

# Satellite Imagery Optimising Northern Route Passenger Ferry



Russian ice-breakers using satellite images are escorting ferry boat Georg Ots through the Northern Sea Route. She is designed for navigation through ice and became the first passenger boat in the history that passed through the waters of the Arctic seas from Murmansk to the Dezhnev Strait and further on along the eastern borders of Russia. It is expected that the passenger ferry boat will arrive to the port of Vladivostok on 10th October.

FSUE *Atomflot*, guiding the ferry boat and handling the Russian nuclear-powered ice-breaker fleet, used radar images to assess the ice saturation and to choose the optimal route for the ships to follow.

*Georg Ots* set sail from Murmansk on 9th September. After passing the open waters the ship started to be escorted by the ice-breaker *Taimyr*. For channeling through the ice the *Rossiya* nuclear ice-breaker joined the ships. Passing the Sannikov Strait, the ferry was taken for convoying by ice-breaker *50 Let Pobedy* that escorted the ferry through the most difficult route segment - the ice of the Ayonsky massive in the waters of the East-Siberian Sea.

This passage proved the efficiency of the application of satellite data for information support of the ships navigation in the Arctic waters. Using modern satellite-based technologies the FSUE *Atomflot* in 2010 carried out a number of unprecedented channelings through the NSR: bulk tanker SCF *Baltica* followed the NSR in the second half of August; bulk carrier *Nordic Barents* with the commercial cargo of iron ore condensate sailed from Kirkenes (Norway) to China following the NSR in September.

For operational support of FSUE *Atomflot* with satellite images of the Arctic water areas the UniScan ground receiving stations, installed in Moscow, Megion and Magadan, are used. After processing the products are transmitted in near real-time via the Internet network through the geo-service Atomflot-Kosmosnimki. This geo-service was created based on the GeoMixer technology in behalf of FSUE *Atomflot* that placed the order to ScanEx in 2010 to collect and process satellite radar data about the ice situation along the Northern Sea Route and non-Arctic freezing seas of Russia.