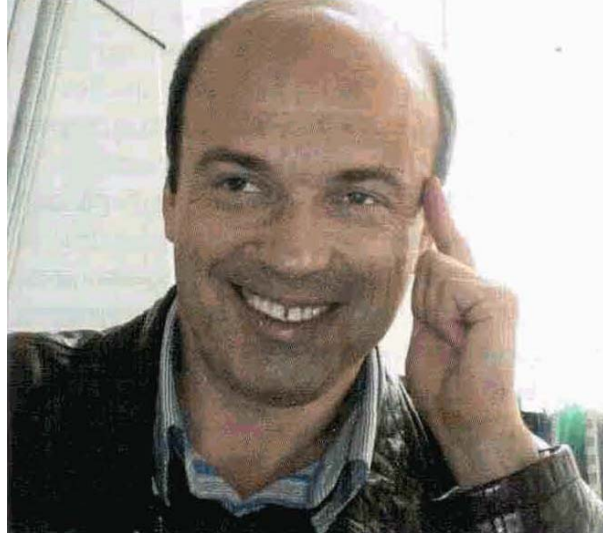


## ScanEx Research and Development Center Twenty Years in Business

*M. Belykh specially for “News of Cosmonautics”*

The Russian market for rendering the range of services from receiving to thematically processing Earth images from space is under progressive development. The leading market position is retained by a domestic company – ScanEx Research and Development Center (RDC). The company was founded in 1989 by a graduate of the Moscow Institute of Physics and Technology, PhD in Physics and Mathematics, Vladimir Gershenzon – the principal originator of the company strategic development, the generator of technical and technological ideas implemented in ScanEx RDC solutions. Twenty years in the high-tech industry is a great achievement for Russian small business.



Our reporter visited the Center and was convinced by the high level of development and demand in domestic technologies for reception and processing of Earth remote sensing data. V. Gershenzon, General Director of ScanEx RDC, told in detail about the history of the company’s development, achievements and plans.

***- Vladimir, what is your company’s area of activities and what markets it operates on?***

From the very beginning the main objective of the Center has been the democratization of access to Earth remote sensing data in our country. Increase of space information accessibility level includes lowering its cost for users and reducing time of data reception as well as simplifying its processing technique.

As of today the company employs over 120 people. Generally speaking we work on creation and implementation of satellite data receiving complexes. We use proprietary software to accomplish thematic processing of space data. We also develop web-technologies including construction of turn-key regional and thematic portals. In fact demand in geoservices is rising since they prove to be an efficient tool in controlling areas on the basis of up-to-date and continuously renewed Earth data from space.

Regardless the fact that we mainly operate on the Russian market the geography of using our products is large. This is primarily true with regard to our stations for receiving space data, which were installed in CIS countries as well as far abroad.

- ***What is so special about the company?***

It is special in its entire business activity: from creating space data receiving complexes to finding solutions to applications using Earth remote sensing data.

Nowadays the Center is the only company in our country, which entered into license agreements with world-leading Earth remote sensing program operators for direct data reception from IRS-P5 (Cartosat-1), IRS-P6 (Resoursesat-1), SPOT 2/4, EROS A, EROS B, Radarsat-1, Envisat-1 satellites. It was the first time data reception at company-produced ground stations allowed regular scanning of Russian and CIS territory in real time with spatial resolution from hundreds of meters and higher. We can provide users with images from the above spacecraft in operational mode as well as with those stored in our archives.

- ***If you recall in the first years of the company's history the work was literally done for the sake of idea. Please tell me what the starting point was.***

The first employees were the people that had worked in production sector and military complex. The pilot project of the team was the creation of simple space data receivers "Liana" for use in school educational programs (in geography, physics, biology classes, etc). Then our solutions attracted hydrometeorologists. And today advanced and economical solutions in the area of real-time satellite monitoring are widely used as well as outside the country. This success was achieved through low-aperture space data receiving stations featuring easy operation and price affordability.

- ***In early 1990's your team built a receiving antenna of 2-3 meter in diameter (then the smallest antenna reflector). How this innovation was met by your partners and competitors?***

You wouldn't believe it but we faced doubts as to its operation capabilities. However the very first receiving test sessions from Resurs-01 #3 satellite and those from Canadian radar satellites were successful.

In fact, in the first two years we sold ten receiving complexes. I believe that was the time when ScanEx proved to be a competitive high-tech company. And these days the Center remains peculiar for its full-cycle production of low-volume products.

Small size stations turned out to be in demand in Russia and abroad. As of today about forty complete UniScan stations are installed in the Ministry of Natural Resources, the Emercom of Russia and in the Hydrometeorology and Environmental Monitoring Agency as well as in scientific research and educational institutions. The stations provide capability of receiving space data (in the first instance for the Russian territory), which as of today cannot be received by no other means (either through global archives, or through archives of foreign agencies). Our receiving stations operate in many countries: Azerbaijan, Armenia, Byelorussia, Vietnam, Iran, Spain, Kazakhstan, UAE and Ukraine.

***- How many stations do you install a year? How expensive is that for a customer?***

Every year ScanEx RDC perform installation of approximately 10 – 15 stations with the base package price of about six million rubles each. You may ask what advantages the stations offer. They allow expediting space data reception and its delivery to user as well as refreshing imagery data on a region of interest with high degree of frequency.

However the price for the most complex packages including license fees may be as high as 60 – 100 million rubles.

***- Do you produce receiving stations using Russian components?***

Development and production is in fact done on the Russian component base. The only item purchased outside is the antenna reflector. Design and programming is performed internally as is the case with station assembling and testing.

***- As far as we know ScanEx RDC is the only Russian company that works directly with the world-leading operators of Earth remote sensing programs under respective license agreements...***

... Besides this was the first time regular scanning of the Russian and CIS territory became possible in real time with spatial resolution from hundreds of meters to several meters.

The technology for timely acquisition of Earth imagery from space developed by our specialists enables reception of images from 14 modern remote sensing satellites of the world leading operators: Antrix (India), SPOT Image (France), ESA, MDA (Canada), ImageSat Int. (Israel), GeoEye (USA), etc. Data reception is effected at the commercial station network covering the entire territory of Russia and some bordering countries.

***- What else is within the company's scope of business?***

Our activities are not limited to production of receiving stations and improving access to space data. Reception of satellite images, upkeep and prompt refreshing of space imagery archives is just the first stage of the process that ScanEx RDC apply to Earth remote sensing data. Our specialists develop software tools for initial processing and archiving satellite data as well as for further in-depth thematic processing of images, generation of mosaics, maps, indices and three-dimensional models.

In addition to thematic interpretation of images, development of techniques for tracking and monitoring natural and anthropogenic phenomena, we apply much effort to development of web cartography.

***- Please say a few words about the Internet-based service “Kosmosnimki” (<http://www.kosmosnimki.ru>). What is so special about it?***

First of all the geoportal kosmosnimki.ru is based on our technology called ScanEx Web GeoMixer®. It provides capability to combine various data types in a project, operate with raster and vector formats at the same time, connect and search metadata bases.

Secondly, kosmosnimki.ru remains a full-fledged cartographic service that gives users the opportunity to access online maps and corresponding tools. Mapping is ensured with the use of customized free software and the company develops own methods and techniques for visualization of spatial data. This allows the geoservice to compete with spatial data resources for the territory of Russia.

Thirdly, the geoportal serves as basis for the internet shop where any customer can purchase mosaic fragments of interest at quite reasonable prices. In addition, a requestor can purchase the entire city mosaic for on-going commercial projects or for use in activities of local administration or state bodies. It is important that the kosmosnimki.ru geoportal features a Russian address base.

By the way, November last year our specialists created the web-platform for the cartographic service [Карты@Mail.Ru](mailto:Карты@Mail.Ru) 2.0 using the technology that forms the basis for the kosmosnimki.ru geoportal.

***- Apart from everything else and as you have already mentioned, specialized and regional geoportals are developed.***

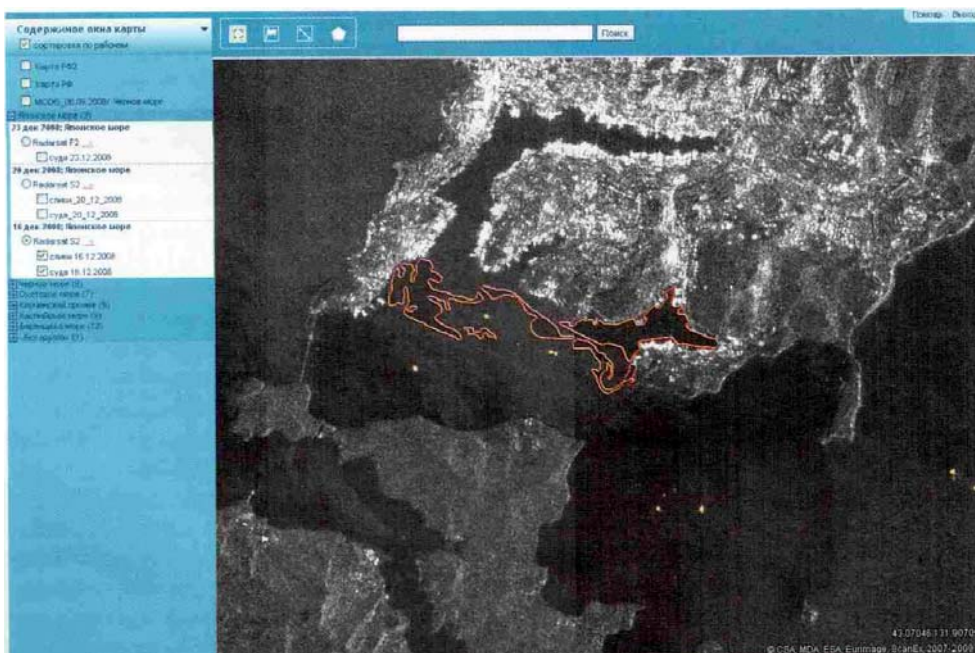
That's absolutely true. For instance, the geoservice "Kosmosnimki – the Seas of Russia" deserved its popularity when in December 2008 the Center implemented the project for monitoring the five seas of our country. Starting summer 2008 the joint project with the Novorossiysk Sea Port Administration has been on-going for monitoring oil pollution and shipping situation in the Black Sea. Processed satellite images are promptly provided to the sea port teams.

In general creation of geoservices is very prospective in terms of analysis, planning and support of decision-making process at local and regional levels. Marking various boundaries, building settlement development bases, determining city or entire region infrastructure prospects – the range of applying network GIS technologies is very wide.

Regional or specialized geoportals simplify operations of various agencies in comparing old and updated maps and layouts of settlements and areas as well as optimize accounting and planning activities. These days the specialized geoportals that were built on the basis of the kosmosnimki.ru geoservice operate in the Volgograd Region (following the request of the Committee for Information Technologies and Telecommunications of the Volgograd Region) and in Kazakhstan (following the request of the Kzyl-Orda Region Administration). Their commissioning was requested by the Emercom of Russia for operational displaying of results of space imagery over areas affected by emergencies and natural calamities.

***- Vladimir, in this twentieth anniversary year we wish your company new ambitious ideas as well as energy and luck for their implementation.***

Thank you very much. I am genuinely glad that Earth remote sensing data are more and more applied to different areas of activity. In other words, application of satellite information is no longer an innovation but a part of human life and activity.



*Figure: Anthropogenic pollution in the region of the Eastern Bosphorus Strait near Vladivostok, the Sea of Japan (shown in red). 16.12.2008, Radarsat-1 (CSA, MDA, Scanex, 2008).*

Use of space data is an integral stage in the process of finding solutions to a wide range of tasks. The latest achievements, projects and developments in the area of Earth remote sensing data application in Russia and abroad will be made available to learn about at the International Conference “**Earth from Space – the Most Effective Solutions**” held by ScanEx RDC every other year (<http://www.transparentworld.ru/conference/2009/ru/>). **On December 1-3, 2009** the conference will be held for the fourth time.