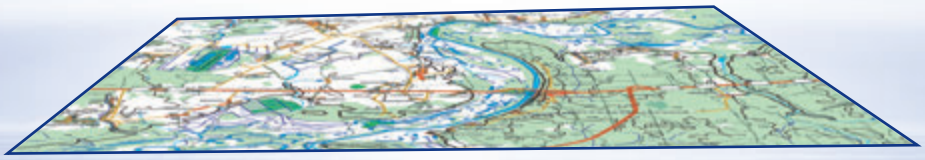
# PHOTOMOD

## Digital photogrammetric system

- Spatial aerial triangulation
- Digital terrain models
- 2D and 3D-vectorization
- Orthorectification and mosaic creation
- Map making
- 3D-modeling

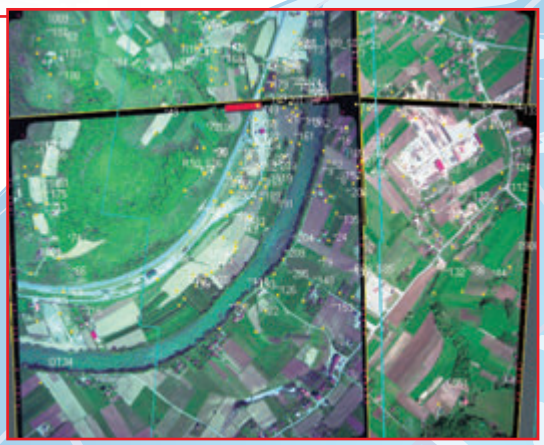
RACURS



PHOTOMOD – is a core product of Racurs company – an industry leader in the area of digital photogrammetric systems. Racurs has been successful in the Russian and international geoinformation market since 1993. The PHOTOMOD digital photogrammetric system is the most popular in Russia and has been used successfully in over 60 countries around the world.

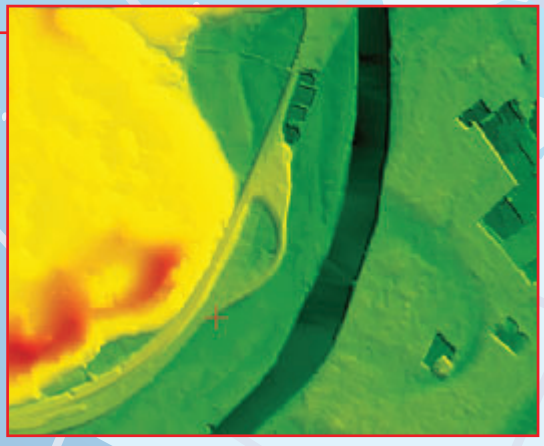
PHOTOMOD — is a digital photogrammetric system allowing the user to obtain metrically precise spatial data on the basis of commercially available imaging systems, such as frame digital and film cameras, space scanning systems of high resolution, and synthetic aperture radars.

# Spatial aerial triangulation



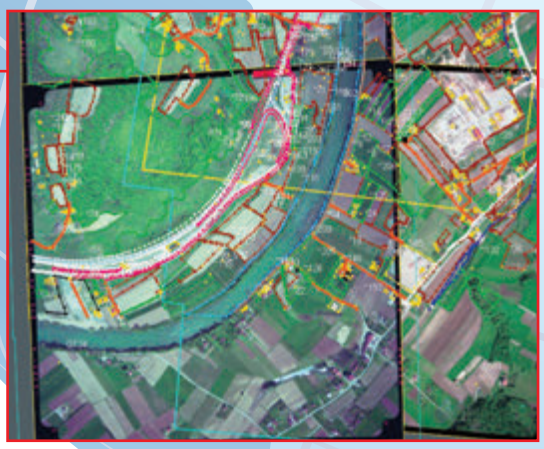
The functions of the aerial triangulation in PHOTOMOD are required to accurately calculate the orientation parameters of images and provide a high geometrical accuracy of the output products: DEM, orthomosaics, digital maps.
Arial triangulation results (orientation parameters) are calculated automatically, and the system provides a full range of tools for accuracy evaluation, visual control and errors analysis.
A successful implementation of aerial triangulation project in the PHOTOMOD program allows the user to define spatial coordinates of terrain points with high accuracy and reliability. This provides high quality of further measuring and mapmaking (topographic) works on images.
In order to perform spatial aerial triangulation by PHOTOMOD it is required to have PHOTOMOD Core, PHOTOMOD AT, and PHOTOMOD Solver licenses available.

# Digital terrain models



PHOTOMOD allows the user to automatically create digital elevation models and digital surface models from aerial and satellite images. The digital terrain model created in PHOTOMOD ensures high quality of orthomosaic, and also serves as a source of detailed information about terrain relief and is used to solve analytical tasks.
The program allows the user to represent a terrain using the following ways: 3D points and lines, TIN, DEMs, contour lines. Filters for digital terrain models editing, operations of DTM merging and trimming, analytic functions, and DTM building by using laser scanning data are also available.
Using GPU-based calculations, distributed processing and support of 64-bit calculation for DEM building allows the user to increase the program performance significantly.
DEM creation requires availability of PHOTOMOD Core and PHOTOMOD DTM licenses.

# 2D and 3D-vectorization



The PHOTOMOD system supplies the user with a full set of tools for 2D and 3D-vectorization and editing of drawn terrain objects. You may use vectorized objects as a topographic basis of cartographic production or input them as initial data to create mathematic (geometric) model scene during terrain 3D modeling.
PHOTOMOD includes such convenient tools as automatic move of cursor over terrain relief, 2D and 3D-snapping, vectorization of line segments at the right angle, tools for fast vectorization of objects of regular geometric shape, vector objects copying, automatic drawing of line along a border of existing object, building buffer zones, and many others. Classifier records and attributes may be assigned to graphic objects.
In order to perform 2D vectorization you require to have PHOTOMOD Core license available.
For stereovectorization the following licenses sets are required: PHOTOMOD Core, PHOTOMOD StereoDraw or PHOTOMOD Core, PHOTOMOD StereoVectOR or PHOTOMOD Core, PHOTOMOD DTM.
For objects vectorization using classifier you require to have PHOTOMOD Core, PHOTOMOD StereoDraw or PHOTOMOD Core, PHOTOMOD StereoVectOR licenses available.

PHOTOMOD provides a closed production cycle, and involves the generation of many kinds of value-added products: digital maps, DEM, orthomosaics, 3D-vectors without the use of third party solutions.
The PHOTOMOD software complex is used in all areas where metric information about the Earth with maximal precision is required. PHOTOMOD allows the user to solve a whole range of tasks in cartography, cadastre, environment monitoring and spatial analysis. The system provides a highly precise cartographic data for integrated GIS, geoportals, and cartographic web-applications.

# Orthorectification and mosaic creation

During mosaic creation using PHOTOMOD tools you can build continuous, color balanced and brightness homogenous orthomosaic with high accuracy from separate images. Geometric and photometric distortions are adjusted during the creation operation. Output product (orthomosaic) could be presented as a single frame or a set of sheets in specified cartographic projection with marginalia.
The system includes automatic and interactive options used for building of rectification areas, flexible settings of parameters of output mosaic, that include color and brightness correction for the whole images block, seams feathering, recalculation of output data to any coordinate system, automatic accuracy control, elements of TrueOrtho, distributed processing and much more.
Orthomosaic creation requires the availability of PHOTOMOD Core and PHOTOMOD Mosaic licenses.

# 3D-modeling

The PHOTOMOD software package includes features for creation of 3D models using stereovectorization results. The resulting model, due to the high quality metric may be used for solving applied analytical problems. And thanks to the visual appeal and clarity they may be useful when creating a vivid and compelling multimedia presentations and videos.
The system provides tools of automatic model creation for the whole area of interest at once, texturing of model objects using photographs, models visualization in stereomode, tools of creating, editing and record of animated movies.
3D modeling requires the availability of PHOTOMOD Core and PHOTOMOD StereoDraw licenses.

# Map making

The PHOTOMOD delivery set includes GIS-application – GIS Panorama 2011 Mini used for mapmaking purpose. The application is used for the creation, editing and printing of digital maps and city plans for different purposes, databases administration with setup of custom forms for viewing tables, creating queries and reporting to view territory planning schemes, urban cadastre and other problems.

Integration of programming environments of PHOTOMOD and GIS Panorama 2011 Mini provides a complete workflow of cartographic production: form spatial triangulation of source images to printing of output maps.

# Why PHOTOMOD ?

- Image processing for all types of photogrammetric survey systems, operative support of emergent ones
- Ability to handle rasters with unlimited size and blocks composed of thousands of images
- High productivity due to automation of photogrammetric processes and the efficient use of hardware and computational tools: networking, technology of distributed processing and support of computing on graphics processors (GPU)
- Support of GLONASS, GPS, IMU navigation data
- Complete set of user-friendly tools for all functions of PHOTOMOD, the presence of flexible options for comfortable work
- Automated tools to WEB-spatial data access
- Wide range of common exchange formats. It is possible upon request to support in PHOTOMOD any additional format, including proprietary formats of users
- Software maintenance after the transfer operation, qualified technical support and consultation, full technical documentation and various levels of training

Racurs provides unlimited technical support for its customers. Experienced software support specialists provide immediate professional help by phone, fax or e-mail.

Download Lite version of PHOTOMOD! The program is created to help familiarize with the systems features and functionality and allows you to perform test projects using your data.

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