
Principal directions of development of photogrammetry in Estonia

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Recently substantial changes have been taking place in all photogrammetry, as digital technologies are used more and more along with analytical. Film aerial cameras are gradually superseded by digital imaging technologies. Photogrammetry is applied all over the world, in large countries as well as in small ones, such as Estonia.

Rapid development of digital aerophotogrammetry in Estonia during last 10 years has lead to revision and introduction of new technologies and directions in the production of primary photogrammetric products, such as creation of digital orthophotomaps, aerotriangulation, terrain models.

Commercial as well as government-owned enterprises deal with photogrammetry in Estonia. In 2005, the department of photogrammetry was opened at the land department of Estonia, which controls much of the works associated with this area. Digital aerophotography system ADS40 by Leica Geosystems is used in the republic for aerial photography, and Leica Geosystems laser scanner ALS50II is used for accumulation of elevation data. These devices are mounted into small specialized airplane Cessna Grand Caravan 208B thus allowing to carry out works on all-around-the-clock and all-year basis. Software used includes: GPro, PosPac, GrafNav, ORIMA, LPS, PRO600, Microstation, GeoVault, TerraScan, TerraModeler, ArcGIS, Stereo Analyst, Photoshop.

One can get photogrammetric education in the Estonian University of Life Sciences in geomatics department with a specialization in geodesy. This university uses PHOTOMOD software system for training of specialists in digital photogrammetry. Using this software, the students learn to carry out all tasks from image to orthophotomap. Several magister degree works have been defended in the university dealing with creation and precision of orthophoto, as well as works concerned with laser scanning and its precision. Data for educational and scientific work is provided by local authorities and the department of photogrammetry of land department of Estonia, as well as colleagues from Finland.

Photogrammetry in Estonia is oriented to improvement of quality and precision of digital orthophotomaps and digital terrain models. Currently all the territory of the republic is covered by digital orthophotomaps with pixel size from 50 to 16 cm, in scales of 1:10000, 1:5000 and 1:2000. Close-range photogrammetry is that promising area which is still not practiced in Estonia.