

Remote overlookers



The “Direct Investments” magazine (№2, 2010) published the article of Victoria Musorina “Remote Overlookers”, dedicated to contemporary Russian space technologies in sphere of satellite imagery, developed by ScanEx R&D Center:

behalf of the Forestry Agency enabling them to control the legal loggings”, - said ScanEx RDC General Director **Vladimir Gershenson**. To ensure operations with space images ScanEx company develops and manufactures ground receiving stations and the software for processing of data acquired from satellites.

“In 2008 many western forest industry companies refused to buy illegally cut wood from Russia. The Federal Forestry Agency had nothing else left to do but prove that their exported “round timber” is legal. “We do the imaging in

UniScan ground station produced by ScanEx RDC – is the innovation created under the supervision of Vladimir Gershenson. Programming, station assembling and testing, all the software for reception and thematic processing of satellite data is done by ScanEx specialists themselves. The only purchased element is the antenna “dish”. A principal solution was the size of the antenna dish, receiving the signal. The antenna reflector diameter directly depends on the weight of the receiving station. The smaller is the reflector, the more efficient is the station operation. The best world result is the 4.5-5 m antenna system. When ScanEx started to design the smallest reflector in the world, nobody believed that it would be of any success [...]

[...] “They said our idea contradicts to the energy conservation law”, - laughs Vladimir. As a result, ScanEx manufactured the antenna of 2.4 m in diameter. Then we started to negotiate the data reception, including from the Canadian satellites. “They gave us a strange look, but said: Ok. Give it a try, - recalls **Olga Gershenson**, Deputy General Director of ScanEx RDC. – And so we did.” The result amazed the Canadians so much that the product certification in their installations took only one week. Nowadays, a UniScan ground station ensures space data reception at rates up to 320 Mbps. This is one of the world best parameters! ScanEx handles data, received from 17 satellites and produces everything – from technology to software applications, and there are almost no such players on the world market. As the station is small, it is assembled either in the warehouse of the company, or on the customer’s premises, when the required components are delivered. [...]

[...] It is a paradox, but ScanEx may receive space images only from foreign satellites. So the situation now is that using foreign satellites a group of local enthusiasts submit information about Russian illegal loggings, illegal fishery and other facts of “sharp practice” of some local officials

and representatives of business. At the same time ScanEx could have worked with Russian satellites as well and even approached the Federal Space Agency with that proposal. [...]

[...] Emercom of Russia has developed own system of emergency situations monitoring from space with the help of ScanEx . Moreover, the ministry purchased the UniScan-24 receiving station from ScanEx and now acquires, processes and posts data to the geoportal themselves. Monitoring of forestry and fishery and of ecological situation in sea and river water areas is important for the Russian Emergency Ministry. Unlike the Emercom, which bought a complete technological cycle, the Russian Railways spent money only (the contractual sum is confidential) on the project of creating an experimental system of providing geospatial information (“Russian Railways geoportal”) on the pilot section of the North Caucasus railway Tuapse-Adler.

The portal contains all the required information for analysis of the situation in the railway right-of-way and the adjacent territories, water catchment areas and seasonal migration of mountain river beds. Lukoil company is the big customer of still another geoservice – “Kosmosnimki – Seas of Russia”. Within the four month period of the past year ScanEx managed the project of satellite-based monitoring of oil pollutions in the Northern part of the Caspian Sea in behalf of Lukoil company. ScanEx Center plans to integrate geoportal data with the databases of other owners. Then a number of various systems could be created, for example, to detect who was subsidized, but failed to plough and to seed. Following common sense, government should be the principal customer for such products and services. However, it looks like for now the supervision and fiscal authorities have no time to master this high-level technology.



“The national technology, connected with development of stations for satellite data reception and further processing and analysis really competes with its foreign analogs, - believes Deputy General Director of the OPTEx scientific and production company branch Maxim Klushnikov. In late June 2009 the American Vexcel company, being incorporated into Microsoft, signed an agreement to purchase a UniScan ground station for satellite remote sensing data reception, manufactured by the Russian ScanEx company.

The price of the contract was 700 thousand US dollars. For this money they got a universal small-size UniScan ground station with the 2.4 m antenna, enabling the reception of data at the rate of up to 170 Mbps. The Americans were very happy with this deal. It should not be even reminded that the USA is the leading hi-tech empire and manufactures several different reception stations. But in price-quality-consumption-reliability ratio UniScan station is beyond competition.

Now this Research & Development Center plans to build own micro-satellite. To do so, the company offers to register a separate subsidiary company with the participation of strategic partners, whom we still need to find. ScanEx founders do not want to bring the technology outside the country driven by the old-fashioned patriotic feelings.

Money of potential Russian investors is planned to be allocated to the development of micro-platforms, transmitter and camera for the micro-satellite of middle resolution. It will be able to deliver 50m resolution images to the Earth (in other words, you will be able to see a piece of land with 50 m in radius). A microsatellite is a traditional space vehicle of smaller size and mass (15 kg approximately). According to Vladimir Gershenzon the cost of manufacturing and putting into orbit depends on the mass. The pricing is roughly as follows: 30-45 thousand US dollars for manufacturing (not for designing – it is expected to have been already done) of 1 kg of the would-be satellite, and 10-20 thousand dollars per each 1 kg more for the insertion”.

The complete text of the article (Russian version) is available per the following link:
<http://www.scanex.ru/ru/publications/pdf/publication101.pdf>