



Progress Report for the Renewal of a UNESCO Chair or UNITWIN Network

The purpose of this Progress Report is to update the Secretariat about activities of the UNESCO Chair or UNITWIN Network since their establishment relative to the objectives in the signed Agreement (Article 2), with a focus on the last four years. UNESCO Chairs and UNITWIN Networks seeking renewal should share their proposed workplans and consider areas in which the Chair or Network might be further strengthened, including enhanced cooperation between higher education institutions, other UNESCO Chairs and UNITWIN Networks, and UNESCO entities worldwide.

The Secretariat welcomes comprehensive reports of the activities, outputs and contributions of UNESCO Chairs and UNITWIN Networks. The report can be uploaded as an attachment and relevant information extracted to complete this Progress Report form.

When preparing the Progress Report, please refer to the criteria for establishment of a UNESCO Chair or UNITWIN Network in the revised version of The UNITWIN/UNESCO Chairs Programme: guidelines and procedures (Annex B), which will be used to assess requests for renewals.

For more information, please contact: unitwin@unesco.org

Title of the UNESCO Chair or UNITWIN Network as mentioned in the Agreement	UNESCO Chair in Technical Higher Education, Applied Systems Analysis and Informatics at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" and Educational and Scientific Complex "Institute for Applied System Analysis"
Chair/Network ID (if known)	UNESCO Chair in Technical Higher Education, Applied Systems Analysis and Informatics/403
Reporting period: YYYY-YYYY	Reporting period: 2020-2024

I. PROGRESS REPORT

a. Summary of Main Achievements

Please describe the overall progress of the Chair or Network as a member of the UNITWIN/UNESCO Chairs Programme and 3-5 main achievements relating to its Objectives, including one from the last four years. Illustrate how the Chair or Network and its activities have contributed to UNESCO's mission, mandate and priorities, programme, and its impacts on intended beneficiaries. For this reporting period, highlight examples of publications, conferences, community engagement, collaborative research partnerships, international cooperation, and student/staff exchanges or a combination of these. [750 words max]

Publications:

- 1) Title: Michael Z. Zgurovsky, Ciro D'Apice, Umberto De Maio, Nataliia V. Gorban, Pavlo O. Kasyanov, Oleksiy V. Kapustyan, Olha V. Khomenko, Jose Valero. Uniform Global Attractor for a Class of Nonautonomous Evolution Hemivariational Inequalities with Multidimensional "Reaction-Velocity" Law, 2021. – Chapter 15. – P. 347-368
Publisher: Springer
Year: 2021
Type of document/material: book
- 2) Title: S. Shukayev, O. Sulema, L. Vlasiuk. European priorities in the area of renewable energy in the Horizon Europe Programme, 2022. – P. 23-24
Publisher: Igor Sikorsky Kyiv Polytechnic Institute
Year: 2022
Type of document/material: conference proceedings
- 3) Title: Michael Z. Zgurovsky. Academician Glushkov's legacy: Human capital in the field of cybernetics, computing, and informatics at Igor Sikorsky Kyiv Polytechnic Institute P System research and information technologies. - 2023 - № 3. – P. 7-18.
Publisher: System research and information technologies
Year: 2023
Type of document/material: article
- 4) Title: Dmytro Stefanovych. UNESCO Chair of Igor Sikorsky Kyiv Polytechnic Institute "Higher Technical Education, Applied Systems Analysis, and Informatics" as a Creative Laboratory. The newspaper "Kyiv Polytechnic" No. 17-18
Publisher: Igor Sikorsky Kyiv Polytechnic Institute
Year: 2024
Type of document/material: article

Conférences:

International Scientific and Practical Internet-Conference "Renewable Energy and Energy Efficiency of the 21st Century" (online)

- **Years and venue:** 2020-2024 Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine
- **Organizers:** National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Warsaw University of Technology, Institute of Renewable Energy of the National Academy of Sciences of Ukraine, Representative Office of the Polish Academy of Sciences in Kyiv, Junior Academy of Sciences of Ukraine, Inter-Branch Scientific and Technical Center for Wind Power Engineering at IRE NAS Ukraine, Energy Association Ukrainian Hydrogen Council, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis, Institute of Engineering

Thermophysics of the National Academy of Sciences of Ukraine, General Energy Institute of National Academy of Sciences of Ukraine, National Committee for Heat and Mass Transfer.

International Scientific and Technical Conference “Pure Water. Fundamental, Applied and Industrial Aspects” (online)

- **Years and venue:** 2021, 2023 Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine
- **Organizers:** Igor Sikorsky Kyiv Polytechnic Institute, National Academy of Sciences of Ukraine, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis, Corporation “Science Park “Kyivska Polytechnika”, Ukrainian-Polish Center of Igor Sikorsky Kyiv Polytechnic Institute, Technologies of Nature LLC (Ukraine), Representative Office of the Polish Academy of Sciences in Kyiv, Lublin University of Technology (Poland), Society of Ecological Chemistry and Engineering (Poland).

Festivals of innovative projects "Sikorsky Challenge"

- **Years and venue:** 2020-2023, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine
- **Organizers:** National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Ministry of Education and Science of Ukraine, Ministry of Digital Transformation of Ukraine, All-Ukrainian Innovation Ecosystem “Sikorsky Challenge Ukraine”, Ukrainian Defense Innovations, Leonid Kuchma Presidential Fund “Ukraine

International Environmental Forum “Ecology and Peace”

- **Date and place:** May 15-16, 2024, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic”, Kyiv, Ukraine
- **Organizers:** Ukrainian Peace Council, All-Ukrainian Innovation Ecosystem “Sikorsky Challenge Ukraine”, Council for Environmental Safety.

Collaborative research partnerships, international cooperation, and student/ staff exchanges:

Project “Resilience of Education: Sustainable and Cooperation for Ukrainian Universities” (RESCUU)

- **Duration:** 2022-2024
- **Partnership:** Igor Sikorsky Kyiv Polytechnic Institute(Ukraine), Uppsala University (Sweden), Poznan University of Technology (Poland) and The National University Kyiv-Mohyla Academy(Ukraine).
- **Main purpose:** the project is aimed at contributing to the resilience of wartime Ukraine’s educational institutions and supporting Ukrainian teachers, students and researchers who remain in Ukraine and work or study at Ukrainian universities.s. The goal of the project is to help colleagues and students to be prepared to take an active role in post-war reconstruction. The project activities are open for the students and teachers at all BUP participating universities in Ukraine.

Project “Boosting the Blue Economy in the Black Sea Region” (4BIZ)

- **Project period:** June 2022 – May 2024.
- **The consortium of the project:** Black Sea Universities Network (Romania), International Centre for Black Sea Studies (Greece), Marine Cluster Bulgaria (Bulgaria), Doğu Karadeniz Kalkınma Ajansı (Turkey), Ukrainian Maritime Cluster (Ukraine), The National Technical University of Ukraine ‘Igor Sikorsky Kyiv Polytechnic Institute’ (Ukraine), Bucharest University of Economic Studies (Romania), Galati - Chamber of Commerce, Industry and Agriculture (Romania)

- **The aim of the project proposal** to address local capacity building needs to boost innovation, digitalisation and investment in the Black Sea blue economy. the main sectors would be fisheries and aquaculture, coastal and maritime tourism, as well as maritime transport. The collaboration framework will bring together blue economy stakeholders in the EU and eligible non-EU Black Sea countries.

b. Cooperation with UNESCO

Explain how the UNESCO Chair or UNITWIN Network has engaged with UNESCO's mission and mandate, priorities and programme, UNESCO entities and networks, other UNESCO Chairs and/or UNITWIN Networks, Category II Centres and National Commissions for UNESCO. How do you plan to continue and/or deepen such engagement in the future? [200 words max]

The UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute plays a vital role within the Ukrainian National Network of UNESCO Chairs and actively engages in the annual meetings of the National Commission of Ukraine for UNESCO.

A Memorandum of Cooperation has been established between the Civil Organization "Ukrainian Peace Council" and several UNESCO Chairs in Ukraine, spanning various fields such as education, human rights, and environmental technologies. This Memorandum, effective from 2024 to 2027, aims to consolidate efforts of the Parties in the preservation and strengthening of common peace through the expansion of cooperation among individuals, institutions, societies, and peoples in the fields of education, science, culture, communication, and information. The goal is to uphold principles of freedom, respect, justice, and security, while simultaneously adhering to the principles of guaranteed equality, legality, human rights, and fundamental freedoms. Our UNESCO Chair plans to continue its collaboration activities with UNESCO entities and other Chairs both on a national and an international level, through engaging in events organized/co-organized by the National Commission of Ukraine for UNESCO, and through increasing its participation in educational and research projects with international consortia.

c. Collaborations with higher education institutions and other partners

Explain how the UNESCO Chair or UNITWIN Network collaborated with research and higher education institutions, and other partners in different world regions, including South-South and South-South-North cooperation. How could such collaborations be strengthened and expanded? [200 words max]

The UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute fosters inter-institutional collaboration with research and higher education institutions (HEIs) worldwide, including those in the Global South, through educational and research projects, as well as international collaboration networks. Notable collaborations include projects like BUP (Baltic University Programme) and BSUN (Black Sea Universities Network), along with involvement in the Danube Transfer Centers Network (DTC). These partnerships facilitate knowledge exchange, capacity building, and joint initiatives to address global challenges.

To further strengthen and expand such collaborations, the Chair could focus on enhancing communication channels and promoting synergies between partners. This could involve establishing dedicated platforms for knowledge sharing, facilitating regular virtual meetings or workshops, and fostering long-term partnerships through joint research endeavors. Additionally, promoting South-South and South-South-North cooperation could be prioritized by actively seeking out partnerships with institutions in the Global South and facilitating mutual learning and capacity-building opportunities. By leveraging the diverse expertise and resources of partner institutions across different world regions, the UNESCO Chair can maximize its impact and contribute significantly to advancing UNESCO's objectives on a global scale.

d. Challenges and remedial actions

What were the main challenges and how were these addressed? [200 words max]

The biggest and most difficult challenge that our UNESCO Chair is facing right now is Russia's war of aggression against Ukraine. For Igor Sikorsky Kyiv Polytechnic Institute, the war has led to a significant loss of students and academic staff due to them seeking refuge abroad, and, in some cases, losing their lives; a negative impact on the mental well-being of the remaining students and staff; a worsening of working conditions due to Russia's continuing attacks on the Ukrainian power grid and subsequent blackouts; and financial hardships due to severe budgetary cuts to the science and education sector. While it's impossible to solve most of these issues while the war is ongoing, the university has been seeking international support to improve the situation. To minimize the impacts of 'brain drain', the Chair also puts efforts into maintaining collaborative relationships with displaced university employees all over the world.

II. REQUEST FOR RENEWAL

The following section is to be completed if a request for renewal is being submitted.

a. Objectives

Summarize the proposed project/programme of work and its objectives for the renewal period, referring to the Objectives in Article II of the Agreement. Are you proposing any revisions to Article II? [200 words max]

The UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute reaffirms its commitment to the objectives outlined in Article 3 of the original Agreement signed on January 16, 1999, without proposing any revisions. For the renewal period, the Chair's proposed project/programme of work aligns with these objectives, focusing on the following key areas:

1. **Fostering International Cooperation:** The Chair aims to enhance international educational, research, and innovation cooperation by facilitating collaboration, training personnel, and developing innovative learning curricula. This supports UNESCO's goal of promoting global cooperation in education and research.
2. **Participation in International Programs:** The Chair seeks to actively involve the University's researchers in international programs of cooperation in education and research. This contributes to knowledge exchange and capacity building, fostering cross-cultural understanding and collaboration.
3. **Organization of International Events:** The Chair will organize and implement international events aimed at addressing contemporary challenges in higher technical education and science. These events also aim to contribute to the achievement of the Sustainable Development Goals outlined in the UN's 2030 Agenda.
4. **Strengthening Cooperation:** Efforts will be made to strengthen regional, national, and bilateral cooperation in higher technical education, applied system analysis, and informatics. This includes fostering partnerships with institutions and organizations regionally and globally.
5. **Promotion in Global Rankings:** The Chair will work towards enhancing Igor Sikorsky Kyiv Polytechnic Institute's participation in global university rankings, thereby increasing its visibility and recognition on the international stage.

By adhering to these objectives and focusing on collaborative initiatives, the UNESCO Chair aims to contribute significantly to advancing UNESCO's mission and promoting sustainable development in higher education and research.

b. Workplan activities and expected outputs

Describe the expected outputs for the renewal period, and the associated activities or tasks. Specify the timeline and geographical scope of the activities, with particular attention to strengthening inter-university cooperation and international partnerships. Highlight interdisciplinary and/or future-oriented approaches to be used. Provide detail on the communication and outreach activities that are planned. The outputs and activities may be organized by type: (a) research and knowledge production; (b) publications; (c) websites and social media; (d) teaching and lecturing; (e) training and institutional capacity development; (f) student mobility and exchanges; (g) visiting professorships/fellowships; (h) conferences and events; (i) seminars and webinars; (j) networking and partnerships; (k) inter-university cooperation; (l) other.

[1500 words max]

The UNESCO Chair's activities during the renewal period will be aimed at further addressing the pressing issues of higher technical education, including contributing to the achievement of goals defined in the 2030 Agenda for Sustainable Development.

(a) Research and knowledge production

The UNESCO Chair plans to widen the range of its activities in the field of innovation. An example of this intention is the hosting of the "Sikorsky Challenge" Festival of Innovative Projects at Igor Sikorsky Kyiv Polytechnic Institute, which is regarded as one of the most important annual events in the field of innovation in Ukraine.

(b) Publications

The UNESCO Chair's future achievements will be comprehensively covered in media through research and general publications, international conference presentations and other appropriate means.

(c) Websites and social media

To inform the general public of the Chair's developments and achievements, the Organizational branch will continue maintaining the Chair's website at <http://www.unesco.kpi.ua>. The website contains up-to-date information about projects, initiatives and events that the Chair is involved in.

(d) Teaching and lecturing

An important aspect of the Chair's work is the development and implementations of training, retraining and advanced training programs for experts in different areas of higher technical education, with a specific focus on the interdisciplinary approach to topics related to informatics and applied system analysis. The Chair plans to maintain this focus in its future operations.

(f) Student mobility and exchanges

The UNESCO Chair will continue assisting Igor Sikorsky Kyiv Polytechnic Institute students in receiving national and international grants for educational, research and cultural projects.

(g) Visiting professorships/fellowships

The Chair's activities will be geared towards expanding the cooperation between experts in the realms of education, science and culture on both the national and international levels.

(h) Conferences and events

Throughout the renewal period, a significant part of the UNESCO Chair team's efforts will be directed towards the organization and implementation of conferences, seminars, webinars and other events aimed at addressing the pressing issues of higher technical education. Regular events that the Chair is traditionally involved in include:

- The "Sikorsky Challenge" Festival of Innovation Projects
- The International Scientific and Practical Conference "Renewable Energy and Energy Efficiency of the 21st Century";
- The International Scientific and Technical Conference "Pure Water. Fundamental, Applied and Industrial Aspects";
- The IEEE International Conference on System Analysis & Intelligent Computing (SAIC-2024).

(j) Networking and partnerships

The UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute will continue to cooperate with the National Commission of Ukraine for UNESCO, the Ukrainian network of UNESCO Chairs, and international partner organizations. During the renewal period, the Chair plans to extend its cooperation with the following

university networks:

- Baltic University Programme;
- Danube Transfer Centers Network.

(k) Inter-university cooperation:

The UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute plans to continue and deepen its existing cooperation with HEIs from different regions of the world, with a special focus on countries of the Global South, including Algeria (Université Saad Dahlab Blida), Brunei Darussalam (Universiti Brunei Darussalam), China (Zhejiang University of Technology, Shandong University of Science and Technology and others), India (Chandigarh University), Iraq (Duhok Polytechnic University), Malaysia (Universiti Malaysia Perlis), Mexico (National Polytechnic Institute of Mexico), Republic of South Africa (University of Pretoria) and other partner institutions. We will also seek to develop new partnerships through opportunities offered by international university networks, R&I cooperation programs, UNESCO networking events etc.

c. Human and financial resources

Provide a breakdown of overall budget (in USD) for the renewal period, including detail on budget secured, contributions from the institution(s) and plans to raise additional funds (e.g.: donors, public/private sectors, and other UN agencies). The budget can be prepared by outputs/activity or by type of expenditure such as staffing, events, contracted services, external training and events, grants, equipment and maintenance, communications and other expenses.

Human Resources:

1. For the administration of the UNESCO Chair:

Coordinator	Prof. Sergiy Sidorenko (part-time)
Academic Secretary	Prof. Sergiy Shukayev (part-time)
Assistant to the Academic Secretary	Olena Kizub (part-time)

2. For the teaching/training/research activities:

The UNESCO Chair consists of the following sections:

- Section for HIGHER TECHNICAL EDUCATION, headed by Prof. Anatolii Melnychenko, Vice-Rector for Education Work;
- Section for APPLIED SYSTEM ANALYSIS, headed by Prof. Natalia Pankratova, Vice-Director of the Institute for Applied System Analysis;
- Section for INFORMATICS, headed by Prof. Yaroslav Kornaga, Dean of the Faculty of Informatics and Computer Engineering of Igor Sikorsky Kyiv Polytechnic Institute;
- ORGANIZATIONAL BRANCH, headed by Prof. Sergiy Shukayev, Head of the International Projects Office and Deputy Head of International Collaboration Department of Igor Sikorsky Kyiv Polytechnic Institute.

Financial Resources:

Host Institution 9,000 x 4 = \$36,000

Other Private 500 x 4 = \$2,000

Three employees of the International Collaboration Department of Igor Sikorsky Kyiv Polytechnic Institute, whose work is financed by the University, have part-time employment at the UNESCO Chair.

- 1) Personnel costs: $4,000 \times 4 = \$16,000$ (for 4 years).
- 2) Rental costs (equipment, infrastructure or other assets): $4,000 \times 4 = \$16,000$ (for 4 years).
- 3) Other goods and services (consumables and supplies, translations and publications and other): $5,500 \times 4 = \$22,000$ (for 4 years).

TOTAL: 54,000 \$.

d. Reflections

Overall, why should this Chair or Network be renewed as a member of the UNITWIN/UNESCO Chairs Programme? Kindly also provide any additional reflections on how the Chair or Network might be further strengthened and how its activities and ways of working could be improved. [200 words max]

The UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute's renewal within the UNITWIN/UNESCO Chairs Programme is imperative for several key reasons. Firstly, its continued membership is in perfect alignment with UNESCO's core mission and priorities, particularly in education, human rights, environmental conservation, and interdisciplinary studies. The Chair's distinct emphasis on higher technical education, alongside its focus on informatics and applied system analysis, significantly enriches the Programme's diverse portfolio.

Secondly, the Chair has consistently demonstrated unwavering dedication to its original objectives, serving as a pivotal hub for strategic thinking in higher technical education. By fostering collaboration within the Ukrainian academic community and connecting local experts with global counterparts, the Chair effectively facilitates knowledge exchange and drives innovation.

Moreover, amid the persistent challenges posed by the ongoing war, the Chair's activities are pivotal in safeguarding and reconstructing Ukraine's education and research infrastructure. With Ukraine's focus shifting towards post-war recovery, the Chair's engagement assumes heightened importance in aiding the country's resurgence.

To amplify the Chair's impact, it's crucial to intensify collaboration with international partners, broaden interdisciplinary research endeavors, and enhance communication channels for disseminating knowledge. Additionally, exploring novel avenues for funding and resource mobilization will ensure the Chair's sustained growth and longevity in fulfilling its mission effectively.

ANNEX: COMPREHENSIVE PROGRESS REPORT

UNESCO Chairholders and UNITWIN Network Coordinators are encouraged to submit a comprehensive report of progress against overall objectives, including details of the contributions to UNESCO's mission, mandate, priorities and programme, including research, training and capacity development, partnerships, areas of cooperation, outputs, and an assessment of the impact of its activities on intended beneficiaries.

Although the submission of a comprehensive progress report is encouraged it is not a requirement for renewal of the UNESCO Chair or UNITWIN Network.