

PHOTOMODTM

Software family



CONTENT

Racurs Company	3
PHOTOMOD software family	5
PHOTOMOD Digital Photogrammetric Workstation	7
PHOTOMOD GeoMosaic Powerful software solution for combining georeferenced images	11
PHOTOMOD UAS Stand-alone full photogrammetric UAS-oriented software	12
PHOTOMOD Conveyor Automatic photogrammetric processing on high performance computers	13
PHOTOMOD Radar Spaceborne SAR data processing	14
PHOTOMOD Lite Free software package	15
Utilities	16
Technical support	17
Photogrammetric services	18



Racurs

Racurs company has 25 years long history of success on Russian and worldwide geoinformatics market. Since its foundation in 1993 our company has been developing an innovative digital mapping software for processing aerial, space and terrestrial imagery. Our flagship product PHOTOMOD was one of the first digital photogrammetric systems on the market that was designated for working on off-the-shelf PCs. Today PHOTOMOD is the most popular digital photogrammetric software in Russia and well known all over the world. An international dealer network helps us to market, sell and support our products in 80 countries.



80
countries
around the world

3,000
licenses



900
corporate and individual
customers

10,000
work places

Racurs

Racurs company's business mission is to provide the world-wide geospatial community with advanced and cost-effective digital photogrammetry solutions and services for creation of wide range of output products from the available remote sensing data.

Starting from a 4-person company in 1993, Racurs has grown to become a recognized leader in the geoinformation market.

Today, Racurs comprises more than 50 specialists in photogrammetry, remote sensing and software development.

The main Racurs business activities are:

- PHOTOMOD development and further integration into Russian and international markets.
- Photogrammetric production services using both airborne and satellite imagery.
- R&D in the field of RSD processing software, methods, and algorithms.
- Remote-sensing data distribution in Russia and the CIS countries.

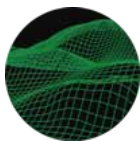


Dr. Victor Adrov, Managing Director

Partners

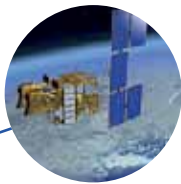


International Conference



Racurs is organizer of the International Scientific and Technical Conference **"From imagery to digital reality: ERS & Photogrammetry"**. The conference is a well-known international event which combines experience of users of geoinformation, suggestions of the leading data and equipment providers and the latest theoretical insights and courses of development of our entire field.

The PHOTOMOD software family comprises a wide range of products for the remote sensing data photogrammetric processing. This state-of-the-art software allows the extraction of geometrically accurate spatial information from almost all commercially available types of imagery, whether obtained by film or digital cameras, UAS, high resolution satellite scanners or synthetic aperture radars.



**SATELLITE
IMAGES**



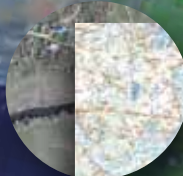
SAR DATA



AERIAL IMAGES



UAS IMAGES



RASTER IMAGES

PHOTOMOD Software Family

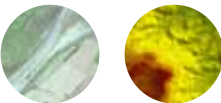
INPUT DATA

OUTPUT DATA

DPW
PHOTOMOD



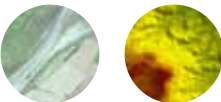
PHOTOMOD
Conveyor



PHOTOMOD
UAS



PHOTOMOD
Radar



PHOTOMOD
GeoMosaic



Ortomosaic
TrueOrtho



Maps



DTM, DSM, dDSM



Point clouds



2D, 3D vectorization



3D models

Digital Photogrammetric Workstation PHOTOMOD™

Complete Digital Photogrammetric Workstation

This state-of-the-art software allows the extraction of geometrically accurate spatial information from almost all commercially available types of imagery, whether obtained by film or digital cameras, UAS, high resolution satellite scanners.

Today PHOTOMOD is the most popular digital photogrammetric software in Russia and is also used in 80 countries all over the world.

PHOTOMOD advantages:

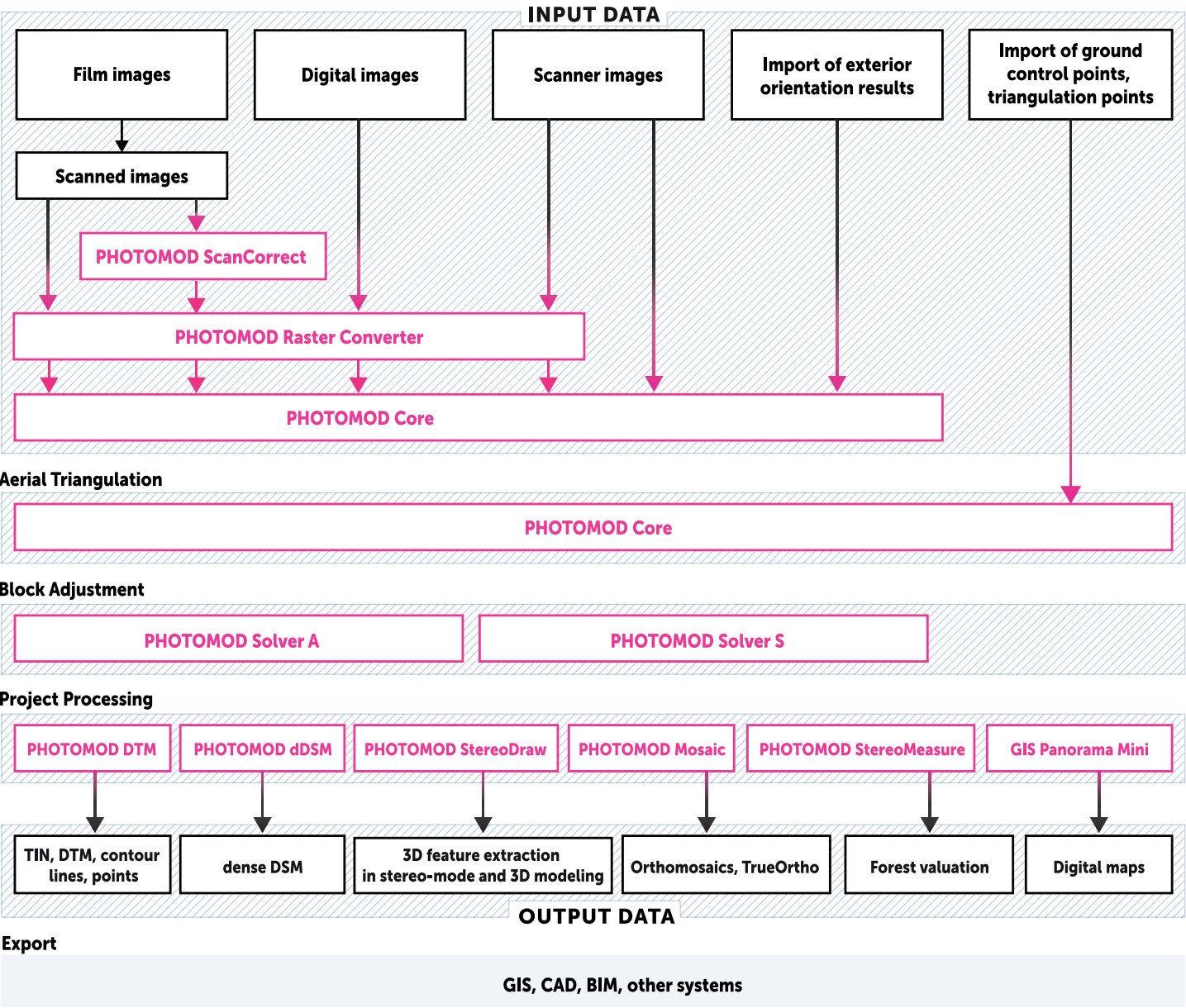
- Full line of data output
- Wide range of supported sensors
- Multiple data exchange formats for compatibility with photogrammetric and GIS products
- High level of automation for main photogrammetric operations
- High productivity
- Distributed network configurations for large projects implementation
- Comprehensive quality control at all stages of data processing
- Chinese, English, Greek, Russian, Spanish languages.

PHOTOMOD benefits:

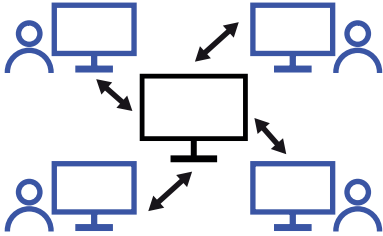
- Complete image data processing workflow without third party products
- Flexible modular architecture: you only buy what you need
- Wide choice of stereoviewing options: LCD glasses or screens of various vendors with page-flipping modes, as well as simple anaglyph glasses
- Support for a variety of input devices: 3- and 5-button mice, specialized 3D controllers
- Prompt and effective technical support
- Very affordable prices

PHOTOMOD Modules and Process Workflow

PHOTOMOD is a modular system. This allows users to obtain maximum benefit from its high level of flexibility. Configure for optimal system production. Buy only the modules you need for your particular workflow.



PHOTOMOD Configurations



Network

Unlimited workplaces for industry tasks



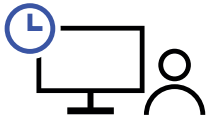
Local

Powerful system for any tasks



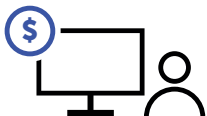
Cloud

PHOTOMOD is available in GeoCloud and CloudEO cloud-services



Temporary

Time-limited license



Rent

PHOTOMOD is available for rent

PHOTOMOD

Automation

Photogrammetric operations	Automation level
Aerial triangulation	●
DTM, DSM, denseDSM	●
Point cloud	●
Contour lines	●
Mosaicking	●
Orthorectification	●
3D modeling	●
2D-3D vectorization	●

●

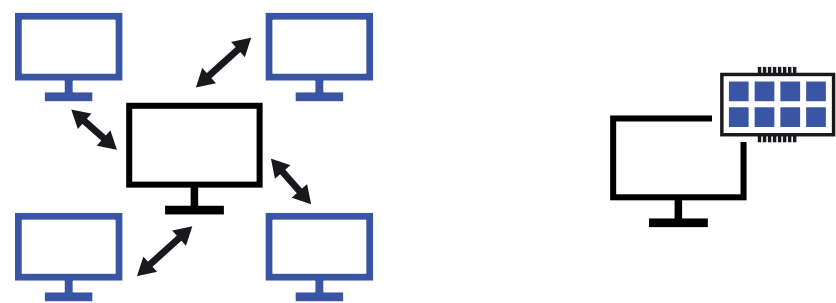
 Full automatic

●

 Semi-automatic

PHOTOMOD

Distributed Processing



Parallel task execution with multiple processor cores
or multiple computers

PHOTOMOD GeoMosaic

Powerful software solution for combining georeferenced images

PHOTOMOD GeoMosaic is powerful software solution for combining georeferenced images from any sources into single seamless, color-balanced, geometrically perfect mosaic. You do not need any third-party products. PHOTOMOD GeoMosaic is a complete solution. All necessary tools for the best mosaicking are included.

High productive capacity and efficiency: use of the distributed processing technologies and support of high-efficiency computing capacities increases workflow efficiency.

Scalability: unlimited sized rasters and blocks of tens thousands images are supported

Profitability: low expense — high-quality of digital image mosaic production

Actuality: software development using the latest technologies

Easy to use software: user friendly interface — no extensive training required



PHOTOMOD UAS

Stand-alone full photogrammetric UAS-oriented software

PHOTOMOD UAS allows the user to process UAS data and acquire all types of value added photogrammetric products: DEM, 2D and 3D-vectors, orthomosaics.

The main techniques of UAS data processing in the PHOTOMOD system are rigorous photogrammetric processing of images with accuracy comparable with ground sample distance (GSD), and simplified method with absolute accuracies of about tens of meters.

Functionality, high performance, simplified user-friendly interface and automation of photogrammetric operations are key benefits, allowing the user to consider PHOTOMOD as the optimal solution for UAS data processing. The system allows the user to improve processing performance due to distributed processing approach, and uses most effectively the computational capabilities available. Block layout creation, cutlines building, tie points search and measurement, as well as DEM building and filtering are available in the system in fully automatic mode.



PHOTOMOD Conveyor

Automatic photogrammetric processing on high performance computers

PHOTOMOD Conveyor provides the appropriated consequence of starting of different photogrammetric algorithms and their synchronizing. All processes are running in parallel mode on all computing cores of the cluster.

	GSD	Area	Output products	Processing time*
Aerial survey	3—5 cm	100 km ²	Mosaic, DTM, orthophoto	60 min
Satellite survey	1 m	20 000 km ²	Mosaic, DTM, orthophoto	60 min

*Xeon E5-2680 2.40GHz – 10 CPU (140 cores, 280 hyper-threading),
RAM 1280GB, 10Gb/s Ethernet

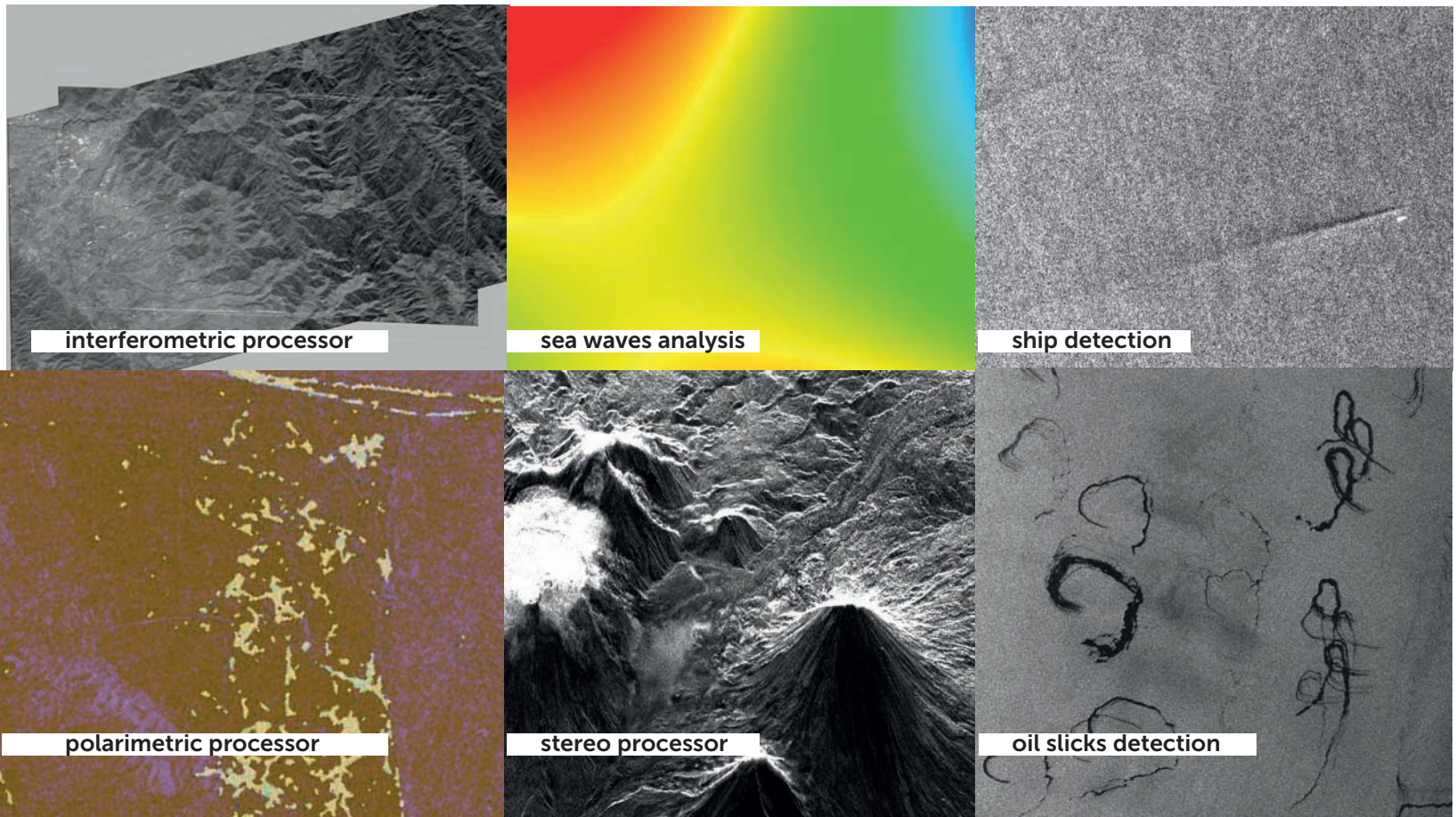


PHOTOMOD Radar

Spaceborne SAR data processing

The PHOTOMOD Radar software is intended for full-scale processing of Earth remote sensing data acquired by spaceborne radars with synthesized antenna aperture (SAR) such as KOMPSAT-5, Sentinel, ERS-1/2, Radarsat, SIR-C/X, ENVISAT ASAR, TerraSAR-X, ALOS, COSMO-SkyMed and generation of so called "secondary information products" from SAR images, such as digital elevation models. The fact that SAR is the active sensor makes possible reception of required measurements independently of time, day and weather conditions.

PHOTOMOD Radar is built under module principle and comprises a number of separate modules suitable for individual user, along with several default modules, needed for proper operating.



PHOTOMOD Lite

Free software package

PHOTOMOD Lite is a free software package which has all features of PHOTOMOD digital photogrammetric system. The program is intended for photogrammetric processing of the remote sensing data. PHOTOMOD Lite allows exploring wide-ranging possibilities of the PHOTOMOD system and performance of test projects with the users data.

The main difference between the Lite and professional PHOTOMOD versions is a limit in the number of images, vector objects, TIN nodes, breaklines etc. However, PHOTOMOD Lite allows to execute small photogrammetric projects for orthomosaics, DTMs and vector maps creation.

PHOTOMOD Lite is an excellent solution for realization of scientific and educational projects and can be used for training of engineers and students. The program is not intended for commercial use.

DEMO PROJECTS AND STUDY GUIDES ARE INCLUDED

Demo project	Source
GeoEye-1	0,5 m, GeoStereo, RGB, 8 bits, GeoTIFF
Aerial Survey RC-30	2 strips by 3 images (2 stereo pairs) in each strip, focal length equal to 153.503 mm, images scale 1:9400.
Aerial Survey DMC	2 strips by 3 images (2 stereo pairs) in each strip, focal length equal to 120 mm
Aerial Survey UltraCamX	2 strips by 3 images (2 stereo pairs) in each strip, focal length equal to 100.5 mm
UAS	40 images by Canon EOS 500D, focal length equal to 28 mm, pix size – 4.8 cm, matrix size (pix) x – 4752; y – 3168.

Free available from: <http://racurs.ru>

Utilities



PHOTOMOD Radar Viewer

is intended for viewing the Earth surface images, acquired by space synthetic aperture radar sensors: KOMPSAT-5, Sentinel, ERS-1/2, Radarsat, SIR-C/X, ENVISAT ASAR, TerraSAR-X, ALOS, COSMO-SkyMed, as well as the raster images in formats USGS, GTOPO30, GeoTIFF, Tiff and BMP.

PHOTOMOD GeoCalculator —

free geodetic calculator.
Converts and recalculates coordinate values between various coordinate systems.
Android version is available.



PHOTOMOD DirectGeoreferencing

calculations of estimating accuracy assessment of terrain measurements

Calculations of estimating accuracy assessment of terrain measurements are performed with images on the base of a survey geometry (a height of flight, an overlap, camera parameters) and a specified accuracy of exterior orientation (EO) parameters.

PHOTOMOD Datum Parameters —

calculations of datum parameters

Calculation of datum parameters — allows to calculate parameters of datum using two set of identical points in different coordinate system. In each set should be at least 3 points. These parameters include scale, 3 angular rotation parameters, 3 linear offset parameters.

Technical support

Racurs provides technical support for its customers. Experienced software support specialists provide immediate professional help by phone, e-mail, or remotely with access to a user’s computer.

You can rely on qualified technical support from our dealers in 30 countries around the world.

Training

Trainings type	Duration
Webinars on demand	1-2 hrs
DPW PHOTOMOD	5 days
PHOTOMOD UAS	4 days
PHOTOMOD Radar	5 days

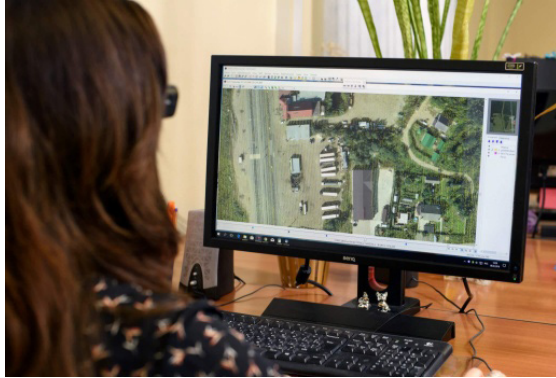
Specialized individual or group training courses may be organized in Moscow or at the client’s site. The trainings can be based on customer’s requirements and data.

Learning materials	
Step by step user manual	Free available
Video tutorials	Free available
Webinars	Free available
Teaching Guide	Available with an education license
User experience	Free available



See Racurs’s YouTube channel: youtube.com/user/RacursCo

Photogrammetric services



Racurs' production department is filled with qualified personnel who have vast experience in the implementation of various projects. In cooperation with our partners, we are armed with sufficient technical and human resources to implement projects of practically any size and complexity.

The key advantage of production projects carried out by our company is the use of software of our own development and direct partner agreements with the leading providers of satellite and aerial surveys.

We offer a full range of digital photogrammetric services:

- Pre-project consulting, including recommendations for the selection of input data and optimal technology of project realization
- Supply of remote sensing data
- Digital aerotriangulation and adjustment
- Creation and processing of DTM, DSM, dDSM
- Orthophoto production
- 3D stereovectorization
- 3D modeling of urban development
- Creation and updating of digital maps

Our advantages:

- Quality control at all technological stages
- Speed and quality of work, due to high productivity and technical equipment
- Individual approach to each project
- Ability to adapt processing technology to specific customer requirements

Extensive experience in solving exclusive tasks for processing remote sensing data makes our company a leader in the market of photogrammetric services.

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