, 2007-2021 (funding in millions USD/year):

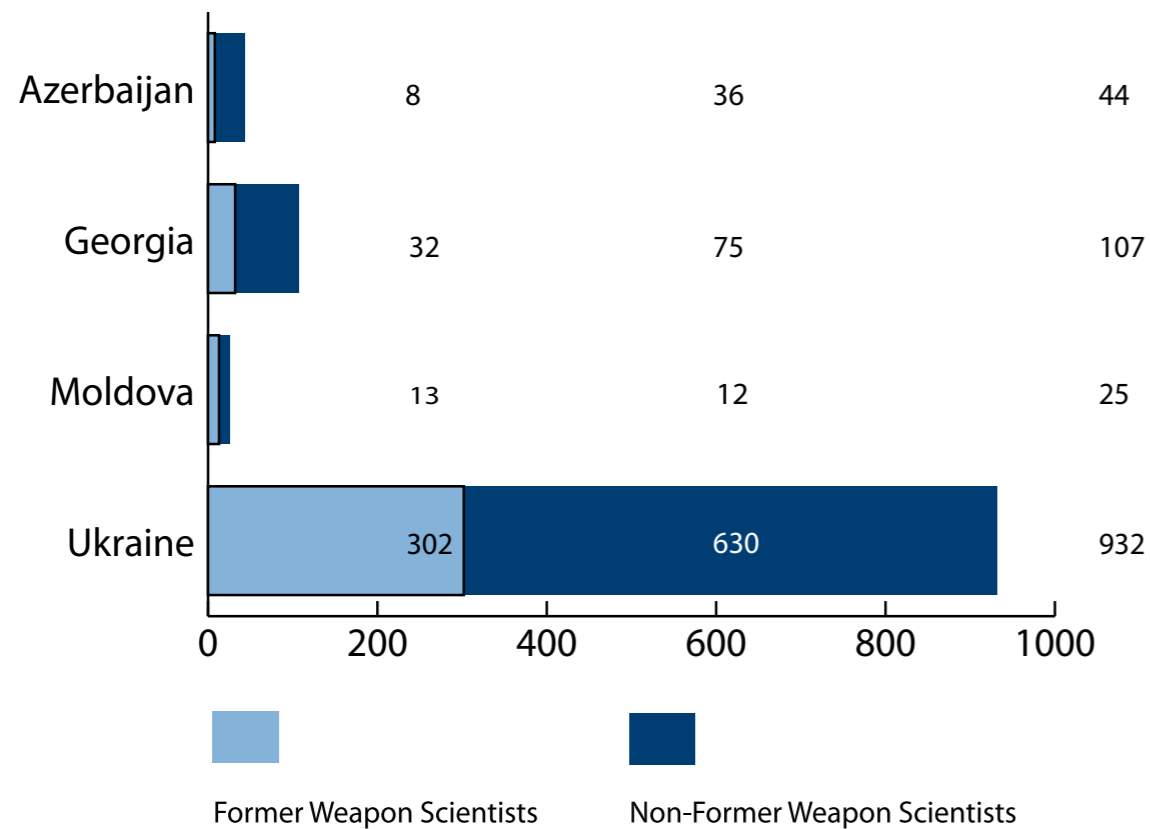


Year	Regular	Non-Governmental	Governmental	Total
2021	\$13,9M	\$3,83M	\$6,74M	\$25M
2020	\$0M	\$1,61M	\$3,21M	\$5M
2019	\$3,17M	\$2,71M	\$6,30M	\$12M
2018	\$3,88M	\$2,70M	\$6,88M	\$13M
2017	\$8,06M	\$2,35M	\$5,19M	\$16M
2016	\$5,66M	\$2,64M	\$2,85M	\$11M
2015	\$0,44M	\$3,04M	\$1,24M	\$5M
2014	\$7,67M	\$3,31M	\$3,13M	\$14M
2013	\$2,48M	\$3,02M	\$7,21M	\$13M
2012	\$2,62M	\$6,17M	\$8,90M	\$18M
2011	\$7,81M	\$3,01M	\$7,33M	\$18M
2010	\$4,11M	\$2,58M	\$6,22M	\$13M
2009	\$6,28M	\$3,95M	\$3,68M	\$14M
2008	\$8,13M	\$4,24M	\$2,76M	\$15M
2007	\$7,42M	\$4,67M	\$4,74M	\$17M

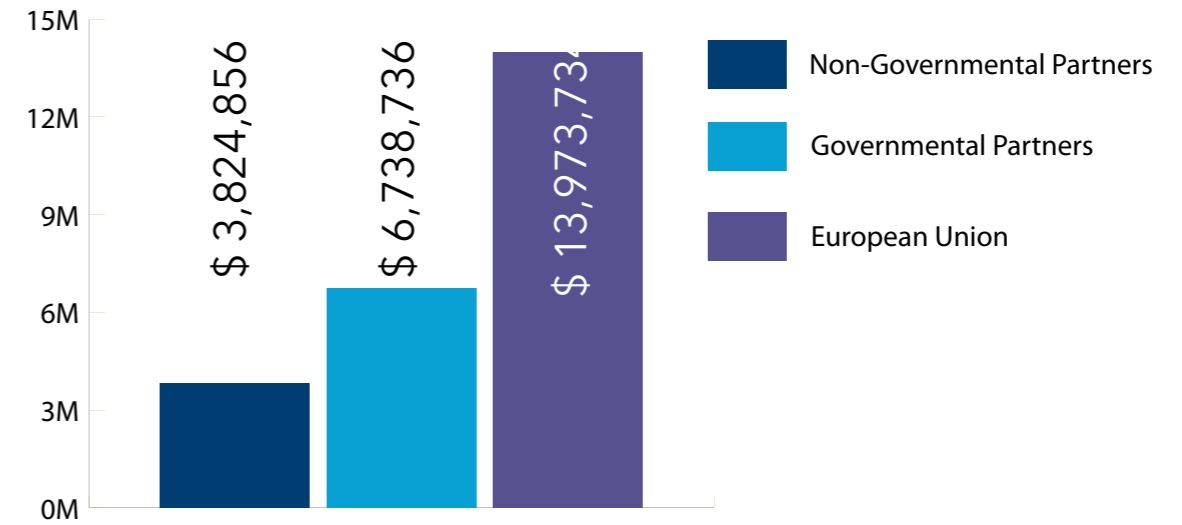
Total STCU Partners, Governmental/Non-Governmental:



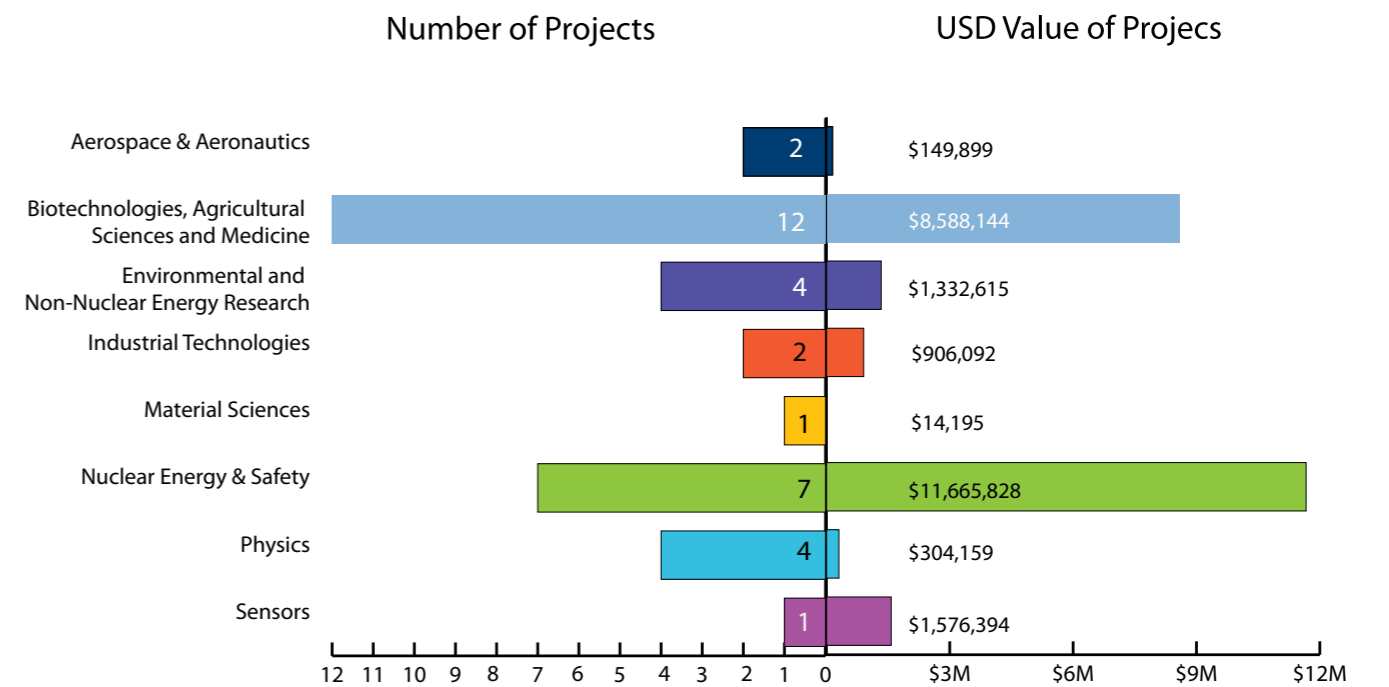
Participants Redirected on STCU Projects During 2021 by LOCATION OF RECIPIENT ORGANIZATION



New Project Funding in 2021 by SOURCE



New Project Funding in 2021 by PRIMARY TECHNICAL AREA



CONTACT POINTS

EUROPEAN UNION

Eddie Maier
Chair

Natalie Pauwels

Board Member
Head of Unit
Stability and Peace - Global and Trans-regional Threats (FPI.1)
Service for Foreign Policy Instruments
European Commission
Robert Schumanplein 9A
Brussels, Belgium 1046

Contact person at the European Commission

Sorin Popa

Programme Manager - EU Policies
Stability and Peace - Global and Trans-regional Threats (FPI.1)
Service for Foreign Policy Instruments
European Commission
Robert Schumanplein 9A
Brussels, Belgium 1046
e-mail: [Sorin.Popa@ec.europa.eu](mailto: Sorin.Popa@ec.europa.eu)

STCU SECRETARIAT

Headquarters

7a Metalistiv Street
Kyiv, Ukraine 03057
Tel.: +380-44-490-7150
Fax: +380-44-490-7145
e-mail: [stcu@stcu.int](mailto: stcu@stcu.int)

Curtis "BJ" Bjelajac

Executive Director (USA)
e-mail: [curtis.bjelajac@stcu.int](mailto: curtis.bjelajac@stcu.int)

Mykola Lubiv

Senior Deputy Executive Director
(Ukraine)
e-mail: [mykola.lubiv@stcu.int](mailto: mykola.lubiv@stcu.int)

Anthony Nichol

CFO/CAO (EU)
e-mail: [anthony.nichol@stcu.int](mailto: anthony.nichol@stcu.int)

UKRAINE

Oleksii Shkuratov

Board Member
Deputy Minister for European Integration
Ministry of Education and Science of Ukraine
16 Taras Shevchenko Blvd.
Kyiv, Ukraine 01601

Contact person at the Ukrainian Government

Ihor Taranov

Director General
Directorate on Science and Innovation
Ministry of Education and Science of Ukraine
16 Taras Shevchenko Blvd.
Kyiv, Ukraine 01601

Information Office

in Azerbaijan

Gulam Babayev
119 H. Javid Avenue,
Baku, Azerbaijan 1143
Tel./Fax: +994-12-538-2074
e-mail: [gulam.babayev@stcu.int](mailto: gulam.babayev@stcu.int)

Information Office

in Georgia

Irina Khomeriki
13 Chavchavadze Avenue
Tbilisi, Georgia 0179
Tel.: 995 (32) 22 37 00
Fax: 995 (32) 91 23 86
e-mail: [irina.khomeriki@stcu.int](mailto: irina.khomeriki@stcu.int)

USA

Kathryn Insley

Board Member
Acting Deputy Assistant Secretary of State for International Security & Nonproliferation Programs
United States Department of State
2201 C Street, N.W.
Washington, DC
20520

Contact person at the U.S. Government

Barbara Hall

International Relations Officer
ISN/CTR
Office of Cooperative Threat Reduction
Bureau of International Security and Nonproliferation
U.S. Department of State
e-mail: [hallBE@state.gov](mailto: hallBE@state.gov)

Information Office

in Moldova

Alfreda Rosca
1 Stefan cel Mare bd., Chisinau,
MD-2001, Republic of Moldova
Tel./Fax: +373-69-172-668
e-mail: [alfreda.rosca@stcu.int](mailto: alfreda.rosca@stcu.int)

