

Joint Stock Company
«Research Institute of Precision Instruments»



Joint Stock Company
«Racurs» Software solutions in the field of photogrammetry, GIS and remote sensing



«SPATIAL DATA IN THE DIGITAL ECONOMY (INDUSTRY 4.0)»

O. Gomosov, S.Potapov, Joint Stock Company
«Research Institute of Precision Instruments»
V. Adrov, Joint Stock Company «Racurs»

«DIGITAL EARTH» PROJECT - NEW CONCEPT OF RUSSIAN REMOTE SENSING



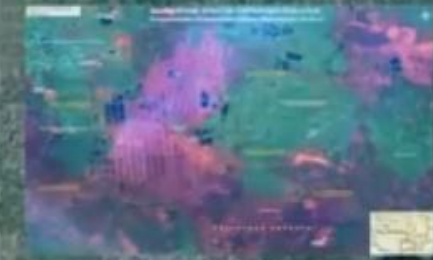
ВЕДЕНИЕ КАДАСТРОВ



КАРТОГРАФИЯ



КОНТРОЛЬ
ЛЕСНОГО ХОЗЯЙСТВА

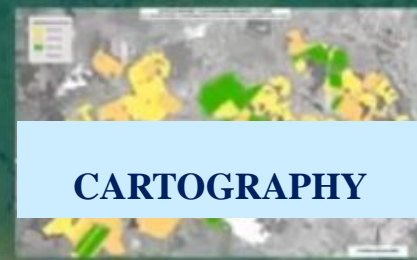


ОЦЕНКА ВЫГОРЕВШИХ
ТЕРРИТОРИЙ



CADASTRAL
REGISTRATION

ТЕРРИТОРИАЛЬНОЕ
ПЛАНИРОВАНИЕ



CARTOGRAPHY

КОНТРОЛЬ
ЗЕМЛЕПОЛЬЗОВАНИЯ



FOREST FUND
MONITORING

КОНТРОЛЬ
ТЕХНОГЕННЫХ АВАРИЙ



FOREST FIRE
DAMAGE
ASSESSMENT

ОЦЕНКА
ПАВОДКОВЫХ СИТУАЦИЙ

SPACIAL
PLANNING

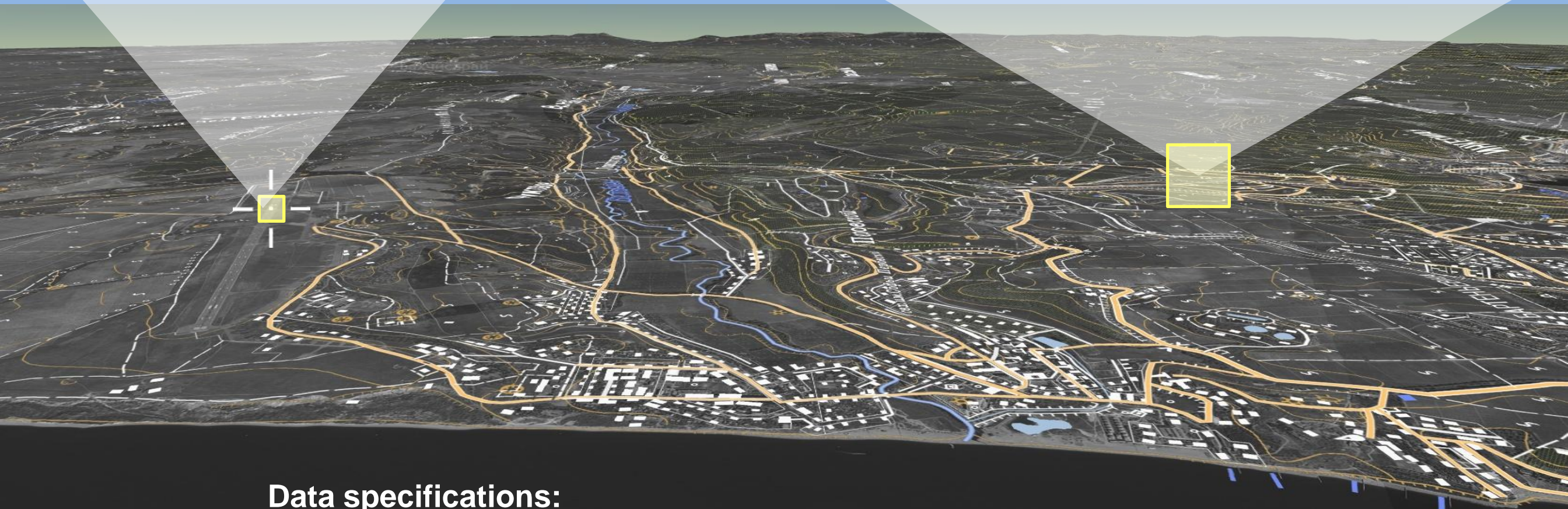
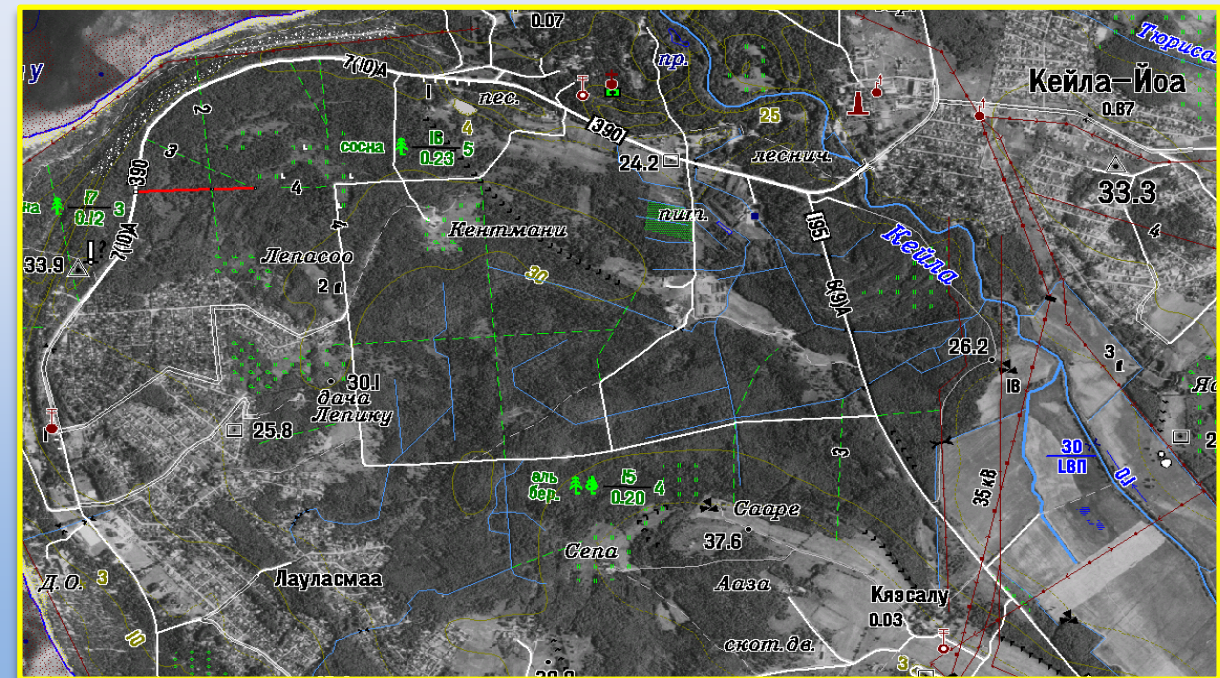
LAND
MANAGEMENT
MONITORING

TECHNOLOGICAL
ACCIDENT
MONITORING

FLOOD
MONITORING

CREATION OF PRODUCTS AND SERVICES BASED ON REMOTE SENSING

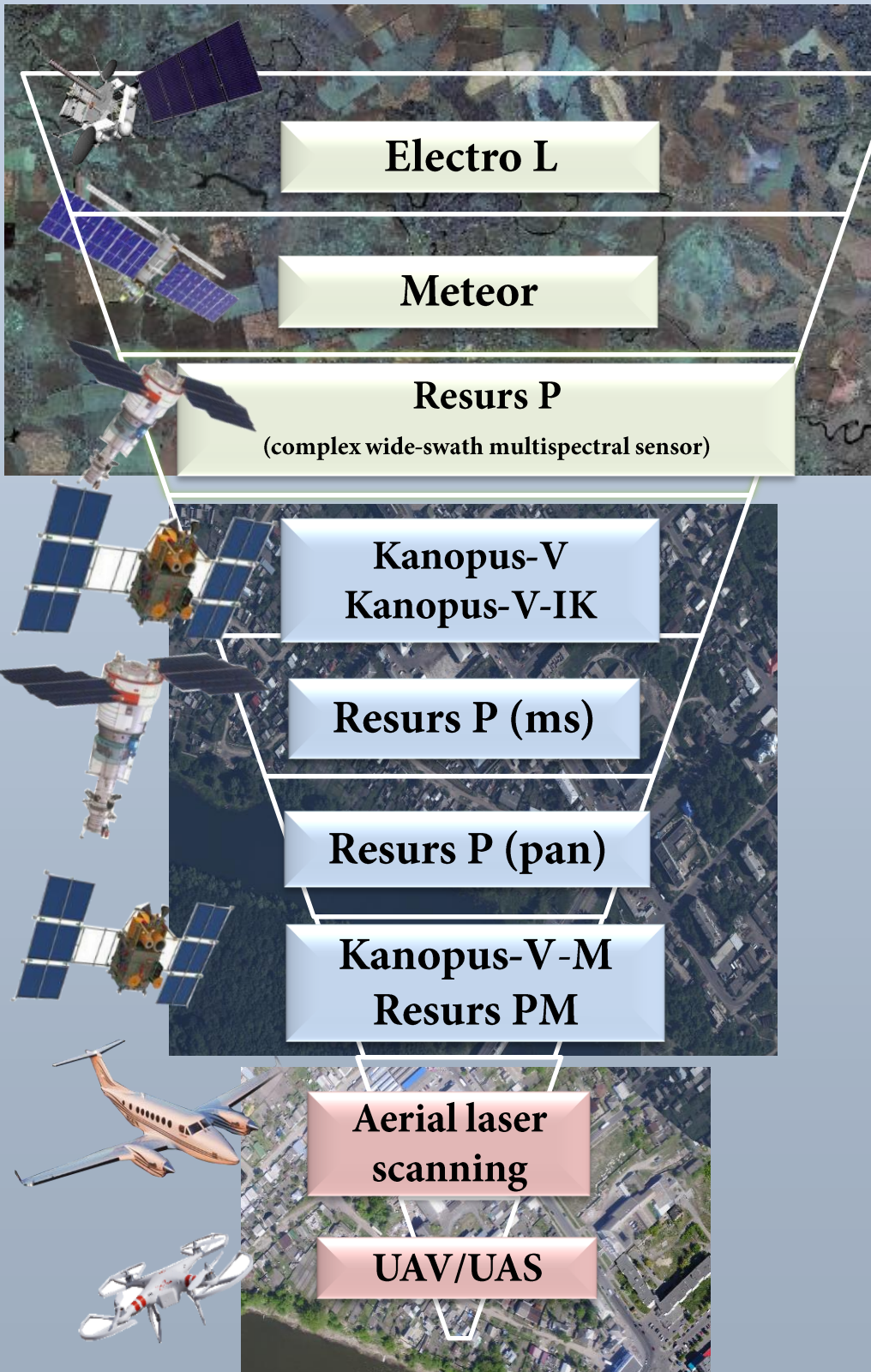
CREATION OF A HIGH-PRECISION REFERENCE BASIS FOR GEODETIC COORDINATE SYSTEM



Data specifications:

- spatial resolution – 0,5 - 2,5 м;
- accuracy – 3-5 м.

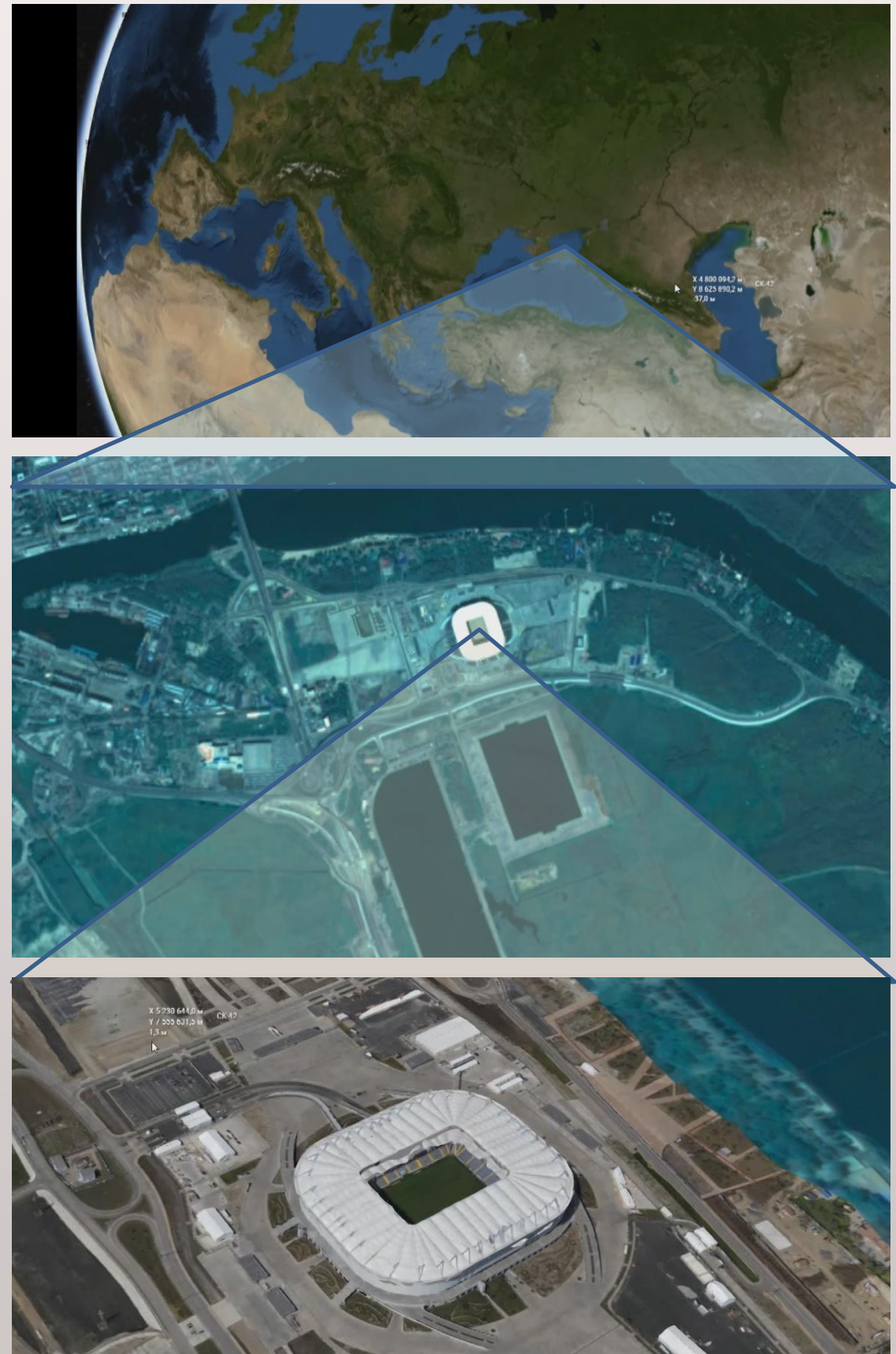
REMOTE SENSING DATA HARMONIZATION WITHIN THE «DIGITAL EARTH» PROJECT



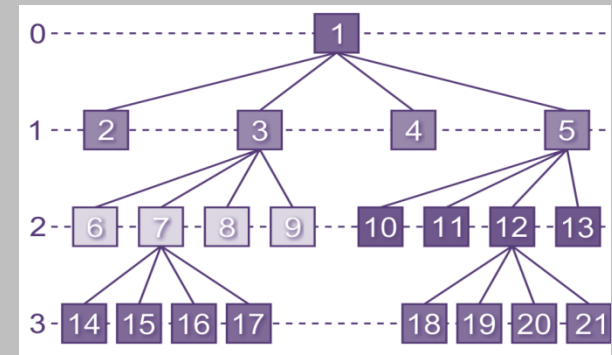
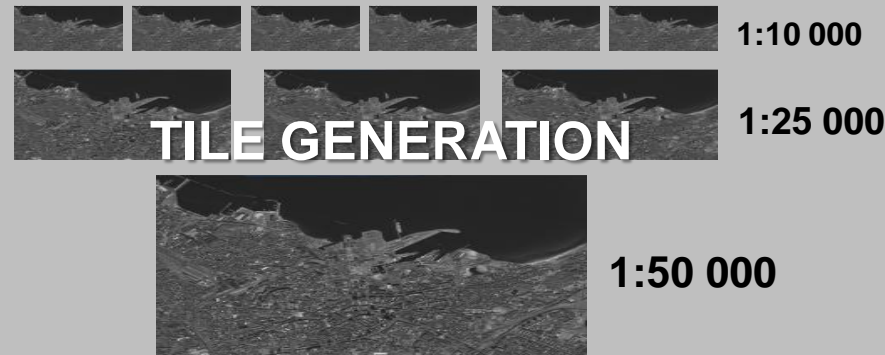
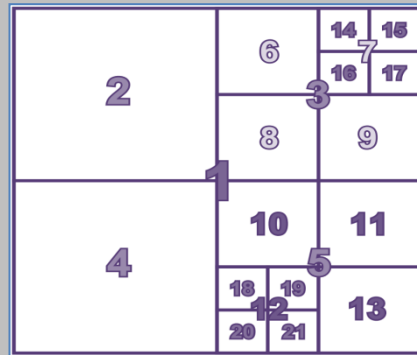
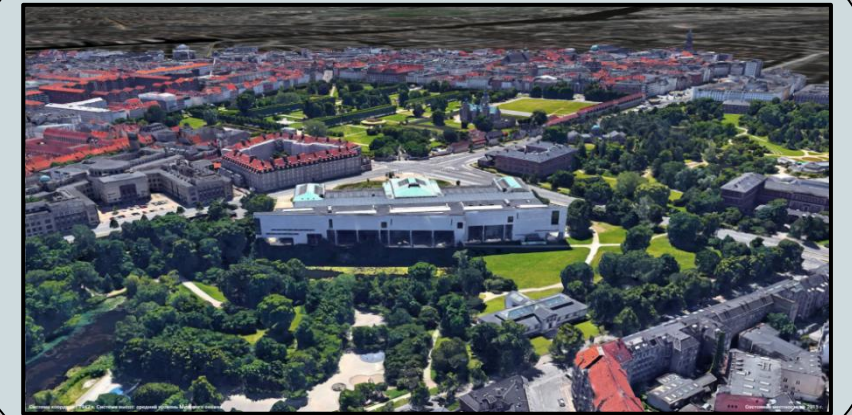
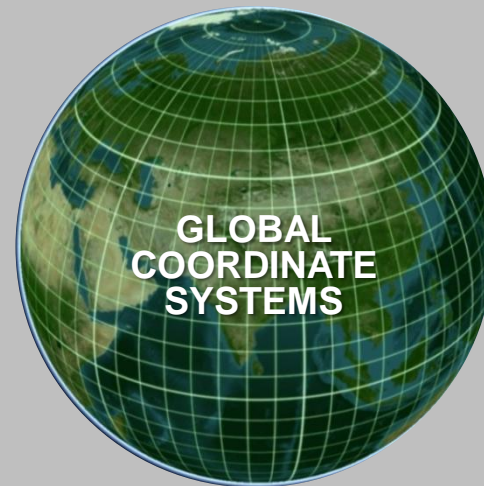
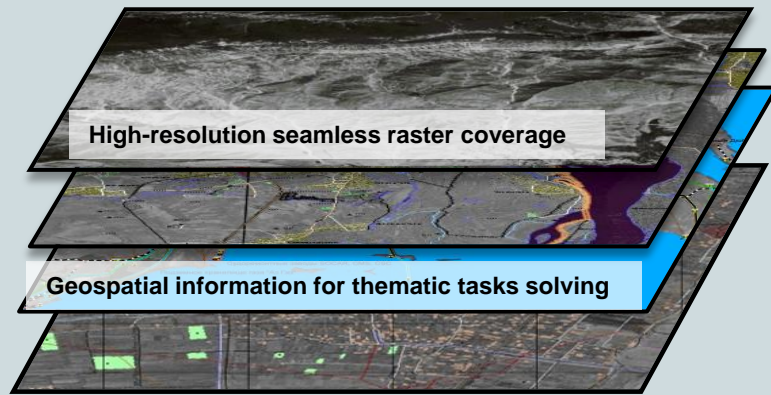
UNIFIED DATA PROCESSING PLATFORM

UNIFIED GEOPLATFORM

CROSS-PLATFORM DEVELOPMENT ENVIRONMENT



GLOBAL DATA STORAGE MANAGEMENT

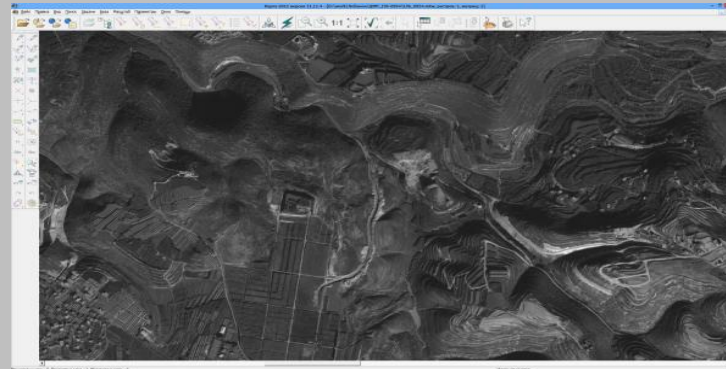


Terrain + **TILE DATA FORMAT** + **Vector**
Orthophoto

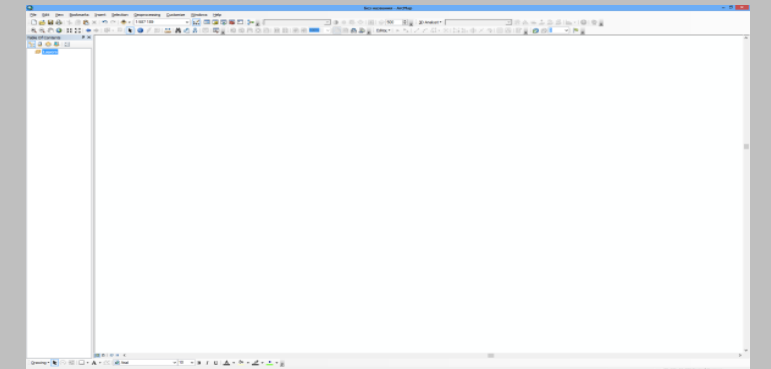
WMTS



TMS



WCS



TILE ACCESS POINT

DEVELOPMENT OF DOMESTIC HARDWARE AND SOFTWARE FOR CREATION AND USE OF GEODATA



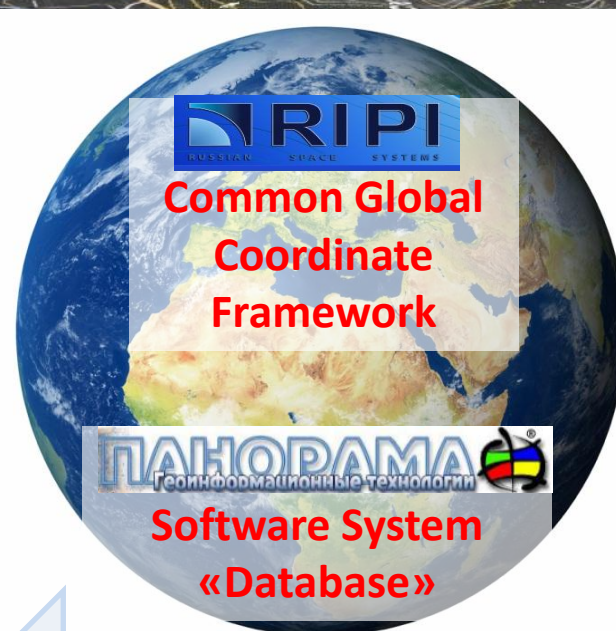
Photomod +

Creation and operational updating of raster coverages, DEM and 3-D models according to remote sensing data and laser scanning.

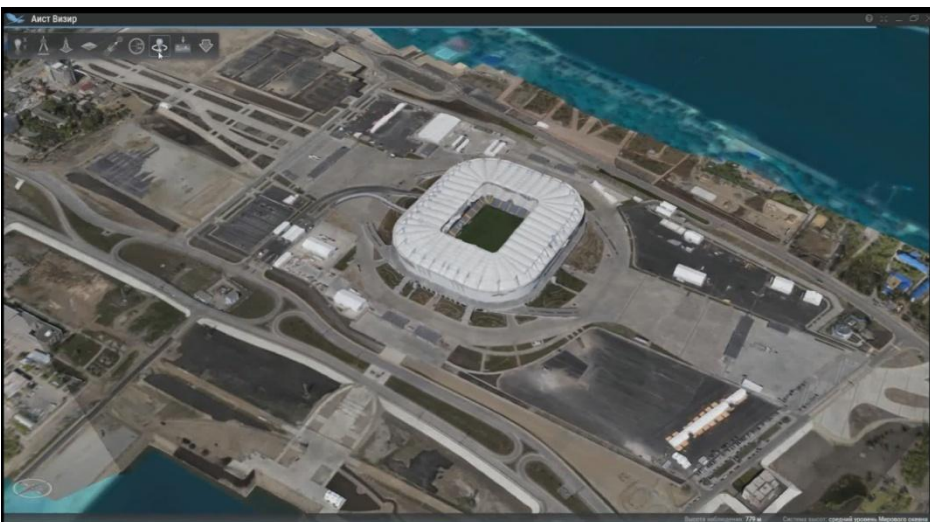


«Panorama 12» +

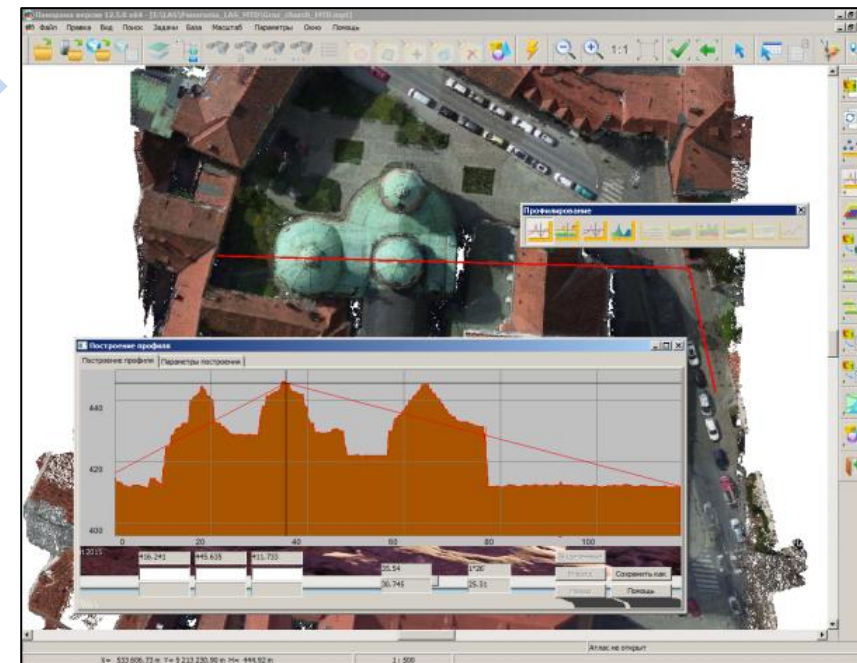
Creation and operational update of vector coverages, electronic maps, DEM and 3-D models.



Web-server



Software System of visualization and application of data «AIST-visor»



Automated solution of applied, informational, navigation and computational tasks. Creation of reporting graphic documents.

PHOTOMOD – GIS «Panorama».

DIGITAL COMBINED SURFACE MODEL



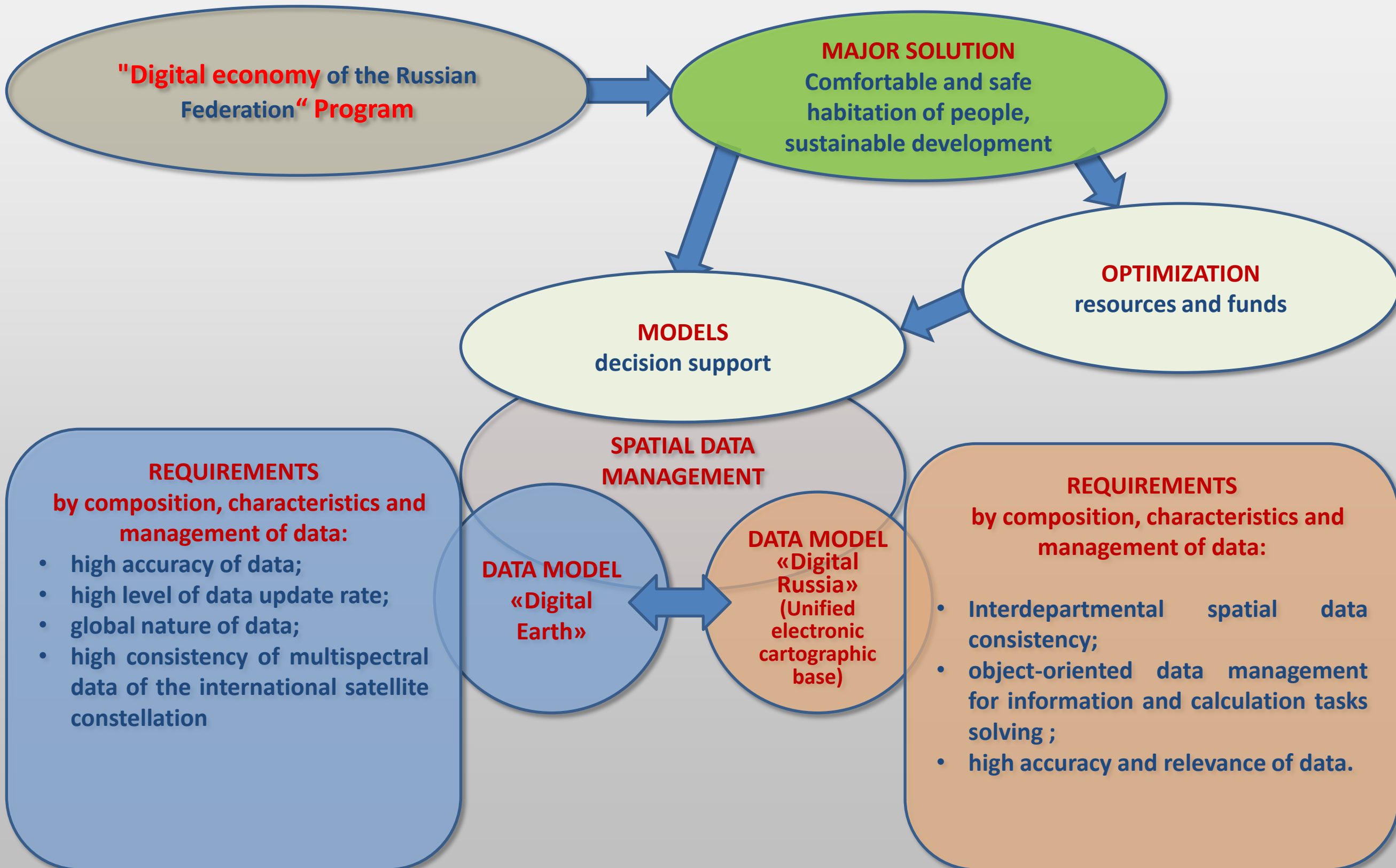
Sochi. Satellite and UAV SuperCam survey

3D TIN TEXTURED SURFACE MODEL

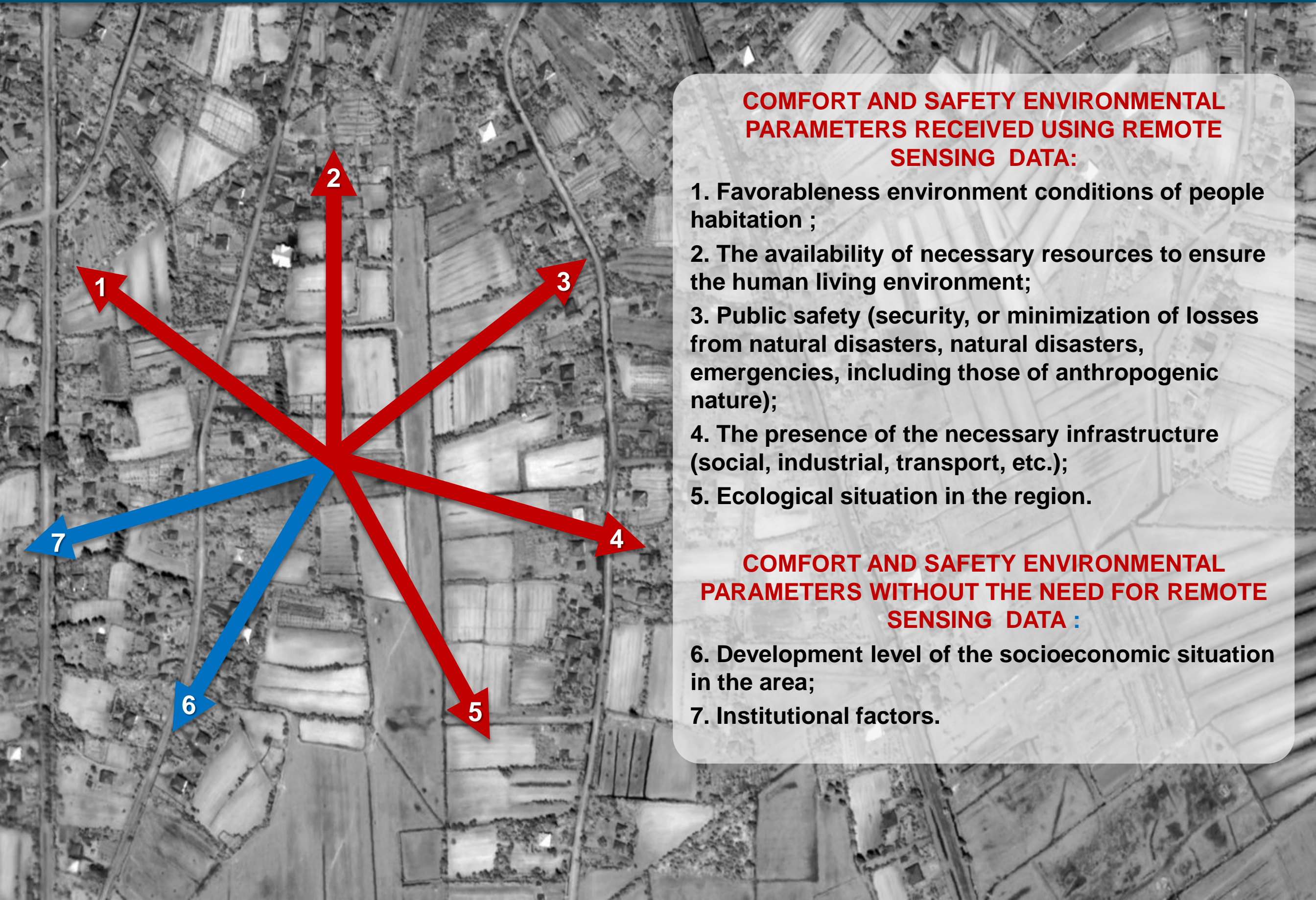


Germany, UAV panoramic aerial survey
Number of photos - 36, GSD - 20 mm
CPU Intel Core i7 (8 cores), RAM 16 GB
Aerotriangulation - 10 minutes (on 8 cores)
DSM (20 mm) / LAS - 100 minutes (on 5 cores,
including TrueOrtho build)
3D-TIN by LAS - 15 minutes

PROGRAM "DIGITAL ECONOMY OF THE RUSSIAN FEDERATION" - AS A TECHNOLOGY TO ENSURE A COMFORTABLE AND SAFE HABITATION OF PEOPLE



SIMULATION OF COMFORTABLE AND SAFE HABITATION OF PEOPLE IN THE TERRITORY



COMFORT AND SAFETY ENVIRONMENTAL PARAMETERS RECEIVED USING REMOTE SENSING DATA:

1. Favorableness environment conditions of people habitation ;
2. The availability of necessary resources to ensure the human living environment;
3. Public safety (security, or minimization of losses from natural disasters, natural disasters, emergencies, including those of anthropogenic nature);
4. The presence of the necessary infrastructure (social, industrial, transport, etc.);
5. Ecological situation in the region.

COMFORT AND SAFETY ENVIRONMENTAL PARAMETERS WITHOUT THE NEED FOR REMOTE SENSING DATA :

6. Development level of the socioeconomic situation in the area;
7. Institutional factors.

THANK YOU FOR YOUR ATTENTION!