



Co-funded by the
Erasmus+ Programme
of the European Union



561555-EPP-1-2015-1-ES-EPPKA2-CBHE-JP

**HERiTAG project – Higher Education interdisciplinary Reform in
Tourism management and Applied Geoinformation curricula**

Survey and analysis of Geospatial information Technology (GiT) education and stakeholder needs and opportunities in cultural heritage and tourism sectors (Armenia, Georgia)

GIS and RS Consulting Center GeoGraphic
in Cooperation with all HERiTAG Partners



10 May 2018

CONTENTS

INTRODUCTION	1
Project	1
Partners	1
Objectives	1
Work Packages	2
Task and Deliverable	3
Acknowledgments	4
METHODOLOGY	5
FINDINGS	8
SURVEY RESULTS	10
I. Stakeholder Survey.....	10
I.1. Type of ORGANISATION	11
GiT, CH, TE BRANCHING POINT	12
I.2. GiT needs in EDUCATION	13
I.3. GiT needs in CULTURAL HERITAGE.....	23
I.4. GiT needs in TOURISM ECONOMICS	35
Annex I.1. ORGANISATION additional details	49
SURVEY RESULTS	54
II. Student Survey	54
II.1. UNIVERSITY STUDY details	55
GiT, CH, TE BRANCHING POINT	56
II.2. GiT needs in EDUCATION	57
II.3. GiT needs in CULTURAL HERITAGE.....	70
II.4. GiT needs in TOURISM ECONOMICS	83
Annex II.1. UNIVERSITY and STUDY additional details	98
CONCLUSIONS AND RECOMMENDATIONS	105
COMMON findings and recommendations for both surveys.....	105
STAKEHOLDER survey specific findings and recommendations.....	106
STUDENT survey specific findings and recommendations.....	109
ATTACHMENT I.	113
STAKEHOLDER Survey Questionnaires	113
ATTACHMENT II.	116
STUDENT Survey Questionnaires	116

INTRODUCTION

Project. The Higher Education interdisciplinary Reform in Tourism management and Applied Geoinformation curricula (HERITAG) project, supported by European Erasmus+ instrument, aims to develop an interdisciplinary reform in higher education programmes at master level and continuing education integrating Geo-information Technologies (GiT) applied to cultural heritage documentation, tourism management and entrepreneurship.

The project promotes the synergy of three main groups of stakeholders: universities, sectoral industries and administrations. The curricular reform integrates the development of capacities in 3 main national and regional priorities in Georgia and Armenia: Geo-information technologies, cultural heritage preservation and documentation, and fostering tourism business and entrepreneurship.

Partners. The Partners of the project are:

UPV	SPAIN	POLYTECHNIC UNIVERSITY OF VALENCIA
AUTH	GREECE	ARISTOTLE UNIVERSITY OF THESSALONIKI
KTH	SWEDEN	ROYAL INSTITUTE OF TECHNOLOGY
UNIBO	ITALY	UNIVERSITY OF BOLOGNA
NUACA	ARMENIA	NATIONAL UNIVERSITY OF ARCHITECTURE AND CONSTRUCTION OF ARMENIA
ASUE	ARMENIA	ARMENIAN STATE UNIVERSITY OF ECONOMICS
GSU	ARMENIA	GORIS STATE UNIVERSITY
SERF	ARMENIA	SCIENTIFIC AND EDUCATIONAL REFORMS FOUNDATION
UITO	ARMENIA	UNION OF INCOMING TOUR OPERATORS
RUMEA	ARMENIA	RUMEA Tempting Trips Club Ltd.
ISU	GEORGIA	ILIA STATE UNIVERSITY
GTU	GEORGIA	GEORGIAN TECHNICAL UNIVERSITY
BSU	GEORGIA	SHOTA RUSTAVELI BATUMI STATE UNIVERSITY
GeoG	GEORGIA	GEOGRAPHIC Ltd.
NACHPG	GEORGIA	NATIONAL AGENCY FOR CULTURAL HERITAGE PRESERVATION
SkyT	GEORGIA	SkyTravel Ltd.

Associated Partners are:

MoE	ARMENIA	MINISTRY OF ECONOMY of RA
ANQA	ARMENIA	National Center for Professional Education Quality Assurance
UAA	ARMENIA	Union of Architects of Armenia

Objectives. Specific goals of the HERITAG project are:

- To create interdisciplinary master specialities in GiT for cultural heritage and tourism, integrating marketing and entrepreneurship skills oriented to consolidate local industry, following the guidelines of the Bologna process.
- To establish Geoinformation and Tourism Technology Centres (GTTC) in partner countries devoted to train professionals in GiT applied to cultural heritage and tourism, documentation of architectural and historical monuments and to disseminate the history, culture and landscapes using modern geovisualisation techniques.
- To create three new GIS laboratories in Tourism Economics Departments and to update existing equipment in partner country universities.
- To foster the continuous education in Higher Education institutions of current professionals by creating interdisciplinary training modules.

- To re-train academic staff in GiT, tourism management and entrepreneurship.
- To introduce and improve best practices for quality assurance in partner countries universities.
- To establish organized links between universities, administration and society to train professionals, creating labour market days, introducing GiT in tourism industry, promoting local entrepreneurship and establishing the basis to protect, document and disseminate cultural heritage and history.

The efficient and sustainable implementation of the project will allow Georgia and Armenia to build tourism opportunities based on the rich cultural heritage of the region, and impulse the technical field of GiT, that will be a key for innovation in the near future of these countries, with an important growing potential. This will preserve the history, foster the tourism, and build innovation in the region.

Work Packages. The project is organised in 10 Work Packages:

WP01. Education and society (lead by GeoG partner)

Develop sustainable links and relations between universities, administration and industry (Education and Society), through the creation of an Advisory Board with representatives from education institutions in GiT and Economy, managers in administrations related to cultural heritage preservation, economy and tourism development, and industry including local companies in GiT, tourism operators and associations. All stakeholders will participate in the elaboration of a cooperation agreement and the definition of social needs for the promotion and development of tourism cultural industry and preservation of monuments.

WP02. Curricula development (lead by SERF)

Creating interdisciplinary curricula in GiT and Tourism marketing in two partner countries. Development of course contents and teaching materials. The reform of a master curricula per partner country university will be focused in the application of new Geoinformation Technologies and modern equipment for the documentation, management and dissemination of cultural heritage and tourism, integrating marketing and entrepreneurship and involving external stakeholders from administration and industry in the teaching and learning process.

WP03. Creating Geoinformation & Tourism Technology Centres (GTTC) in two partner countries (lead by KTH)

The GTTC centres will be ruled by an interdisciplinary council composed by Universities, Administration and Industry. They will be provided with new equipment and used for (1) applied training (long life learning courses and master courses); (2) documentation of cultural heritage, mapping for tourism (through master thesis, and projects that integrate the efforts of other stakeholders); (3) Dissemination and marketing of tourism, including the creation and maintenance of geoportals, geo visualization tools, organization of dissemination events, conferences, workshops, etc., targeting to integrate, promote and consolidate the touristic potential of Georgia and Armenia. This will be completed with the modernization or adaptation of GiT laboratories in partner universities upon specific needs.

WP04. Applied training (lead by NUACA)

Training of teaching staff from partner country universities carried out through intensive courses in European universities. The high degree of specialisation of the Departments involved in the project and their complementary expertise will enable the appropriate training of young teachers and specialists from PC to update their knowledge in the use of modern equipment and to develop new courses and material.

WP05. Development of continuing education modules (lead by AUTH)

Develop and establish continuing education modules in GiT applied to tourism development for re training professionals in partner countries. Two initial modules will be created, one to specialize professionals with background in geodesy, cartography or geography in tourism applications and entrepreneurship, and the other to re orient professionals with a background in economy and/or tourism in the potential of GiT. The contents of these modules will be defined after the analysis of social needs and opportunities.

WP06. Quality assurance (lead by UNIBO)

Quality Assurance: Implementing quality assurance practices in the reformed educational programmes in partner country universities, following European standards. A specific workshop will be planned to train teachers and administrators and foster good practices to ensure quality of new programmes. [WP Leader: UNIBO]

WP07. Quality control and monitoring (lead by UPV)

Quality control and monitoring activities to ensure the successful achievement of all the objectives proposed and in the deadlines previewed. Monitoring visits to partner countries institutions, annual meetings of the Advisory board together with the partners and the Tempus Officers at national level, and external evaluation by international recognised and independent experts in the areas covered by the project. All feedbacks at these three monitoring levels will be discussed, implemented and reported.

WP08. Project management (lead by UPV)

The management committee will be composed of a member per partner institution. Annual meetings of the management committee will be made to program the activities, to plan the activities of each working package, to analyse the evolution of the project, to ensure the financial efficiency and to report the results and outcomes. The decisions will be made together and a permanent communication with the administrations of the partner countries will be ensured.

WP09. Dissemination (lead by GTU)

Dissemination. The promotion of the goals, activities and results of the project will be an important part for its sustainability and communication with society. Different activities will be programmed, including reports, websites, brochures, booklets and other material, and a final conference to disseminate the results.

WP10. Exploitation (lead by ISU)

Exploitation of results after the finalisation of the project. This working package will be focused on promoting the maintenance of the achievements and philosophy of the project in a long term basis, involving the Advisory Board, Higher education institutions, students and society in promoting ideas and activities that ensure the sustainability. An important role will play the management of the GTTC and the promotion of their use for social stakeholders.

Task and Deliverable. WP01 – Education and society, in particular, is concerned with the following tasks and deliverables:

Task 1.1. Creation of Advisory Boards with social stakeholders: representatives from universities, industry and public administration. They will participate in definition of needs and opportunities, will rule the GTTC and will be crucial for project sustainability.

Deliverable 1.1. Setting up the Advisory Boards through membership agreements

Task 1.2. Analysis of needs and opportunities in cultural tourism industry: All partners, Advisory Board, students and stakeholders will define the needs and opportunities in cultural heritage and tourism by

collecting information, elaborating and distributing questionnaires and analysing the results. A final report will be delivered.

Deliverable 1.2. Analysis of needs and opportunities in cultural tourism industry

Task 1.3. Elaborate a cooperation agreement between University, Industry and Administration: The GTTC will be used by all partners and ruled by the Advisory Board after the project. An agreement to facilitate cooperation and promote the common use of the GTTC will be signed and published.

Deliverable 1.3. Cooperation agreements between universities, industries and administrations

Task 1.2 and Deliverable 1.2 are specifically the subjects of this report. The Project Document describes the details of this task as follows:

“An analysis of educational needs and business opportunities in cultural heritage and tourism will be made by (1) compiling previous analysis, documents and reports in these fields, (2) elaborating a survey questionnaire and distribute among relevant stakeholders in both countries, (3) Analysis of information and survey, focusing in training needs, cultural heritage priorities and business opportunities, (4) Integrate the results in a written report and publish it in the web and disseminate it.”

The deliverable report is therefore is proposed to be entitled and quoted as follows: ¹

Survey and analysis of Geospatial information Technology (GiT) education and stakeholder needs and opportunities in cultural heritage and tourism sectors (Armenia, Georgia). EU Erasmus+ HERITAG Project No. 561555-EPP-1-2015-1-ES-EPPKA2-CBHE-JP. Deliverable 1.2. May 2018.

The report produced is structured in the following way. After this introductory chapter explaining the *project, work packages* and *tasks* at hand, a description of the survey *methodology* followed to prepare and carry out the survey is provided. Next chapter contains key *findings* of the survey, while full details are recorded in the subsequent chapters. Specifically, each survey question and respective response graph is presented and analysed for both student and stakeholder surveys in both Armenia and Georgia, including graphs and descriptive texts. Report is completed with full set of conclusions, analysing the potential of the geoinformation tools in cultural tourism industry, the uncertainties and limitations, and the opportunities of business and development in these fields. Annexes (to each of two surveys) and common Attachments contain supplementary information, such as responses to introductory questions, as well as the structure of questionnaires in both languages (Armenian and Georgian).

Acknowledgments. Last but not least, in this introductory section the designated task leader partner GeoG would like to acknowledge invaluable contribution of all partners in the production of this deliverable: the lead partner UPV for overall coordination, support in survey design, as well as the quality assurance checks, review and approval of the deliverable; international partners KTH for designing GiT parts of the survey, UNIBO and AUTH for specifying tourism economics and cultural heritage sector surveys, Armenian Universities and partners ASUE, GSU, SERF, UITO and RUMEA lead by NUACA in Armenia, as well as ISU, GTU, BSU, NACHPG, SkyT and GeoG in Georgia, for organising surveys respectively in Armenia and in Georgia and for their critical review of results and findings. GeoG partner was responsible for the production of the overall deliverable with support of all project partners. Finally, special credit goes to all those stakeholders and students in particular, without input of which the survey and this report could not have been produced.

¹ The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

METHODOLOGY

Two survey questionnaires were developed by the lead partner (GeoG) in cooperation with other partners and project coordinator in order to collect responses from stakeholders and students specialised in GiT, cultural heritage and tourism economy, with emphasis on education needs and opportunities. Particularly relevant suggestions and comments were provided by UPV and UNIBO partners. The questionnaires were distributed to all partners for feedback and were approved for distribution by end of 2016.

Google Forms environment was selected for two surveys – one for students from various sectoral higher education institutions and another for sectoral stakeholders. Each partner contributed with the distribution lists of both students and stakeholders. The survey questions were translated by GeoG and NUACA partners into Georgian and Armenian languages, respectively, for distribution in bilingual format (English and Georgian, English and Armenian) for the clarity of questions asked to respondents not fluent in English. The approved surveys in both languages are reproduced in Attachments I and II and were made available for distribution at the following links:

STAKEHOLDER Survey in English and Armenian (56 responses)

https://docs.google.com/forms/d/e/1FAIpQLSeEizJCH5_c8RCoGNJihCNUoG-WO6yqvn5ijzXYq-nmFb5hYQ/viewform

STUDENT Survey in English and Armenian (275 responses)

https://docs.google.com/forms/d/e/1FAIpQLSdGkqiPsFy9_NLS4KIFw2-OqoKrrEgdkAk8kEQmzGWcGfP8ug/viewform

STAKEHOLDER Survey in English and Georgian (36 responses)

https://docs.google.com/forms/d/e/1FAIpQLSeuv71SfpCfJq7PcG_PLp7rD3z4cPfHALix8wiH45vjenNI0w/viewform

STUDENT Survey in English and Georgian (99 responses)

<https://docs.google.com/forms/d/e/1FAIpQLScZ-Sf5dGD7k8O5y9uJocJi5BsrZdCvqMy3wcNTWrMJgar1dg/viewform>

Each survey was provided with initial page with detailed instructions and the clear indication of the deadline for submission.

Different methods were used in partner countries to invite respondents. In Georgia email distribution was used to invite students and stakeholders. In Armenia hardcopy distribution was favoured and collected answers from students and stakeholders were then entered into electronic Google forms.

Special scripts were prepared for each survey form so that responses could be immediately upon submitting the survey were sent to email operated by lead partner GeoG at following specially set email address heritag@geographic.ge. Records of all response are therefore available in project files in the form of email submissions and are protected by GeoG partner with full respect to privacy and confidentiality.

Students were not asked personal identification questions, therefore survey was anonymous, with the exception that GeoG partner was provided by respective Georgian partners with email lists of various students. These emails were again provided on full confidentiality grounds and GeoG partner is not entitled to disclose personal information to any unauthorised party. The lists are safely kept till the end date of the project monitoring needs by authorised parties and will be deleted thereafter.

Stakeholder survey was not anonymous as respondents were providing institutional and personal details, but each respondent were asked for final confirmation that results could be used for public deliverables, ensuring that personal details are not disclosed.

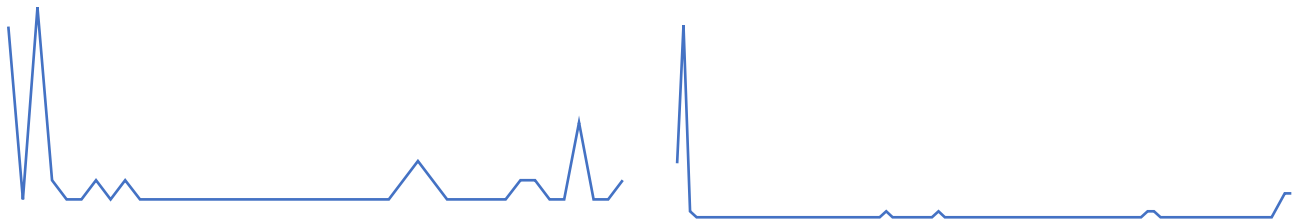
In addition to this, responses were being collected by Google Forms as well. It is impossible to manipulate responses as they are kept in the cloud by the Google in the special format and these are not accessible by the user. Number of responses received are fixed with the Google forms applied (see links above) and the total numbers of responses received are indicated in parenthesis with each survey link provided above.

Finally, responses were collected for further processing in Google 'spreadsheet' table as well and can easily be analysed with 'summary responses' generated by Google in automatic regime. Such summary graphs were used in this report to generate all the graphs reproduced throughout the report. Links to 'spreadsheets' and 'summary responses', analogous to 'survey form' links provided above, were shared with responsible partners, but can not be provided in this public report due to confidentiality of personal information, despite the fact that only very few responses contained reservations with public disclosure. These responses are not part of the analysis whenever the institutional or personal affiliations can be inferred from the analysis. Survey results provided in this report are therefore in full compliance with personal and institutional privacy and confidentiality. At the end of the survey on 30 May 2017 summary results for stakeholders were switched off to respect private information. As private information for students was not collected, partners' access to links with summary responses were maintained accessible in the case of results from student survey.

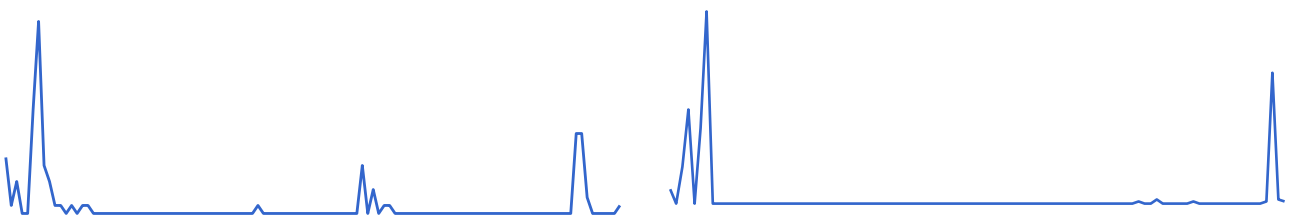
It is important to mention that that survey was organised in several shifts in deadlines, as lessons were learned from each subsequent email and hardcopy distribution. Surveys were initiated on 01 February 2017 with initial deadline set to 15 February 2017 and almost immediately extended to 25 March 2017 in Georgia due to interference of extended holiday and examination break for students in Georgia (ISU). Up to 435 students and 380 stakeholders were invited via email in Georgia at the initiation of the survey (compliments in performance priority go to ISU, GTU, NACHPG, GeoG and BSU). Simultaneously hardcopy questionnaire responses were distributed, collected and entered into Google forms from 202 students and 42 stakeholders for this period in Armenia, obviously with 100% response rate, while voluntary responses were not great in numbers in Georgia – 65 responses for students (15% response rate) and 33 responses for students (9% response rate). This seems to be too low, but realistically 15-20 even 10 percent of voluntary response could be considered as what is expected in anonymous email communicated survey form. Besides, responses to questions were allowing to clearly observe the trends in each survey question graph whether for students or stakeholders, which was the case both in Armenia and Georgia.

GeoGraphic partner presented the preliminary results of the questionnaires elaborated to survey the social needs in geomatics applications in cultural heritage and tourism at the project partner meeting in Rimini, Italy, on 22 March 2017. The observations and findings were received positively by the partners and lively discussion was following almost all question graph shown (presentation is available at the project ftp site accessible form www.heritag.ge), but it was felt that results were based on a non-exhaustive sample of answers, therefore it was decided to send new invitations with questionnaires to collect more students in Georgia and more diversity in stakeholders samples in Armenia (most of responses received there belonged to the tourism industry). The questionnaires were thus re-opened by April 1st and the new answers were collected essentially by 30 May 2017. Some more responses were collected even after this deadline (newly established HERiTAG Advisory Board Members were asked for support and few more invited stakeholders responded in Georgia, and some more student and stakeholder submissions were received from Armenia as well). Thus the period of sampling lasted from 01 February 2017 to 13 June 2017. Bursts of daily responses in this period are provided below and repeated in survey analysis as well (vertical scale is normalized – graphs are not in absolute values):

Student daily response
(Georgia left, Armenia right)
(Feb-May 2017)



Stakeholder daily responses
(Georgia left, Armenia right)
(Feb-May 2017)



Ultimately there were 56 in Armenia (100% rate) and 36 in Georgia stakeholder responses and 275 in Armenia and 99 in Georgia student responses collected in both countries. Despite low rate of voluntary responses in Georgia (as it is expected with such electronic surveys), we trust that sufficiently smooth graph curves automatically reported through Google Forms summary of responses results allows us to state that good sampling was achieved to infer conclusions on opinion of education and social actors with regards to questions asked. The next section is exactly dealing with the analysis of survey results per each question and comparative findings stated for both partner countries. Each question and response statistics is displayed on a separate page with broad-term findings for each country. Key findings then are reported in the Conclusions and Recommendations Section, which are reproduced at the end of the report.

In addition to personal invitations through partner email lists, GeoG partner distributed call for survey via popular list server CENN (www.cenn.org) and certain number of entirely 'independent' responses were also collected, all of them from meaningful respondents.

Final observation with the methodology is that after the question asking for 'Main field of activities' both questionnaires are branching and separate response sampling is performed for each sector concerned: GiT, CH in GiT context and TE in GiT context. The distributions of received responses for each sector in each partner country can be seen in relevant parts of the survey results sections (see responses to 'Main field of activities' question). Some numbers of responses for stakeholders are too low to be meaningful (e.g. only 4 responses from GiT stakeholders of Armenia, and Georgian numbers are not 'statistical' quantity either). No response is also a response, but in the next iteration it should be attempted to enhance the number of stakeholder responses per sectoral share.

FINDINGS

Results of the stakeholders and the students surveys of GiT education in support of Cultural Heritage and Tourism Economics are provided in next two sections, followed by detailed inventory of all findings and recommendations, but for the orientation of the readers of the report, key findings are provided in this section below, addressing common findings for both surveys, as well as the summary of key findings from stakeholder and student surveys, respectively.

It should be acknowledge at the outset, that due to various reasons, surveys conducted can not be considered as rigorous social surveys and that results obtained were based on a non-exhaustive and potentially biased sampling, therefore despite all efforts applied to achieve representative results, they can be taken into consideration only as a qualitative input for the development of the respective curricula reforms aspired under the project. With this reservation in mind, the following findings and recommendations can be suggested.

COMMON key findings and recommendations for both surveys

- It is recommended, to repeat similar surveys at the end of the project implementation or any other opportunity to compare results with this baseline established.
- Next iteration should balance stakeholder response numbers for all sectors concerned: GiT, CH and TE.
- In this respect it is clearly needed to enhance share of cultural heritage and tourism stakeholder responses in Georgia and cultural heritage and GiT stakeholder responses in Armenia.
- Promotion of GiT sector is certainly needed in Cultural Heritage and Tourism Economy context in both Armenia and Georgia. Offering professional retraining opportunities would be important in this regard.
- Positive opinion towards GiT need in support of CH and TE should be capitalised by performing interdisciplinary case studies in the project, as well as by creating GiT modules for CH and TE.
- Cultural heritage agencies would certainly benefit from training packages, developed under the project as continuous education modules (e.g. mobile mapping, photogrammetry, laser scanning, etc.).
- In this respect, project could contribute with developments at various programmatic, curricular and syllabus levels (masters and bachelors, joint implementation among GiT, CH and TE thematics), as well as life-long and professional education packaging through GTTCs, established both in Armenia and in Georgia.

STAKEHOLDER survey key findings and recommendations

- Responses to question describing organisational experiences regarding the use of GiT in the cultural heritage or tourism sectors demonstrate that GiT technologies are applied in cultural heritage sector in Georgia and are under development in Armenia. Experience sharing in cultural heritage GIS and databases could be a relevant initiative for the future.
- Laser scanning was quoted as the field with moderate need of priority in terms of GiT training fields in Georgia and the project can certainly contribute by creating professional module to promote 3D LS.
- Cultural Heritage organisations seem reluctant to employ GiT students as young specialists. Open days and other events to enhance interaction with Higher Education institutions and other measures could help.
- It is recommended to work with cultural heritage stakeholders to define more specific GiT subjects/fields of priority and offer tailored modules (e.g. photogrammetry in cultural heritage documentation).
- Both countries unanimously agree that GiT can play important role in visualization and promotion of cultural heritage. This interest could be met by case studies of GiT applications in Cultural Heritage.
- Interesting crowdsourcing idea was suggested by one survey participant, proposing to use actual tourist trips to accumulate data about popular trails quote ‘to create a comprehensive ecotourism map of attractions, businesses, and stakeholders so that stakeholders can add hiking trails to such a map’.

STUDENT survey key findings and recommendations

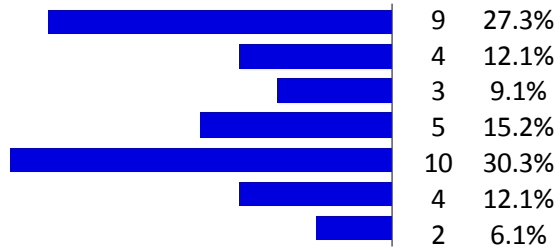
- Quite large proportion of students in both countries (55% in Georgia, ~40% in Armenia) are not fully confident they can find GiT jobs once graduated. Universities & industry would need to address the issue.
- Georgian GiT students (almost 50%) were quite unanimous that the computer facility and geodetic equipment should be modernized. HERiTAG supply of computer classes to BSU and ISU and 3D laser scanner to GTU in Georgia may contribute to enhance this figure.
- High rating for laser scanning in Armenia (NUACA in Armenia has such an equipment from previous projects) compared to Georgia demonstrates that availability of laser scanner and training HERiTAG can provide to GTU might contribute into making this field more interesting and desired for students.
- In both countries GiT students are clearly aspiring to academic carrier. This trend is quite welcoming, but GiT field is specific where application-oriented carrier could be attractive as well. Industry may need to persuade students in the viability of non-academic carrier option.
- Both Armenian and Georgian students (from all three fields GiT, heritage and tourism) clearly wish to be exchange student in a university of European Union. It might be good project follow-up idea to support student exchange opportunities in these fields.
- Both Georgian and Armenian GiT students are willing to proceed further with master's program in GiT.
- Joint credits and degrees in GiT and cultural heritage, GiT and tourism economics seem useful instrument to promote GiT education for cultural heritage as well as tourism sector students and vice versa.
- Cultural Heritage specialisation students consider that teaching methods should be modernised, e.g. by implementing GiT education modules.
- There seems a need to target masters programs in GiT for cultural heritage students and not be limited to bachelors level program only, both in Georgia and in Armenia.
- Regular interaction between universities and interdisciplinary interactions between GiT and cultural heritage and tourism would contribute to both awareness raising and employment prospects.
- Tourism students in both countries are supportive of more GiT education for them. Curricular reform could address the issue of access for tourism students to GiT education facilities, e.g. via GTTCs.
- Tourism sector students in both countries voted in favour of GIS, mobile and web-mapping fields.
- Support for GiT use in tourism sector in the employment context is quite high in both countries.
- On a more general note, students need to be given additional information on Bologna process, credit transfer system and their implementation in universities.
- Projects stimulating student exchange programs should also stimulate subsequent local employment and local carrier opportunities for exchange students returning home.
- Data privacy should again be carefully safeguarded in any future survey and participants should be confident that student's personal data will not be collected and/or disclosed under any circumstances.

Summarising overall spirit and findings of the survey, it can be concluded, that there is a great potential for the application of geoinformation technologies in cultural tourism industry, considering strong recent boost to tourism sectors in both Georgia and Armenia. Some of these emerging opportunities could indeed be met both in terms of education reform and quality workforce supply, as well as through identification of interdisciplinary applications as envisaged under the HERiTAG project. Project is indeed well conceived to meet challenges set by the growing tourism sector and emerging needs to apply geospatial tools in reach cultural heritage and booming tourism economies of Armenia and Georgia.

SURVEY RESULTS

I. Stakeholder Survey

I.1. Type of ORGANISATION



Stakeholder sampling in Georgia was more balanced, all types represented, peaking on governmental and private organizations.



Type of organisation

RESPONSES

Type of organisation	Percentage	Count
Government (central/local)	7.1%	4
Other public body	5.4%	3
Education	8.9%	5
Research	3.6%	2
Private	69.6%	39
Non-governmental	7.1%	4
Other	0%	0



Private organisations were mostly sampled in Armenia with ~70% share, while all other types constitute 30% combined.

RECOMMENDATIONS

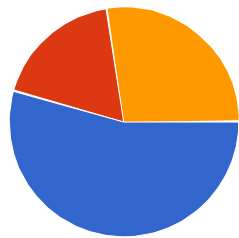
In the next iteration of the survey it is advised to diversify invited stakeholders in Armenia and achieve even better number and balance in Georgia.

GiT, CH, TE BRANCHING POINT



Main field of activities

RESPONSES



54.5% 18

18.2% 6

27.3% 9

Geospatial information Technologies (GiT)

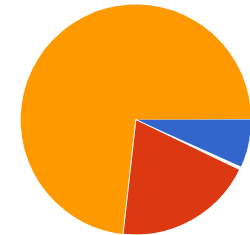
Cultural Heritage

Tourism

4 7.1%

11 19.6%

41 73.2%



FINDINGS

In Georgia majority of stakeholders responding were from GiT sector, followed by tourism and cultural heritage.

Vast majority responding in Armenia were from tourism sector and surprisingly low participation was in GiT sector – key sector for the project – 4 responses only.

RECOMMENDATIONS

Number of stakeholder responses per sectors is too low in some cases. Next iteration of the survey should balance stakeholder responses for all three sectors concerned: GiT, CH and TE.

In this respect it is clearly needed to enhance share of cultural heritage and tourism stakeholder responses in Georgia and cultural heritage and especially GiT stakeholder responses in Armenia.

I.2. GiT needs in EDUCATION



Number of employees working with GiT

RESPONSES

50	8
10	4
3	3
2	0
15	
7	
20	
14	
4	
5	
1	

FINDINGS

Large number of GiT personnel reported in Georgia in several cases. Too small number of GiT personnel reported in Armenia.

RECOMMENDATIONS

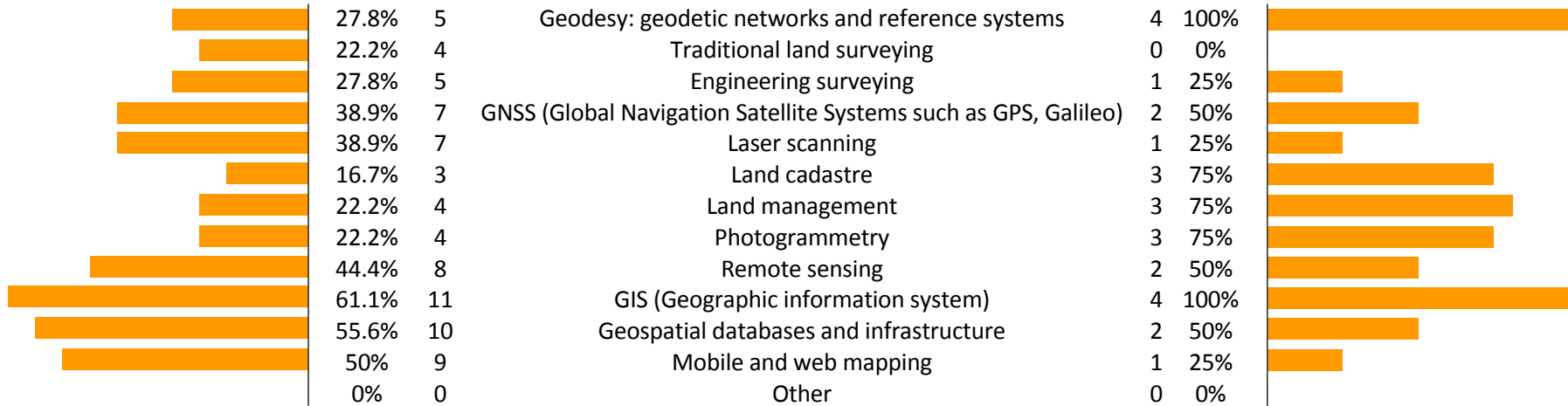
Increase number of respondents in Georgia as there seem to be much more stakeholder individuals and institutions available, specialised in GiT.

Target in Armenia GiT stakeholders, as there should definitely be more individuals and institutions working in GiT field.



Type of GiT specialists which are most needed?

RESPONSES



FINDINGS

Majority of stakeholders in Georgia claim the need in Geospatial data infrastructure and mobile and web mapping. Almost equal distribution of other responses demonstrates that stakeholders are not determined in their preferences as it is unlikely to assume that they need all types of GiT specialities.

In Armenia zero response provided for Traditional land surveying (probably due to too low share of GiT stakeholders participating in the survey, but this is in contradiction with largest number of responses given to Geodesy). Similar pattern of distribution as in Georgia peaking at GIS, other than Geodesy, but preferences are bit clearer than in Georgia.

RECOMMENDATIONS

Probably option 'Geospatial databases and infrastructure' (also known as SDI) was misinterpreted and was opted most frequently due to generic nature. It is perhaps better to use the term Spatial Data Infrastructure (SDI).

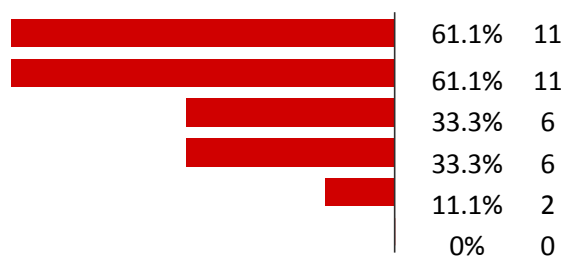
Another recommendation would be to provide additional information regarding the meaning of each response options.

Next survey should ask respondents what is the meaning of 'Other' (although responses received are zero in both cases).

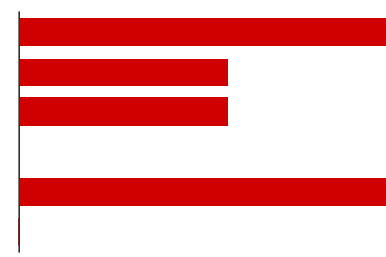


Can your organization receive GiT students?

RESPONSES



Response	Count	Percentage
Yes, for visits	2	50%
Yes, for training	1	25%
Yes, for practice	1	25%
Yes, for employment	0	0%
No	2	50%
Other	0	0%



FINDINGS

Need in GiT specialities is more balanced in Georgia, with quite large share of 'for employment' and low undetermined responses of 'other'.

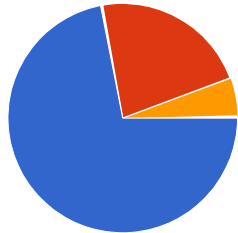
It is surprising that GiT education stakeholders do not want to employ young GiT specialists, but this is perhaps due to small number of GiT respondents. Preference seems with 'for visits' and 'No'.

RECOMMENDATIONS

Georgian responses are more trustworthy due to considerably larger number of GiT stakeholders responding.



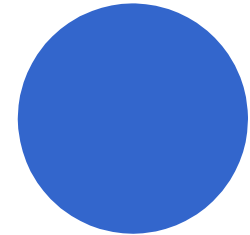
Does your organization need staff re-training in GiT?



72.2%	13
22.2%	4
5.6%	1

RESPONSES

Yes	4	100%
No	0	0%
Other	0	0%



Responses in Georgia seem more meaningful, as in general support is there, but there is also quite large share of negative responses and promotion and awareness raising would be useful. Another explanation could be that organisations may believe they have well trained GiT staff (but would regular re-training hurt?)

FINDINGS

Overwhelming 'Yes' confirms above finding that stakeholders may need more information on the value of GiT for CH and TE sectors. Value of re-training and life-long education is better appreciated in Armenia than in Georgia, but statistics is not enough for firm judgement.

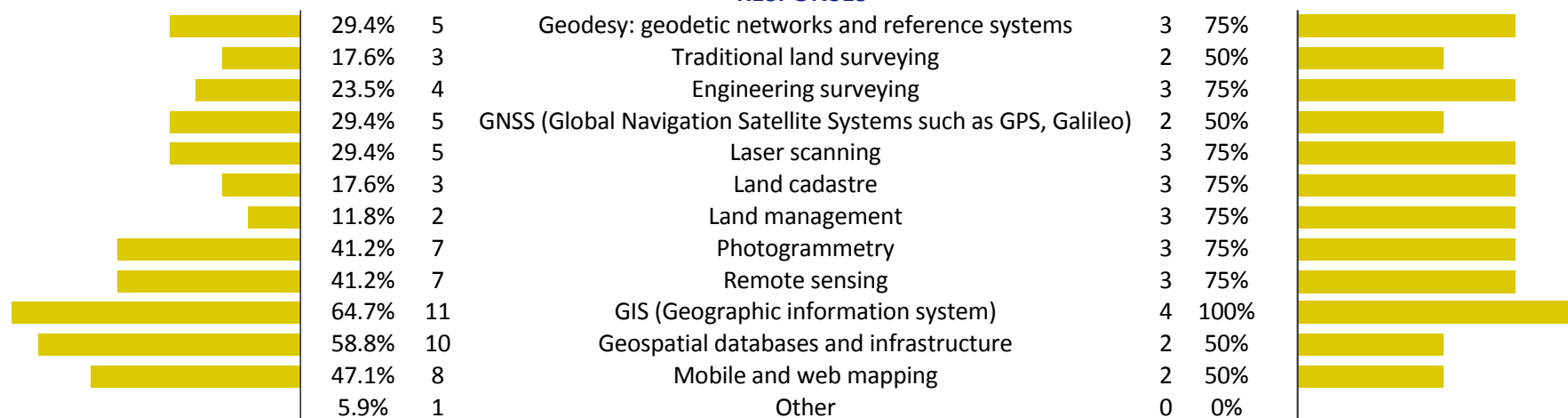
RECOMMENDATIONS

Promotion of GiT sector is certainly needed in CH & TE context in both countries (probably through good case studies performed within the project and then disseminating the results). Offering professional training opportunities through GTTC-s would be an important recommendations as well.



If Yes, in which GiT fields, mainly?

RESPONSES



FINDINGS

In Georgia GIS and SDI fields are favoured as well as mobile and web mapping, but spread of responses indicates that there may be a need to explain each specialisation.

No preferences visible in Armenia, perhaps with the exception of GIS. No clear preferences may also be again a different sign of the need to provide further references to help respondents interpret each option. Or perhaps just statistics is not enough.

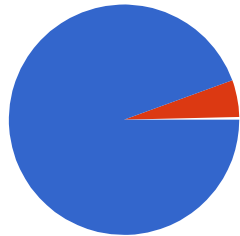
RECOMMENDATIONS

Provide in the next survey summary description and links to each optional response so that informed responses are provided (this would be needed even for GiT stakeholders, but certainly more so for CH and TE sectors).

Laser scanning is identified as the field with moderate need of priority and project can certainly help with this by creating professional module at GTTC.



Do you think GiT can play an important role in visualization and promotion of cultural heritage?



94.4% 17

5.6% 1

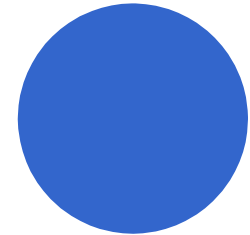
0% 0

RESPONSES

Yes 4 100%

No 0 0%

Other 0 0%



FINDINGS

Responses are logical and some negative responses indicate lack of awareness and knowledge of GiT uses in cultural heritage and tourism.

Overwhelming positive response may still be hiding need for awareness raising, or just low statistics.

RECOMMENDATIONS

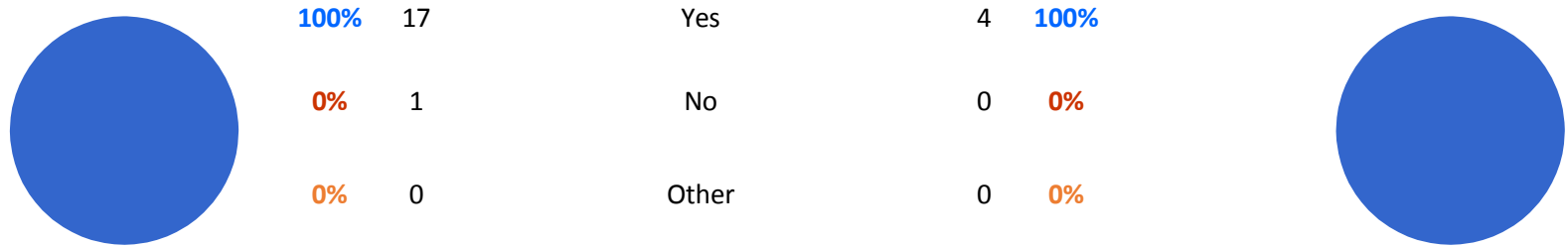
Positive opinion towards GiT should be capitalised by performing good case studies in the project and creating GiT application modules through GTTC.



Do you think GiT can play an important role in promotion of cultural tourism?



RESPONSES



FINDINGS

Overwhelming agreement (same finding as above).

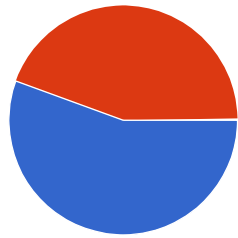
Overwhelming agreement (same finding as above).

RECOMMENDATIONS

This and previous questions seem too similar and need to be reformulated to clearly show that sector concerned are cultural heritage (e.g. visualisation and documentation) and another sector is tourism, and their interplay as well (cultural tourism). GiT sector stakeholders may not be able to differentiate these questions.



Do your organization/department has some experiences regarding the use of GiT in cultural heritage or tourism?



55.6% 10

44.4% 8

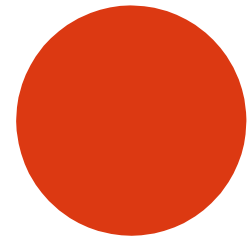
0% 0

RESPONSES

Yes 0 **0%**

No 4 **100%**

Other 0 **0%**



FINDINGS

Quite large share of negative responses – indicating lack of awareness among GiT professionals on applications in CH and tourism sectors.

Overwhelming ‘No’ with same conclusion as in Georgian case.

RECOMMENDATIONS

GiT professionals and stakeholders should be explained and made aware of the usefulness of application of their field for CH and tourism. Again, the project can contribute with case studies and dissemination and GTTC technical courses for stakeholders from all three sectors.



If Yes, please briefly describe these experiences



RESPONSES

Model parameters were processed in GIS.

We do Interdisciplinary research in cultural heritage sphere and the using of GIS can facilitate this process.

We have both implemented and planned projects in this direction/field.

Various projects in this field.

Urban planning projects, skiing resort design projects, tourism maps etc.

In various parts of Georgia cultural heritage objects were inventoried, such as cultural heritage monuments, assessment of their condition, systematisation, geolocation and thematic maps produced whenever relevant.

NACHPG has web portal, which applies GIS technologies.

FINDINGS

Georgian stakeholders describe richer experiences with GiT applications, mostly in CH and some narrative experience quoted in tourism sector.

Only one response and this response was received after distribution via CENN list server, which is covering users from South Caucasus countries.

RECOMMENDATIONS

Responses demonstrate that GiT technologies are well applied in cultural heritage sector in Georgia. Armenia needs to develop at least similar capabilities within its agency in charge of CH sector governance/management. Experience sharing in CH databases would be a relevant initiative for the future.

Seems like email invitation of anonymous survey is more encouraging for stakeholders to express opinion, as there are more narrative responses in Georgia than in Armenia.



Other comments on GiT education needs in your Country



RESPONSES

It is necessary to establish education in these technologies on a wider basis in schools and higher education institutions.

More education is needed in GiT technologies in higher education institutions as well as at introductory level in general schools.

It is necessary to introduce these technologies in various national universities and more attention given to these emerging fields.

More creativity.

More responses and creativity by Georgian GiT stakeholders. All indicating need for wider implementation at higher education institutions.

FINDINGS

No response given in Armenia.

RECOMMENDATIONS

HERiTAG could certainly contribute with developments at various programmatic, curricular and syllabus levels (masters and bachelors, joint implementation among GiT, CH and TE thematics), as well as life-long and professional education packaging through GTTC.

I.3. GiT needs in CULTURAL HERITAGE



Number of employees working in Cultural Heritage (CH)?

RESPONSES

250	4
300	5
234	12
150	71
	57
	3
	10
	20
	25

FINDINGS

In Georgia certainly NAPR and NACHPG are quoted by these numbers. Numbers do not coincide due to obvious reason, but order of magnitude is fine.

Numbers are less than in Georgia, but diversity of institutions seems richer.

RECOMMENDATIONS

It is better to provide predefined answers in ranges (e.g. from 1 to 5, from 5 to 10, from 10 to 25 etc. and 'other' option), so that meaningful ranges are indicated rather than some number which are probably never known exactly, sometimes even by the administrations of the institutions.



Number of employees working in Geoinformation Technologies (GiT)?

RESPONSES

6	1
7	0
	10
	25
	4

FINDINGS

Opinions are split in NACHPG on exact number of GiT personnel☺.

Too diverse answers in Armenian case, probably question was misunderstood (it is hardly expected that CH stakeholders employ 25 or even 10 GiT specialists). Review of responses shows that some GiT stakeholders selected the wrong answer for ‘Main field of activities’.

RECOMMENDATIONS

Questionnaire branching can not be avoided due to 3 sectors involved, but it should be clearly stated that correct answer at branching stage is critical.



Do you think some of the following GiT fields are useful for CH preservation, documentation and/or restoration?



RESPONSES

Country	Percentage	Count	Field	Count	Percentage
Spain	100.0%	6	Geodesy: geodetic networks and reference systems	10	90.9%
Spain	66.7%	4	Traditional land surveying	5	45.5%
Spain	16.7%	1	Other	0	0%

FINDINGS

Quite similar and logical answers in both partner countries, but certainly options asked for were insufficient. To be rectified in the next survey iteration.

RECOMMENDATIONS

Selection of GiT instruments in this question is certainly insufficient. HERiTAG training experience in UPV and AUTH demonstrates that many other instruments are relevant for CH preservation, documentation and/or restoration. AUTH and UPV are kindly requested advice on extending these options.



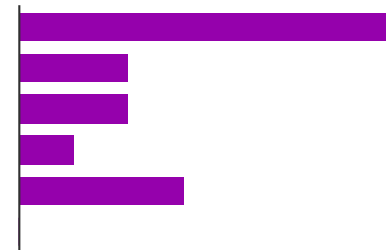
Can your organization receive GiT students?



RESPONSES

Yes, for visits
 Yes, for training
 Yes, for practice
 Yes, for employment
 No
 Other

7 63.6%
 2 18.2%
 2 18.2%
 1 9.1%
 3 27.3%
 0 0%



FINDINGS

CH organisations are reluctant to employ GiT students in Georgia.

CH organisations are reluctant to employ GiT students in Armenia also.

Visiting, training and practicing by GiT students are encouraged though.

Only visitations are encouraged.

RECOMMENDATIONS

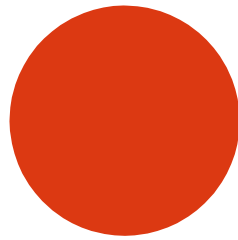
Encourage CH organisations to better define their GiT needs and participate in open days and other events to enhance interaction with HE institutions.



Do you think that your organization needs staff with some knowledge in GiT?

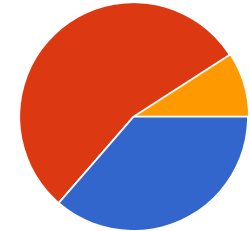


RESPONSES



0% 0
 100% 6
 0% 0
 0% 0

Yes, basic knowledge	4	36.4%
Yes, advanced knowledge	6	54.5%
No	1	9.1%
Other		0%



FINDINGS

Georgian CH institutions are unanimously in need of advanced GiT staff.

Armenian CH stakeholder responses are split between advanced and basic GiT knowledgeable personnel needs.

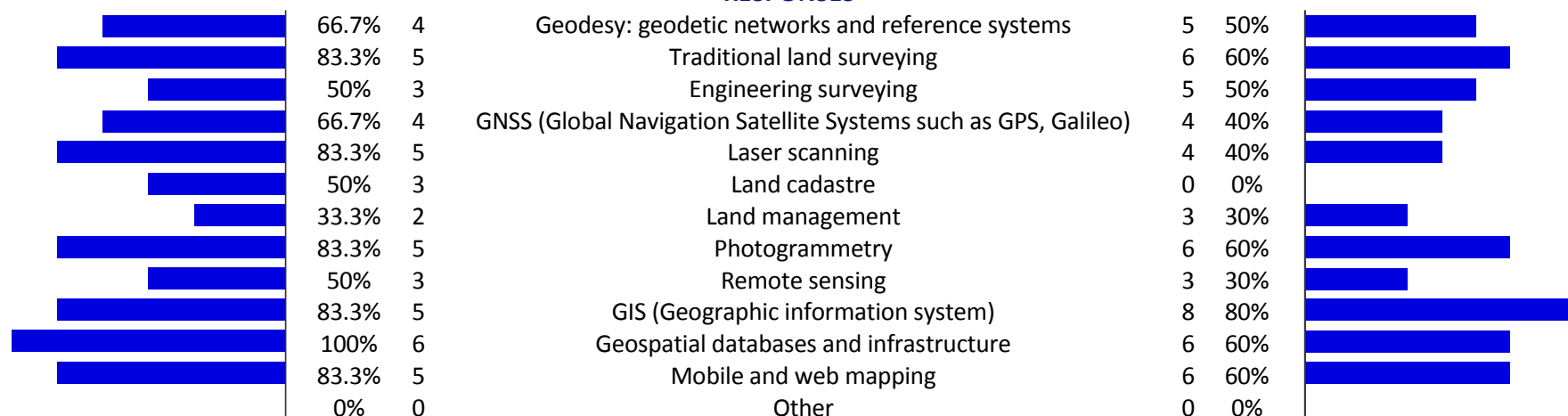
RECOMMENDATIONS

Encourage CH institutions to be as receptive with GiT graduates as with experienced staff. This can be achieved with sector specific education at universities, in which HERITAG can indeed contribute.



If Yes, in which GiT fields, mainly?

RESPONSES



FINDINGS

Indeed equal distribution of CH stakeholder preferences, essentially meaning that all specialities are of interest.

Same conclusion as with Georgia, with the exception that there seems no interest in land cadastre. This might be due to weaker cadastre system.

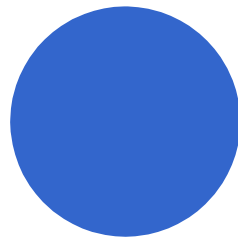
RECOMMENDATIONS

Work with CH institutions and stakeholder individuals to define more specific subjects/fields for priority setting. HERiTAG could then contribute with its sectoral education reform package to target specific fields of education in GiT useful for CH (such as photogrammetric cultural heritage documentation).



Do you think GiT can play an important role in visualization and promotion of cultural heritage?

RESPONSES



100% 6

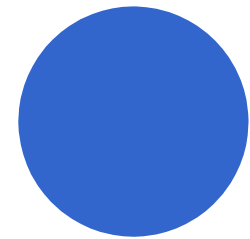
0% 0

Yes

No

11 100%

0 0%



FINDINGS

Unanimous support.

Unanimous support.

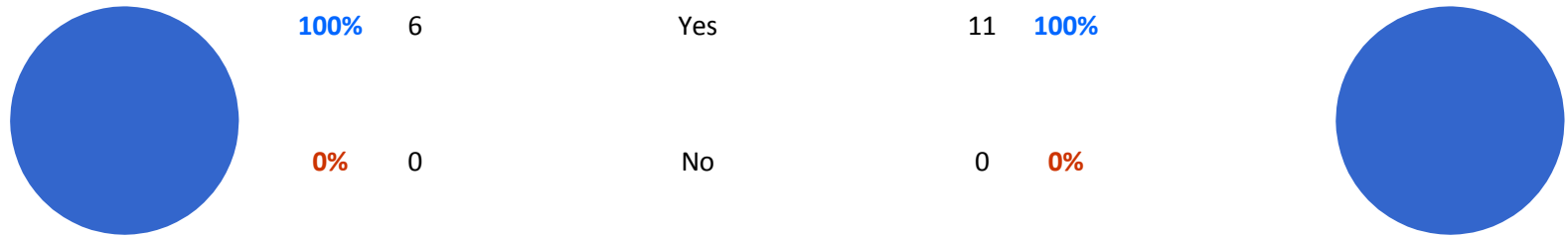
RECOMMENDATIONS

HERITAG could meet this interest in GiT applications for CH with case studies in both countries.



Do you think GiT can play an important role in promotion of cultural tourism?

RESPONSES



FINDINGS

Unanimous support.

Unanimous support.

RECOMMENDATIONS

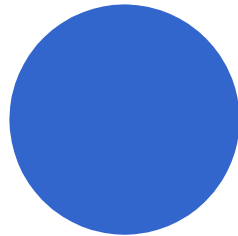
HERITAG could meet this interest in GiT applications for Cultural Tourism with case studies in both countries.



Do your organization/department has some experiences regarding the use of GiT in cultural heritage or tourism?



RESPONSES



100% 6

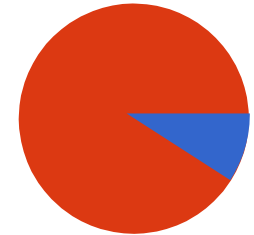
0% 0

Yes

1 9.1%

No

10 90.9%



FINDINGS

Georgian response are logical as NACHPG has strong GiT capacity.

Prevalence of negative response in Armenia indicates the need to GiT development in respective institution in charge of CH.

RECOMMENDATIONS

Responses demonstrate that GiT technologies are well applied in cultural heritage sector in Georgia. Armenia needs to develop at least similar capabilities within its agency in charge of CH governance/management. Experience sharing in CH databases would be a relevant initiative for the future.



If Yes, please briefly describe these experiences



RESPONSES

One of the GiT directions – GIS instruments are applied on a permanent basis by the NACHPG Information systems Unit. Unified GIS system is up and running and used for storage of information about cultural heritage objects and monuments, georeferencing and application of various GIS instruments. At the requests of the various units of NACHPG thematic maps are being produced, protection zones delineated and other similar tasks implemented.

We have 2 week practice class of measurement of monuments with 2nd year students from architecture faculty.

In NACHPG, specifically its Information Systems Unit, since 2005 in particular, several projects are actively ongoing in the field of GIS technologies and databases. Unified GIS database and portal for Georgia’s cultural heritage is functional. On an operations basis various GIS materials are created and processed.

from 2004 development of the GIS tools in survey, management of cultural heritage, based on GIS implementation of the multidisciplinary projects

NACHPG since 2006 has been developing several projects where main component for planning and also for visualizing the data has been using GIS. Since 2013 Agency has started developing complex cultural heritage GIS database system where is integrated all the data about heritage assets and their protection zones.

GiT technologies are being applied since after 2004 for CH inventories of cities and settlements; delineation of protection zones; inventory of cultural heritage resources & implementation of various complex projects.

FINDINGS

As stated elsewhere, NACHPG seems at this stage quite advanced with GIS technologies.

Armenian GiT HE institutions (NUACA in particular) have experience from previous Erasmus+ project which can be shared with Georgian partners.

RECOMMENDATIONS

In addition to GIS experience sharing between partner countries, both countries and their CH agencies would benefit from HERiTAG training packages, if and when implemented at GTTC (Valencia and Thessaloniki training packages in particular – mobile mapping, photogrammetry, laser scanning, etc.).

Photogrammetric equipment purchase for Georgia (3D laser scanner and software in particular) is of high priority for NACHPG capacity enhancement. HERiTAG could certainly contribute, stimulating cooperation, training, education resource and equipment sharing among partners in GTTC.



Other comments on GiT education needs in your Country

RESPONSES

It should be mandatory to introduce the GIS course in the university programmes for archaeologists, architects, engineers, art historians, and other specific directions related to the cultural heritage.

There is a lack of the practical knowledge of the advanced software and technologies in general especially in cultural heritage. There is no special course of any GiT subject for the students in cultural heritage. But the importance has been growing quite rapidly and also there is a big demand of such skills.

It is necessary to implement in higher education institutions, e.g. on faculties of architecture, restoration the specialised courses in GiT.

In my opinion GiT can be helpful for visualization and protection of cultural heritage but we need some training or additional education about their using.

GiT can support to our work but our staff have poor knowledge about GiT and its applications.

We have lack of knowledge on GiT.

GIS can help us in making various maps, revealing regularities, in the verification of the archaeological monuments but we need professional human resources.

I have very short information about GIS but in my opinion it can help us in using achieved facts for didactic purposes for the improvement of the methods of teaching archaeology as well in representing our cultural heritage.

FINDINGS

There is an overwhelming evidence in these responses that in Georgia GiT education is not part of the curricula for cultural heritage specialities.

Same can be concluded for Armenia as well. It is encouraging that Armenian respondents provide narrative opinions as well.

RECOMMENDATIONS

It seems as the high priority for HERiTAG to immediately proceed with replicating the training experiences in GiT and CH fields so that students of respective specialities have opportunities of orientation and education in these fields (both on GiT and CH sides, in partner and other HE institutions).

Excellent vehicle for the introduction could be case studies performed by trained teachers and involving best students so that proposed programs are polished based on actual practice. Within HERiTAG partners seems to have necessary resources to engage professional personnel on a paid basis.



Other comments on GiT education needs in your Country



RESPONSES

It is necessary to implement on a wider basis these technologies in general schools and HE institutions.

More and advanced GiT in HE institutions, and at the introductory level in schools.

It is necessary to provide education in these fields in several national universities and to pay more attention in general.

More creativity.

FINDINGS

Essentially the similar statements highlighting to prioritize more GiT in CH.

No other comments in Armenian case.

RECOMMENDATIONS

HERiTAG to immediately proceed with HE curricular reform steps. Also could consider developing some recommendations for school level education.

I.4. GiT needs in TOURISM ECONOMICS



Number of employees working in tourism field?

RESPONSES

1	11
5	12
4	9
2	10
0	5
3	8
	6
	23
	18
	7
	13
	25
	22
	24
	28
	26
	50
	2
	0

FINDINGS

Low numbers in Georgia are due to low response rates by private companies and governmental institutions.

High response rates from Armenian private sector provide impressive numbers of people employed in the tourist sector.

RECOMMENDATIONS

In the next iteration Georgian partners are advised to attract much more responses from tourism sector companies and institutions.



Number of employees working in Geoinformation Technologies (GiT)?



RESPONSES

0	0
1	
3	
2	

FINDINGS

Few tourism companies quoted employment of GiT staff. In all cases they are specialised in GiT product development for tourism. No company or other stakeholder quoted GiT personnel.

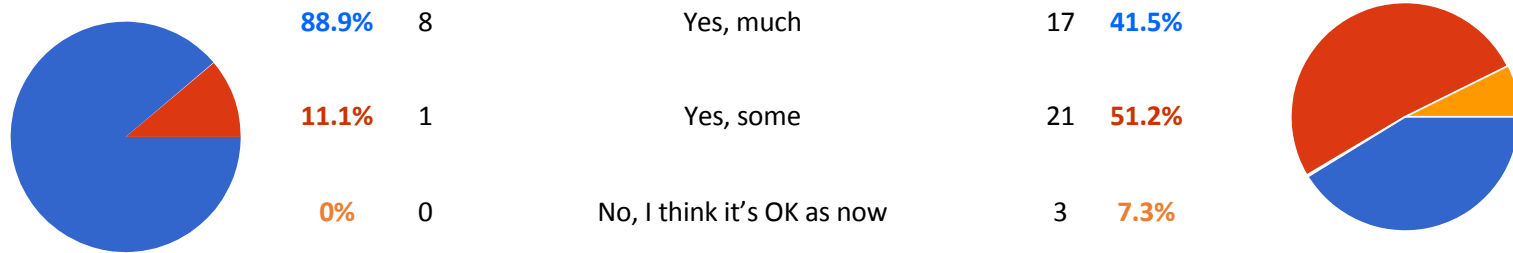
RECOMMENDATIONS

Larger institutional stakeholders seem unaware of the benefits of the GiT and it might be recommended to target them for awareness raising by sharing case studies.



Do you think that tourism industry needs some renovation?

RESPONSES



FINDINGS

More enthusiastic 'Yes, much' is the dominant response in Georgia.

Less enthusiastic 'Yes, some' is prevailing in Armenia.

RECOMMENDATIONS

This open ended question is more concerned with tourism sector only and may need to be revised to highlight link with GiT and its applications in tourism.



If Yes, what are the main issues that need to be renovated?



RESPONSES

Issue	Percentage	Count	Issue	Count	Percentage
Promotion and use of GiT and ICT	66.7%	6	Promotion and use of GiT and ICT	13	31.7%
Education and training on tourism and economics studies	55.6%	5	Education and training on tourism and economics studies	14	34.1%
Services and infrastructures	55.6%	5	Services and infrastructures	27	65.9%
Destination management and governance	33.3%	3	Destination management and governance	31	75.6%
Other	11.1%	1	Other	0	0%

FINDINGS

Georgian tourism stakeholders are more in favour of GiT and ICT and economic training.

Armenian tourism stakeholders are less attentive to GiT and ICT and training and more with services and destination management issues.

RECOMMENDATIONS

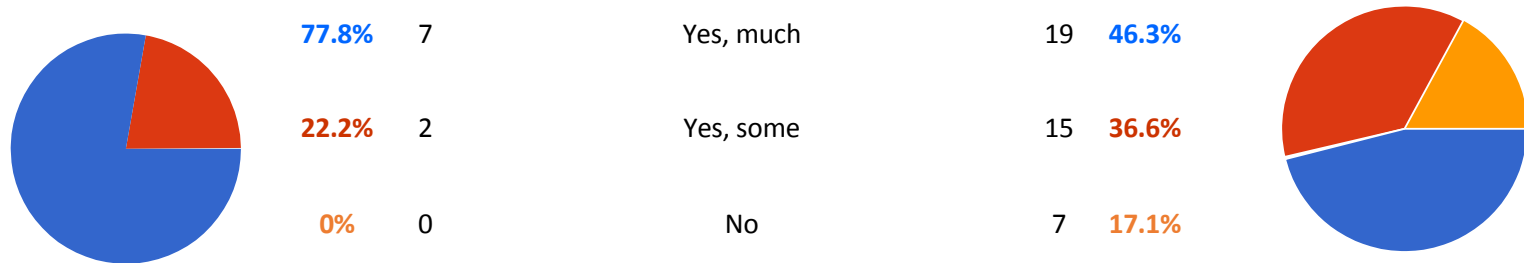
Apparently more awareness of tourism economy subjects are needed in Georgia and more awareness of GiT value for tourism matters in Armenia.



Do you think that GiT can help in the renovation of the national tourism sector?



RESPONSES



Enthusiastic positive response with 'Yes, much' dominating.

FINDINGS

More measured response with 'Yes, much' still dominating, but large share of 'Yes, some' and even 'No' answers.

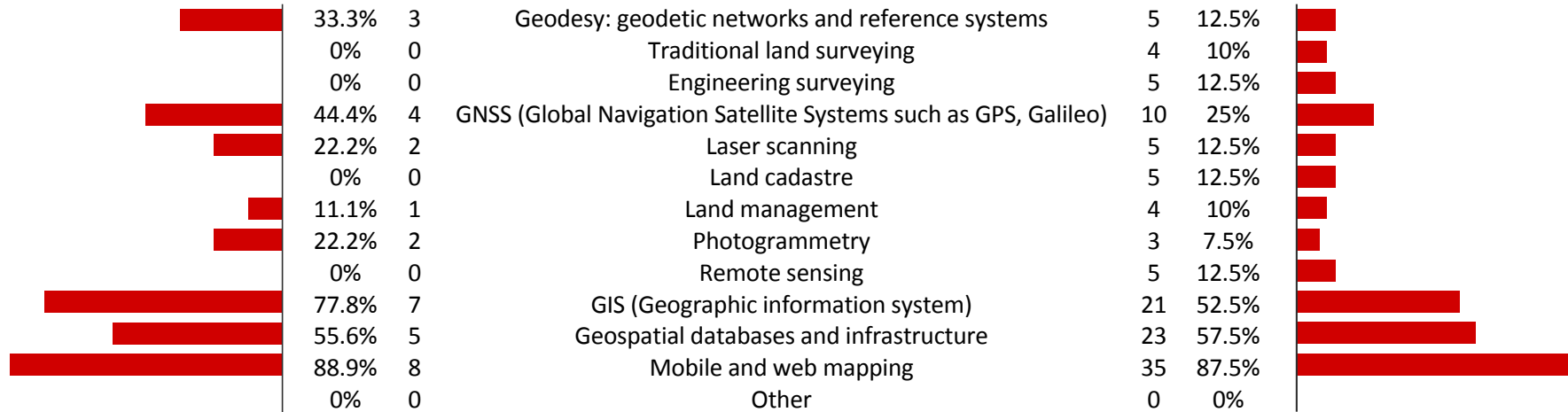
RECOMMENDATIONS

Disseminate to Armenian tourism stakeholders good training materials and case studies, demonstrating the value of GiT in support of the tourism trade.



If Yes, which GiT sectors do you think are the most important?

RESPONSES



FINDINGS

Both partner countries reveal similar patterns with priority given to GIS, SDI and mobile and web-mapping.

RECOMMENDATIONS

Provide tourism stakeholders with opportunities for professional training through GTTC in the subject of interest (GIS, SDI, mobile and web-mapping).

Provide tourism stakeholders with additional information and training/lecture opportunities in other GiT subjects of choice (e.g. big data in tourism).

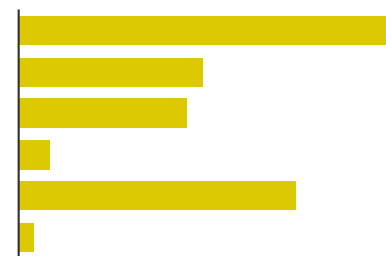


Can your organization receive GiT students?



RESPONSES

Yes, for visits	25	61%
Yes, for training	12	29.3%
Yes, for practice	11	26.8%
Yes, for employment	2	4.9%
No	18	43.9%
Other	1	2.4%



FINDINGS

Tourism stakeholders in Georgia have no interest to receive GiT students

Tourism stakeholders in Armenia have an interest in visits by GiT students

RECOMMENDATIONS

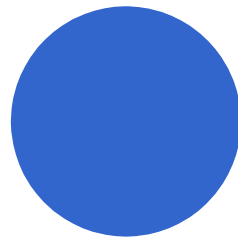
GTTCs could provide/facilitate meeting point for GiT and tourism professionals, so that interest in GiT is enhanced within tourism sector stakeholders.



Do you think GiT can play an important role in visualization and promotion of cultural heritage and tourism?



RESPONSES



100% 9

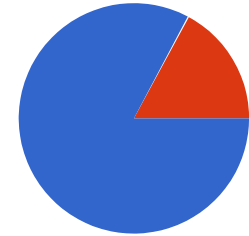
0% 0

Yes

34 82.9%

No

7 17.1%



FINDINGS

General positive attitude is Georgia.

Majority positive but quite high share of negative responses.

RECOMMENDATIONS

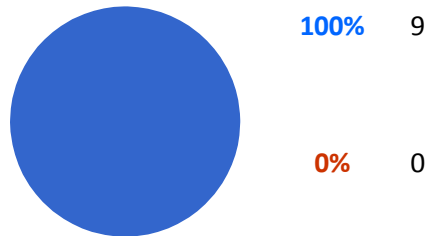
GTTCs could provide meeting point for GiT, CH and tourism professionals, so that interest in GiT is enhanced within cultural tourism stakeholders.



Do you think GiT can play an important role in promotion of cultural tourism?

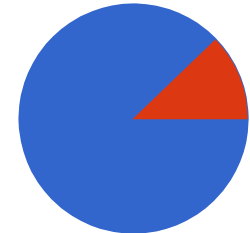


RESPONSES



Same response rates as above.

Response	Count	Percentage
Yes	36	87.8%
No	5	12.2%



Same response rates as above.

FINDINGS

RECOMMENDATIONS

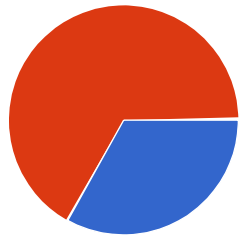
This question needs reformulation as it is essentially almost the same as the previous question. Clear distinction should probably be made between CH and TE sectors. This part of the survey is actually concerned with tourism sector and GiT.



Do your organization/department has some experiences regarding the use of GiT in cultural heritage or tourism?



RESPONSES



33.3% 3

66.7% 6

Yes

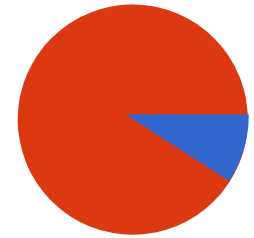
4

9.8%

No

37

90.2%



FINDINGS

Both Georgian and Armenian tourism stakeholders report lack of experience in use of GiT in CH and tourism

RECOMMENDATIONS

GTTCS could indeed be instrumental in sharing GiT applications and knowledge to CH or tourism professionals. HERITAG provides vast materials for use.



If Yes, please briefly describe these experiences



RESPONSES

We are collecting information, digitise information about cultural heritage monuments and popularise these monuments through web-pages and social media.

Tracking GPS data of hiking trails and then updating to OpenStreetMap.

N/A.

We are generating mobile applications for Android-based systems entitled 'guriatourizm', distribute through Google Map the data base about the touristic potential of Guria Region of Georgia.

FINDINGS

Two tourism sector companies with GiT staff provided above responses. This response was received against distribution via CENN list server.

RECOMMENDATIONS

There are isolated but excellent small GiT-Tourism groups in both countries and their experience sharing could be stimulated through GTTC platform.

Interesting crowdsourcing idea is suggested by Armenian stakeholder/company: use actual trips to accumulate data about touristic trails.



Other comments on GiT education needs in your Country



RESPONSES

In general there are not many technological projects in Georgia as well as access to financing is weak. If more financing is accessible, more applications could be developed and experience accumulated in the field of innovative solutions supporting tourism. There are numerous reservations with tourism sector in general – starting from legislation to infrastructure and to services.

Armenia needs a comprehensive ecotourism map of all attractions, businesses, and stakeholders. We will help by adding hiking trails to such a map.

It is necessary to enhance education in this field/direction.

FINDINGS

Georgian response demonstrates interest in financing GiT applications.

This is the response which was received right after CENN distribution.

RECOMMENDATIONS

Armenian partners of HERiTAG are challenged by their national small company to, quote, ‘create a comprehensive ecotourism map of attractions, businesses, and stakeholders so that stakeholders can add hiking trails to such a map’.

Georgians can accept the challenge as well (although there is a good example in Georgia to share with Armenian partners allowing exactly this capability: see <http://travelgis.ge>).

It is important to identify new digital avenues for reaching professional communities so that interaction with society becomes more ‘digital’ and direct. CENN is a platform which could be exploited. GTTCs in the long run can play the dissemination and communication role so that invitations to such surveys are actively acted upon and trusted by stakeholders.

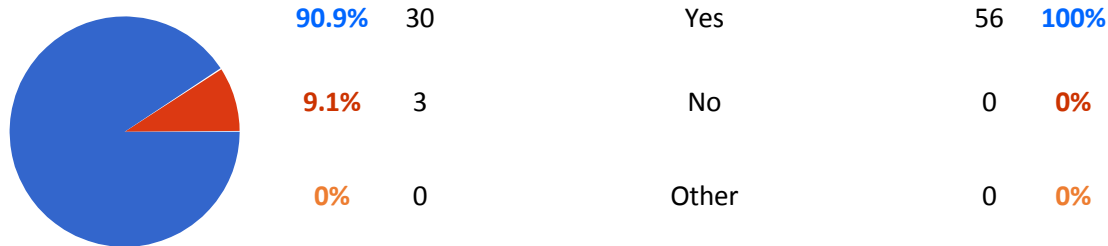
As an initial step it is suggested to share with all the survey participants electronic link to proper web repository and announcement once this report is finalised for distribution (and possibly feedback!), via email in Georgia and in Armenian the same way using advantage of email communication for personal feedback. One can even request repeated round of survey!

Report should be distributed to HERiTAG Advisory Group Members both in Armenia and in Georgia and their important feedback incorporated prior to public distribution. Would be prudent to finalise the report only once AG-AM and AG-GE and public comments are heard and acted upon.



I agree to public use of my responses by HERITAG study

RESPONSES



FINDINGS

Three respondent in Georgian survey had legitimate reservations with public exposure of their personal identity.

There were no disclosure reservations expressed by Armenian respondents.

RECOMMENDATIONS

No personal information should be exposed publicly whether respondents provide positive or negative response to this question on public use of responses. At the same time it is acknowledged, that it is impossible to remove responses from Google form without deleting the form. This means that analytical charts very conveniently generated automatically by the Google Forms can not be generated without accounting for all responses received. This question therefore needs to be reformulated for not disclosing personal information, while disclosing the aggregated responses can not be avoided due to technical reason. It is assumed that negative responses received were concerned only with personal and institutional privacy and this was fully respected in the content provided in this report.

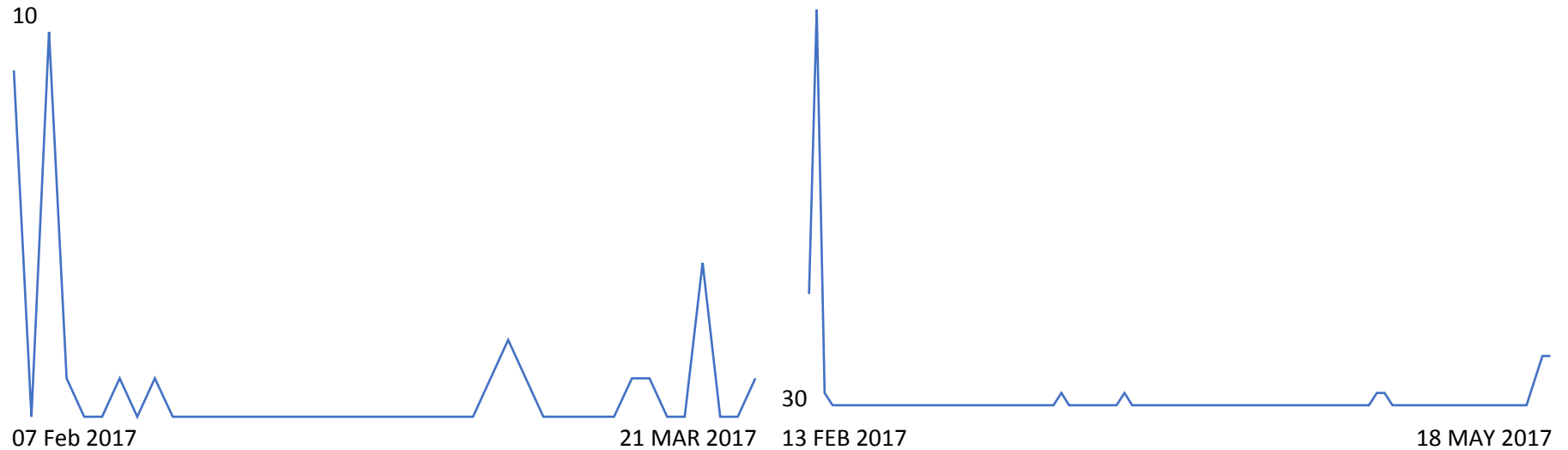


Number of daily responses

RESPONSES

Total 33 Responses

Total 56 Responses



FINDINGS

Georgian stakeholder responses encountered 4 major spikes immediately after email distributions and 3 spikes of minor intensity. Overall number of responses was not high, but still allowed to gauge the opinion in this unstructured survey. Distributions were via email and responses were all 'unmoderated'. 3 responses received in June were not reflected in the results as report processing was already underway.

Armenian stakeholder responses were received in 2 major spikes in the beginning and smaller one at the end of the survey period and in 3 minute spikes. Overall number of responses was higher than in Georgia. Distributions were in hard copy and therefore responses received were all collected in 'moderated' way and then entered into the survey Google Forms.

RECOMMENDATIONS

Feedback (through report distribution and feedback allowance) should preferably be provided both in Georgia (via same survey email list distributions) and similarly attempt should be made in Armenia to distribute the report as a feedback using emails of respondents whenever available. This would enable any next iteration of the survey to be more 'trusted' by the respondents and higher success rates hopefully achieved.

Electronic distribution via emails is highly preferable for the consistency of the next surveys iteration(s). Confidentiality of the private data should again be given the highest priority treatment to maintain the trust and credibility with the public.

Annex I.1. ORGANISATION additional details



Name of organisation

RESPONSES

6 - National Agency for Cultural Heritage Preservation of Georgia (NACHPG)	1 - Amistad - Tour LLC
7 - GIS and Consulting Center 'GeoGraphic' Ltd.	1 - ACTITOUR LLC
1 - Ministry of Agriculture of Georgia	1 - Crazy Tour
1 - V. Bagrationi Institute of Geography (Tbilisi State University)	1 - Blue Fly LLC
1 - JSC Georgian State Electrosystem (GSE)	1 - AVARAYR Tour Company
1 - TerraGraphic Ltd.	1 - AM LLC
1 - Municipal Services Development Agency, Tbilisi City Hall	1 - Armane Yerkir LLC
1 - National Environmental Agency, Ministry of Environment and Natural Resources Protection of Georgia	1 - Armenia Travel + M LLC
1 - Technical and Construction Supervision Agency of Ministry of Economy and sustainable Development of Georgia (TACSA)	1 - Erkir Nairi LLC
2 - Ivane Javakishvili Tbilisi State University	1 - TATEV TTT LTD
1 - JSC Tourism Development Initiatives Association	1 - Unona
1 - ARGO Voyage Georgia	1 - Sputnik LLC
1 - Gamarjoba Travel	1 - Sirov LLC
1 - independent expert on tourism and heritage	1 - El tour
1 - Young-Student Council	1 - RUMEA Tempting Trips Club LLC
1 - Young Scientist's Club of Ozurgeti	1 - Rim and Ar LLC
1 - POSTA (designtbilisi)	1 - Phoenix Tour
1 - International Business Development and Investment Centre (IBDIPC)	1 - LORE Group LLC
1 - Blue Shield Georgia; Ilia State University	1 - Fun Travel LLC
1 - BTL	1 - G2A CJSC
	1 - JUST TRAVEL LLC
	1 - Link Avia CJSC
	1 - Gardman
	1 - GEOGRAPHIC TRAVEL CLUB LLC
	1 - GOR GROUP LLC
	1 - LEVON TRAVEL YEREVAN, LLC
	1 - Intour
	1 - Green Way
	1 - "Khndzoresk Tour" LLC

- 1 - Syunik
- 1 - "Arqayadzor"
- 1 - "Estate Management & administration company" JSC "Wings of Tatev"
Ropeway
- 1 - "Narek Mnatsakanyan" PE computer services,
- 1 - "Yasha Khachyan" LLC Architecture and Construction
- 1 - "Goris Community Union" NGO
- 1 - ANI ACHEMIAN RESORT
- 1 - "General Engineers" LLC Engineering and Consulting
- 1 - Multi rest house
- 1 - Armenian State Hydrometeorological and Monitoring Service
- 1 - Researchers for Bio Heating Solutions
- 1 - YSU
- 1 - Armhiking Tourism Center NGO
- 1 - HIKE Armenia
- 1 - Armen
- 3 - National University of Architecture and Construction of Armenia
(NUACA)
- 1 - Mother See of Holy Etchmiadzin
- 2 - Ministry of culture of Armenia
- 2 - Service for the Protection of Historical Environment and Cultural
Museum Reservations
- 1 - ICOMOS-Armenia
- 1 - IAS History
- 1 - Armenian Federation for Historical Monuments Protection
- 1 - Mashtots Institute of Ancient Manuscripts

FINDINGS

Representation not always relevant for GiT, CH and TE sectors.

Surprisingly some Georgian partners and individuals, participants of the project, did not fill the questionnaire.

Institutional information of those respondents which had reservations with public distribution were removed from this narrative response.

Representation of Armenian stakeholders is much more diverse and relevant for GiT, CH and TE sectors.

Surprisingly some Armenian partners and individuals, participants of the project, did not fill the questionnaire as well.

No personal information revelation allowed for any respondents.

No personal information revelation allowed for any respondents.

Responses were edited to correct spelling and to identify generic respondents and to quantify them.

Responses were edited to correct spelling and translation mistakes and to identify generic respondents and to quantify them.

RECOMMENDATIONS

Personalised effort should be applied in the future iteration to make sure that stakeholders respond to invitations and fill questionnaires. This can be facilitated by organising email reminders on a personalised basis (using Google Forms this is possible to manage, when contact email are available).

Bilingual drop-down list preferably should be employed in the next iteration so that all “expected” generic names are listed based on this initial survey and option “Other” provided to enter new respondent type data. This would minimize spelling and translation mistakes.



- 2- Information Systems Unit
- 1 - N/A
- 1- Melioration and Land Management Department
- 1- Geomorphology-Geoecology Department
- 1- UNESCO and International Relations Unit
- 1- Project's Department, GiT Unit
- 1- Photogrammetry Department
- 1- Cadastre
- 1- Analysis and Planning Department
- 4- GIS and RS Department
- 2 -Programmers Unit
- 1 - Hydrometeorological Department
- 1- Information Provision Unit
- 1- Tourism Development Department
- 1- Tourism Department
- 1- Truism Agency
- 1- Modern Technologies Application Unit
- 1- designtbilisi
- 1- Tourism and Hospitality Management

Institutional information of those respondents which had reservations with public distribution were removed from this response. No personal information revelation allowed for any respondents.

Bilingual drop-down list preferably should be employed in the next iteration so that all “expected” generic names are listed based on this initial survey and option “Other” provided to enter new respondent type data. This would minimize spelling and translation mistakes.

Department

RESPONSES

- 1 - Tour
- 2 - Service
- 2 - Tourism
- 1 - management
- 1 - Hydrology forecast department
- 1 - Researchers for Bio Heating Solutions
- 1 - Chair of Geomorphology and Mapping
- 1 - General Secretariat
- 1 - Hiking
- 1 - Department of Architecture
- 1 - Faculty of Urban Economics and Ecology
- 1 - Department of International Relations
- 1 - Architectural department
- 1 - Protection and Use of Cultural Values
- 1 - Intangible Cultural Heritage
- 1 - Department of Monuments Protection
- 1 - Regional Service for the Protection of Historical Environment
- 1 - Heritage
- 1 - Department of Virtual Armenology and Information
- 1 - Heritage culture
- 1 - Armenian Historical Heritage

FINDINGS

Responses were edited to correct spelling and to identify generic respondents and quantify them. No personal information revelation allowed for any respondents.

RECOMMENDATIONS





- 1 - Specialist
- 1 - Programmer
- 1 - Specialist of Information Systems Unit
- 1 - Deputy Head of Land Use Department
- 1 - Scientific Researcher
- 2- Head of Unit
- 1- Chief Specialist
- 1 - Topographer, Geodesist
- 1 - Operator
- 1 - Project Manager
- 1 - Head of Information Systems Unit
- 1 - GIS Analyst
- 2- GIS and RS Specialist
- 1 - GIS Specialist, Project Manager
- 1 - GIS and RS Specialist
- 1 - Assistant Professor
- 1 - Director
- 1 - CEO
- 1 - Director, Company Founder
- 1 - Expert
- 1 - Program Coordinator
- 1 - Manager
- 1 - Editor
- 1 - Chairman
- 1 - Head of Department

No personal information revelation allowed for any respondents.

Institutional information of those respondents which had reservations with public distribution were removed from this response.

Bilingual drop-down list preferably should be employed in the next iteration so that all “expected” generic names are listed based on this initial survey and option “Other” provided to enter new respondent type data. This would minimize spelling and translation mistakes.

Position

RESPONSES

- 2 - Director
- 2 - Researcher
- 1 - Specialist
- 1 - Counter
- 1 - Head of Laboratory
- 1 - Chairman
- 1 - Executive Director
- 1 - Man
- 1 - Head of the Chair of Theory of Architecture, Restoration AND Restoration of Architectural Heritage
- 1 - Deputy Dean
- 1 - Leading Specialist in Inter-University and International Relations Division
- 1 - Construction Projects Manager
- 1 - Programmer
- 1 - Junior Specialist
- 1 - Senior Specialist
- 3 - Guide

FINDINGS

No personal information revelation allowed for any respondents.

Responses were edited to correct spelling and to identify generic respondents and quantify them.

RECOMMENDATIONS



SURVEY RESULTS

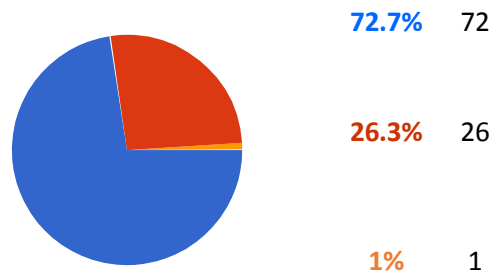
II. Student Survey

II.1. UNIVERSITY STUDY details

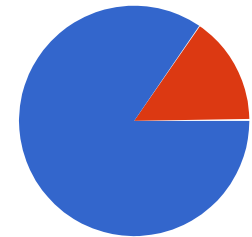


Are you undergraduate or master student?

RESPONSES



Undergraduate	232	84.7%
Masters	42	15.3%
Other	0	0%



FINDINGS

One 'Other' response in Georgia is PhD.

Share of masters in Armenia is lower, but this may not be of concern.

RECOMMENDATIONS

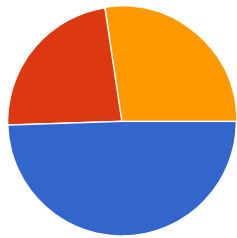
Adding option for PhD in the questionnaire and in invitations would extend the pool of respondents and would expand the scope of assessment quantifying PhD-s in the fields of GiT, CH and TE.

GiT, CH, TE BRANCHING POINT



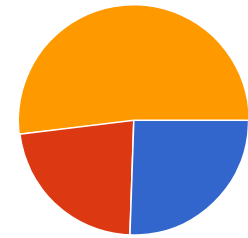
Main interest in education/specialisation

RESPONSES



49.5% 49
23.2% 23
27.3% 27

Geospatial information Technologies (GiT) 70 25.5%
Cultural Heritage 62 22.6%
Tourism 142 51.8%



FINDINGS

Majority (~50%) of respondents in Georgia are GiT students.

Majority (~50%) of respondents in Armenia are TE students.

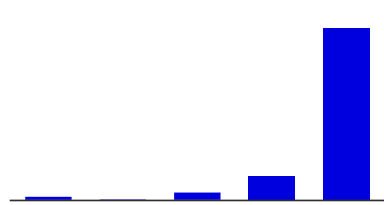
RECOMMENDATIONS

Equal representation should be sought, increasing number of CH and TE respondents in Georgia and GiT and CH students in Armenia, if possible.

II.2. GiT needs in EDUCATION



I chose the GiT and geodesy program because I am interested in the subject:

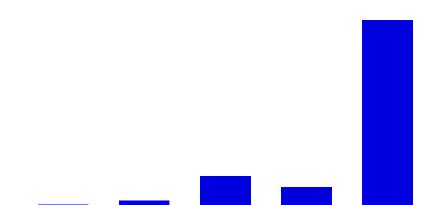


1	2%
0	0%
2	4.1%
6	12.2%
40	81.6%

RESPONSES

No, very little

1	1.4%
2	2.9%
3	12.9%
4	8.6%
5	74.3%



Yes, very much

FINDINGS

Majority of answers and distribution is as expected in Georgia.

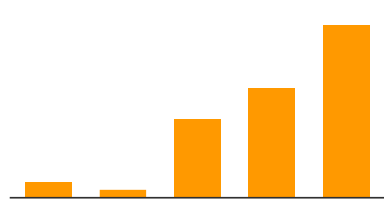
Majority of answer is as expected in Armenia, slightly concerning is that some number of students are not fully determined with their study field.

RECOMMENDATIONS

HERiTAG could further contribute into education programming in GiT expending applications towards CH and tourism sectors.



I chose the GiT and geodesy program because I believe it is easier for me to find a job in my Country after graduation:

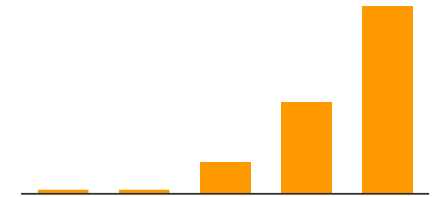


2	4.1%
1	2%
10	20.4%
14	28.6%
22	44.9%

RESPONSES

No, very little

1	1	1.4%
2	1	1.4%
3	7	10%
4	20	28.6%
5	41	58.6%



Yes, very much

FINDINGS

Some minority GiT students in Georgia are pessimistic about job prospect. Job optimism in Armenia is even higher.

RECOMMENDATIONS

Quite large proportion in both countries (55% in Georgia, ~40% in Armenia) are not fully confident they can find GiT jobs once graduated. Universities and industry need to address the issue with various measures.

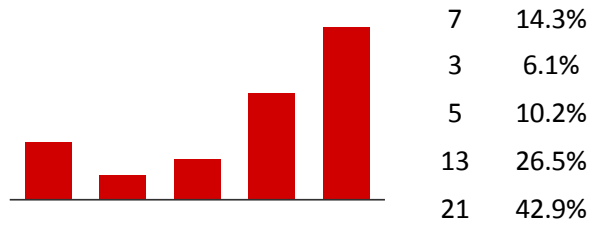


I am satisfied with the GiT and geodesy program at my University:

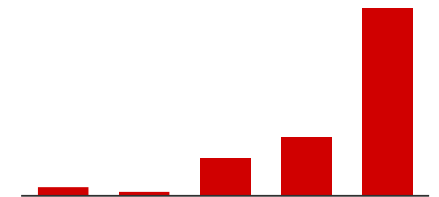


RESPONSES

No, very little



1	2	2.9%
2	1	1.4%
3	9	12.9%
4	14	20%
5	44	62.9%



Yes, very much

FINDINGS

Majority of Georgian students are satisfied with GiT and Geodesy education, but around 10-15 percent are not.

Students in Armenia are mostly satisfied with GiT and geodesy education.

RECOMMENDATIONS

Use HERiTAG opportunity to further enhance the GiT education opportunities and diversity by implemented project provided new subjects and methods.

Use email invitations to stimulate 'unmoderated' nature of responses.

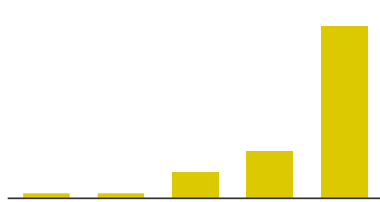


I think the contents of the GiT and geodesy program should be modernized:



RESPONSES

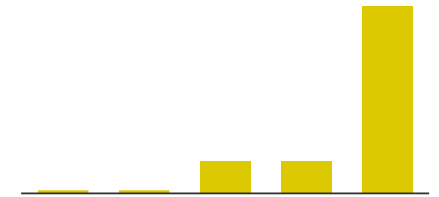
No, very little



1	2%
1	2%
5	10.2%
9	18.4%
33	67.3%

1	1.4%
2	1.4%
3	12.9%
4	12.9%
5	71.4%

1	1.4%
1	1.4%
9	12.9%
9	12.9%
50	71.4%



Yes, very much

FINDINGS

Despite positive responses in previous question, students want more.

Despite positive responses in previous question, students want more.

RECOMMENDATIONS

Use HERiTAG opportunity to further enhance GiT education opportunities and diversity by implemented project provided new subjects and methods.

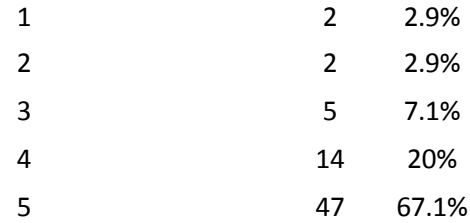
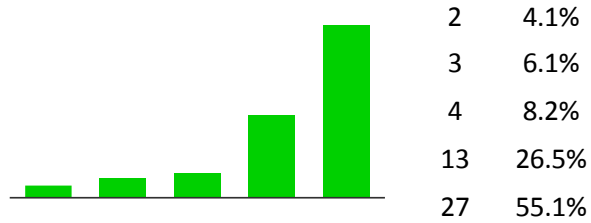


The teaching methods should be modernized:



RESPONSES

No, very little



Yes, very much

FINDINGS

Same finding as above – students want more modern education.

Same finding as above – students want more modern education.

RECOMMENDATIONS

Use HERiTAG opportunity to further enhance the GiT education opportunities and diversity by implemented project provided new subjects and methods.

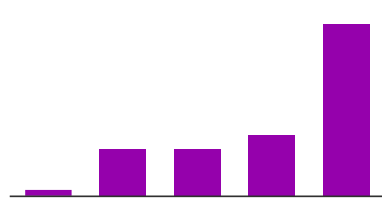


The computer facility and geodetic equipment should be modernized:



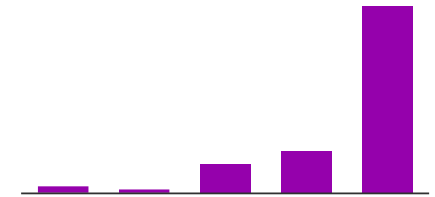
RESPONSES

No, very little



1	2%
2	14.3%
3	14.3%
4	18.4%
5	51%

1	2.9%
2	1.4%
3	11.4%
4	15.7%
5	68.6%



Yes, very much

FINDINGS

GTU students might be those rating positively existing GIS class facilities. Otherwise students are unanimous in support of modernisation (~50%).

In Armenia students are almost unanimous in support of modernisation (~70%).

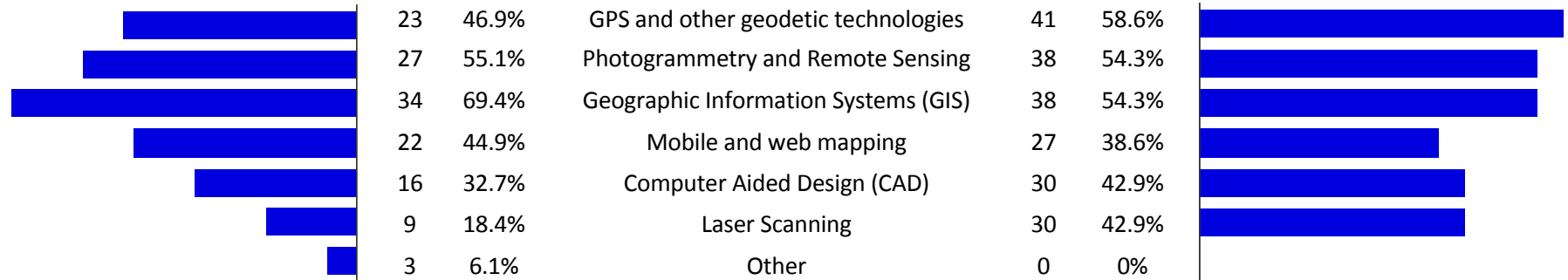
RECOMMENDATIONS

HERiTAG supply of computer equipment in BSU and ISU and laser scanner to GTU in Georgia should contribute to making trends bit more positive.



What are the topics you would be more interested to have additional learning?

RESPONSES



FINDINGS

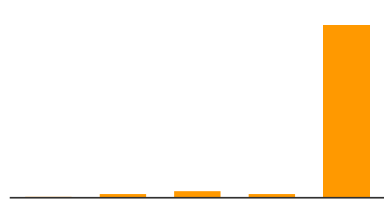
GIS is the field of most interest followed by photogrammetry and RS. All fields are almost equally voted in Armenia.

RECOMMENDATIONS

HERiTAG providing laser scanner to GTU might certainly contribute in making this field of interest as well for students.



I wish to get more information on GiT and geodesy employment opportunities in my Country during my study period:

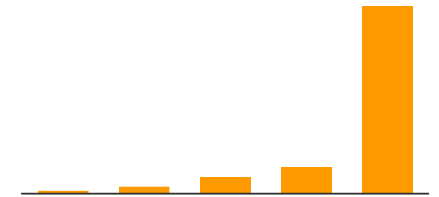


0	0%
1	2%
2	4.1%
3	2%
4	91.8%

RESPONSES

No, very little

1	1	1.4%
2	2	2.9%
3	5	7.1%
4	8	11.4%
5	54	77.1%



Yes, very much

FINDINGS

Georgian students are unanimous in responses.

Armenian students are also unanimous in responses.

RECOMMENDATIONS

Universities/industries should do more to explain to students' employment opportunities. GTTCs, AB-GE & AB-AM could contribute into this endeavour.

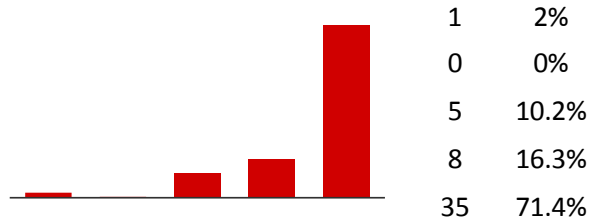


I want to continue academic studies after graduation:

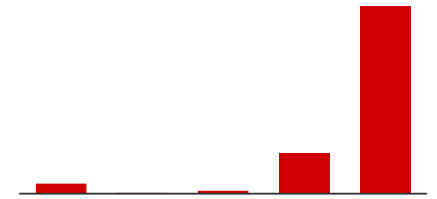


RESPONSES

No, very little



Response	Count	Percentage
1	3	4.3%
2	0	0%
3	1	1.4%
4	12	17.1%
5	54	77.1%



Yes, very much

FINDINGS

Georgian students are unanimously willing to continue academic carrier. Armenian students are also willing to continue academic carrier.

RECOMMENDATIONS

GiT field is specific where application carrier should be equally attractive to academic carrier. Industry needs to persuade students in this carrier option.

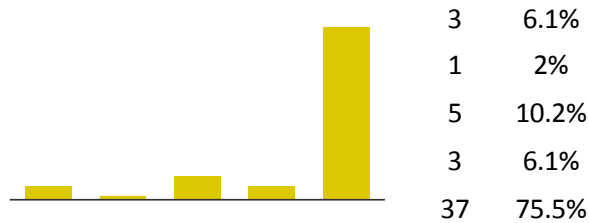


I wish to be an exchange student in another university of European Union:

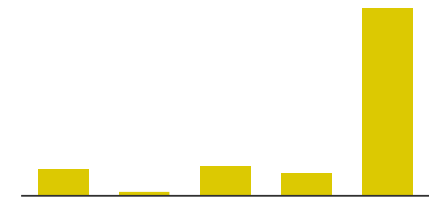


RESPONSES

No, very little



Response	Count	Percentage
1	7	10%
2	1	1.4%
3	8	11.4%
4	6	8.6%
5	48	68.6%



Yes, very much

FINDINGS

Even without much experience, Georgian students are unanimously supportive to exchange opportunities with EU universities.

Same is the conclusion in Armenia, GiT students much more willing to exchanges than CH and TE students (see further below).

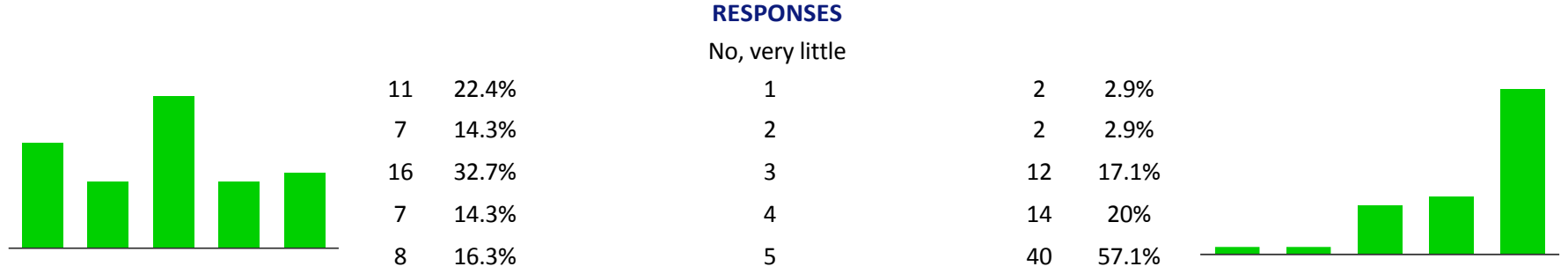
RECOMMENDATIONS

HERiTAG is expected to have good follow-up next time by involving student exchange opportunities, larger the numbers – the better.

Issue of concern in Armenia and Georgia should be that exchange student may pursue careers in European countries, contributing further to brain drain, therefore, any projects stimulating student exchange programs should set safeguards for avoiding brain drain, rather contributing into national employment and carrier opportunities for exchange students, as well as setting respective conditionality and indicators to monitor the process.



I have certain knowledge about the Bologna process in Europe:



RESPONSES

No, very little

Yes, very much

FINDINGS

Surprising answer in Georgia. Looks like not all universities either embark on Bologna process, or do not explicitly explain this to students.

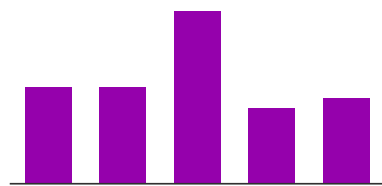
Armenian student seem more aware or are better explained that they follow Bologna process in their reforms.

RECOMMENDATIONS

Georgian GiT students should be given information, explanations and lectures on Bologna process and its implementation in Georgian universities. The same effort would not be in vain for Armenian universities and students as well.



I have certain knowledge about the European Credit Transfer System:



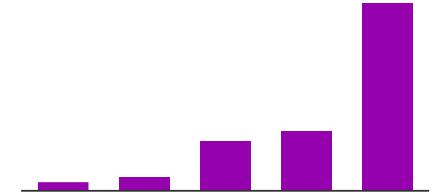
9	18.4%
9	18.4%
16	32.7%
7	14.3%
8	16.3%

RESPONSES

No, very little

1	2.9%
2	4.3%
3	15.7%
4	18.6%
5	58.6%

Yes, very much



FINDINGS

Again, surprising answer in Georgia. Looks like not all universities either embark on or explain the credit transfer system to students.

Armenian student seem more aware or better explained the credit transfer system to students.

RECOMMENDATIONS

Georgian GiT students should be given information, explanations and lectures on credit transfer system implementations in Georgian universities. The same effort would not be in vain for Armenian universities and students as well.

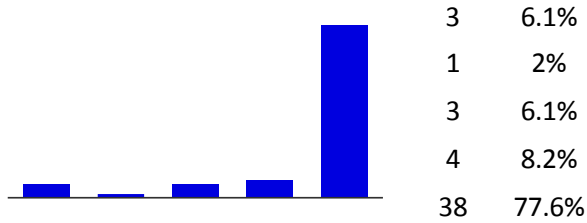


I am interested to study for a master degree in GiT and geodesy if such a program is offered by my University:

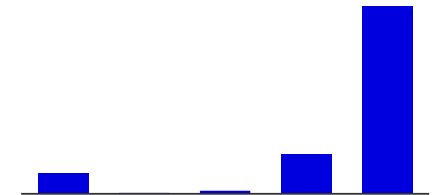


RESPONSES

No, very little



Interest Level	Number of Students	Percentage
1	6	8.6%
2	0	0%
3	1	1.4%
4	11	15.7%
5	52	74.3%



Yes, very much

FINDINGS

Georgian students are willing to proceed further with master’s program.

Armenian students are willing to proceed further with master’s program.

RECOMMENDATIONS

HERiTAG should target masters programs in GiT and not be limited to bachelors program only, both in Georgia and in Armenia.

(Note: Georgian GiT education stakeholders have a concern that accredited teachers may not be available due to lack of teachers with academic degrees in the field, but this should not prevent HERiTAG to act on master’s level curricular reforms.)

II.3. GiT needs in CULTURAL HERITAGE

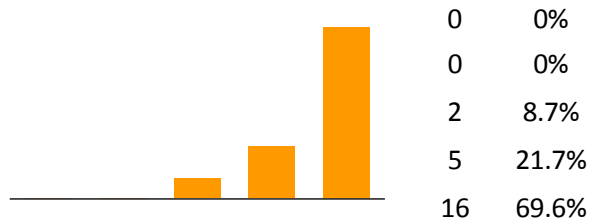


I am interested in Geospatial information Technologies (GiT) because I can apply it in the cultural heritage subject

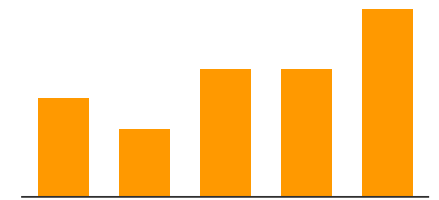


RESPONSES

No, very little



Interest Level	Count	Percentage
1	10	16.1%
2	7	11.3%
3	13	21%
4	13	21%
5	19	30.6%



Yes, very much

FINDINGS

Georgian CH students are quite convince in the value of GiT for their field. Armenian students are much less aware of the value of GiT for their field.

RECOMMENDATIONS

Universities and sector industries in Armenia are advised to conduct awareness raising efforts on value to GiT in supporting CH trade and the same would not hurt Georgian universities and industry as well.

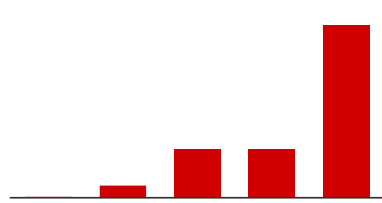


I would chose GiT subjects to complement my cultural heritage education program because I believe it would be easier for me to find a job in my Country after graduation



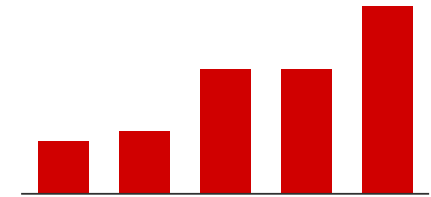
RESPONSES

No, very little



0	0%
1	4.3%
4	17.4%
4	17.4%
14	60.9%

1	6	9.7%
2	7	11.3%
3	14	22.6%
4	14	22.6%
5	21	33.9%



Yes, very much

FINDINGS

Georgian CH students are optimistic GiT knowledge brings opportunities.

Armenia CH students are bit less convinced GiT knowledge would bring additional employment opportunities.

RECOMMENDATIONS

Regular interaction between universities and GiT and CH trade representatives would contribute to both awareness raising and employment prospects. GTTCs and AB-GE and AB-AM could play instrumental role in such interaction enhancement.

Involving students in HERITAG case study activities could spread the word as well in support of GiT use and value for CH.

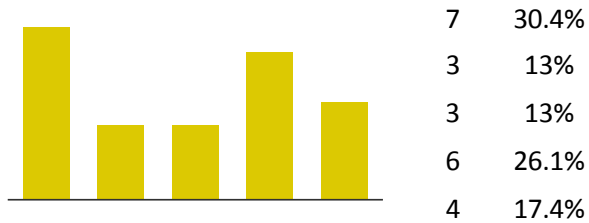


I am satisfied with the GiT subjects in cultural heritage program at my University

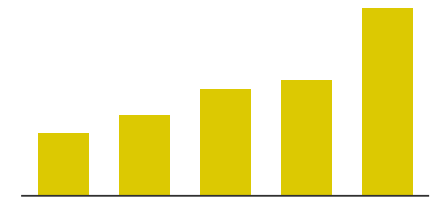


RESPONSES

No, very little



Dissatisfaction Level	Count	Percentage
1	7	11.3%
2	9	14.5%
3	12	19.4%
4	13	21%
5	21	33.9%



Yes, very much

FINDINGS

CH students express dissatisfaction with their access to GiT education.

Armenian CH students are less pessimistic on level of GiT education, but still quite large share of students are dissatisfied (~25% and trending).

RECOMMENDATIONS

GTTCs can play positive role in promoting GiT education in CH trade.

Joint credits and degrees in GiT and CH seems absolutely necessary to promote GiT education for CH students and vice versa.

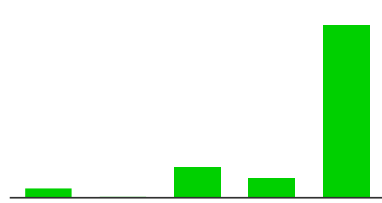


I think the contents of the cultural heritage program should be modernized and improved with the use of GiT (Geospatial information Technologies)



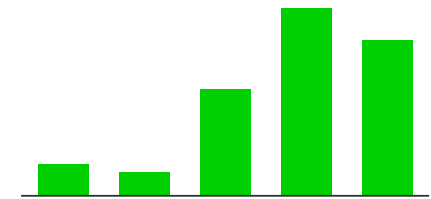
RESPONSES

No, very little



1	4.3%
0	0%
3	13%
2	8.7%
17	73.9%

1	6.5%
2	4.8%
3	21%
4	37.1%
5	30.6%



Yes, very much

FINDINGS

Georgian CH students are unanimous they need modern GiT education.

Armenian CH students are also in favour of modern GiT education.

RECOMMENDATIONS

HERiTAG curricular reform should address the issue of access for CH students to GiT education facilities, in which GTTCs could play a major role.

Joint inter-university education programs could provide the quick success and mutual benefit.

HERiTAG case studies with involvement of CH and GiT students may contribute as well to spread the word.

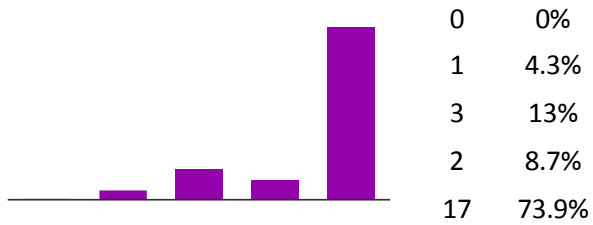


The teaching methods should be modernized

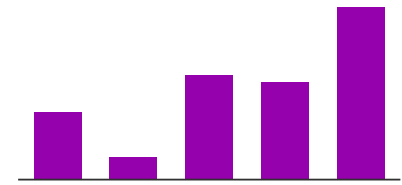


RESPONSES

No, very little



1	9	14.5%
2	3	4.8%
3	14	22.6%
4	13	21%
5	23	37.1%



Yes, very much

FINDINGS

Georgian CH students vote for modernisation of teaching methods in general.

Armenian CH students are less determined there is general need for modernisation.

RECOMMENDATIONS

Generally CH specialisation students consider that teaching methods should be modernised. HERITAG implementing GiT education modules could be one way of achieving this.



What are the topics you would be more interested to have additional learning?



RESPONSES

Topic	Count	Percentage	Topic	Count	Percentage
GiT use for CH enhancement	15	65.2%	GiT use for CH enhancement	24	38.7%
Economics of Culture	2	8.7%	Economics of Culture	30	48.4%
Tourism Economics applied to CH	8	34.8%	Tourism Economics applied to CH	30	48.4%
Other	0	0%	Other	0	0%

FINDINGS

In Georgia GiT education is welcomed by most CH students, as well as Tourism Economics.

In Armenia CH students are in favour of tourism economics education.

RECOMMENDATIONS

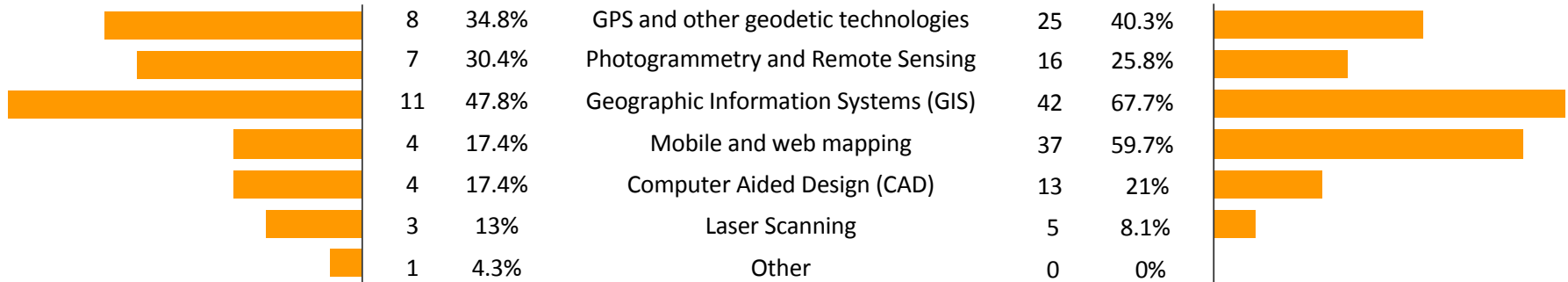
HERiTAG could contribute through GTTCs, meeting the student demands by offering both GiT and Tourism Economics modules for CH students.



What are the GiT topics (in support of cultural heritage education) you would be more interested to have additional learning?



RESPONSES



FINDINGS

In Georgia preferred choice of CH students is GIS, GPS, photogrammetry. Armenians prefer GIS and mobile and web-mapping.

RECOMMENDATIONS

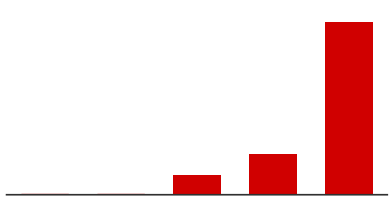
HERiTAG can contribute by implementing GIS, mobile and web-mapping modules through GTTCs and joint inter-university education arrangements.



I wish to get more information on GiT in support of cultural heritage employment opportunities in my Country during my study period



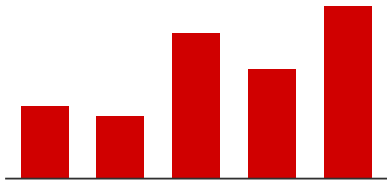
RESPONSES



0	0%
0	0%
2	8.7%
4	17.4%
17	73.9%

No, very little

1	8	12.9%
2	7	11.3%
3	16	25.8%
4	12	19.4%
5	19	30.6%



Yes, very much

FINDINGS

Unanimous support in Georgia.

Armenian CH students are less convinced GiT would bring employment opportunities, but majority still wants to learn on GiT opportunities.

RECOMMENDATIONS

Universities and industry efforts of GiT awareness raising and possible participation of CH students in GiT application case studies can be useful.

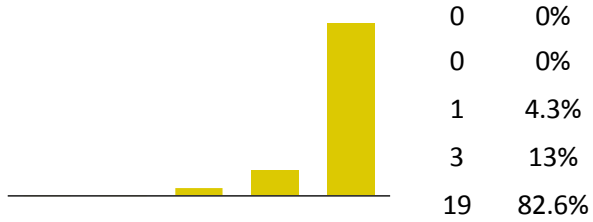


I want to continue academic studies after graduation

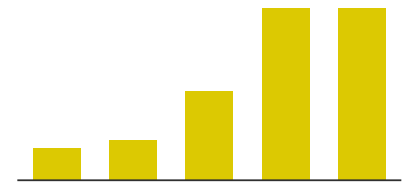


RESPONSES

No, very little



1	4	6.5%
2	5	8.1%
3	11	17.7%
4	21	33.9%
5	21	33.9%



Yes, very much

FINDINGS

Unanimously in favour of academic carrier in Georgia

General trend in favour of academic carrier in Armenia as well.

RECOMMENDATIONS

HERiTAG to target curricular reforms at master level to meet the students demand for more education and academic prospects.

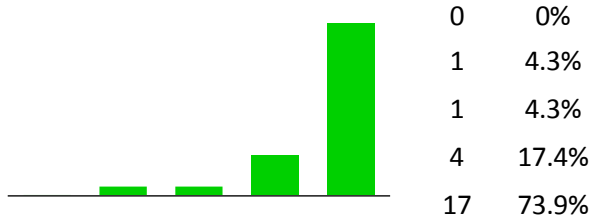


I wish to be an exchange student in another university of European Union

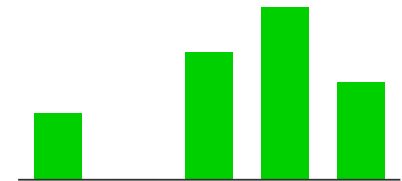


RESPONSES

No, very little



1	9	14.5%
2	0	0%
3	17	27.4%
4	23	37.1%
5	13	21%



Yes, very much

FINDINGS

Georgian students are unanimously supportive to exchange opportunities with EU universities.

Same is the conclusion in Armenia, but some minority number is still sceptical.

RECOMMENDATIONS

HERiTAG is expected to have good follow-up next time by involving student exchange opportunities, larger the numbers – the better.

Issue of concern in Armenia and Georgia should be that exchange student may pursue careers in European countries, contributing further to brain drain, therefore, any projects stimulating student exchange programs should set safeguards for avoiding brain drain, rather contributing into national employment and carrier opportunities for exchange students, as well as setting respective conditionality and indicators to monitor the process.

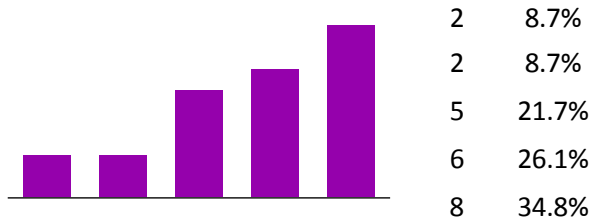


I have certain knowledge about the Bologna process in Europe

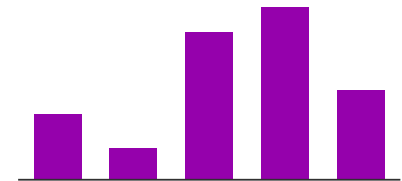


RESPONSES

No, very little



1	8	12.9%
2	4	6.5%
3	18	29%
4	21	33.9%
5	11	17.7%



Yes, very much

FINDINGS

Responses are exactly opposite in CH compared to GiT in Georgia: Georgia CH student seem more aware or better explained that they follow Bologna process in their reforms.

Mixed answers in Armenia. Looks like not all universities teaching CH embark on Bologna process, or do not explicitly explain this to students.

RECOMMENDATIONS

Armenian CH students should be given information, explanations and lectures on Bologna process and its implementation in Armenian universities. The same effort would not be in vain for Georgian universities and students as well.

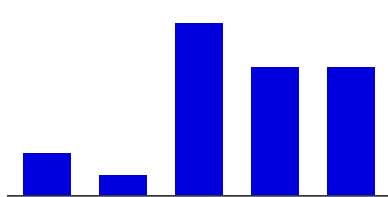


I have certain knowledge about the European Credit Transfer System



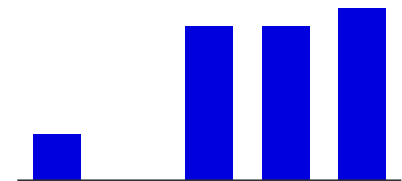
RESPONSES

No, very little



2	8.7%
1	4.3%
8	34.8%
6	26.1%
6	26.1%

1	5	8.1%
2	1	1.6%
3	18	29%
4	18	29%
5	20	32.3%



Yes, very much

FINDINGS

Trends are similar in Georgia and Armenia:

In general CH student seem aware of credit transfer system, but not with 100 percent confidence.

RECOMMENDATIONS

CH students should periodically be given additional information, explanations and lectures on credit transfer system implementations in universities.

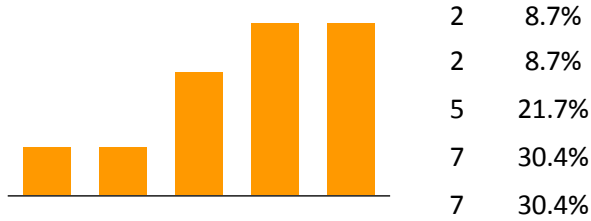


I am interested to study for a master degree in GiT in support of cultural heritage if such a program is offered by my University

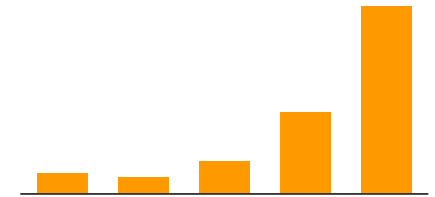


RESPONSES

No, very little



1	4	6.5%
2	3	4.8%
3	6	9.7%
4	15	24.2%
5	34	54.8%



Yes, very much

FINDINGS

Georgian students are willing to proceed further with master’s program in CH GiT, but willingness is much less unanimous then for GiT students.

Armenian students are willing to proceed further with master’s program in CH GiT in more unanimous way compared to Georgia.

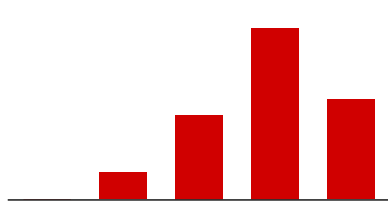
RECOMMENDATIONS

HERiTAG should target masters programs in GiT and not be limited to bachelors program only, both in Georgia and in Armenia. In Georgia efforts should be accompanied by awareness raising as well on importance of GiT methods in CH.

II.4. GiT needs in TOURISM ECONOMICS



I am interested in geoinformation technologies (GiT) because I can apply it in the tourism economics

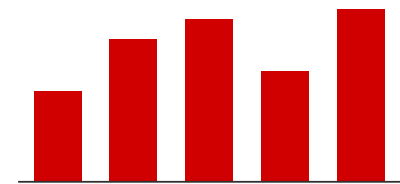


0	0%
2	7.4%
6	22.2%
12	44.4%
7	25.9%

RESPONSES

No, very little

1	19	13.4%
2	30	21.1%
3	34	23.9%
4	23	16.2%
5	36	25.4%



Yes, very much

FINDINGS

Georgian tourism sector students are in general convinced in the value of GiT for their field, but not as unanimously as CH students.

Armenia tourism sector students are much less aware of the value of GiT for their field.

RECOMMENDATIONS

Universities and sector industries in Armenia are advised to conduct awareness raising efforts on value of GiT in supporting tourism and its economics and the same would not hurt Georgian universities and industry as well.

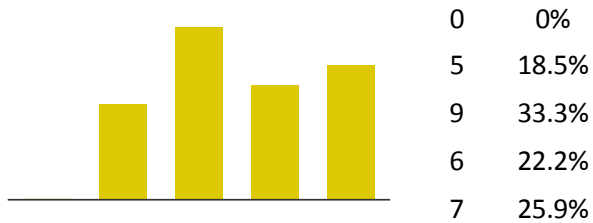


I would chose GiT subjects to complement my tourism education program because I believe it would be easier for me to find a job in my Country after graduation

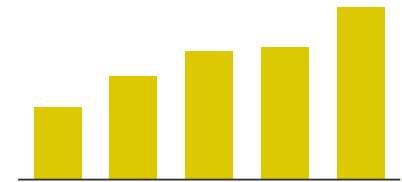


RESPONSES

No, very little



1	17	12%
2	24	16.9%
3	30	21.1%
4	31	21.8%
5	40	28.2%



Yes, very much

FINDINGS

Georgian tourism sector students are not convinced GiT knowledge would bring job opportunities.

Armenia tourism sector students are not convinced GiT knowledge would bring additional employment opportunities as well, but trend is more positivistic than in Georgian case.

RECOMMENDATIONS

Regular interaction between universities and GiT and tourism trade representatives would contribute to both awareness raising and employment prospects. GTTCs and AB-GE and AB-AM could play instrumental role in such interaction enhancement.

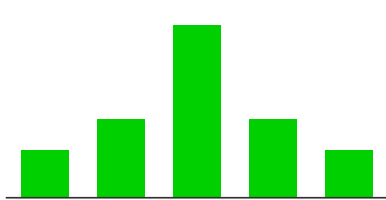


I am satisfied with the GiT subjects in tourism, tourism economics program at my University



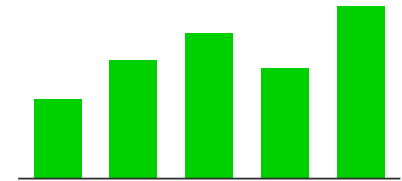
RESPONSES

No, very little



3	11.1%
5	18.5%
11	40.7%
5	18.5%
3	11.1%

1	18	12.7%
2	27	19%
3	33	23.2%
4	25	17.6%
5	39	27.5%



Yes, very much

FINDINGS

Tourism students in Georgia in general are neutral or just not satisfied with access to GiT education (equal share of positive-negative answers).

Tourism students in Armenia in General are also not satisfied with GiT education either, but good share of students is still positive (~45%).

RECOMMENDATIONS

GTTCs can play positive role in promoting GiT education in truism trade.

Joint credits and degrees in GiT and tourism economics seems necessary to promote GiT education for tourism sector students.

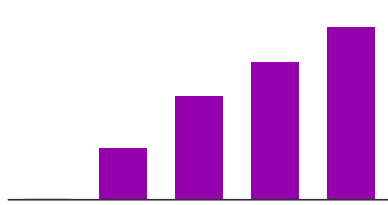


I think the contents of the Tourism Economics program should be modernized and improved with the use of GiT (Geospatial information Technologies)



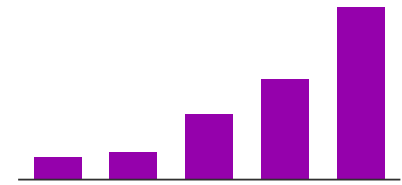
RESPONSES

No, very little



0	0%
3	11.1%
6	22.2%
8	29.6%
10	37%

1	8	5.6%
2	10	7%
3	24	16.9%
4	37	26.1%
5	63	44.4%



Yes, very much

FINDINGS

Trend for Georgian tourism students is that they need modern education, improving on GiT delivery in particular.

Armenian CH students are also in favour of modern education including in GiT field.

RECOMMENDATIONS

HERiTAG curricular reform should address the issue of access for tourism students to GiT education facilities, in which GTTCs could play a major role. Joint inter-university education programs could provide the quick success and mutual benefit.

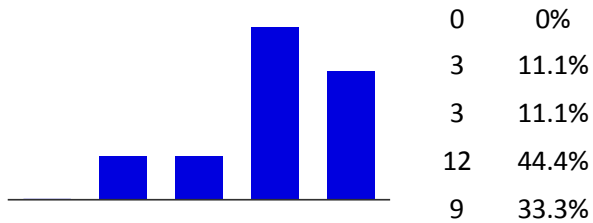


The teaching methods should be modernized

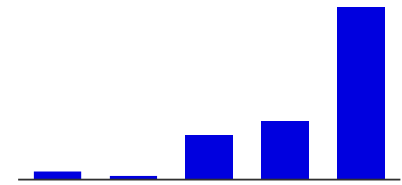


RESPONSES

No, very little



1	4	2.8%
2	2	1.4%
3	22	15.5%
4	29	20.4%
5	85	59.9%



Yes, very much

FINDINGS

Georgian students vote for modernisation of teaching methods in general.

Armenian students are even more in favour of education modernisation.

RECOMMENDATIONS

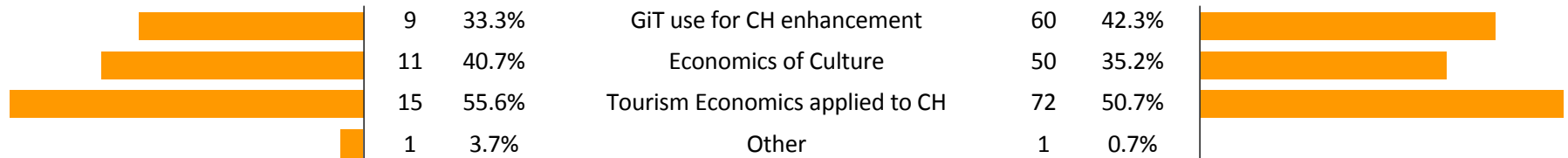
Generally tourism specialisation students consider that teaching methods should be modernised. HERiTAG implementing GiT and tourism economics education and cultural tourism modules could be one way of contributing into this request.



What are the topics you would be more interested to have additional learning?



RESPONSES



FINDINGS

Trends are the same in both countries.

In Georgia tourism economics education applied in CH is welcomed by most tourism sector students, bit less in economics of culture and GiT.

Trends are same in both countries (more support for GiT in Armenia).

In Armenia majority of tourism students are in favour of tourism economics education, bit less in economics of culture and GiT.

RECOMMENDATIONS

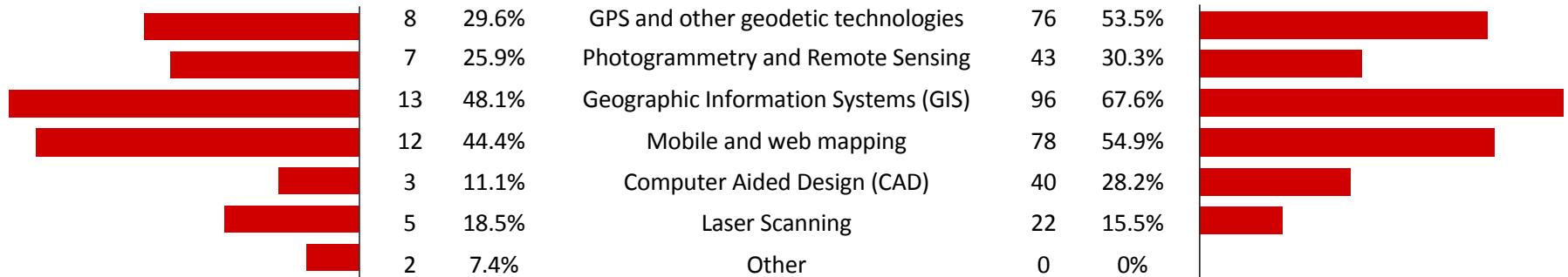
HERiTAG could contribute through GTTCs, meeting the student demands by offering GiT, cultural tourism and tourism economics modules.



What are the GiT topics (in support of tourism education) you would be more interested to have additional learning?



RESPONSES



FINDINGS

In Georgia preferred choice of tourism sector students is GIS and mobile and web-mapping. Armenians also prefer GIS, mobile and web-mapping and also GPS.

RECOMMENDATIONS

HERITAG can contribute by implementing GIS and mobile and web-mapping modules through GTTC and joint inter-university education arrangements.

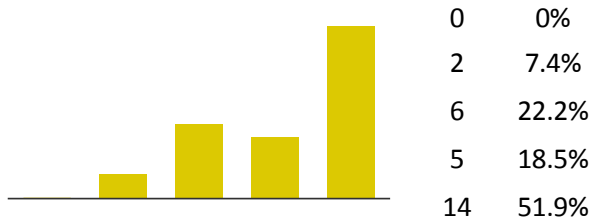


I wish to get more information on GiT in support of tourism employment opportunities in my Country during my study period

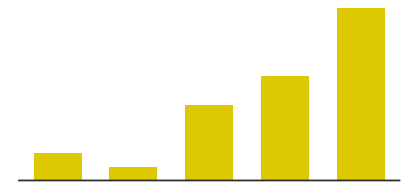


RESPONSES

No, very little



1	10	7%
2	5	3.5%
3	27	19%
4	38	26.8%
5	62	43.7%



Yes, very much

FINDINGS

Support for GiT use in tourism sector is quite high in Georgia.

Support for GiT use in tourism sector is quite high in Armenia as well.

RECOMMENDATIONS

Universities and industry efforts of GiT awareness raising can be useful, through GTTCs in particular.

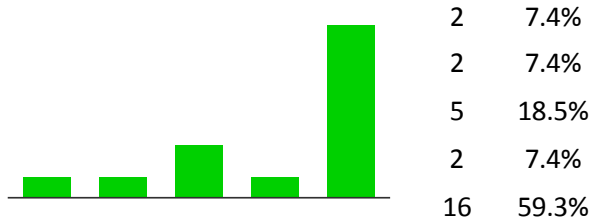


I want to continue academic studies after graduation

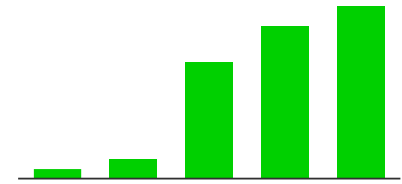


RESPONSES

No, very little



1	3	2.1%
2	6	4.2%
3	35	24.6%
4	46	32.4%
5	52	36.6%



Yes, very much

FINDINGS

Unanimously in favour of academic carrier in Georgia.

General trend in favour of academic carrier in Armenia as well.

RECOMMENDATIONS

HERITAG to target curricular reforms at master level to meet the students demand for more education and academic prospects.

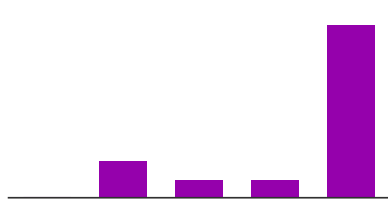


I wish to be an exchange student in another university of European Union



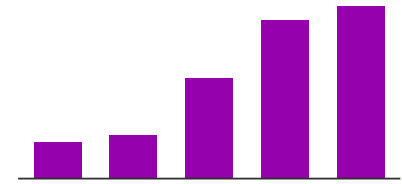
RESPONSES

No, very little



0	0%
4	14.8%
2	7.4%
2	7.4%
19	70.4%

1	10	7%
2	12	8.5%
3	28	19.7%
4	44	31%
5	48	33.8%



Yes, very much

FINDINGS

Georgian students are unanimously supportive to exchange opportunities with EU universities.

Same is the conclusion in Armenia, but some minority number is still sceptical.

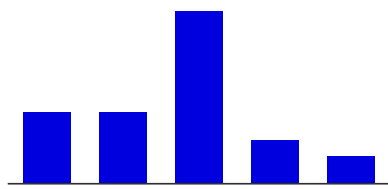
RECOMMENDATIONS

HERiTAG is expected to have good follow-up next time by involving student exchange opportunities, larger the numbers – the better.

Issue of concern in Armenia and Georgia should be that exchange student may pursue careers in European countries, contributing further to brain drain, therefore, any projects stimulating student exchange programs should set safeguards for avoiding brain drain, rather contributing into national employment and carrier opportunities for exchange students, as well as setting respective conditionality and indicators to monitor the process.



I have certain knowledge about the Bologna process in Europe

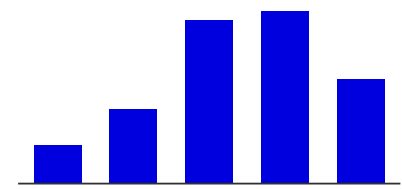


5	18.5%
5	18.5%
12	44.4%
3	11.1%
2	7.4%

RESPONSES

No, very little

1	10	7%
2	19	13.4%
3	42	29.6%
4	44	31%
5	27	19%



Yes, very much

FINDINGS

Surprising answer in Georgia. Looks like not all universities either embark on Bologna process, or do not explicitly explain this to students.

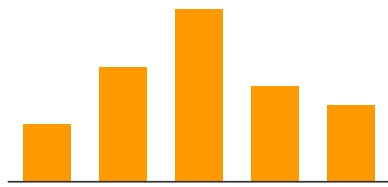
Mixed but in general positive answers in Armenia. Universities teaching tourism still need to explain more on Bologna process to students.

RECOMMENDATIONS

Georgian GiT students should be given information, explanations and lectures on Bologna process and its implementation in Georgian universities. The same effort would not be in vain for Armenian universities and students as well.



I have certain knowledge about the European Credit Transfer System

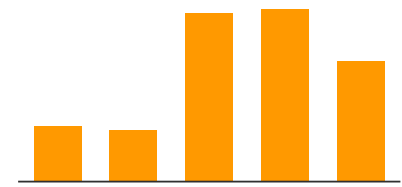


3	11.1%
6	22.2%
9	33.3%
5	18.5%
4	14.8%

RESPONSES

No, very little

1	14	9.9%
2	13	9.2%
3	42	29.6%
4	43	30.3%
5	30	21.1%



Yes, very much

FINDINGS

Again, surprising answer in Georgia. Looks like not all universities either embark on or explain the credit transfer system to students.

Armenian student seem more aware or better explained the credit transfer system to students.

RECOMMENDATIONS

Georgian GiT students should be given information, explanations and lectures on credit transfer system implementations in Georgian universities. The same effort would not be in vain to Armenian universities and students as well.

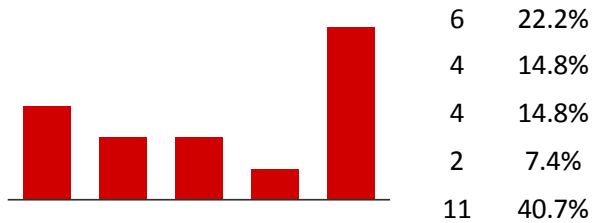


I am interested to study for a master degree in GiT in support of tourism economics if such a program is offered by my University

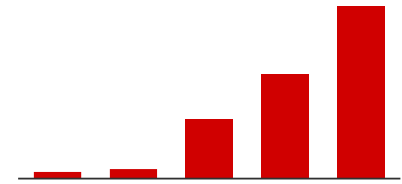


RESPONSES

No, very little



Interest Level	Number of Students	Percentage
1	3	2.1%
2	4	2.8%
3	24	16.9%
4	42	29.6%
5	69	48.6%



Yes, very much

FINDINGS

Some 40% share of Georgian students are willing to proceed further with master’s program in GiT supporting the tourism, but willingness is much less unanimous than for CH students and far less than for GiT students.

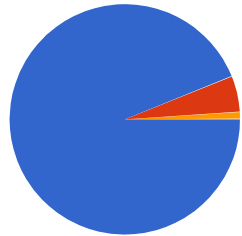
Armenian students are willing to proceed further with master’s program in GiT in support of tourism in more unanimous way compared to Georgia.

RECOMMENDATIONS

HERiTAG should target masters programs in GiT and not be limited to bachelors program only, both in Georgia and in Armenia. In Georgia efforts should be accompanied by awareness raising as well on importance of GiT methods in support of tourism.



I agree to public use of my responses by HERITAG study



93.9%	93
5.1%	5
1%	1

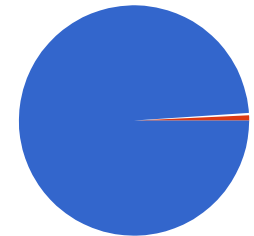
Five respondents in Georgian survey had reservations with public distribution of their responses.

One GiT student answering option 'Other' was actually positive in response, providing the following comment:

'My profession is very important globally, almost all other trades are essentially dependent on this field. GiT, RS and Geodesy should better be developed and equipped with professional cadre.'

RESPONSES

Yes	272	99.3%
No	2	0.7%
Other	0	0%



FINDINGS

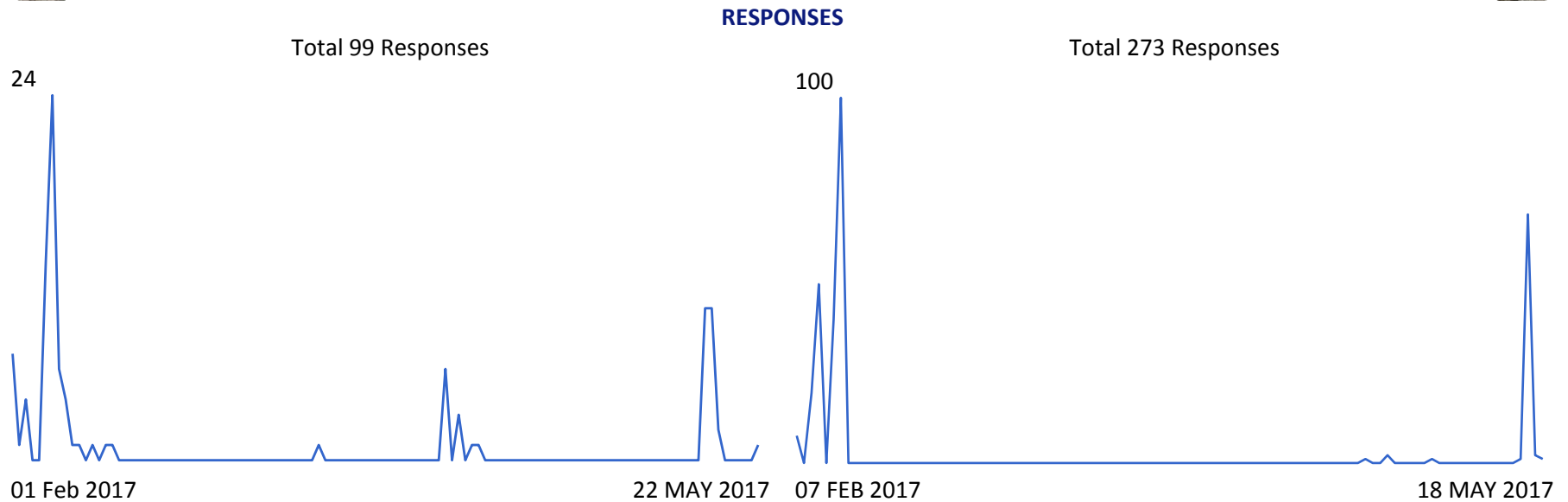
There were only two reservations on disclosure expressed by Armenian respondents.

RECOMMENDATIONS

Personal information was not requested from students in the survey and therefore the question was intended for general awareness rather than to prevent disclosure against the will of respondents. At the same time, it is acknowledged, that technically it appeared impossible to remove responses from Google Form without deleting the form and consequently all responses. This means, that analytical charts very conveniently generated automatically by the Google Forms can not be generated without accounting for all responses received. This question therefore needs to be reformulated for not disclosing personal information, while disclosing the aggregated responses can not be avoided due to technical reason. It is assumed that negative responses received were concerned only with personal data, which essentially were not collected from students, while personal email used for survey distribution in Georgia are kept strictly confidential and only one partner (and one person) responsible for the study has access to all emails and keeps them in a secure conditions till the end of the project and will delete emails once project monitoring obligations are over.



Number of daily responses



RESPONSES

Total 99 Responses

Total 273 Responses

FINDINGS

Georgian student responses encountered 4 major spikes immediately after email distributions and 3 spikes of minor intensity apparently after personal reminders. Overall number of responses was not as high as in Armenia, but clearly sufficient allowing to gauge the opinion in this unstructured survey. Distributions were via email and responses were 'unmoderated'. All responses were received in the February-May 2017 period, therefore all of them were reflected in the results of the study.

Armenian student responses were received in 3 major spikes in the beginning and at the end of the survey period and in 3 minute spikes. Overall number of responses was 2.7 times higher than in Georgia. Distributions were in hard copy and therefore responses received were all collected in 'moderated' way and then entered into the survey Google Forms. 1 response was received in beginning of June 2017, but this was accounted for as report preparation timing made this possible.

RECOMMENDATIONS

Feedback (through report distribution and feedback allowance) should preferably be provided both in Georgia (via same survey email list distributions) and similarly attempt should be made in Armenia to distribute the report as a feedback using emails of respondents whenever available. This would enable any next iteration of the survey to be more 'trusted' by the respondents and higher response rates hopefully achieved.

Electronic distribution via emails is highly preferable for the consistency of the next surveys iteration(s). Confidentiality of the private data should again be given the highest priority treatment to maintain the trust and credibility with the public. In-survey invitations may prevent spam filtering.

Annex II.1. UNIVERSITY and STUDY additional details



Name of your university



49 - Ilia State University (ISU)
23 - Georgian Technical University (GTU)
21 - Ivane Javakhishvili Tbilisi State University (TSU)
04 - Batumi Shota Rustaveli State University (BSU)
01- Sokhumi State University (SSU)

Largest number of respondents is from ISU partner (around twice as much as from GTU or TSU).

RESPONSES

110 - National University of Architecture & Construction (NUACA)
71 - Armenian State University of Economics (ASUE)
94 - Goris State University (GSU)

FINDINGS

Largest number of respondents are from NUACA, but two other universities ASUE and GSU are well represented as well.

RECOMMENDATIONS

Georgian universities need to apply twice as much effort in next iteration (BSU in particular), while Armenian universities can apply the same effort.



- 19 - Mining Geology
- 04 - Natural Sciences and Healthcare
- 05 - Exact and Natural Sciences
- 03 - Engineering
- 12 - Natural Sciences and Engineering
- 04 - Sciences and Art
- 01 - Earth Sciences and Engineering
- 16 - Humanities
- 04 - Business Administration (Tourism)
- 17 - Business Administration
- 06 - Business
- 01 - Archaeology
- 01- Natural sciences
- 01- Business School
- 01 - Management

Some Georgian students are confusing faculties with departments.

Faculty

RESPONSES

- 93 - Construction
- 71 - Management
- 69 - Engineering and economy
- 18 - Faculty of Humanitarian Professions
- 13 - Urban economy and ecology
- 07 - Natural Sciences
- 01 - Cadastral and Applied Geodesy
- 01 - Tourism Ecology and Ecology
- 01 - Fishing Ecology
- 01 - Innovation

FINDINGS

Main contributions come from construction, management and engineering and economy faculties.

RECOMMENDATIONS

Bilingual drop-down list preferably should be employed in the next iteration so that all “expected” generic names are listed based on this initial survey and option “Other” provided to enter new respondent type data. This would minimize spelling and translation mistakes, would guide students.





03 - Engineering geodesy and geoinformation systems
03 - Geoinformatics Geoengineering and Cartography Faculty of
Geomorphology
05 - Engineering Geodesy
03 - Mining geology
01 - Middle-Eastern Studies
03 - Business Administration
02 - Business (tourism)
02 - Tourism management
05 - Business school
01 - Natural sciences
11 - Geography
09 - Geodesy
01 - Geoinformatics
01 - Science and art
10 - Earth sciences
01 - Education
09 - Humanities
10 - Tourism
06 - Archaeology
01 - Classical Studies
01 - History
03 - Computer Science
01 - Cultural Heritage
04 - Business
01 - I do not know
01 - No department

Department

RESPONSES

71 - Tourism and crisis management
64 - Economy
56 - Construction
37 - Engineering Geodesy
14 - Armenian Language and literature
13 - Service
07 - Biology
05 - Civil engineering
04 - History
01 - Cadastre and geodesy
01 - Innovation



FINDINGS

Georgian students are confused about their departments. Some even 'do not know' and quote there is 'no department'.

Most contributions come from tourism, economy, construction and engineering geodesy departments.

RECOMMENDATIONS

Georgian universities should make very clear their institutional structure and explain this to students very well. Students should not be confusing faculty with department and with program enrolled.

We may also need to modify questions to make it fully correspondent with institutional structures of the universities.

Bilingual drop-down list preferably should be employed in the next iteration so that all "expected" generic names are listed based on this initial survey and option "Other" provided to enter new respondent type data. This would minimize spelling and translation mistakes, would guide students.



Program enrolled



RESPONSES

02 - Physical geography, soil resources and sustainable development of the environment	64 - Economics and Enterprise Management
10 - Geography and GIS technologies	38 - Tourism Management
14 - Geoinformation	37 - Cadastre & Geodesy
16 - Archaeology	33 - Crisis management
14 - Tourism	26 - Cadastre and Applied Geodesy
03 - Geoinformation systems	12 - Armenian language
02 - GIS technology and geography	09 - Service
02 - Business Administration in Tourism Management	08 - Cadastre and Rural Geodesy
01 - Business Administration in Tourism	08 - Building Design
01 - Geomorphology, Cartography Landscape planning	07 - Geodesy and cadastre
02 - Geography and GIS	07 - Biology
03 - Culture Management	06 - History
01 - Classical and Near East Studies	06 - Bachelor
01 - Tourism Administration	05 - Civil engineering
06 - Tourism Management	04 - Guide
01 - International Relations	01 - Artificial and Civil Construction
01 - Mining Geology	01 - Magician
01 - Business Tourism	
01 - GIS technologies	
01 - Information systems	
04 - Geodesy	
01 - GIS	
03 - Geography	
01 - Geophysics	
01 - Geology	
02 - Computer Science	
01 - Management	
01 - Arabic Studies	

FINDINGS

Georgian students are confused about their enrolled programs names.
Seems like similar programs are quoted in different titles.
Good feedback received from GiT, tourism and archaeology studies.

Most contributions come from Departments of Economics and Enterprise Management, Tourism Management, Cadastre & Geodesy, Crisis management and Cadastre and Applied Geodesy. Some response entries apparently were mistaken (e.g. 'Bachelor').

RECOMMENDATIONS

Many entries in Georgian case were apparently referring to same enrolment programs, but were named with different titles. Same would probably be the case in Armenia, but student hard copies were entered collectively and degree of mistakes was therefore lower.

Bilingual drop-down list preferably should be employed in the next iteration so that all "expected" generic names are listed based on this initial survey and option "Other" provided to enter new respondent type data. This would minimize spelling and translation mistakes, would guide students.



Study year



RESPONSES

2017
 2016
 2015
 2019
 2018
 2017
 2016
 2015
 2019
 2018

2016
 2015
 2017
 2016
 2016
 2015
 2017
 2016

FINDINGS

Georgians clearly misunderstood the question as some entered future. Seems like Armenians understood the question.

RECOMMENDATIONS

Instead of 'study year' and showing year as a response entry option, probably question should refer to 'course year' and show numbers 1, 2, 3, 4, 5 for optional choice, but this will exclude those who already finished the university. Survey date would then determine the study start year. Alternatively, question should probably ask 'Study start year'.

Bilingual drop-down list preferably should be employed in the next iteration so that all "expected" generic names are listed based on this initial survey and option "Other" provided to enter new respondent type data. This would minimize spelling and translation mistakes, would guide students.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations (referred to as survey findings) are based on survey results, analysed in the previous section and are split into two broad groups – substantive findings, relevant for GiT, CH and TE sectors, and technical findings, which are more related to recommendations how best to organise next iterations of such surveys, moreover that it is one of the findings of substantive nature to repeat the survey at the end of the project, comparing results with baseline conditions. These findings are summarised in bullet points in two groups following further below. More broadly, conclusions and recommendations are collected as common ones for both surveys, as well as grouped further below for stakeholder and student surveys specifically.

COMMON findings and recommendations for both surveys

Substantive findings and recommendations:

- Firstly, it is recommended to repeat these surveys at the end of the project implementation and compare results with this baseline.
- Number of stakeholder responses per sectors is too low in some cases. Next iteration of the survey should balance stakeholder responses for all three sectors concerned: GiT, CH and TE.
- In this respect it is clearly needed to enhance share of cultural heritage and tourism stakeholder responses in Georgia and cultural heritage and especially GiT stakeholder responses in Armenia.
- Promotion of GiT sector is certainly needed in CH & TE context in both countries, so that GiT training and re-training needs are appreciated. Offering professional training opportunities through GTTC-s would be an important recommendations in this regard, as well as conducting good case studies and disseminating the results.
- Positive opinion towards GiT need in support of CH and TE should be capitalised by performing good case studies in the project and creating GiT application modules through GTTC.
- Narrative responses to question on GiT education needs in country indicate high general interest for this type of education. HERiTAG could certainly contribute with developments at various programmatic, curricular and syllabus levels (masters and bachelors, joint implementation among GiT, CH and TE thematics), as well as life-long and professional education packaging through GTTC.
- In addition to GIS experience sharing between partner countries, both countries and their CH agencies would benefit from HERiTAG training packages, if and when implemented at GTTC (Valencia and Thessaloniki training packages in particular – mobile mapping, photogrammetry, laser scanning, etc.).
- Multiple narrative responses/additional comments on “GiT experiences in CH and tourism” indicate that photogrammetric equipment purchase for Georgia (3D laser scanner and software in particular) is of high priority e.g. for NACHPG capacity enhancement. HERiTAG could certainly contribute, stimulating cooperation, training, education resource and equipment sharing among partners in GTTC.
- More narrative responses to “other comments on GiT education needs” in both countries indicate the high priority for HERiTAG to proceed with replicating the training experiences in GiT and CH fields so that students of respective specialities have opportunities of orientation and education in these fields (both on GiT and CH sides, in partner and other HE institutions).
- Excellent vehicle for the introduction could be case studies performed by trained teachers and involving best students so that proposed programs are polished based on actual practice. Within HERiTAG partners seems to have necessary resources to engage professional personnel using project resources.
- GTTCs in the long run can play the dissemination and communication role so that invitations to such surveys are actively acted upon and trusted by stakeholders.
- Report is advised to be distributed to HERiTAG Advisory Group Members both in Armenia and in Georgia and their important feedback incorporated prior to public distribution. Would be prudent to finalise the report only once AG-AM and AG-GE and public comments are heard and acted upon.

- It is also suggested to share with all the survey participants electronic link to proper web repository and announcement once this report is finalised for distribution (and possibly feedback), via email in Georgia and in Armenian the same way using advantage of email communication for personal feedback. One can potentially even request repeated round of survey.
- Feedback should preferably be provided both in Georgia (via same survey email list distributions) and similarly attempt should be made in Armenia to distribute the report as a feedback using emails of respondents whenever available. This would enable next iteration(s) of the survey to be more ‘trusted’ by the respondents and higher success rates hopefully achieved.

Technical findings and recommendations:

- It takes several months (3 to 6) to organise the survey and report the results. Next iteration can be less time consuming as infrastructure is already set for immediate initiation of the surveys.
- Seems like email invitation of anonymous survey is more encouraging for stakeholders to express additional opinions, as there are more narrative responses received in Georgia than in Armenia.
- In some cases, where exact quantitative figures can not be provided by all respondents (e.g. “Number of employees working in Cultural Heritage (CH)?”) it might be better to provide for selection of predefined answers in ranges (e.g. from 1 to 5, from 5 to 10, from 10 to 25 etc. and ‘other’ option), so that meaningful ranges are indicated rather than some number which are probably never known exactly even by the administrations of the institutions due to permanent process of staff turnover in larger organisations.
- Questionnaire branching can not be avoided due to 3 sectors involved, but it should be clearly stated that correct answer at branching stage is critical in terms of the next question types.
- Electronic distribution via emails is indeed preferable for the consistency of the next surveys iteration(s). Confidentiality of the private data should be given the highest priority treatment to maintain the trust and credibility with the public.
- Bilingual drop-down list preferably should be employed in the next iteration when asking about organisations’ names and other similar questions (e.g. Department, Position and alike), so that all “expected” generic options are listed based on this initial survey and option “Other” provided to enter new respondent type data. This would minimize spelling and translation mistakes and make subsequent analysis more robust.

STAKEHOLDER survey specific findings and recommendations

Substantive findings and recommendations:

- Number of stakeholder responses per sectors is too low in some cases. Next iteration of the survey should balance stakeholder responses for all three sectors concerned: GiT, CH and TE.
- In this respect it is clearly needed to enhance share of cultural heritage and tourism stakeholder responses in Georgia and cultural heritage and especially GiT stakeholder responses in Armenia.
- There is a need to increase number of GiT respondents in Georgia as there seem to be much more stakeholder individuals and institutions available, specialised in GiT.
- Target GiT stakeholders in Armenia, as there should definitely be more individuals and institutions working in GiT field. Number of respondents should considerably increase so that responses and findings are more justifiable in quantitative terms.
- GiT professionals and stakeholders should be explained and made aware of the usefulness of application of their field for CH and tourism. The project could indeed contribute with case studies and dissemination and GTTC technical courses for stakeholders from all three sectors.
- Responses to question describing organisational experiences regarding the use of GiT in the cultural heritage or tourism sectors demonstrate that GiT technologies are well applied in cultural heritage sector

- in Georgia and to lesser degree in Armenia. Experience sharing in CH GIS and databases could be a relevant initiative for the future.
- Laser scanning is identified as the field with moderate need of priority in terms of GiT training fields and project can certainly help with this by creating professional module at GTTC.
 - As CH organisations seem reluctant to employ GiT students as young specialists, it is recommended to encourage CH organisations to better define their GiT needs, e.g. by participating in open days and other events to enhance interaction with HE institutions.
 - CH institutions also need to be as receptive of GiT graduates as they are with experienced staff. This can be achieved with sector specific education at universities, in which HERiTAG can indeed contribute with its curricular reform efforts.
 - It seems recommended to work with CH institutions and stakeholder individuals to define more specific GiT subjects/fields for priority setting. HERiTAG could then contribute with its sectoral education reform package to target specific fields of education in GiT useful for CH (such as photogrammetric cultural heritage documentation).
 - There is unanimous support that “GiT can play an important role in visualization and promotion of cultural heritage”. HERiTAG could meet this interest in GiT applications for CH with case studies in both countries.
 - There is also support that “GiT can play an important role in promotion of cultural tourism”. HERiTAG could again meet this interest in GiT applications for cultural tourism with case studies in both countries.
 - Responses to question for CH stakeholders “Other comments on GiT education needs in your Country” indicate, the HERiTAG needs to proceed with HE curricular reform steps, but also could consider developing some recommendations for school level education.
 - From responses to renovation needs in GiT and tourism sectors, it appears that more awareness of tourism economy subjects are needed in Georgia, more awareness of GiT value for tourism in Armenia.
 - Armenian tourism sector stakeholders were less enthusiastic on GiT application in tourism sector, illustrating that there is a need to disseminate to tourism stakeholders good training materials and case studies, explaining the value of GiT in support of the tourism trade.
 - Preferences shown by both partner countries with regard to most important GiT sectors from their point of view demonstrate the need to provide tourism stakeholders (a) with opportunities for professional training through GTTC in subjects of interest (GIS, SDI, mobile and web-mapping) and (b) with additional information and training/lecture opportunities in other GiT subjects of choice (e.g. big data in tourism).
 - Tourism stakeholders in Georgia did not express desire to receive GiT students. GTTCs could provide/facilitate meeting point for GiT and tourism professionals, so that interest in GiT is enhanced within tourism sector stakeholders. Armenians could similarly benefit as well, so that their low desire with providing GiT employment opportunities is increased.
 - GTTCs could provide meeting point for GiT, CH and tourism professionals, so that interest in GiT is enhanced within cultural tourism stakeholders (quite high number of respondents in Armenia were not positive regarding GiT role in their sector, e.g. in visualisation and promotion of CH and tourism).
 - Both Georgian and Armenian tourism stakeholders report lack of experience in use of GiT in CH and tourism. GTTCs could indeed be instrumental in sharing GiT applications and knowledge to CH or tourism professionals. HERiTAG provides vast material for use and this could be utilised.
 - There are isolated but quite innovative small GiT-Tourism groups in both countries and their experience sharing could be stimulated through GTTC platform.
 - Interesting crowdsourcing idea is suggested by Armenian stakeholder/company: use actual trips to accumulate data about touristic trails. One Georgian company has some experience with this which, could be followed and expanded.
 - In particular, survey response from an Armenian company challenged GiT stakeholders to, quote, ‘create a comprehensive ecotourism map of attractions, businesses, and stakeholders so that stakeholders can add hiking trails to such a map’. Challenge is valid for Georgia as well, although there is a good example in Georgia one company trying to tap such capability (see <http://travelgis.ge>).

Technical findings and recommendations:

- Both stakeholder and student surveys have branching point in the beginning and it should be clearly communicated during the survey process that similar questions are asked but still GiT, cultural heritage and tourism questions are branching to similar but different questionnaires at this point.
- Probably option 'Geospatial databases and infrastructure' (also known as SDI) was misinterpreted and was opted most frequently due to generic nature. It is perhaps better to use the term Spatial Data Infrastructure (SDI) in future.
- Another recommendation would be to provide additional information regarding the meaning of each response options in the questions where about GiT specialists most needed are asked.
- The same questions, provided survey is repeated, should probably ask respondents what is the meaning of 'Other', allowing for entry of some other GiT specialities.
- Questions "Do you think GiT can play an important role in visualization and promotion of cultural heritage?" and "Do you think GiT can play an important role in promotion of cultural tourism?" seem too similar and may need to be reformulated to clearly show that sector concerned is cultural heritage (e.g. visualisation and documentation) and another sector is tourism, and their interplay as well (cultural tourism). GiT sector stakeholders may not be able to differentiate among these questions.
- Selection of GiT instruments offered in the question "Do you think some of the following GiT fields are useful for CH preservation, documentation and/or restoration?" certainly seems insufficient (3 options only). HERITAG training experience in UPV and AUTH demonstrated that many other instruments are relevant for CH preservation, documentation and/or restoration. AUTH and UPV are kindly asked for advice on extending these three options to relevant wider range, which could be used in next iteration.
- In the next iteration Georgian partners are advised to attract much more responses from tourism sector companies and institutions (respondents are considerably smaller in number compared to Armenia).
- Tourism sector is quoting too low employment of GiT specialists. Even larger institutional stakeholders seem unaware of the benefits of the GiT and it might be recommended to target them for awareness raising, e.g. by performing and then sharing/disseminating case studies, or inviting to GTTC courses.
- Question "Do you think that tourism industry needs some renovation?" sounds as open ended/rhetoric, more concerned with tourism sector only and may need to be revised to highlight link with GiT and its applications in tourism.
- Include for tourism stakeholders question on 'big data in tourism' (e.g. in the optional selection GiT list).
- Question "Do you think GiT can play an important role in promotion of cultural tourism?" needs some reformulation, as it is essentially almost the same as the previous question "Do you think GiT can play an important role in visualization and promotion of cultural heritage and tourism?" Clear distinction should probably be made between CH and TE sectors. This part of the survey is actually concerned with tourism sector and GiT.
- Personal information should not be exposed publicly whether respondents provide positive or negative response to the question on public use of their responses. At the same time it is acknowledged, that it is impossible to remove responses from Google Forms without deleting the form. This means that analytical charts very conveniently generated automatically by the Google Forms can not be generated without accounting for all responses received. This question therefore needs to be reformulated on not disclosing personal information, while disclosing the aggregated responses can not be avoided due to technical reason. It is assumed that negative responses received were concerned only with personal and institutional privacy and this was fully respected in the content provided in this report.
- Stakeholder response rates were not great in Georgia. This was better in Armenia, but there was also lack of some types of organisations. More 'personalised' effort should therefore be applied in the future iteration to make sure that stakeholders respond to invitations and fill questionnaires. This can be

- facilitated by e.g. organising email reminders on a personalised basis (using Google Forms this is possible to manage, when contact email are available), perhaps following up with phone calls as well.
- Bilingual drop-down list preferably should be employed in the next iteration when asking about organisations' names and other similar questions (e.g. Department, Position and alike), so that all "expected" generic options are listed based on this initial survey and option "Other" provided with the capability to enter new respondent type data. This would minimize spelling and translation mistakes and make subsequent analysis easier and more robust.

STUDENT survey specific findings and recommendations

Substantive findings and recommendations:

- Quite large proportion of students in both countries (55% in Georgia, ~40% in Armenia) are not fully confident they can find GiT jobs once graduated. Universities and industry need to address the issue with various measures.
- Some 10-15% of Georgian students were not satisfied with GiT education. HERiTAG opportunity could be used to further enhance the GiT education opportunities and diversity by implementing project provided new subjects and methods.
- 'Openness' of student responses in Georgia not shying from negative feedbacks (see previous point) might be a hint that email invitations may stimulate more 'unmoderated' responses from students as some extra 'anonymity' is implied (survey for students was fully anonymous, so respondents emails can not be tracked in principle).
- Above point is confirmed in the next question: when GiT students were asked directly "I think the contents of the GiT and geodesy program should be modernized" and "The teaching methods should be modernized" – responses were quite similar and overwhelmingly confirming in both partner countries.
- Georgian GiT students (almost 50%) were unanimously supportive that the "computer facility and geodetic equipment should be modernized". HERiTAG supply of computer equipment to BSU and ISU and laser scanner to GTU in Georgia may contribute into making students' thinking a bit more optimistic in this respect.
- High rating for laser scanning in Armenia compared to Georgia demonstrates that availability of laser scanner and training HERiTAG can provide to GTU might certainly contribute into making this field of interest for students (NUACA, Armenia has such an equipment from previous projects).
- GiT Students in both countries overwhelmingly need "information on GiT and geodesy employment opportunities in my Country during my study period". Universities/industries could try do more to explain to students on employment opportunities. GTTCs, AB-GE & AB-AM could contribute into this endeavour.
- In both countries GiT students are clearly aspiring to academic carrier. This trend is quite welcoming, but GiT field is specific where application-oriented carrier could probably be equally attractive to academic-oriented carrier. Industry may need to persuade students in the viability of non-academic carrier option.
- Both Armenian and Georgian students (from all three fields GiT, CH and TE) clearly "wish to be an exchange student in another university of European Union". It might be good follow-up idea for the HERiTAG to support such student exchange opportunities in the fields of GiT, CH and TE, as part of the follow-up plans for future.
- According to responses to questions on "knowledge about the Bologna process in Europe" and "European Credit Transfer System" Georgian GiT students seem less aware than Armenian students. It seems appropriate therefore that Georgian GiT students are given information, explanations and lectures on Bologna process and its implementation in Georgia. Similar effort could be helpful for Armenian universities and students as well.
- Both Georgian and Armenian GiT students are willing to proceed further with master's program in GiT fields. HERiTAG could indeed target masters programs in GiT and not be limited to bachelors program only, in both partner countries.

(Note: Georgian GiT education stakeholders have a concern that accredited teachers may not be available due to lack of teachers with academic degrees in the field, but this may not prevent HERiTAG to act on master's level curricular reforms.)

- Georgian CH students are quite convinced in the value of GiT for their field, but Armenian students seem less aware of the value of GiT for their field. Universities and sector industries in Armenia are therefore advised to conduct awareness raising efforts on value to GiT in supporting CH trade and the same effort could be beneficial for Georgian universities and industry as well.
- Georgian CH students are optimistic GiT knowledge brings employment opportunities, while CH students in Armenia are bit less convinced. Regular interaction between universities and GiT and CH trade representatives could contribute to both awareness raising and employment prospects. GTTCs and AB-GE and AB-AM could play instrumental role in such interaction enhancement. Involving students in HERiTAG case study activities could also increase positive attitudes towards GiT use and value for CH.
- CH students in Georgia express less satisfaction with their access to education in GiT fields, while students' opinion in Armenia is more positive. GTTCs can certainly play role in promoting GiT education in CH trade. Joint credits and degrees in GiT and CH also seems as useful instrument to promote GiT education for CH students and vice versa.
- Responses to the question “The teaching methods should be modernized” indicate, that in generally CH specialisation students consider that teaching methods should be modernised. HERiTAG implementing GiT education modules could be one way of contributing into this issue.
- In response to question to CH students “What are the topics you would be more interested to have additional learning?” students in partner countries are positive about both GiT and tourism economics. HERiTAG could contribute through GTTCs, meeting the student expectations by offering both GiT and Tourism Economics modules for CH students.
- In response to GiT preferences in particular, it seems recommended HERiTAG to contribute by implementing GIS, mobile and web-mapping modules, e.g. through GTTCs and joint inter-university education arrangements, as these GiT subjects are rated higher by CH speciality students.
- Georgians CH students are certainly more willing to “get more information on GiT in support of cultural heritage employment opportunities in my Country during my study period” compared to Armenian CH students. Universities and industry efforts of GiT awareness raising and possible participation of CH students in GiT application case studies can indeed be useful.
- CH students in both partner countries are willing to continue with academic carrier, therefore this again justifies HERiTAG to target curricular reforms at master level as well to meet the students demand for more education and academic prospects.
- Georgian CH students are more aware of Bologna process and bit less so with European Credit Transfer System, while answers are more mixed in Armenia. Again as with GiT, CH students could be given information, explanations and lectures on Bologna process, credit transfer system and their implementation in universities.
- HERiTAG could target masters programs in GiT for CH students and not be limited to bachelors program only, both in Georgia and in Armenia. In Georgia efforts should be accompanied by awareness raising as well on importance of GiT methods in CH, as support for GiT masters in CH field is less pronounced here.
- Georgian tourism sector students are in general convinced in the value of GiT for their field, but not as unanimously as CH students, while Armenian students seem less aware of the value of GiT for their field. Universities and sector industries in Armenia are advised to conduct awareness raising efforts on value of GiT in supporting tourism and its economics and the same would be beneficial to Georgian universities and industry as well.
- Georgian tourism sector students are less convinced GiT knowledge would bring job opportunities, while in Armenia opinion is more positive. Regular interaction between universities and GiT and tourism trade representatives would contribute to both awareness raising and employment prospects. GTTCs and AB-GE and AB-AM could play instrumental role in such interaction enhancement.

- Tourism students in both countries in general are neutral or just not satisfied with access to GiT education. GTTCs can play positive role in promoting GiT education in tourism trade. Joint credits and degrees in GiT and tourism economics seems helpful to promote GiT education for tourism sector students.
- Tourism students in both countries are supportive of more GiT education for them. HERiTAG curricular reform could address the issue of access for tourism students to GiT education facilities, in which GTTCs could play a key role. Joint inter-university education programs could be mutually beneficial as well.
- Generally tourism specialisation students consider that teaching methods should be modernised. HERiTAG implementing GiT and tourism economics education and cultural tourism modules could be one way of contributing into this request.
- HERiTAG could contribute through GTTCs, meeting the student demands by offering GiT, cultural tourism and tourism economics modules, as all these subjects were positively voted by tourism sector students from both countries.
- Tourism sector students also in both countries voted in favour of GIS, mobile and web-mapping fields (and GPS in Armenia), therefore HERiTAG could contribute by implementing GIS and mobile and web-mapping modules through GTTC and joint inter-university education arrangements.
- Support for GiT use in tourism sector in the employment context is quite high in both countries. Universities and industry efforts of GiT awareness raising can be useful in strengthening this trend, through GTTCs activities and courses in particular.
- Tourism sector students are clearly positive in both countries regarding academic carrier (this may not be GiT specific trend though, as question asked was general one, about academic carrier). HERiTAG targeting curricular reforms at master level could meet the students' desires for more education and academic prospects.
- Georgian tourism sector students surprisingly respond that they are less aware of Bologna process and European Credit Transfer System, while answers are positively oriented in Armenia. As with GiT and CH students, tourism students could be given additional information, explanations and lectures on Bologna process, credit transfer system and their implementation in universities.
- Some 40% share of Georgian tourism sector students are willing to proceed further with master's program in GiT supporting the tourism, but willingness is much less unanimous than for CH students and far less than for GiT students. It seems recommended again, that HERiTAG could target masters programs in GiT and not be limited to bachelors program only, both in Georgia and in Armenia. In Georgia efforts could be accompanied by awareness raising as well on importance of GiT methods in support of tourism.

Technical findings and recommendations:

- There is a need to clearly indicate branching point in the questionnaire for students as well.
- Question "Are you undergraduate or master student?" could be reformulated allowing for PhD entry as well. Adding option for PhD in the questionnaire and in invitations would extend the pool of respondents and would expand the scope of assessment quantifying PhD-s in the fields of GiT, CH and TE. At least in one case in Georgia PhD person responded to survey, and they can be specifically targeted/invited in future iteration, not only undergraduate and master level students.
- In case of stimulating student exchange programs an Issue of attention for Armenia and Georgia could be that exchange students may thrive to pursue personal careers in European countries, potentially contributing to brain drain, therefore, projects stimulating student exchange programs could set safeguards for avoiding emigration, rather contributing into local employment and carrier opportunities for exchange students, as well as setting respective conditionality and indicators to monitor the process.
- Education stakeholders expressed doubts whether students can be unaware of Bologna process and European Credit Transfer System. The issue might be in the terminology, translation and/or formulation of the questions and this may need to be addressed in the next iteration of the survey.

- Georgian universities need to apply twice as much effort in next iteration (BSU in particular), while Armenian universities can apply the same effort.
- Bilingual drop-down list preferably should be employed in the next iteration so that all “expected” generic entries are listed based on this initial survey and option “Other” is provided with the capability to enter new respondent-generated type of data. This would minimize spelling and translation mistakes.
- Above is indeed pertinent as some students in Georgia in particular were sometimes confusing names of faculty, department and/or programs enrolled. Georgian universities are therefore advised to make very clear their institutional structure and frequently explain this to students.
- It may also be need to modify questions to make them fully correspondent with internal institutional structures of the universities.
- Many entries on “program enrolled” in Georgian case were apparently referring to same programs, but were named with different titles. Same could hypothetically be the case in Armenia, but student hard copy questionnaires were entered collectively and degree of this type of mistakes was therefore lower.
- Instead of ‘study year’ and showing year as a response entry option, probably question should refer to ‘course year’ and show numbers 1, 2, 3, 4, 5 for optional choice, but this will exclude those who already finished the university. Survey date would then determine the study start year. Alternatively, question should ask ‘Study start year’.
- Small number of students in Georgia answered negatively the question on public sharing of their anonymous responses. Personal information was not requested from students in the survey and therefore this question was intended for general awareness rather than to prevent disclosure against the will of respondents. At the same time, it is acknowledged, that technically it appeared impossible to remove responses from survey Google Form without deleting the form and consequently all responses attached to it. This means, that analytical charts very conveniently generated automatically by the Google Forms could not be generated without accounting for all responses received. This question therefore needs to be reformulated in terms of not disclosing personal information, while disclosing the aggregated responses can not be avoided due to technical reason.
- It is assumed that negative responses received were concerned only with personal data, which essentially were not collected from students, while personal email used for survey distribution in Georgia are kept strictly confidential and only one partner (and one person) responsible for the study has access to all emails and keeps them in a secure conditions till the end of the project and will delete emails once project monitoring obligations are over. It might be useful to develop privacy and data sharing guidance for survey participants so that they feel comfortable their personal data will not be collected and certainly will not be disclosed under any circumstances.


ATTACHMENT I.
STAKEHOLDER Survey Questionnaires

ATTACHMENT II.
STUDENT Survey Questionnaires

STUDENT Survey questionnaire in Georgian and English

GIT in Cultural Heritage and Tourism

კონკრეტული ინფორმაციული ტექნოლოგიები (კიტი) კულტურული მემკვიდრეობის და ტურისტებისთვის



Co-funded by the
Erasmus Programme
of the European Union

STUDENT SURVEY სტუდენტთა გამოკითხვა

European Union funded ERASMUS+ Project HERITAG+ Higher Education interdisciplinary Reform in Tourism management and Applied Geoinformation curricula (<http://HERITAG.am>, <http://HERITAG.am>, <http://HERITAG.am>)

ეროვნული მემკვიდრეობის და ტურისტებისთვის ERASMUS+ პროექტი HERITAG+ უმაღლესი განათლების ინტერდისციპლინარული რეფორმა ტურისტების მართვის და გამოყენების კურორტოლოგიის სპეციალური პროგრამების (კიტი) განხორციელების მიზნით (<http://HERITAG.am>, <http://HERITAG.am>, <http://HERITAG.am>)

The data collected through this SURVEY will be used to produce a study on the education and training needs on cultural heritage priorities and tourism business opportunities for the application of Geospatial Information Technologies (GIT) in ARMENIA and in GEORGIA. This study is in line with the Work Package 1 Activity 1.2 which concerns Analysis of needs and opportunities in cultural tourism industry.

წარმდგენს გამოკითხვის დაგეგმვის მიზნით უმაღლესი განათლების სფეროში და ტურისტების მართვის კვლევების კულტურული მემკვიდრეობის და ტურისტების მართვის სფეროში. ეს კვლევა ეფუძნება კულტურული მემკვიდრეობის და ტურისტების მართვის სფეროში უმაღლესი განათლების ინტერდისციპლინარული რეფორმის მიზნით. ეს კვლევა ეფუძნება Work Package 1 Activity 1.2, რომელიც ეხება კულტურული ტურისტების მართვის სფეროში საჭიროების და შესაძლებლობების ანალიზს.

The STUDENT SURVEY is concerned with GIT (geospatial information technologies) education and needs of GIT education in cultural heritage and tourism economics fields. სტუდენტთა გამოკითხვა ეხება კულტურული მემკვიდრეობის და ტურისტების მართვის სფეროში უმაღლესი განათლების ინტერდისციპლინარული რეფორმის მიზნით. ეს კვლევა ეფუძნება კულტურული მემკვიდრეობის და ტურისტების მართვის სფეროში უმაღლესი განათლების ინტერდისციპლინარული რეფორმის მიზნით.

You are kindly invited to complete this anonymous on-line SURVEY, thus contributing to this important study. მოგთხოვთ ამონიჭოთ, წესით წარმდგენს კანონიერ ინტერდისციპლინარული რეფორმის მიზნით. ეს კვლევა ეფუძნება კულტურული მემკვიდრეობის და ტურისტების მართვის სფეროში უმაღლესი განათლების ინტერდისციპლინარული რეფორმის მიზნით.

The SURVEY is composed of introductory and 3 optional parts (depending on your discipline). გამოკითხვა შედგება საერთო შეყვანილი ნაწილის და 3 დამატებითი ნაწილისგან (რაც დამოკიდებულია თქვენი პროფესიული სფეროზე).

- Your UNIVERSITY and STUDY details
* Required
- GIT needs in EDUCATION (survey option one)
- GIT needs in CULTURAL HERITAGE (survey option two)
- GIT needs in TOURISM ECONOMICS (survey option three)

Please complete the survey submissions in English or Georgian language. გამოკითხვის პასუხების კავშირს შესაძლებელია იქნეს ინგლისურ ან ქართულ ენაზე.

Thank you for supporting us with your contribution. დიდი მადლობა თქვენი წვლილის და მხარდაჭერისთვის.

Desired deadline is 31 May 2017. გამოკითხვის დასრულების საბოლოო ვადა: 2017 წლის 31 მაისი.

START SURVEY გამოკითხვის დაწყება

Please proceed with the survey by clicking NEXT გამოკითხვის დასაწყისად გთხოვთ დააწკაროთ NEXT - ზედაზე.

NEXT


Never submit passwords through Google Forms.

GIT in Cultural Heritage and Tourism

* Required

Your UNIVERSITY and STUDY details

დედალი თქვენი უნივერსიტეტის და განათლების შესახებ



Co-funded by the
Erasmus Programme
of the European Union

Name of your university *
თქვენი უნივერსიტეტის სახელი

Your answer _____

Faculty *
ფაკულტეტი

Your answer _____

Department *
დეპარტამენტი

Your answer _____

Program enrolled *
სწავლის პროგრამა / სპეციალობა

Your answer _____

Study year *
სწავლის წელი

Your answer _____

Are you undergraduate or master student? *

Undergraduate ბაკალავრიატი

Masters მაგისტრანტურა

Other: _____

Main interest in education/specialisation *
განათლების ძირითადი მიმართულება / სპეციალობა

Geoinformation Technologies (GIT) გეოსპაციული ინფორმაციული ტექნოლოგიები (კიტი)

Cultural Heritage კულტურული მემკვიდრეობა

Tourism ტურისტები

BACK
NEXT

Never submit passwords through Google Forms.

GIT needs in CULTURAL HERITAGE

I like the GIT and geoinformation program because:

I like the GIT and geoinformation program because before it was not in my country after graduation:

I am satisfied with the GIT subjects in cultural heritage program:

I like the contents of the GIT and geoinformation program should be enhanced:

The teaching methods should be enhanced:

The computer facility and geoinformation equipment should be enhanced:

What are the factors you would like more information to have additional learning? *

What are the factors you would like more information to have additional learning? *

I want to get more information on GIT in support of cultural heritage education in my country after graduation:

I want to continue education studies after graduation:

I want to be an exchange student in another university of European Union:

I have certain knowledge about the Bologna process in Europe:

I have certain knowledge about the European Credit Transfer System:

I am interested to study for a master degree in GIT in support of cultural heritage in my country after graduation:

GIT needs in TOURISM ECONOMICS

I like the GIT and geoinformation program because:

I like the GIT and geoinformation program because before it was not in my country after graduation:

I am satisfied with the GIT subjects in tourism economics program:

I like the contents of the Tourism Economics program should be enhanced and improved with the use of GIT (Geospatial Information Technologies):

The teaching methods should be enhanced:

What are the factors you would like more information to have additional learning? *

What are the factors you would like more information to have additional learning? *

I want to get more information on GIT in support of tourism economics education in my country after graduation:

I want to continue education studies after graduation:

I want to be an exchange student in another university of European Union:

I have certain knowledge about the Bologna process in Europe:

I have certain knowledge about the European Credit Transfer System:

I am interested to study for a master degree in GIT in support of tourism economics in my country after graduation:

GIT needs in TOURISM ECONOMICS

I like the GIT and geoinformation program because:

I like the GIT and geoinformation program because before it was not in my country after graduation:

I am satisfied with the GIT subjects in tourism economics program:

I like the contents of the Tourism Economics program should be enhanced and improved with the use of GIT (Geospatial Information Technologies):

The teaching methods should be enhanced:

What are the factors you would like more information to have additional learning? *

What are the factors you would like more information to have additional learning? *

I want to get more information on GIT in support of tourism economics education in my country after graduation:

I want to continue education studies after graduation:

I want to be an exchange student in another university of European Union:

I have certain knowledge about the Bologna process in Europe:

I have certain knowledge about the European Credit Transfer System:


I am interested to study for a master degree in GIT in support of tourism economics in my country after graduation:

GIT in Cultural Heritage and Tourism

* required

SUBMIT SURVEY გამოკითხვის დასრულება

Do not forget to record your survey by clicking SUBMIT არ დაავიწყდეთ თქვენი პასუხების დანერგვა, რისთვისაც დააწკაროთ ლაზერ SUBMIT - ზედაზე.



Co-funded by the
Erasmus Programme
of the European Union

I agree to public use of my responses by HERITAG study: *
თანხმდები გარე სამსახურის გამოყენებას HERITAG-ის კვლევის შედეგების გამოყენების მიზნით.

Yes დია

No არა

Other: _____

BACK
SUBMIT

Never submit passwords through Google Forms.