



Identification and analysis of research and development needs of Postgraduate Programs in Geoinformation Technology

(Erasmus+ GeoTAK Project, 2021-2024)

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GeoTAK Project aim

To develop postgraduate Higher Education programmes in Geoinformation Technologies (GIT) and strengthening the links in research and innovation between Higher Education Institutions (HEI), industry and administration in Armenia and Kyrgyzstan





YEREVAN
STATE
UNIVERSITY

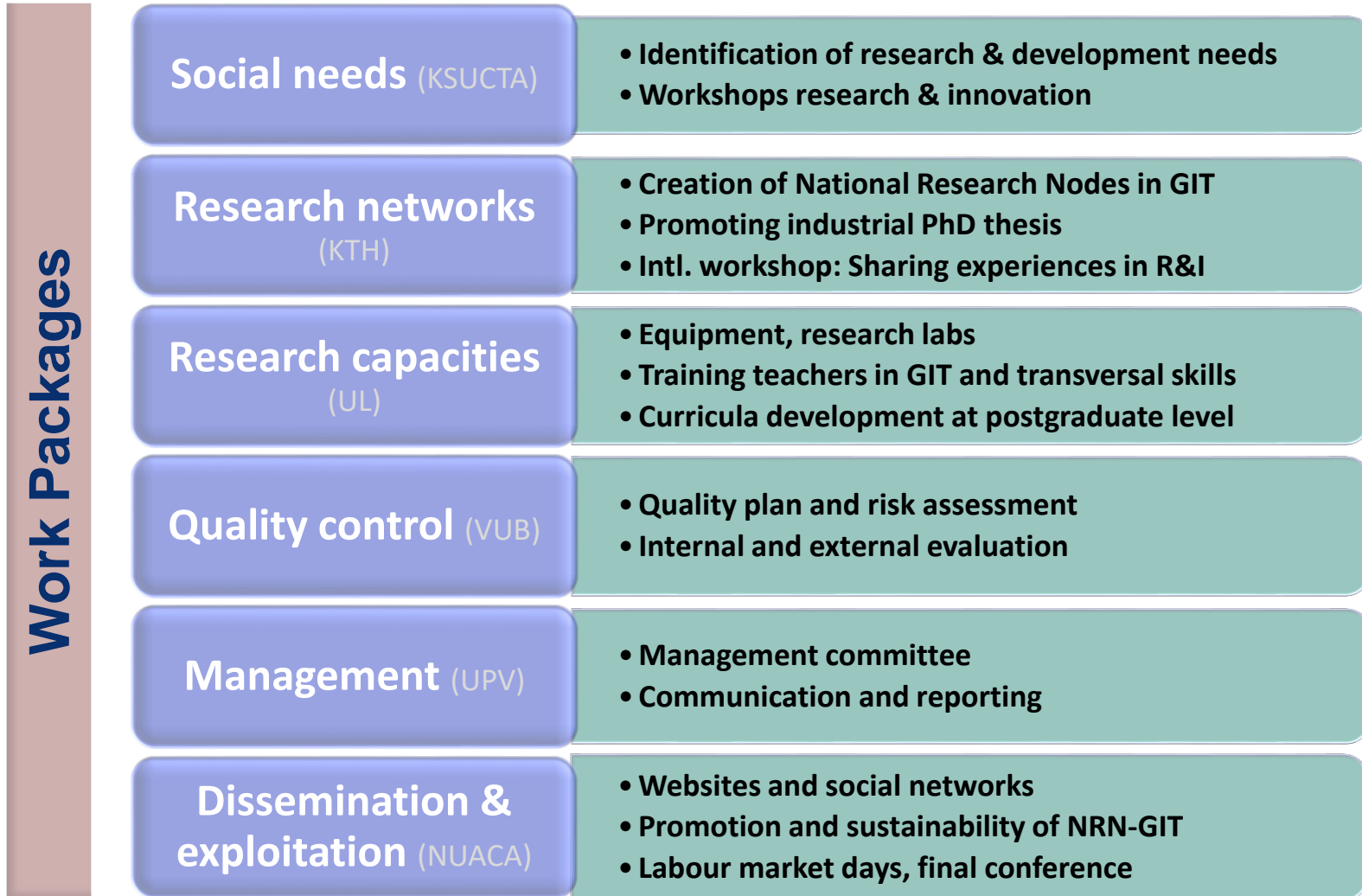


GeoTAK Project Consortium

	Partner	Country
UPV	Polytechnic University of Valencia	SPAIN
KTH	Royal institute of Technology	SWEDEN
VUB	Vrije Universiteit Brussel	BELGIUM
UL	University of Ljubljana	SLOVENIA
NUACA	National University of Architecture and Construction of Armenia	ARMENIA
YSU	Yerevan State University	ARMENIA
ANAU	Armenian National Agrarian University	ARMENIA
CCRA	Cadastre Committee of the RA	ARMENIA
MESCS	Ministry of Education, Science, Culture and Sports	ARMENIA
KSTU	Razzakov Kyrgyz State Technical University	KYRGYZSTAN
OshTU	Osh State Technological University	KYRGYZSTAN
Goscartography	Kyrgyz State Cartography-Geodetic Service	KYRGYZSTAN
MOES	Ministry of Education and Science	KYRGYZSTAN



Project development





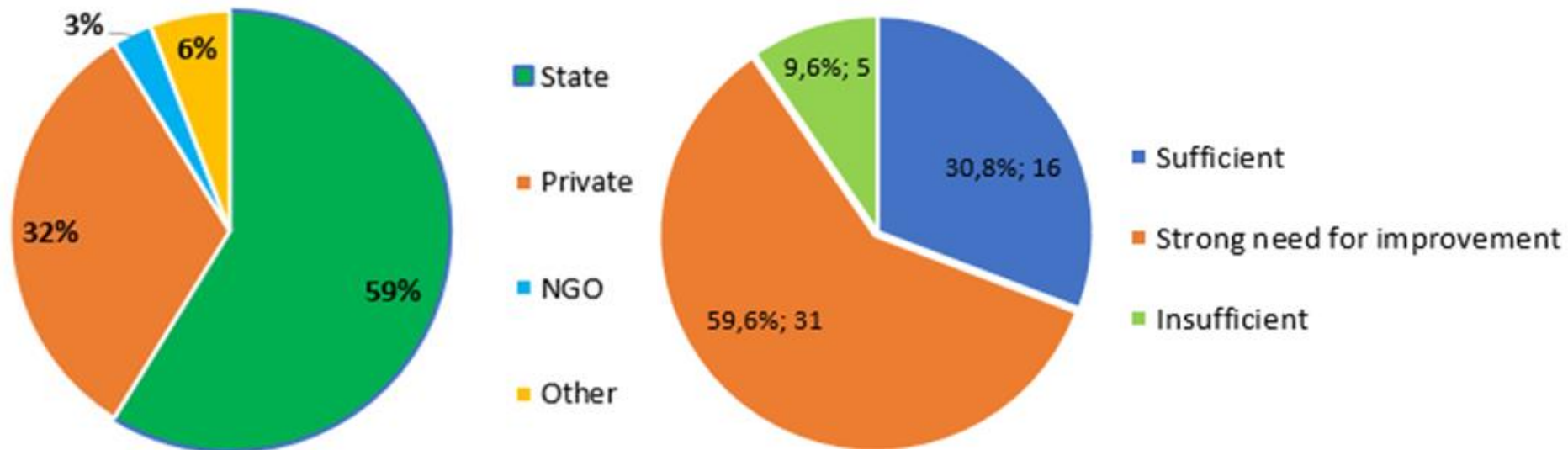
Study of the state of training highly qualified personnel and the use of modern geoinformation technologies in Kyrgyzstan

WP 1.1 Report on analysis of needs in research & development in Armenia and Kyrgyzstan.

- Compilation of a database of employers, universities and other stakeholders in the field of geoinformation technologies;
- Preparation of questionnaires and conducting a survey of the main stakeholders - a survey of government organizations, private companies, design, research institutions and universities to study their needs and requests in the training of specialists and research work in the field of GIT;
- Analysis of the results of a stakeholder survey and development of the main provisions of educational programs at the universities of the Kyrgyz Republic.

Private survey participants - state. organizations, private companies, design, research institutions

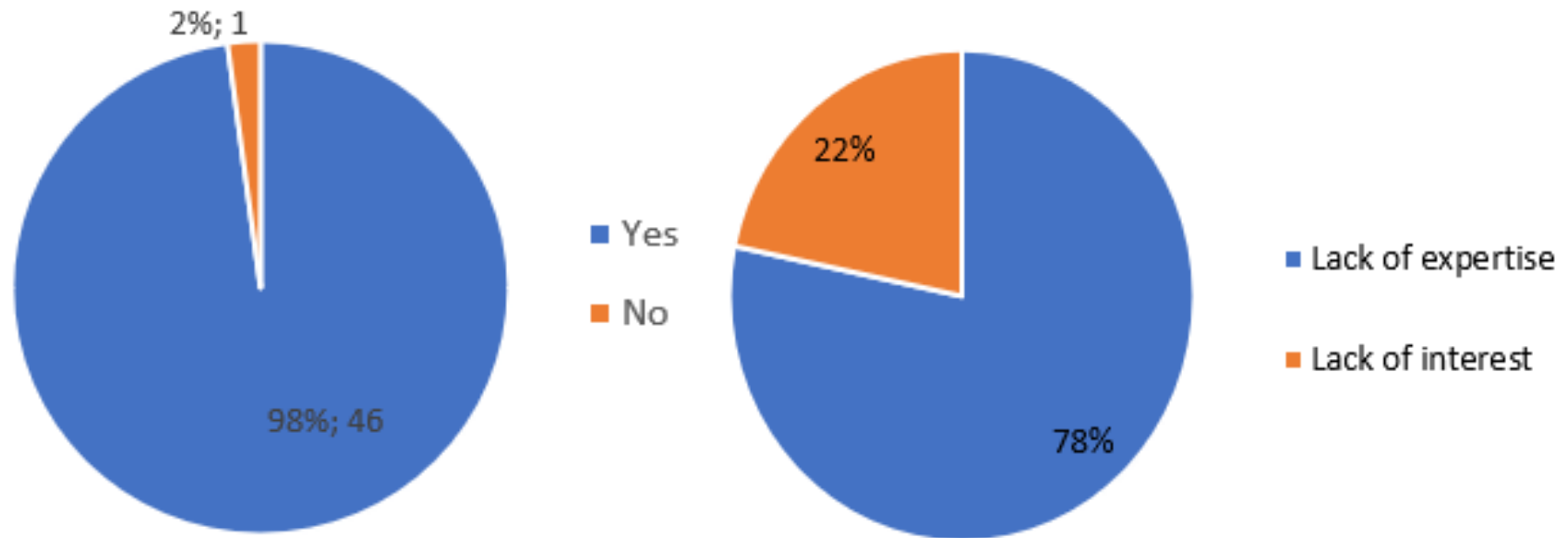
47 managers and specialists of 34 state organizations, private companies, design, research institutions were interviewed, of which 20 represent state organizations and institutions, 11 private companies, 1 NGO, 1 JSC and 1 Association. More than half of them are not satisfied with the quality of knowledge and skills of employees in the field of HIT and have an urgent need to improve them.





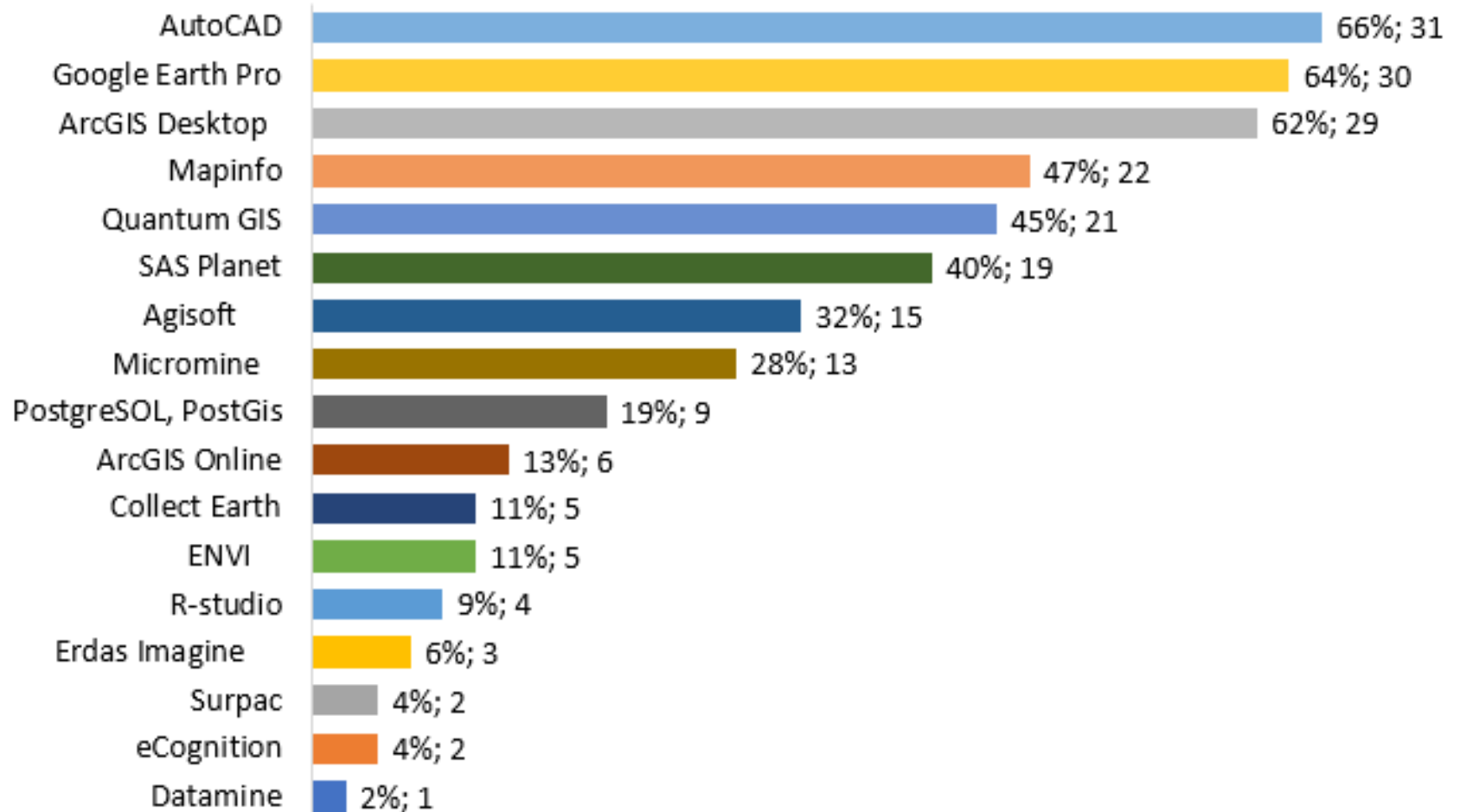
Stakeholder survey results

Only 2% of the surveyed stakeholders do not use geoinformation technologies in their activities. Of these, 78% lack specialized knowledge and experience of specialists, and 22% of them are not yet interested in using GIT.



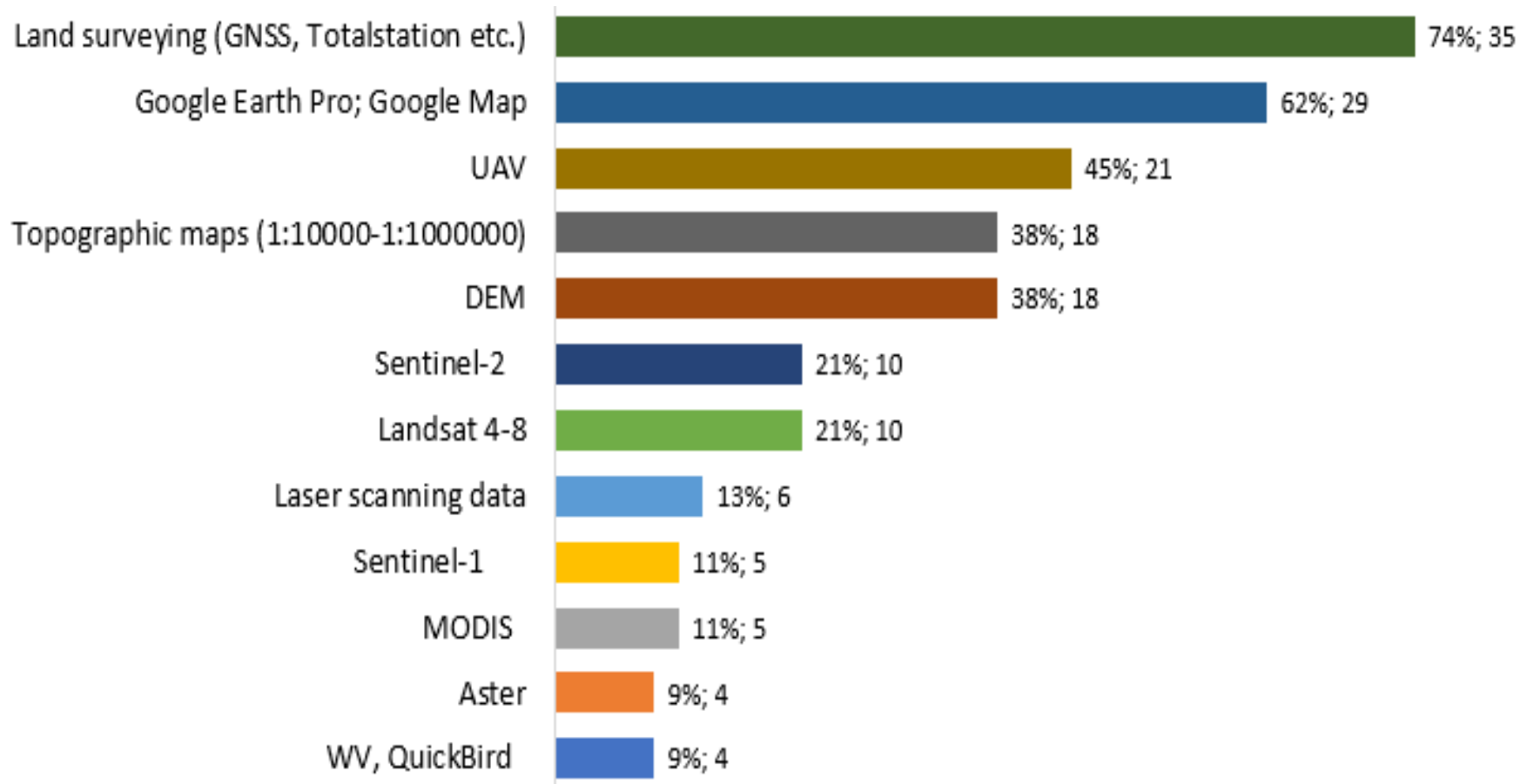


What type of surveying /GIS / photogrammetric software do you use?



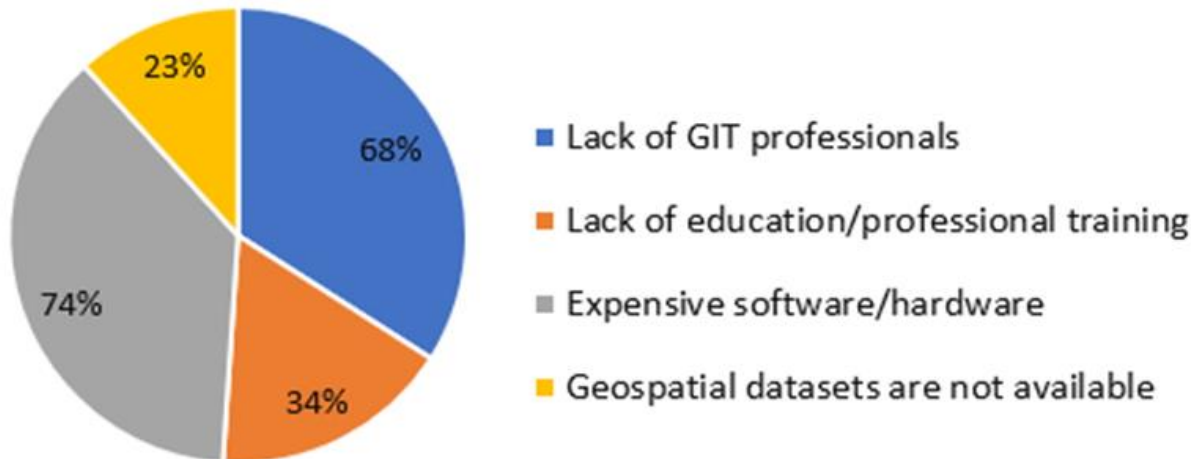
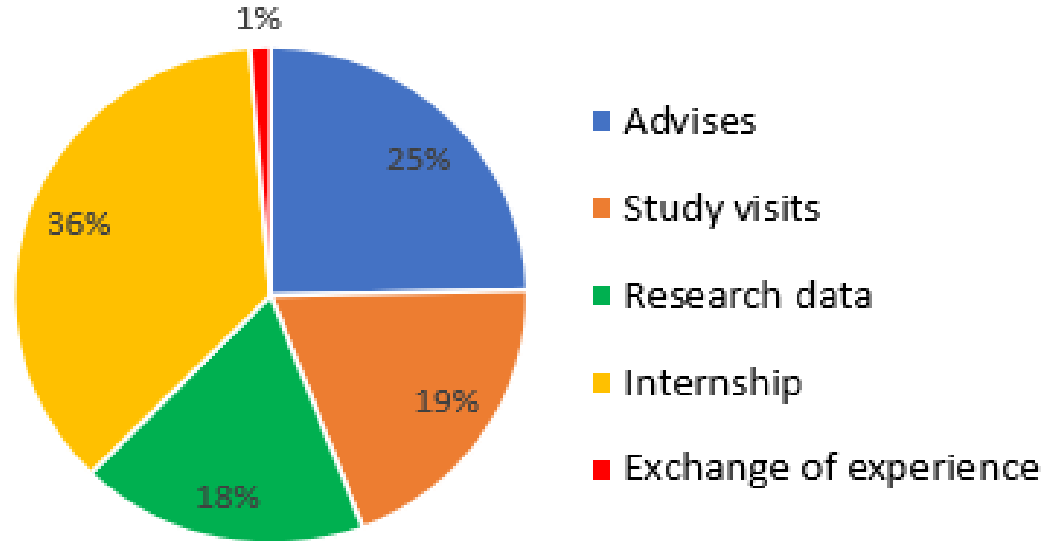


What type of surveying /remote sensing / photogrammetric data sets do you use?





In what way can your organisation/company contribute into this GeoTAK project?



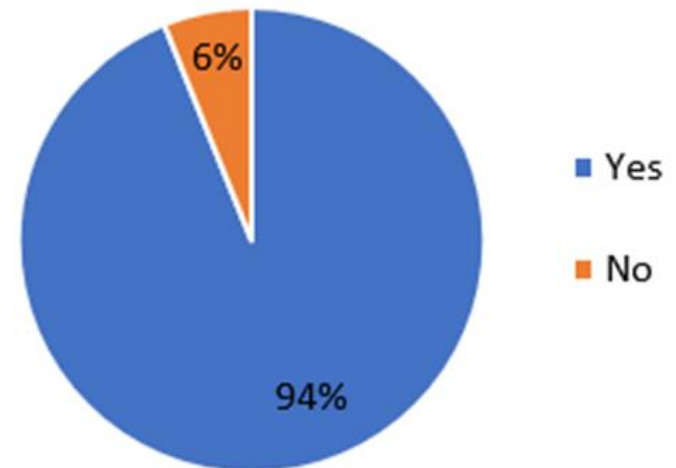
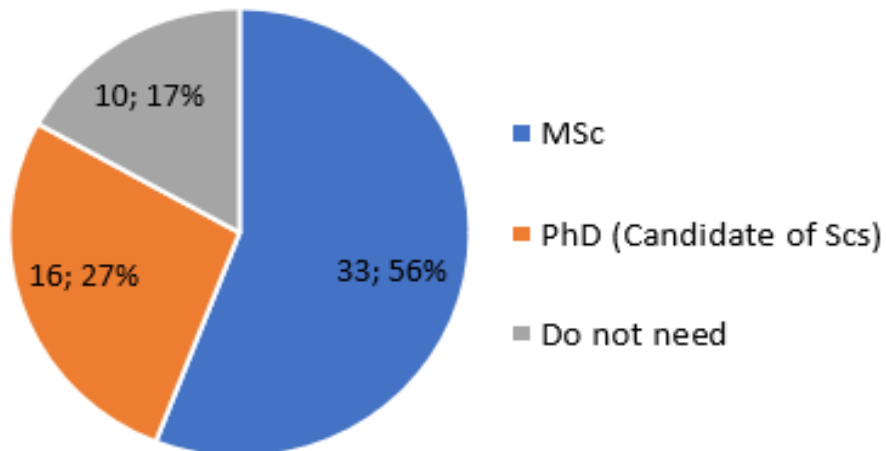
Please, identify the main barriers in the use of geospatial information?



Demand for GIT specialists and the desire of survey participants to join the activities of the National GIT node in the Kyrgyz Republic

More than half of the respondents (56%) noted that they need highly qualified specialists with a master's degree. More than one-quarter of those surveyed say there is a demand for staff with doctorate and candidate of science (PhD) degrees.

The absolute majority (94%) of stakeholders wish to participate in the activities of the GIT National Node in the Kyrgyz Republic.

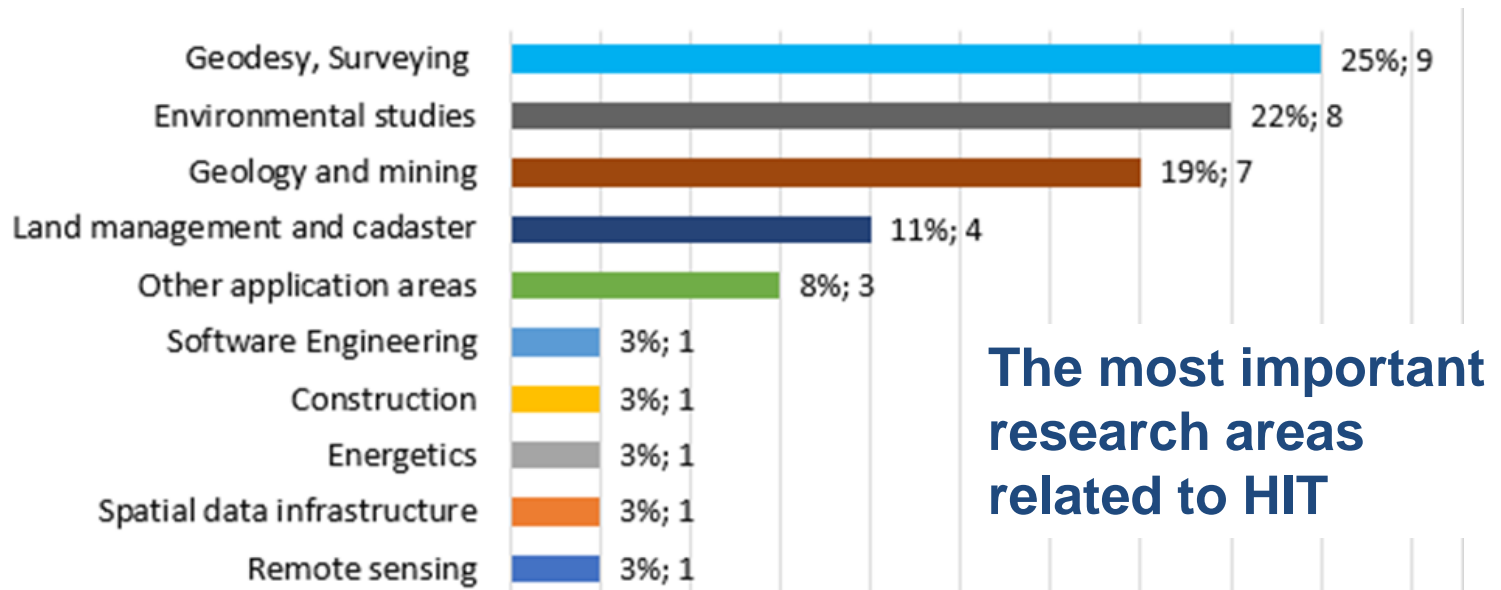




Private survey participants - universities

A total of 26 representatives of Kyrgyz universities were interviewed. According to the survey data, there are about 20 undergraduate programs in the country and almost the same number of graduate programs related to GIT.

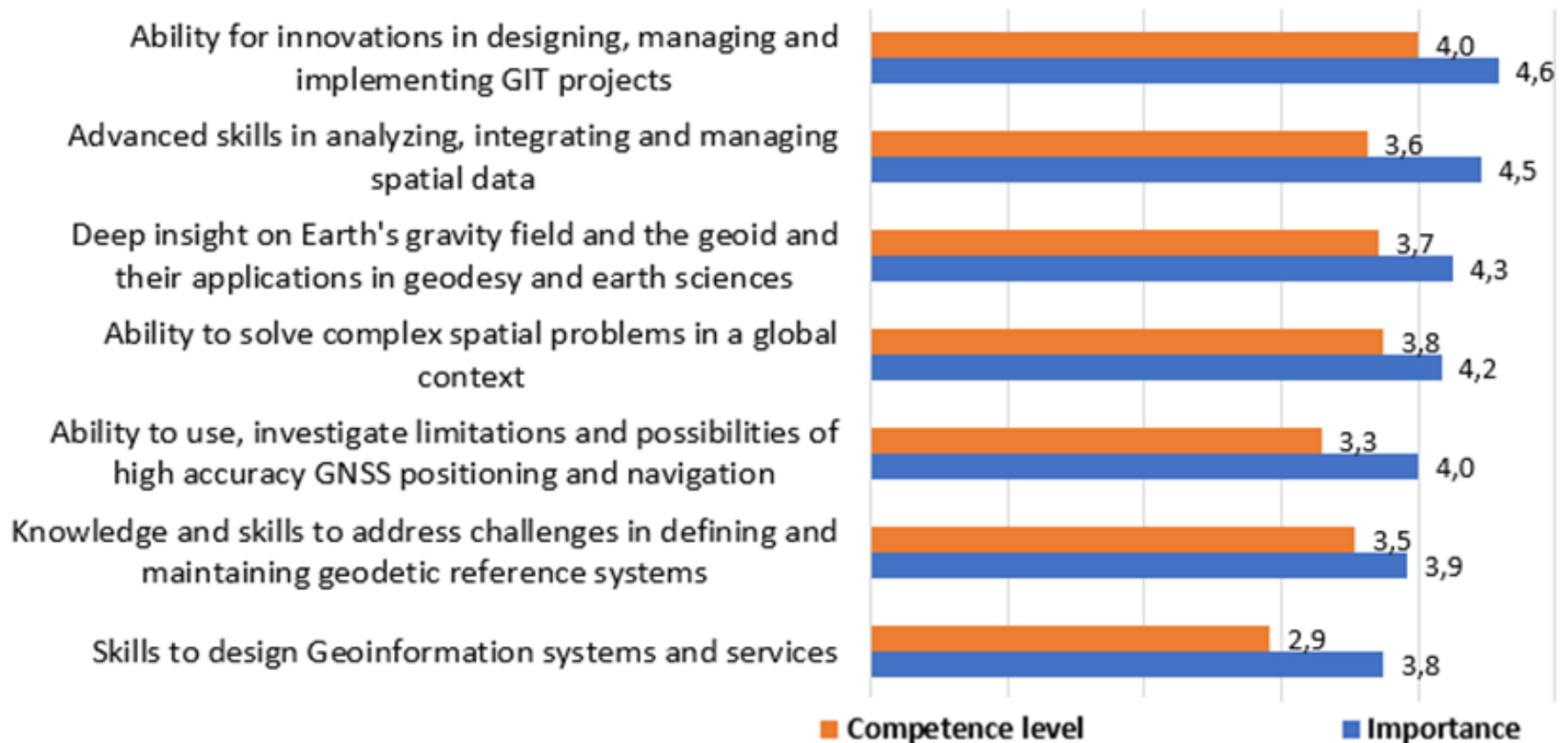
More than 10 postgraduate and doctoral programs prepare highly qualified scientific personnel in related or related specialties in disciplines with elements of geospatial data and technologies.





Required and formed professional competencies

The assessment of the importance of the existing and required professional competencies of graduates on a five-point system was studied.





Analysis of survey results - types of geodetic, aerial photogrammetric and other tools and equipment used in industry and universities

##	Equipment type	Answers %	
		Orgaznizations, companies	Universities
1	GNSS	36	23
2	Totalsations	28	38
3	UAV	23	35
4	Levels	19	50
5	Terrestrial laser scaners	8	-
6	Aerial photography	8	19
7	MoMobile mapping	8	35



Analysis of survey results - the application fields that GIT is currently urgently needed and require advanced solutions

##	The application fields that GIT is currently urgently needed	Answers, %	
		Orgaznizations, companies	Universities
1	Land management and cadastre	57	38
2	Topography and Geodesy	57	62
3	Environmental Management	55	69
4	Emergency Management	49	50
5	Agriculture	47	46
6	Forerstry	43	31
7	Architecture and Urban Planning	43	50
8	Location Based Services and Transportation	40	31
9	Tourism	28	50
10	Cultural Heritage	19	38



Conclusions

- The questionnaire survey was realized and its results are analyzed to design the proper strategy and methods for the development of new PhD programs and course syllabuses.
- Only 30,8% of respondents are satisfied with its human resources in the field of GIT and other 69.2% of respondents needed for capacity improvement or with insufficient staff with GIT competencies. At the same time 98% of responded IAOs currently use GIT in their business and operation.
- 33 or 27% of IAO respondents declare that they need PhD level specialists, while only 5 Cand.Sc. students are studying at the GIT related programs of respondent universities.
- There are neither Candidate of Sciences or PhD programs in Geodesy, Surveying, Remote sensing or Cartography and Geoinformatics programs in the country. It shows the urgent need in development and implementation of the Geodesy and GIT program in the Kyrgyz Republic.



Рахмат!

Спасибо за внимание!

Thanks for your attention!



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