

«FOUNDATION OF THE THEMATIC REMOTE SENSING DATA PROCESSING CENTER ON THE RUSSIAN TECHNOLOGIES BASIS»

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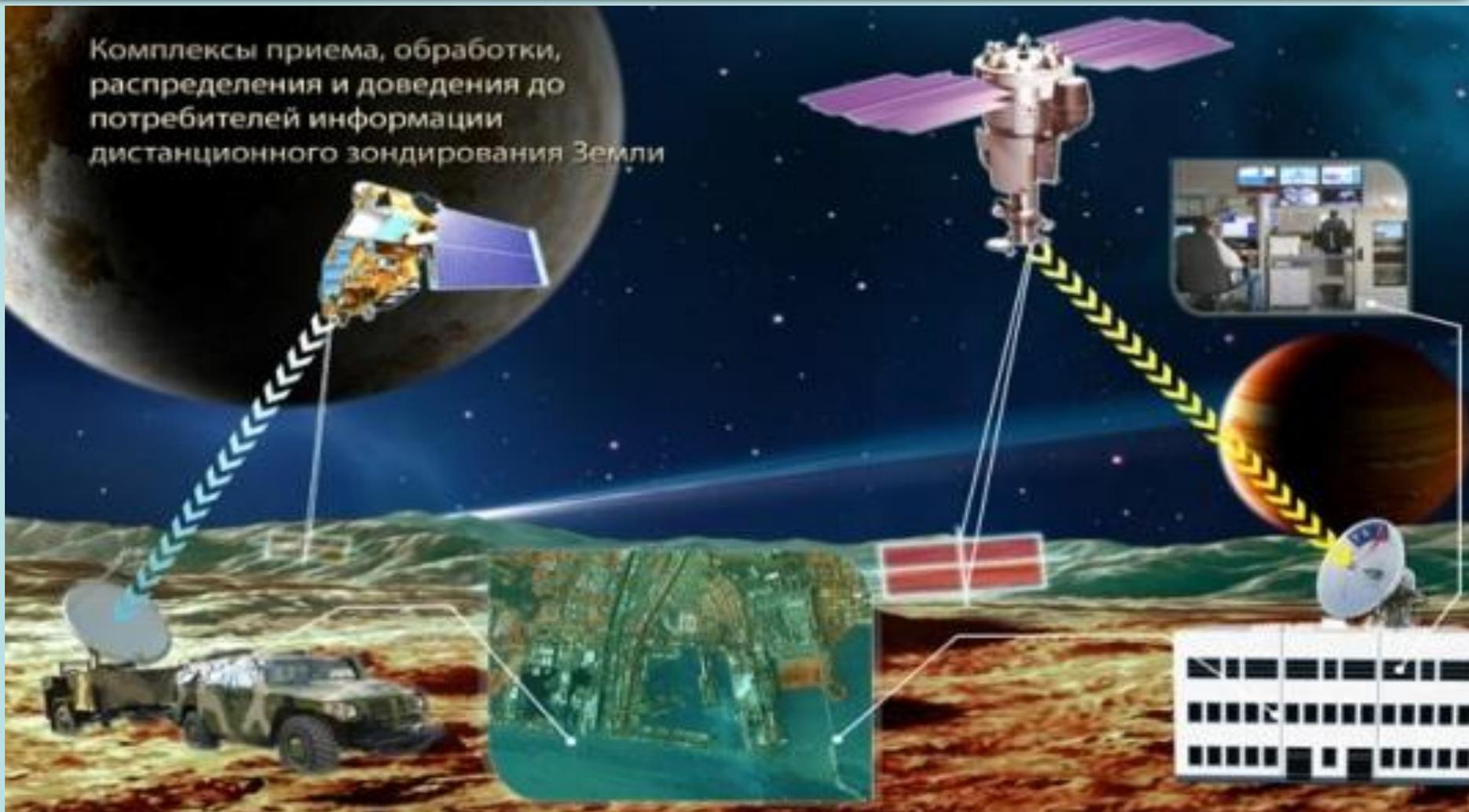
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Closed Corporation «Design Department PANORAMA».

EARTH REMOTE SENSING INFORMATION SYSTEMS FOR RECEPTION, PROCESSING, DISTRIBUTION AND ASSIGNMENT TO USERS

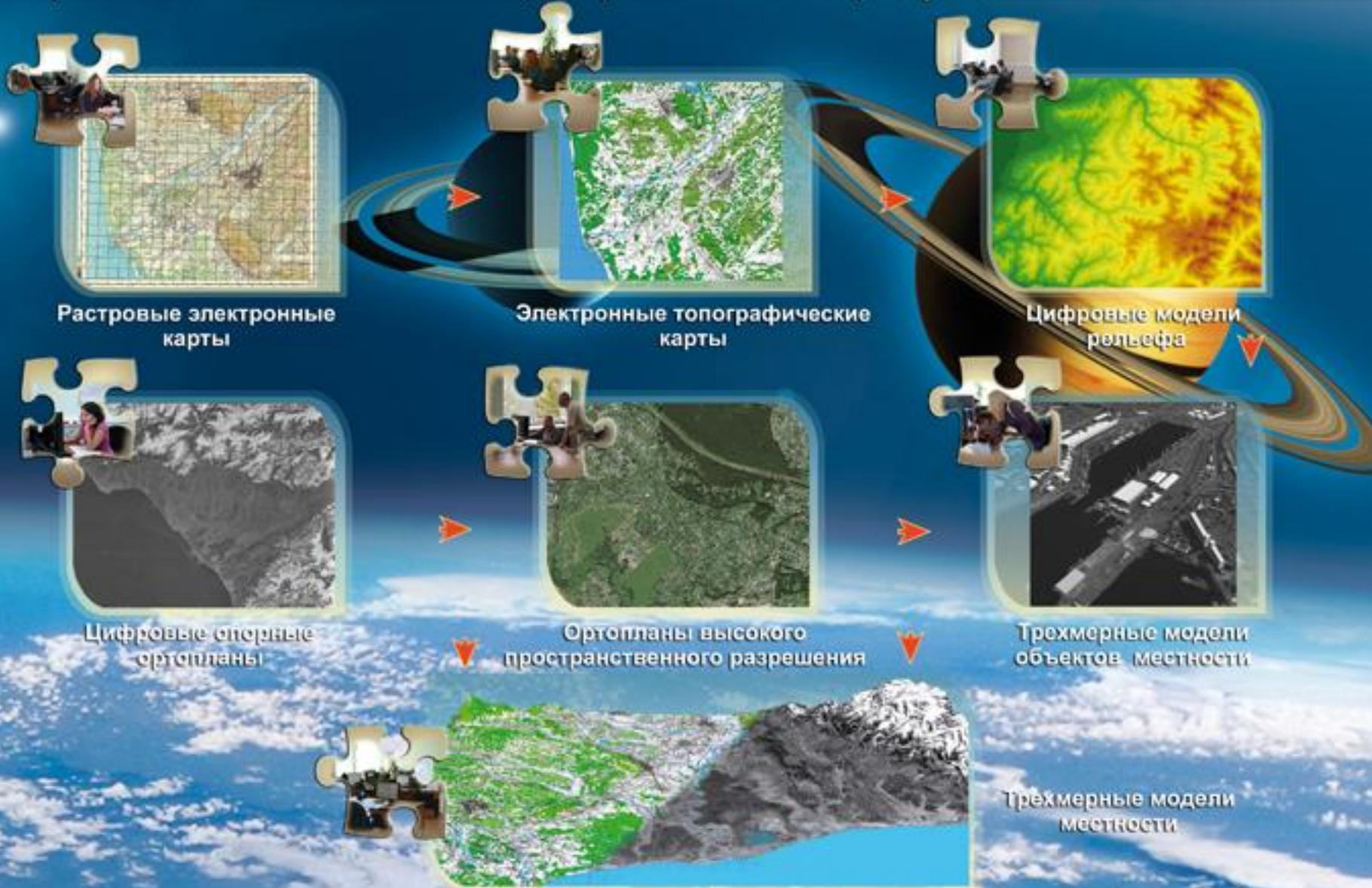


Комплексы приема, обработки,
распределения и доведения до
потребителей информации
дистанционного зондирования Земли

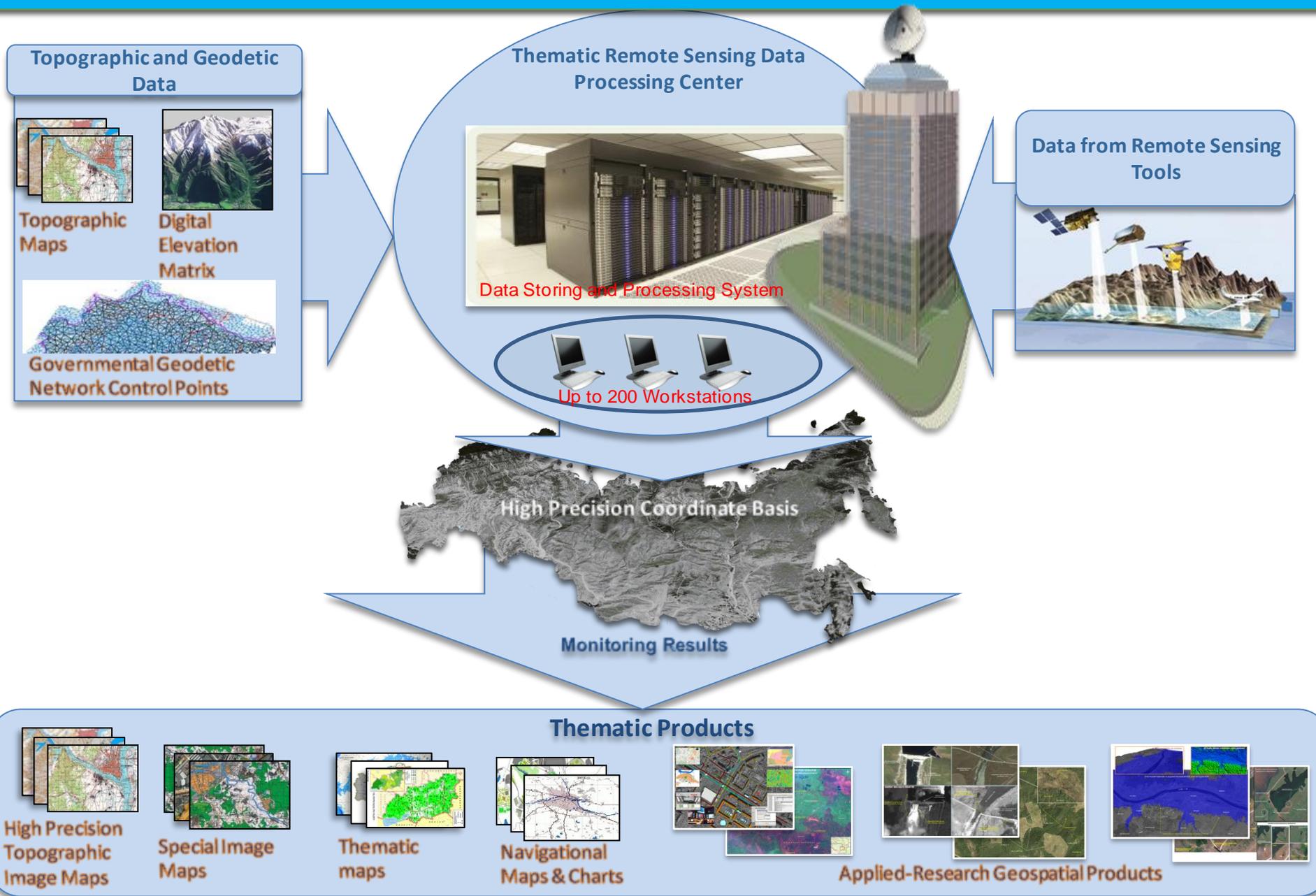


They insert antenna, receiver, information processing and archiving systems, which assign Earth remote sensing results as halftone images in coordination with spacecraft tools.

QUANTITY GEOSPATIAL PRODUCTION



MANUFACTURED GEOSPATIAL INFORMATION PRODUCTION



Remote Sensing Data Photogrammetric Processing:

- Orthophotoplan Generation
- Seamless Covering Mosaics Generation
- Digital Elevation & Terrain Models Generation
- Multitemporal Data Sets Generation

Thematic Image Interpretation and Mapping:

- Geographic Framework and Terrain Plans Generation and Updating
- Thematic Spatial Data Actualization
- Thematic Mapping
- Web-Mapping and Geopartals

Prompt Monitoring:

- Emergency Monitoring
- Construction Activity Monitoring
- Environmental Pollution Monitoring

THEMATIC REMOTE SENSING DATA PROCESSING AND GEOSPATIAL PRODUCTION CENTER FLOWCHART



Management and Planning System



Data Storage System



Warehouse

Geospatial Data & Information Base

Data Publishing System

Thematic Data & Services



Thematic Data Publishing Server

Data Users

Incoming Inspection and Editorial Spadework System

Remote Sensing Information Geospatial Data

Remote Sensing Data Photogrammetric Processing Workstations

Remote Sensing Data Photogrammetric Processing System («Photomod»)

Data Processing Server

Remote Sensing Data Photogrammetric Processing Workstations

Thematic Data Processing System (IMC, GIS «KARTA 2011»)



Software Configuration

System Software

- OS Windows (servers, workstations)
- DBMS PostgreSQL
- Microsoft Office

Application Software

Digital Photogrammetric System «Photomod»

Digital Photogrammetric System «Photomod» Is Designed For Final Production Of All Types - Digital Elevation Models (DEMs), 3D-vectors, Orthophotoplans, Digital Maps. Company Producer - Closed Corporation «RAKURS» (Russian Federation)

PHOTOMOD®

GIS «KARTA 2011»

GIS «KARTA 2011» - Geoinformation System Is Designed for Production and Updating Digital Image Maps, Measurement and Computation Execution. Company Producer - Closed Corporation «Design Department PANORAMA» (Russian Federation)

ПАНОРАМА
Геоинформационные технологии 

Geospatial Software «Image Media Center»

Geospatial Software «Image Media Center» Provides Spatial Data Processing and Analysis (Space Images & Vector Maps). Company Producer - «Innovation Technologies Center» (Russian Federation)

 **IMAGE
MEDIA
CENTER**

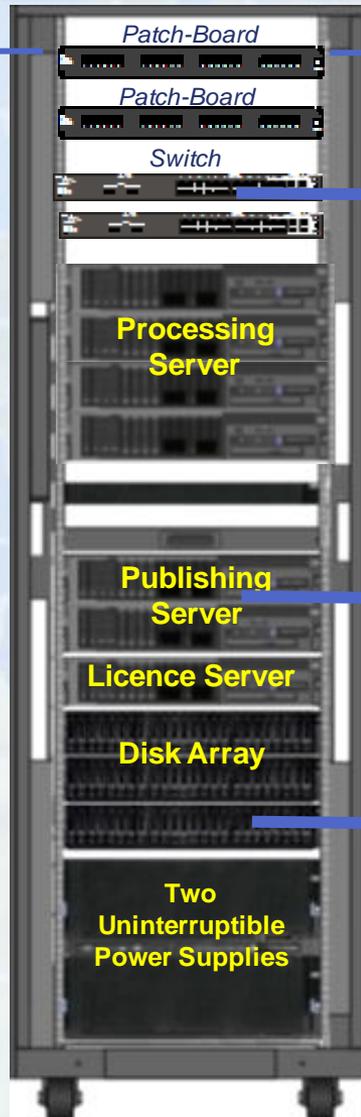
Remote Sensing Information Processing Delivery Set

Management and Planning System



One Set

Data Processing Server



Incoming Inspection and Editorial Spadework System



One Set

Remote Sensing Data Photogrammetric and Thematic Processing System

Remote Sensing Data Photogrammetric Processing Workstations



One - Three Sets

Cartographic Processing Workstations



One - Three Sets

Data Publishing System



One - Three Sets

1 Gb

1 Gb

10 Gb.

1 Gb

Overall Center Characteristics

Characteristic	Center Option		
	Minimum	Basic	Advanced
Storage Type	Disks	Disks + Tapes	Disks + Tapes
Workstation Amount	25	50	120
Availability of Open And Confidential Circuits	Open	Open and Confidential	Open and Confidential
Server Room Amount	One not less than 16 m ²	One not less than 20 m ²	Two not less than 16 m ² each
Workroom space, not less	165 m ²	Open Circuit - 198 m ² Confidential Circuit - 132 m ²	Open Circuit - 528 m ² Confidential Circuit - 264 m ²
Business Equipping	Large-format scanners, multifunction color, black & white equipment, large-format printers (plotters), wide-screen panels. Interactive panels (tables) - for basic and advanced Center options		
Power consumption (nominal)	36 kilowatt	Open Circuit - 56 kilowatt Confidential Circuit - 33 kilowatt	Open Circuit - 128 kilowatt Confidential Circuit - 59 kilowatt

Spatial Data Delivery Set

Seamless High Resolution Cover



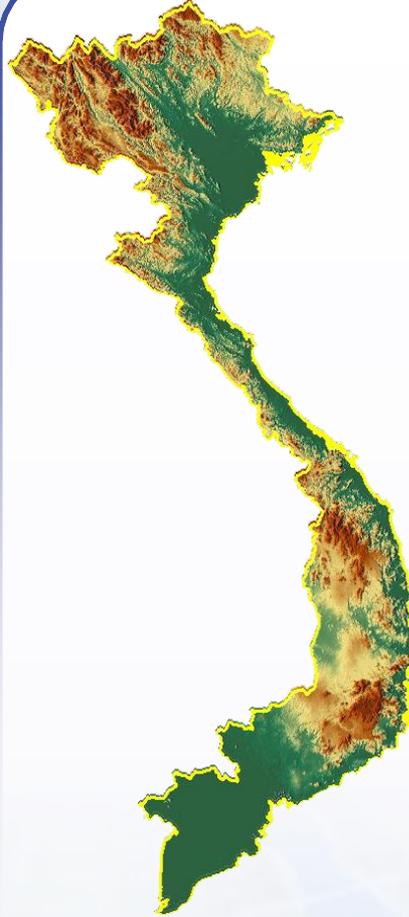
*Spatial Resolution: 0.5 - 3 m**
*Coordinate Determination Accuracy: 1 - 5 m**

Cartographic Data Set



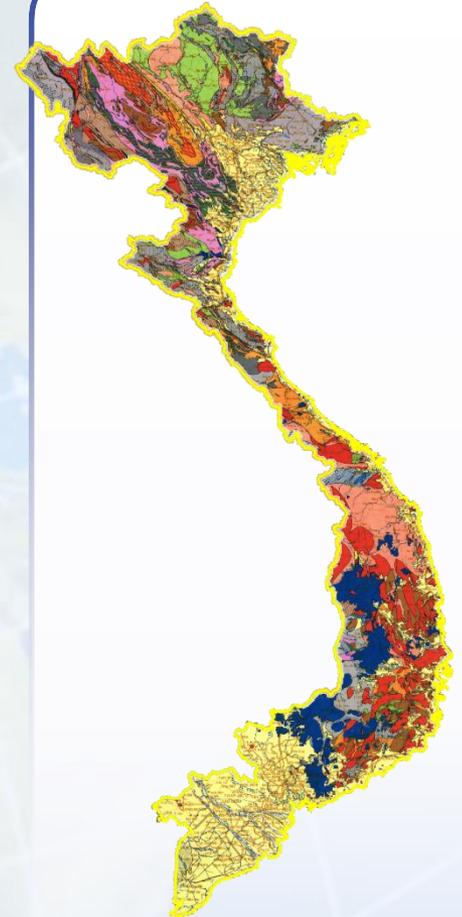
Primary Cartographic Layers:
road network;
human settlement;
hydrography features*

Digital Elevation Matrix



*Array Pitch: 5 - 30 m**
*Elevation Determination Accuracy: 3 - 10 m**

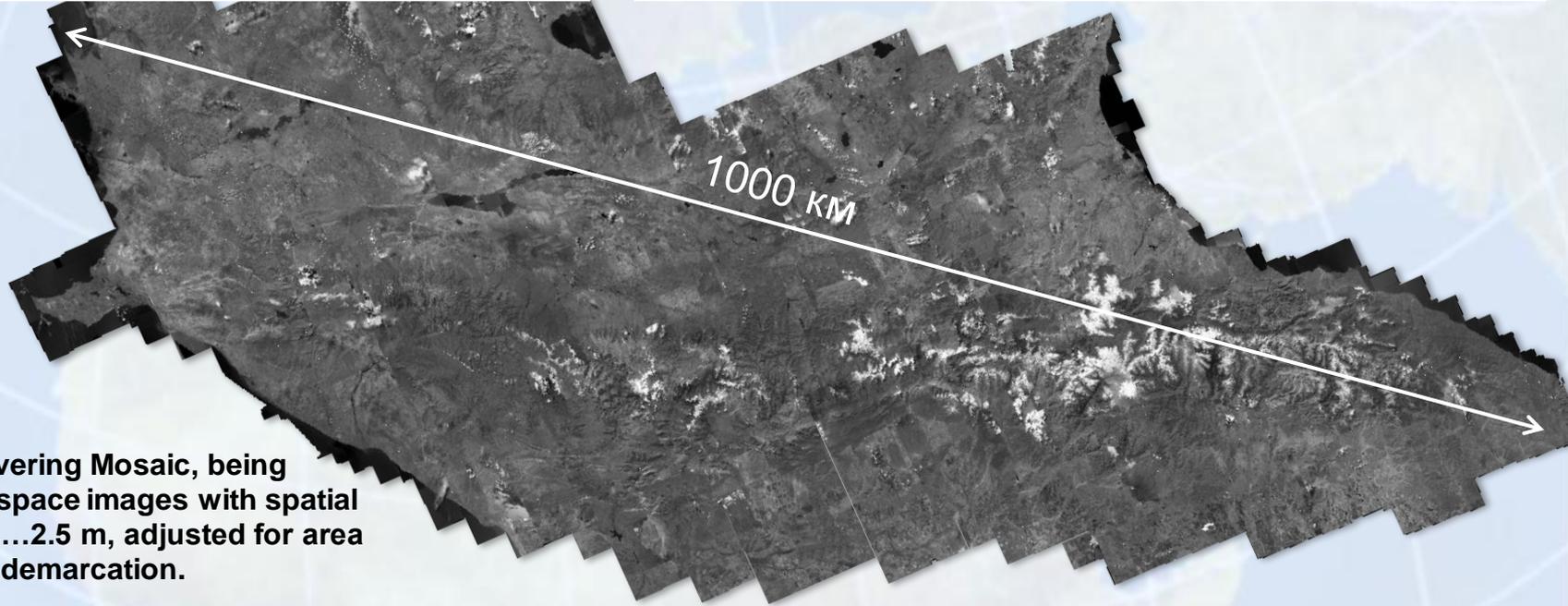
Thematic Data Set



Thematic Data
Monitoring Results**

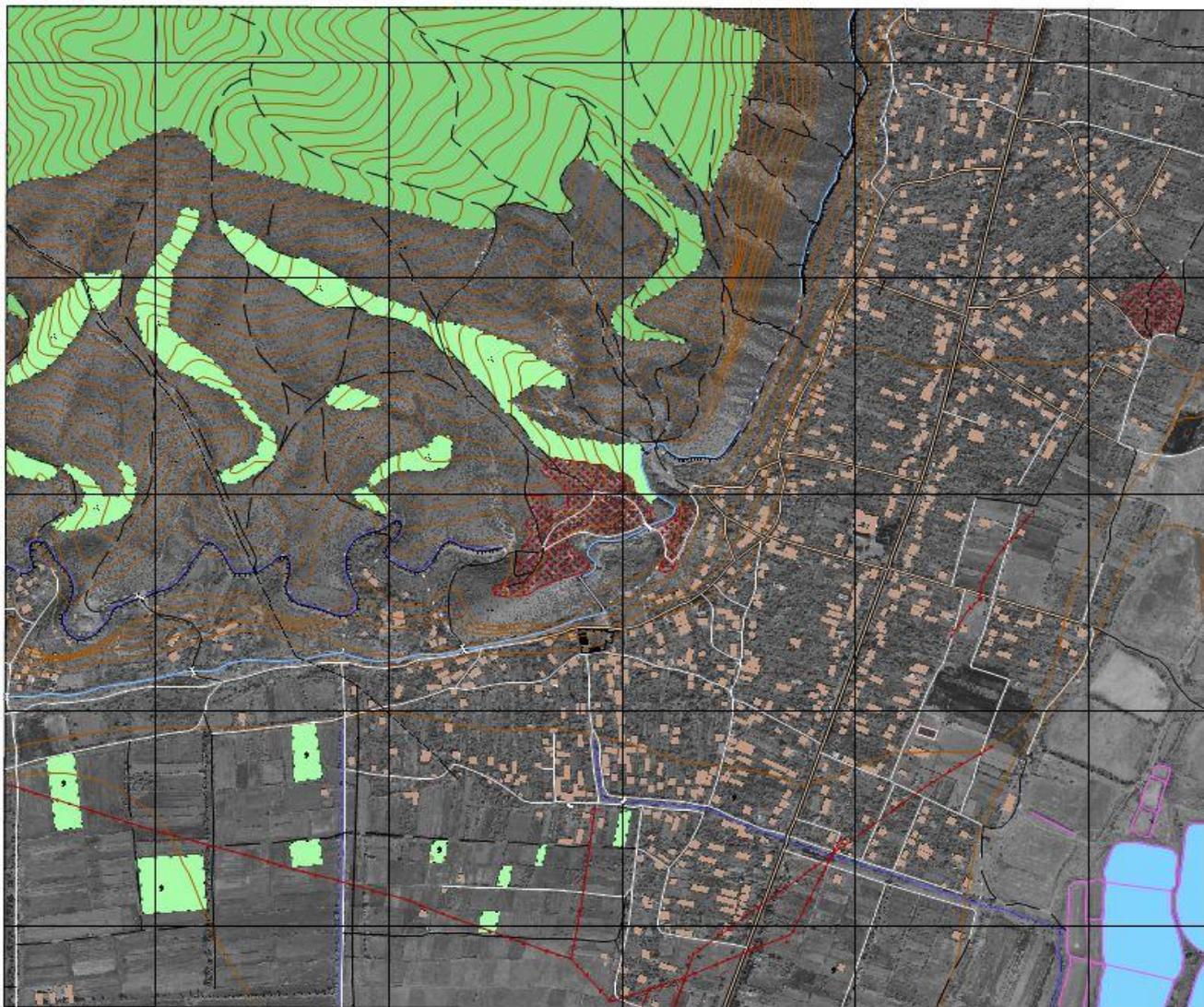
* - Specify by the Customer Requirements

SEAMLESS HIGH SPATIAL RESOLUTION COVER



Seamless Covering Mosaic, being produced by space images with spatial resolution 0.5...2.5 m, adjusted for area geographical demarcation.

BASIC VECTOR LAYERS



-  БАССЕЙНЫ
-  РЕКИ, РУЧЬИ ПОСТОЯННЫЕ
-  ВОДОХРАНИЛИЩА ДЕЙСТВУЮЩИЕ
-  ОБРЫВЫ (ЗЕМЛЯНЫЕ)
-  ГОРИЗОНТАЛИ ОСНОВНЫЕ
-  ГОРИЗОНТАЛИ ОСНОВНЫЕ УТОЛЩЕН.
-  КАНАЛЫ НЕСУД.ПРОЧЕ(менее 3 м)
-  КАНАЛЫ НЕСУДОХОД.(от 3 до 5 м)
-  КАНАЛЫ НЕСУД.МАГИСТ.(менее 3м)
-  КАНАЛЫ ПОДЗЕМНЫЕ (менее 3 м)
-  КАНАЛЫ ПОДЗЕМНЫЕ (от 3 до 5 м)
-  СУХИЕ КАНАВЫ (от 3 до 5 м)
-  РЕКИ, РУЧЬ ПОДЗ.ПРОП (менее 3 м)
-  ДАМБЫ (односторонние)
-  АКВЕДУКИ
-  ДАМБЫ (двусторонние в 2 линии)
-  ГРУНТОВЫЕ ПРОСЕЛОЧНЫЕ ДОРОГИ
-  КАРАВАН.ПУТИ И ВЬЮЧНЫЕ ТРОПЫ
-  АВТОДОРОГИ С ПОКРЫТИЕМ (ШОССЕ)
-  АВТОДОРОГИ БЕЗ ПОКРЫТИЯ
-  ПОЛЕВЫЕ И ЛЕСНЫЕ ДОРОГИ
-  ПЕШЕХОДНЫЕ ТРОПЫ
-  АВТОДОРОГИ С УСОВЕРШ.ПОКРЫТИЕМ
-  МОСТЫ ПЕШЕХОДНЫЕ ПРОСТЫЕ
-  МОСТЫ, ПУТЕПРОВОДЫ
-  КАМ.КИРП.ГЛИН.СТЕНЫ,МЕТ.ЖЬ.ОГР.
-  ОГРАДЫ КАМЕНН.ГЛИНОБИТНЫЕ И Ж/Б
-  БЕРГШТРИХИ
-  МОСТЫ,ТРУБЫ ЧЕРЕЗ НЕЗНАЧ. ПРЕП.
-  МОСТЫ ПЕШЕХОДНЫЕ ПРОСТЫЕ
-  МОСТЫ, ПУТЕПРОВОДЫ
-  ОТМЕТКИ ВЫСОТ У ОРИЕНТИРА
-  ПУНКТЫ ГГС
-  ОТМЕТКИ ВЫСОТ ПРОЧИЕ

1:5 000

SOLID HIGH RESOLUTION COVER



BASIC SOLID HIGH RESOLUTION COVER AND UAV'S IMAGES MULTIPURPOSE USING

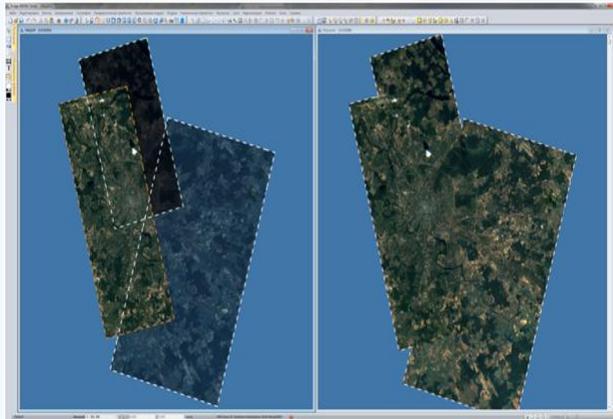


*3D - Terrain Model
created by Drone
Surveying Data being
obtained in automatic
mode*

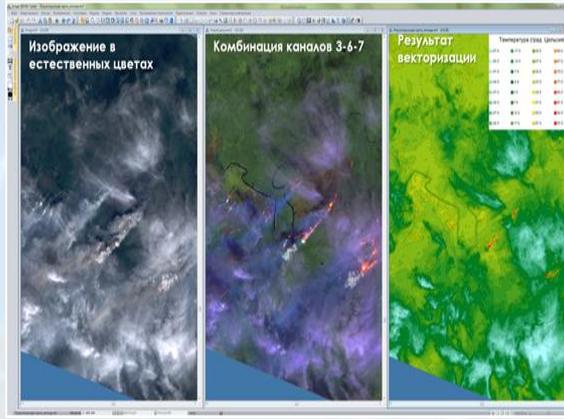
*Space Surveying Data and
Drone Surveying Data
Partnering*



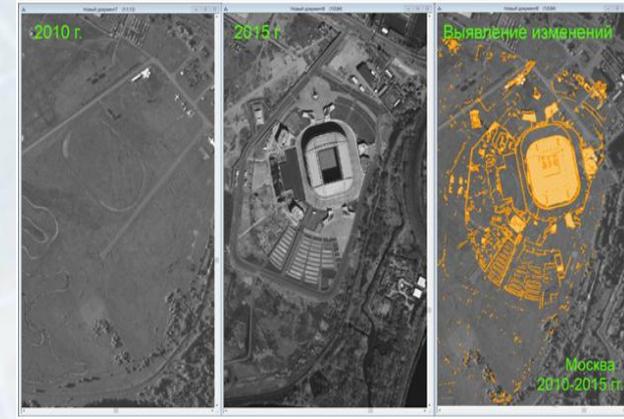
THEMATIC TASK DECISION SAMPLES



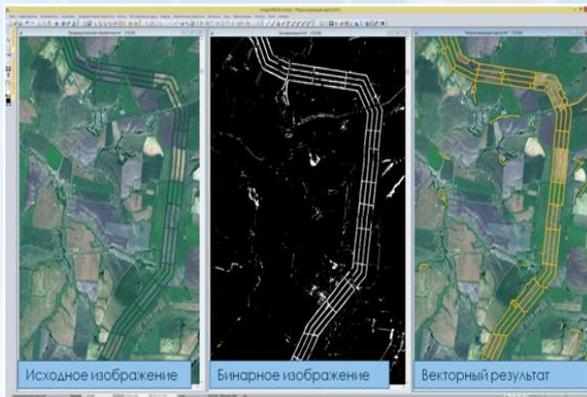
Seamless Covering Mosaic Generation



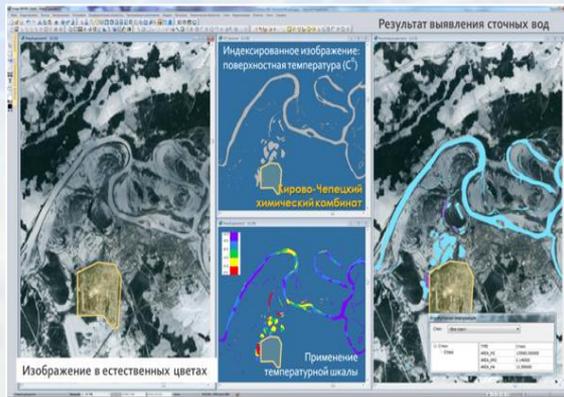
Fire Monitoring



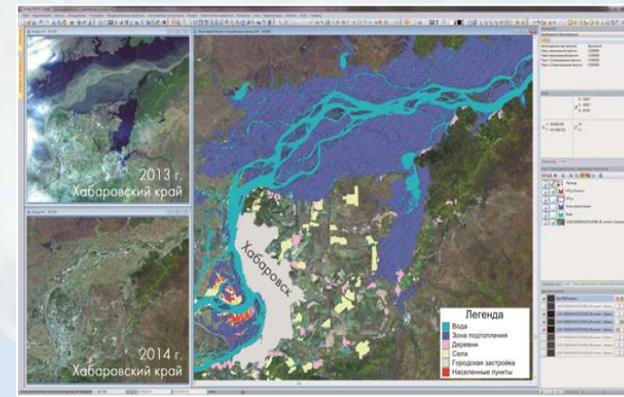
Zone of Territorial Change Detection



Linear-Spreading Object Detection



Environmental Pollution Monitoring



Water Body Monitoring

Спасибо за внимание !

Thank You for Your Attention!