

GIM INTERVIEWS DR VLADIMIR GERSHENZON, GENERAL DIRECTOR, SCANEX

Difference between Theory and Practice

The third international conference on "Earth from Space" took place from 4th to 6th December in Moscow, Russia, with the theme "Most Effective Solutions". This meeting, accompanied by a small exhibition, aims to provide a forum for the exchange of experience in the practical use of satellite imagery for a broad spectrum of applications. ScanEx, headed by Dr Vladimir Gershenzon, is the main inspiration behind the conference. We interviewed him there.<P>

When, why and how was ScanEx established, and what are your main products and services?

After my graduation in 1980 I worked for several years at different institutes of the Academy of Sciences. In 1989 I got bored working for "defence" and, together with my colleague Alexei Ivanov, who is now ScanEx technical development director, decided to make a living with engineering. We created a science-intensive company that emerged on the Russian market in 1992 with its first product: meteorological stations for schools. Within four years we managed to sell thirty meteorological stations worth a thousand dollars each, so earning around USD30,000. The start-up capital of USD10,000 was borrowed. One of our first contracts was signed with the Moscow State Pedagogical Institute, for the automation of lab studies in physics. It is probably hard for an outsider to imagine, but at that time it was impossible to survive by being involved only in "hi-tech". So, with 40,000 borrowed dollars in our pocket, we went out merchandising to Germany, to buy Mercedes cars for selling on the Russian market. It was dangerous: on two occasions while driving home I barely escaped from hijackers. Today our group consists of three companies: ScanEx R&D Centre, the Centre for Information Technologies Development, and NGO Transparent World, which implements non-commercial projects in the field of earth remote sensing. My wife is general director of the latter two companies. The number of employees of the three companies together is 120, and turnover in 2007 was about 10 million Euros.

Your wife belongs to the company management structure?

Olga Gershenzon joined the company in 1991, first as a contract employee, then as co-owner. She is now deputy general director of ScanEx, where she heads all marketing activities. With eighteen years experience in the remote-sensing market, she graduated in 1983 from Moscow State University (Geography Department) with a degree in meteorology. Her background motivated her, with the appearance of the first PCs, to create a database on meteorological data, and we invited her to work on the creation of meteorological stations for schools, initially sponsored by the Institute of New Technologies. Co-investors from "Russkaya Marka" (computer sales) were found for larger projects. They invested around USD40,000 and received 30% of the company shares in return, which were later bought back. The first buyers of a meteorological station were from Japan. They came to Russia in wintertime, when the temperature can dip to -20°C, and complained about the cold. But once they had experienced the accuracy, bought a station, paying USD900 in cash. Today you need to fill in many documents to export any commodity, but at that time you could just pack it in a refrigerator box and roll it past customs on a cart, declaring, 'for school, for school'. We soon received a letter back from the Japanese: "sakura is blossoming, the station is operating good". That is how we started, and with this success came new ideas, one being to show school kids not only the weather but also cloud dynamics via satellite images. To save on costs we initially used only free American data, but now we pay around USD30 million to various remote-sensing operators to use their data for period of five years. Once involved in satellite-oriented business, we started to produce our own ground-stations for satellite-data reception and the business evolved such that we now sell up to fifteen ground receiving stations annually, varying in price from 80,000 to 2.4 million dollars each.

Who are your main clients and their fields of application, and how is your customer-base distributed over the continents?

Geographically, former USSR is our main market. This is as a result of our historical, cultural and language background. Our clients are involved in remote sensing using space data. Their fields of activity vary from mapping and 3D modelling to agriculture, forestry and forecasting of emergency situations. Outside the former USSR our receiving stations have been installed in Spain, UAE, Iran, Vietnam and other countries, and our software is running in over ten foreign countries, including the USA.

You have mentioned that your turnover in 2007 was about ten million Euros. Which activities contribute most to this total?

Approximately half the profit is from the manufacturing and sales of receiving stations, and around 40% from sales of processed satellite data. ScanEx is the only Russian firm having proprietary receiving stations. In Russia only the "Roscosmos" Federal Space Agency and we manufacture receiving stations; other Russian market players sign reseller agreements with foreign suppliers for distribution of space imagery. Acquisition and distribution of space images is an interesting business, because they are increasingly applied for monitoring tasks, mapping and cadastre. The most prominent examples are Google Maps and Yandex.Maps projects; for the latter ScanEx is the supplier of the images and mosaics. According to the GIS-Association, Russian remote-sensing market capacity in 2004 constituted USD2,2 million, in 2005 this rose to 5.8 million, and in 2006 it reached 13.5 million. For 2007 the value of Russian market was US\$28.3 million and our share in this is 41%.

Who do you consider to be your main (inter)national competitors?

We have no competitors in the former USSR. The only international competitor is Google...I'm joking. Seriously, we actually created the niche we occupy, combining vertical technological integration (data reception licences, stations, images, processing software, end products) with a stress on small-aperture solutions (antenna dish diameter 2.4 and 3.1m). In this segment nobody else can acquire and process space data with the quality and at the price and speed we do. If we split this chain into standalone activities, then we do have competitors; in the manufacturing of receiving stations, regardless of antenna diameter, these competitors are in the international arena; and in data distribution and nationally there are other resellers of satellite data.

You are a privately held firm; more specifically, you are a family company. What is the secret of your success?

Hard work and love...

How would you describe your company: commodity provider, research institute, software developer or distributor of earth-observation data?

Throughout our existence we have striven to combine all these features. And we believe that after eighteen years of operation we have managed successfully to do so.

Could you briefly describe three major projects carried out by ScanEx recently?

Together with Rosleskhoz (Russian Federal Forestry Agency) we carried out monitoring of illegal logging in Russia. For this we created in 2005 and 2006 a unified system of space imagery covering forest areas in Russia, consisting of panchromatic images with a ground sampling distance (GSD) of 6-10m and multi-spectral images at GSD 20-30m. Recovered claims for forest damage in 2006 increased by 20%, reaching a total of USD13.5 million. The system enabled us to monitor 1 million km² in 2007. Based on this success, the Russian delegation advanced the initiative on creation of an International Scientific and Educational Production Centre for Forest Monitoring and Assessment under the auspices of UN FAO. A second achievement is the KOSMOSNIMKI.RU ("space images") geoportal and catalog, mosaicked coverage of the whole of Russia with low- and middle-resolution MODIS imagery, high-resolution IRS and, for populated areas, very high-resolution Ikonos and EROS images. This project is somewhat similar to Google Earth, with more frequent updates and sometimes better GSD. Until recently the service offered a unique search catalogue for high-resolution Ikonos, QuickBird and EROS A data, because there was no service whatsoever available on the internet allowing simultaneous search for high-resolution satellite images. Catalog users are now able to order images on the basis of search parameters (acquisition date, season, clouds), "best coverage" criteria and quick-looks. A third major recent project is the creation and support for the network of ScanEx own stations that allow us to receive all kinds of data for all Russia, and to manage different thematic projects independent of partners and clients. To date we have stations in the European part of Russia (Moscow), in Siberia (Irkutsk) and in the Far East (Magadan).

From a business perspective, the last decade may be characterised as the era of the take-over. You are a successful medium-sized firm and big fishes may have an eye on you. What are your plans?

The geoinformatics market has been developing quickly, changing every day. We will see what tomorrow brings!

I think I am right in naming you not only main sponsor of the "Earth from Space" conference but also its initiator and engine. What is your interest in organising such a conference, which, I am sure, will bring you no direct profit?

Our company is indeed the main inspirer of "Earth from Space": a biannual conference that started in 2003 and which each time becomes more international. From the start we wanted to let everybody working in the field of or interested in remote sensing to exchange views and share experiences. Our aim is to attract new clients and to tell the general public about our achievements. In 2007 for the first time very many leading operators offered their services in the territories of Russia, Kazakhstan, Ukraine, Belarus and other countries in the field of highly detailed and near real-time radar space imagery. Representatives of Radarsat (Canada), CosmoSkyMed (Italy), TerraSAR-X (Germany) programmes took the floor, describing the current situation and plans for radar imagery of high and very high resolution; as well as Ikonos, Quickbird, WorldView, EROS-A and EROS-B, Formosat, all programmes for high-resolution optical imagery. In total, 138 reports were presented: 96 oral and 42 poster presentations, while over 330 people from 32 countries attended, a doubling both in participants and countries compared to the previous conference. During the event partnerships were continued or established, contracts totalling USD30 million dollars: a record for the industry.

You began your keynote address by remarking, 'Two years between the conferences is a rather long period for a rapidly developing geoinformation industry'. Does that mean you want to switch to an annual conference?

I believe two years is quite an adequate period in terms of collecting news in this industry.

How would you sketch today's situation regarding use and availability of geo-information in the CIS countries? Is the importance of geo-information acknowledged by officialdom?

Two parallel worlds coexist in the former USSR: commercial and public (government). We hope that the near future will see evolution of the private-public partnership business pattern.

How do you see the future of earth observation from space in relation to the rapidly evolving exploration of natural resources in CIS countries and the associated environmental problems?

Historically, the environmental aspects of exploration have not enjoyed much attention in the former USSR. The motto used to be "let's take all that nature can offer". When people inhabit such a huge piece of land, such a vast area of the earth as the former USSR, it is easily for them to imagine its natural resources inexhaustible; the consequences of exploitation are intangible. We now acknowledge the role of remote sensing in estimating environmental consequences of exploration of natural resources. Especially in our country, as at least we may see "from above" what is happening, because no one is going to tell us about it "from below"! As we are involved in several environmental projects, we see a certain gradual shift in the "right" direction. For example, in the TNK-BP Oil & Gas company initiative we assessed, together with the World Resources Institute, Greenpeace Russia and WWF, the environmental impacts of oil and gas production in Siberia in 2005. One of the goals of this project is to develop a universal and science-based method of oil production environmental-impact assessment based on free and open data sources. A second example: since August 2007 the ScanEx R&D Centre and NGO Transparent World have been monitoring oil spills in the Caspian Sea using radar images. The project target is to collect real-time and unbiased data on oil and oil-product pollution of the Caspian Sea and to provide this data to a wide range of users via the internet. This monitoring is made available thanks to Envisat and Radarsat satellite all-weather radar imagery.

Last year saw the lifting of government restrictions on public access to geo-data. What will be the impact?

Lifting restrictions on the use of very high-resolution data (better than 2m) is spurring the development of this industry in Russia and we are already feeling positive after-effects. However, there is a great difference between theory and practice: nobody in Russia has yet seen any act of law whatsoever officially confirming the legality of using this kind of data. Meanwhile, the Ministry of Defence has begun preparing a list of facilities that it is prohibited to image, and history teaches that such lists have always been contradictory and inaccessible to the public. Under the circumstances, commercial companies have already been operating "at full throttle", using this data on a legal basis, whereas public agencies are in a sort of "state of suspended animation", awaiting bureaucratic solutions.

Do you co-operate with universities and research institutes to improve and innovate in terms of your products?

We see ourselves as an information technology company whose mission is to make access to space geo-data cheaper faster and easier. That this concept has been implemented by universities, business parks and others, is a matter of satisfaction to us. The educational market is one of our favourites. The largest educational remote-sensing centre has been established in Russia based on our technology at the Samara State Aerospace University, and smaller ones in Krasnoyarsk, Ufa and many other places. Our receiving stations are operating at two universities in Spain: Valladolid and Valencia. We are permanently expanding the educational network and co-operating with universities and high schools. In addition, we have worked out an educational project called "Transparent World" to launch a series of middle-resolution satellites to be applied for education, and we are seeking international partners to join us.

What do you see as the biggest long-term challenges?

Closed or inaccessible information; the task is to set up fruitful co-operation between authorities and society in using all available data sources to work effectively to maintain the balance of nature on our planet. As far as this goes, we encourage and are ready to support international programmes such as GEOSS, GMES, INSPIRE and Planet Action.

<http://www.kosmosnimki.ru/en/>

<http://www.scanex.ru/>

<http://www.transparentworld.ru/>

<https://www.gim-international.com/content/article/difference-between-theory-and-practice>
