



## STCU After 2010: Transition to the Future

Recognizing that the global security environment is constantly evolving, but also recognizing that nonproliferation of WMD expertise from the former Soviet Union remains a vital component of this evolution, the Science & Technology Center in Ukraine shall establish a new strategic direction that moves it to its next phase as an intergovernmental organization dedicated to making a better and safer world. The cornerstone of this next era shall be equal cooperative partnership—politically and materially— among all STCU members in STCU activities, i.e., all members joining forces in a combined, multilateral S&T effort bearing on contemporary, sensitive, global security & regional stability concerns.

The STCU shall be guided by a new vision of its mandate and grounded in its continuing value to its members:

*The Science & Technology Center in Ukraine...*

*Creating cooperative partnerships in science & technology to solve the real-world challenges to global security and stable prosperity.*

### Context

Since 1995, the STCU has made significant progress toward the objectives defined in the its 1993 Establishing Agreement: STCU is established in five former Soviet states and has engaged over 8300 former WMD and delivery system S&T experts in collaborative, non-weapons research with peers from Canada, Europe, and the United States; STCU supplemental activities have helped to integrate these former Soviet military scientists into international S&T communities; STCU helped create stable employment and financial situations for these individual scientists, focusing their talents on solving problems of national, regional, and international interest; and STCU has contributed to the development of a culture of responsible nonproliferation norms, science excellence, and international standards within this formerly isolated community of Soviet military scientists.

Recently, trends in activities indicate an approaching, crucial transition period for STCU:

- The security environment facing the STCU Parties (including cooperative threat reduction and WMD nonproliferation) has become more global in scale, with new, emerging threats to STCU Party security & stability. These emerging (and sometimes competing) security priorities were, in part, the rationale for the U.S. Department of State's Science Centers Program (previously the largest single donor to STCU) to reduce its financing of STCU projects starting at the end of 2006—a more than 50% reduction in U.S. State Department funding from its 2004 level. Further, the State Department requested more program focus on “institute sustainability” (i.e., self-reliance from STCU grant funding).
- In 2006, Partner Projects (i.e., projects financed by individual government programs or non-government/private sector organizations) reached record funding levels for a single year and, for the first time in STCU history, exceeded the total annual amount of traditional Regular Project financing (projects financed by the core STCU Governing Party agencies—U.S. Department of State Science Centers Program, EU Directorate for Research, and Canadian CIDA/DFAIT Global Partnership). This milestone reflects one of the 2004 STCU near-term strategic objectives: to increase Partner activity, both as a mechanism for building self-sustainability among ex-military scientists and for expanding STCU to a broader community of users.



- Beginning in 2005, former Recipient Party governments began to share the financing of STCU projects with the core Funding Party agencies, starting under the STCU Targeted R&D Initiatives Program. This milestone reflects another of the 2004 STCU near-term strategic objectives: to expand the utility of STCU to all of its Parties and evolve STCU Recipients toward becoming more equal partners with STCU Funding Parties.
- Recent STCU Partners have been using STCU as a program implementation mechanism for pursuing security-related science solutions not directly connected to former Soviet weapon scientist redirection. These Partners combine the STCU nonproliferation mandate with their own program objectives by using ex-WMD scientists to satisfy the Partner R&D needs, under STCU's administrative management. A recent Partner Project from the U.S. Department of Energy Global Threat Reduction Initiative is a good example of this combination of forces.

Notwithstanding these trends, the current STCU nonproliferation mission continues to be relevant:

- STCU has only begun engaging ex-Soviet weapon scientists in Azerbaijan and Moldova.
- The G8 Global Partnership Against Weapons and Materials of Mass Destruction is expected to continue through 2012, and could be extended if G8 negotiations result in such an expanded mandate.
- Annual surveys of STCU projects indicate that roughly one-half of former Soviet military R&D technical units (institutes, departments within institutes, etc.) have not yet achieved a level of self-reliance that would assure a stable employment situation for their scientists and technicians (including former weapon scientists). Further, STCU grant funding made up over one-third of the research income received by these R&D units in 2006, demonstrating the continuing impact of STCU grant funding on these units.
- Data gathered in the 2006 STCU Governing Board request for information indicated that while STCU is "identifying" fewer ex-WMD scientists each year since 2003, new FWS continue to be found in new STCU project proposals, even in long established Recipient Parties such as Ukraine. Further, this same 2006 data showed that even in the two largest STCU Recipients (Ukraine and Uzbekistan), STCU projects had engaged only about half of the identified former weapon scientists: about 60-67% of the ex-WMD scientists and about 50-55% of the ex-delivery system (i.e., missile) scientists. For smaller STCU Recipients, the percentages of FWS engaged by STCU projects are even smaller.
- The growing ability of Recipient scientists to attract Partner Projects on their own, the increasing capabilities of Recipient institutes, and Recipient Party interest in co-financing STCU projects with Funding Parties demonstrate that former WMD scientists, institutes, and their governments are becoming a value-adding resource and equal partners for S&T topics of mutual interest.

The juxtaposition of emerging, expanding security priorities of the STCU Parties against the continuing need to redirect remaining ex-Soviet WMD scientists shows that the STCU is in the midst of a transition—a transition away from a time-urgent engagement of WMD proliferation risks arising from the USSR "failed state" situation, and toward a broader mandate where all STCU members engage each other as equal partners, working together with confidence and trust and making use of the STCU investment in ex-WMD S&T expertise to develop science-based solutions to emerging, politically sensitive, security concerns. This transition would



be a natural step in the evolution of the center—the “third phase” proposed in the STCU Governing Board discussion paper, *STCU in 2005 and Beyond: A Changing Strategic Environment?*.

<b>Science Centers Strategic Evolution</b>			
	1992 - 2004	2005 - 2012	2012 - ?
<b>Threats</b>	Spread of FSU WMD Expertise	Dependency of FSU WMD Experts on Science Centers Funding	Ad Hoc, Politically-Sensitive Issues; Unstable Socio-Economic Development; S&T Competitive Erosion/Unemployment
<b>Goals</b>	Stabilize FWS Situation in situ	Redirect FWS into Self-Supporting Peaceful, Employment	Develop Avenues of Multilateral S&T Responses To Politically Sensitive Problems/ Regional & Global Threats, Regional Stability
<b>Strategy</b>	Engage FWS in Coop. Research Grants	Develop FWS Self-Sustainability. Integrate FWS into National or Regional Socio-Economic Development Efforts	Use ex-WMD Scientists as Basis for Flexible, Multilateral S&T Partnerships that Respond to Broader, Sensitive S&T Needs
<b>Response</b>	ISTC/STCU Regular Projects plus Supporting Activities (Travel Support, Training, Workshops, etc.)	ISTC/STCU Programmatic Activities plus Partner Programs and “Evolution to Partnership” With Recipient Member Countries	Adjust ISTC/STCU Mandate & Build on Existing ISTC/STCU Program to Create Responsive, Credible Multilateral S&T Partnerships for Specific Programs

### Evolution of STCU toward New Vision and Mission

The aim, therefore, would be to evolve the STCU into a more flexible, intergovernmental tool that is useful to the constantly evolving needs of the STCU Parties—a platform for multilateral, cooperative, science-based partnerships focused on the important, but sensitive, issues of today’s security and stability environment. This transition needs to be guided by a new vision statement for STCU; one that, simply and clearly, directs STCU and its participants, staff, and stakeholders towards this future strategic direction. This new STCU vision can be stated as:

*The Science & Technology Center in Ukraine...*

*Creating cooperative partnerships in science & technology to solve the real-world challenges to global security and stable prosperity.*

The STCU mission statement that translates this vision to the program level would be:

*STCU shall be a catalyst for creating multilateral cooperative actions and equal partnerships which apply ex-military researchers, technicians, and similar specialists to the contemporary problems that (a) pose security and stability risks to the STCU membership, that (b) are politically sensitive so as to require close intergovernmental involvement, and that (c) are in need of S&T solutions. The STCU shall strive to become:*



- *A pro-active and flexible organization that can accommodate a variety of programs & customers, facilitate political good-will and trust, and leverage of multiple sources of resources & support among diverse participants;*
- *An implementing organization whose activities can encompass a variety of sensitive S&T-based security and stability issues in ways that instill confidence among the STCU partners;*
- *A solution-oriented organization that will focus on creating S&T answers that are applicable by governments and non-governmental agencies.*

### **Near-Term Strategy: The Bridge between Phases**

It may be that the current STCU mission of redirecting former Soviet WMD scientists will never (with assurance) be declared completed because ex-USSR WMD expertise represents the largest pool of such expertise in the world, and therefore is likely to remain a tempting acquisition target for both state and non-state actors. On the other hand, this pool of ex-military R&D experts, applied in partnership with specialists from the other STCU members, can provide uniquely capable teams for addressing today's S&T-based security threats and modern-day problems that are too sensitive to be ignored or left to other types of institutions. Thus, STCU must follow a near-term strategy that smoothly delivers the current STCU mission, objectives, activities, and participants into the broader set of activities envisioned above. For the most part, this means continuing the current STCU Near-Term Strategy outlined in the "Reorganization of the STCU" paper approved by the STCU Governing Board in June 2004. But it also expands on elements of that 2004-2011 strategy to position STCU toward its next phase.

Therefore, during the next 5-7 years STCU shall pursue a near-term strategy that maintains the still-required elements of STCU's current programs, while developing programmatic paths towards the new types of cooperative partnerships that will define STCU's next phase.

- Implement holistic STCU programs—programs that purposefully integrate multiple activities, such as projects, training, travel, and other activities—that effectively assist former weapon scientists and institutes in developing their capabilities to become suppliers of well-managed, reliable research targeting specific customer needs (both public and private sector customers).
  - Organize targeted training programs that build competencies in program planning, management, and delivery, strategic organizational planning, intellectual property protection and exploitation, etc., so to improve the recipient scientists' ability to compete for, and deliver on, research grants and program contracts on their own.
  - Develop focused collaborative research programs to improve the scientific credibility of recipient scientific teams among their peers and potential contract research customers in areas of S&T-based security & stability concern.
  - Seek opportunities to bring STCU recipient scientists to the attention of other S&T cooperative activities, such as bilateral/multilateral scientific governmental or private foundation programs that are competitively soliciting applied research proposals in areas of current need (e.g., alternative energy or public health).
- Implement a structured STCU approach toward facilitating the development of long-term partnerships (commercial and non-commercial) between former weapon scientists and institutes, and external programs and customers.



- Develop and implement a systemic matchmaking approach that facilitates the creation of partnerships, especially with governmental partners, that can be managed through STCU and that brings together multilateral scientific teams between the STCU Parties, focusing on issues of special concern to those Parties.
  - Implement annual plans for participation in a manageable number of economic, business, and S&T forums to showcase STCU recipient core competencies and capabilities, build contacts and opportunities for attracting partners, and gain applicable “salesmanship” experience for the recipient scientists and institutes.
  - Assist recipient scientists and institutes in identifying current and near-term S&T needs of governmental, non-governmental, and private sector customers, and guide those in developing research projects that meet those priorities.
- Identify and develop opportunities to bring several (or all) STCU Parties together (including any future STCU accession members) in programs that address common, sensitive S&T-based concerns of all, and that promotes the equal partnership approach of sharing in the active participation, political commitment, and financing from all involved STCU Parties.
    - Work with appropriate agencies of several (or all) STCU member governments to identify areas of common security/stability concern that can be addressed through a multilateral, cooperative partnership programs (including equal sharing of expert involvement and government program financing) without duplicating existing programs. Some possible common areas of concern could include combating nuclear smuggling, technological defensive measures against terrorism (including efforts in support of UNSCR 1540), energy security, hazardous chemical issues, dangerous biological threats to public health, and analytic support to emergency response planning.
    - Work with those governmental agencies to design STCU programs (including groups of STCU projects) to address those consensus priority needs, with the STCU administering the program, and with all involved Parties combining their political support, program financing, and program input and guidance (including, to the extent it is possible, the identification of former weapon scientists appropriate for the program tasks).

#### Possible Need to Adjust STCU Organizational Framework During the Transition

The STCU already is positioned to assume this modified near-term strategy, however, procedural changes will be required. These changes could include the following:

1. The current STCU Regular Project “continuous open call” process would be phased out in favor of a more directed, goal-driven proposal process. Here, project proposals would only be solicited when a cooperative initiative is created, S&T needs identified, available financing committed, and a joint proposal solicitation and selection process established that defines the R&D requirements of the participating Parties/customers. The current STCU Targeted R&D Initiatives Program process is one example of this approach, and it could be adapted for all future STCU project activities, at an appropriate time.
2. Sustainability Promotion would shift emphasis away from building individual self-sustainability among former weapon scientists and towards promoting reliable centers of R&D program management to serve a variety of Partners and their programs. Emphasis would be on Governmental Programs



focused on sensitive security & stability concerns conducive to multilateral S&T solutions (e.g., nuclear smuggling,). This would mean more emphasis on working closely with governmental agencies, and less emphasis on commercialization support/technology promotion and on commercial Partner recruitment activities (such as Partner Promotion “roadshows” and Patent Support Grants), although private sector Partner Projects could still remain as an STCU activity.

3. STCU staff profile and internal processes would need to adjust to manage “fewer but larger and more complex” programs. This is different from the current STCU “project volume-based” management system, which does not require integrating and managing several activities under one programmatic effort, nor an involved interaction between STCU staff, project participants, and collaborators or Partners. For example, STCU would need the type of staff member and internal processes that are appropriate for dealing with governmental programs of a politically sensitive nature, where higher level of program management activity and customer service is needed to instill confidence and trust in the STCU system.

As in the past, the STCU must continue to implement programs that meet its strategic objectives in the most effective and efficient manner, and be able to measure its progress and adjust as necessary to maintain progress. The organization must strive to place the most qualified people into the jobs that best fit their experience and capabilities. Finally, the STCU must continue to exercise best practices and meet the highest professional standards demanded of any organization financed with the public funds of governments. It is its professional integrity, along with its demonstrated success and valuable network of established relationships, which makes the STCU an attractive implementing tool.

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