Austria - Central Asia Centre for GIScience

> Teaching - Research - Training <

Mid-term Work Programme

[preliminary version, for discussion]

ACA*GISc has been established in 2008 as a jointly developed initiative of the Eurasia-Pacific Uninet (EPU, www.eurasiapacific.net) with KSUCTA (www.ksucta.kg) und the Salzburg University Centre for Geoinformatics (www.uni-salzburg.at/zgis). The focus on Geographic Information Science (GIScience) underpins the establishment of advanced concepts and methodologies for Geoinformatics and Geographic Information Systems in order to support the development of all the knowledge, skills and experience critically important for building sustainable economies and societies across Central Asia.

Mission

The GIScience Centre will serve as a link between Austria, the Kyrgyz Republic and Central Asia for jointly developing capacities, foster information exchange and facilitate education, and will play a proactive role in promoting public awareness and operational capabilities in Central Asia.

Objectives

The following objectives will be pursued in order to achieve the overall aim of developing the ACA*GISc Centre at KSUCTA as a focal point for cooperation between Austrian Universities and multiple partners across Central Asia, and as a centre of competence in GIScience:

➢ Development of advanced competence and capacities in GIScience.
➢ Promotion and development of GIS applications in domains like ecology and conservation, public health, industry, tourism, transportion etc.
➢ Implementation of ACA-GISc @ KSUCTA as a regional node in the UNIGIS distance education network (www.unigis.net).
➢ Support for undergraduate and graduate residential education in GIScience, e.g. through teacher education and resources for education.
➢ Joint initiatives towards externally funded projects in research and education.
➢ Network development through an annual symposium on GIScience in Central Asia.

Activities will lead to the achievement of the intended strategic objectives if a long-term planning and implementation strategy can be put into place. While formal commitments have to be made operational on an annual basis, a clear commitment towards a longer-term perspective (min. 5 years) for this cooperation is understood by the core partners. The Centre is aiming at a minimum of 80% self-funding after three years.

Research

The jointly developed research programme aims at building competence and establishing the Centre as a regional focal point for a selected range of topics, to be prioritized through short term planning.

(1) **GIScience for Renewable Energy**
Modelling and analysis of regional potentials of renewable sources of energy (hydropower, wind, solar thermal / photovoltaics etc) in order to achieve the aim of a sustainable and reliable supply of energy.
(2) **GIScience for Management of Risks/Emergencies/Disasters**
Spatial referencing serves as the most powerful integration capability for the broad range of data and measures required in near real time for assessing the impact of emergencies and the vulnerability of populations and infrastructures.
(3) **GIScience for Integrated Water Resources Management**
Quantity and quality of water supplies can only be secured by integrated, catchment-level management of relevant factors like land use and other elements of the water cycle. Contributions to improving water resources in the region will be pursued through projects.

(4) **Spatial Data Infrastructures (SDI)**
As a 'next generation' organisational and technical model for regional and nationwide mapping and georeferenced information access, SDI (see www.GSDI.org) is the core component for applications and uses of GI across the nation and beyond. Collaborative work with national agencies and NGOs will be pursued.

(5) **Remote Sensing**
As required for support and implementation of the above research themes the development of a remote sensing capacity is intended with a focus on LCLU and LU change.

The agreed research programme will be implemented through internal, cooperative and/or externally funded national and international projects. The centre will support strategies for a broader and deeper application of GIS Science and Technology in the Central Asian Countries through dedicated studies and successful projects. The programme is under continuous evaluation and review by the core partners, and is expected to be adjusted to progress, demands and available resources.

Education and Training

Beyond research, but tightly integrated with research activities ACA*GISc' initiatives will be focussed on measures for regional capacity building, the establishment of educational programmes and support for the academic development of GIScience in institutions across Central Asia:

- The Centre serves as an information point and clearing house for access to student and faculty mobility between Central Asia and Austria.
- The Centre will facilitate exchanges and joint study opportunities between universities in Central Asia and Austria.
- ACA*GISc will serve as an access point and study centre for the international UNIGIS distance learning programme ('virtual mobility'). MSc and pg diploma courses are offered to postgraduate students from Central Asia.
- Facilities for teleconferencing and telepresentations shall assist the integration of European and Central Asian education spaces.
- The Centre will offer GIS education and training short courses to institutions and users in Central Asia

Partnerships

ACA*GISc has been initiated based on a long-term cooperation between KSUCTA and EPU and Z_GIS (=core partners). These cooperative relationships are expected to continue as a foundation of the Centre. Further partnerships shall be developed on a strategic and operational (per-project) level, with national as well as international institutions.

Within the first year of operations, formal relationships shall be pursued with (indicative listing):

- National ministries in Central Asian countries
- Relevant Non Governmental Organisations
- Organisations and institutions using and developing GIS in Central Asia
- UN Organisations like UNOOSA et al
- Austrian Academy of Sciences (GIScience Research Unit)
- GISDevelopment (www.gisdevelopment.net, media partner)
- Local and transnational companies interested in GIS technology and services
- Enterprises from the GIS industry worldwide

Contacts regarding academic exchange, project- or programme-based collaboration in GIScience, Geoinformatics and across application domains as well as cooperation enquiries are welcome!

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