Yuri Prokhorov, Director General of the RSCC ●●●

The Russian Satellite Communication Company (RSCC) is the Russian state satellite operator whose spacecraft provide a global coverage. RSCC belongs to the ten largest world satellite operators in terms of satellites and orbital slots and has more than 45 years of experience. RSCC provides a full range of communications and broadcasting services via its own satellite fleet of 12 satellites and terrestrial infrastructure: video distribution and contributions, DTH services, satellite news gathering, presidential and government applications, broadband access and Internet, IP trunking and cellular backhaul, mobility solutions for vessels and other. The company deploys regional TV satellite distribution networks as well as multi-functional corporate and government VSAT networks.

50 years and counting

The Russian Satellite Communications Company (RSCC) was founded in 1967 to deliver TV and radio broadcast and communications services. The company owns the largest satellite constellation in Russia, in addition to its capacity leased from other operators. The RSCC has a network of telecommunications and its own high-speed fibre. Amy Saunders spoke with Yuri Prokhorov, Director General of the RSCC, to find out more about the company's market presence, services, and outlook, in its 50th year of operations.

Question: Can you tell us about the RSCC's development over the years, from its founding to where it stands today?

Yuri Prokhorov: In November 1967, the first satellite network of the *Orbita* system was launched in the Soviet Union to deliver Central Television programs from Moscow to Siberia, the Far East, and Central Asia. In 1968, the 'Space Communications Station' was set up, whose tasks included the operation and development of ground-based satellite communications equipment, the provision of Central TV programs and the telephone communication channels via satellites. Over the next 50 years, the Space Communication Station has grown into a full-fledged operator – the RSCC, a federal state-owned unitary enterprise, which today is one of the largest satellite operators in the world.

The history of RSCC is inextricably linked with the development and operation in Russia of domestic communication and broadcasting satellites *Molniya* ('Lightning'), *Ekran* ('Screen'), *Gorizont* ('Horizon'), and *Ekspress* ('Express'), as well as DTH satellite systems.

An important milestone for RSCC was arranging satellite-supported television broadcasts of the Moscow Summer Olympics in 1980. To solve this problem, a Space Communications Center (SCC) was set up in Dubna in the Moscow Region, which remains the largest teleport in Russia and Eastern Europe.

A new stage in the growth of RSCC began in the late 1990s and 2000s, when new satellites of the Express-A series were launched into orbit, followed by Express-AM satellites.

In 2003 and 2004, three new teleports became part of RSCC - the Skolkovo, Zheleznogorsk, and Khabarovsk SCCs.

The RSCC built its own VSAT network, and in 2009 started to actively pursue the services based on VSAT technologies - data transmission and the Internet, and communications and broadcasting services on sea vessels, including in the Arctic region. In 2015, we pioneered the Ka-band satellite services, which was a totally new market in Russia. Today, the length of the RSCC satellite network in Ka-band is seven thousand kilometres, which is perhaps the longest satellite network in the world.

Currently, the RSCC fleet includes twelve spacecraft in geostationary orbit, and five teleports, i.e. space communication centres, throughout Russia. The RSCC boasts its own center for compression of programs and

Dubna teleport ●●●

multiplexing of digital transport streams, and provides a wide range of modern communication and broadcasting services. All this enables the company to occupy a leading position in the market of Russia, CIS and Central Asia, as well as provide services to users from 52 countries. At the World Summit for Satellite Financing in Paris, RSCC was recognized as the world's best regional satellite operator of the year in 2009 and 2015.

Question: The RSCC is celebrating its 50th year of operations this year. What do you feel have been the greatest achievements during the last 50 years?

Yuri Prokhorov: I think the main result of our work is user satisfaction. From the satellite communication station, whose tasks included exclusively the operation of facilities, RSCC grew into a full-fledged universal operator. The enterprise was preserved and developed in the era of political system change and deep economic crisis in the country. We experienced a painful period of spacecraft failures in orbit and losses of satellites at launch. Today, RSCC successfully operates in a highly competitive environment.

We managed to become an operator which is convenient to work with. Having staged a management revolution, we developed into a client-oriented company that, in the satellite business, successfully competes with the world's top Big Four. In an open market, the Russian consumer and service providers today in most cases choose the services of RSCC: 80 percent of Russian users work through domestic operators. At present, our spacecraft are highly competitive on the global market.

Question: What can you tell us about the RSCC's services and market presence?

Yuri Prokhorov: Initially, the goal of the company was to satisfy the needs of Russian customers, but then RSCC began to offer international satellite capacity to domestic customers, subsequently turning into an international commercial operator. Today, about 40 percent of the company's revenues come from international sales. The RSCC is one of the key players in the Middle East market, providing support to its regional and European customers. In addition, the RSCC successfully operates in North and Sub-Saharan Africa, South Asia and Latin America.

Vertical expansion meant the development of new services and applications, including corporate networks, mobile communications, broadband access and RSCC own television platform. Based on its own television platform, RSCC provides a comprehensive service to broadcasters in a single window mode. Services provided through the platform are focused primarily on media outfits that distribute their content in cable television networks in Russia.

Another promising area has been maritime solutions. Currently, we provide services for sea vessels in the Atlantic, Arctic and Pacific Oceans including access to the Internet, reception of television programs, video surveillance, weather data transmission, telephone communi- cations, etc.
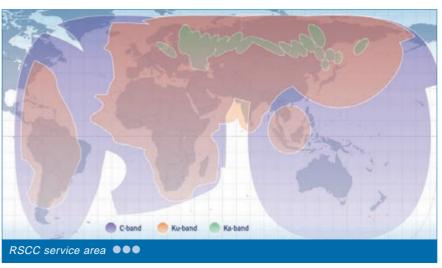
Question: Where do you see the most opportunities for the RSCC going forwards, and are there any challenges on the horizon?

Yuri Prokhorov: We see our main task in the full satisfaction of our customers. The market structure is changing today, new areas appear at the intersection of IT and communications. In our opinion, the future belongs to the convergence of services. Social tasks and rapidly changing user needs acquire particular importance. We plan to work in all geographically accessible markets, while continuing to develop vertically.

Question: In February 2017, the RSCC announced plans to expand its equipment line in the ground-based facilities to support TV and broadband data transmission services. Can you expand on these plans?

Yuri Prokhorov: Indeed, the RSCC puts in a lot of time and effort to continually monitor new advanced technologies and equipment, both Russian and foreign-made, which we will be able to use in future to provide broadcasting services or broadband data transmission in the Ka-band. After all, the initial list of equipment manufacturers that meet the requirements of RSCC for quality and reliability is rather limited. Nevertheless, we are taking stock of new players. This allows us to be at the forefront of understanding the market trends. We are committed to continuous improvement of the quality and reliability of services in order to meet the expectations of the most demanding client.

The market for technologies is changing very quickly, becoming more flexible and informative. We do not focus on one manufacturer, which allows us to remain free in terms of choice of technology and price policy. Various manufacturers of equipment offer their wares to us quite often. If we see the potential promise and value for us, the equipment would be subjected to our tough testing in a variety of conditions. We evaluate such equipment not only for compliance with the declared technical characteristics, but also for its real performance characteristics, maintainability, assembly culture and

RSCC service area ●●●

C-band Ku-band Ka-band

quality, and friendliness of the interface. All this enables our technical specialists to increase reliability of the equipment and reduce fault rate in the process of subsequent operation.

Question: April 2017 saw the RSCC sign an agreement with HorizonSat for the use of Express-AM6 satellite capacity and later in May 2017, a similar deal was struck with Romantis for capacity on Express-AM7 and Express-AM22, to improve communications and broadcasting Services in the Middle East and central and southern Asia. What are the regions of importance to the RSCC, and what do you expect to achieve from the agreements?
Yuri Prokhorov: The RSCC primarily is a commercial operator, concentrating on the implementation of commercial projects and making a profit. We work closely with European service providers to make communication services available in the Middle East, which, incidentally, is the oldest region where the RSCC established its presence outside Russia.

The solutions based on the Express-AM satellites are distinguished for making it possible to support Europe-Asia, Europe-Middle East, and Europe-Latin America connectivity without the need for relay operations and with minimal delays, which is of prime value for users. Agreements with HorizonSat and Romantis have enabled us to expand our presence in the Middle East and Central Asia.

Question: What do you expect the RSCC to achieve in the rest of 2017, and indeed, during its next 50 years of operations?
Yuri Prokhorov: Last year, against the backdrop of falling revenues experienced by the majority of operators in the world satellite communications market, the RSCC posted good revenue growth. Our Ruble earnings shot up by 24 percent. The main task of RSCC until the end of 2017 is to maintain business growth and fulfill the planned indicators on revenues in the conditions of the industry stagnation.
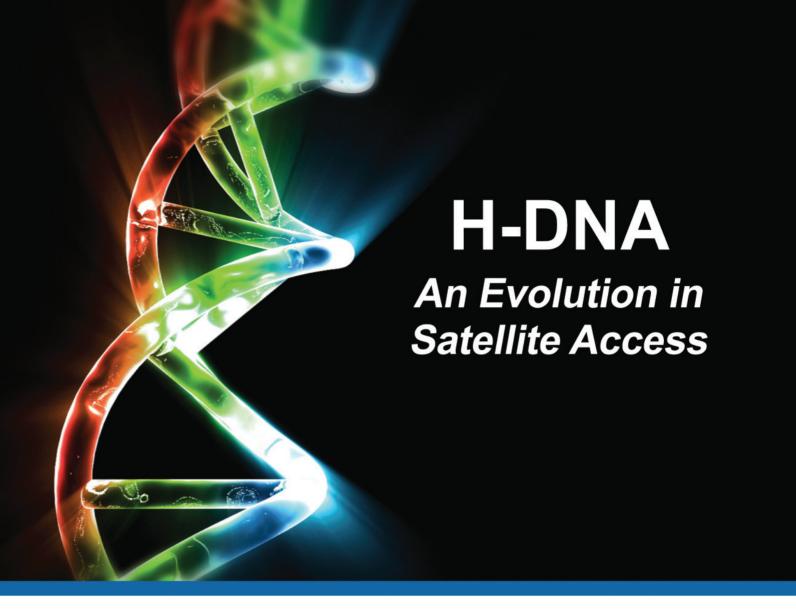
Going forward, looking ahead some 50 years from now, the most important game-changer in the satellite industry as a whole will be a new generation of specialists coming to work in the industry.

Discoveries in related fields, such as chemistry and material science, will leave no stone unturned in the very approach to communication services. The English writer Arthur Clarke, who in 1945 proposed the idea of using the geostationary orbit for the purposes of communications and broadcasting services, in his novel *Fountains of Paradise* acquainted the general public with the concept of the 'space lift,' originally conceived by the Russian scientist K.E. Tsiolkovsky in 1895.

If in the future it becomes possible to overcome the major hurdle in this concept, i.e. to develop a strong super fibre for the manufacture of a heavy-duty cable, the space lift may become a new economical means for launching satellites.

We could repair spacecraft in the geostationary orbit and upgrade them to comply with ever-changing needs and technologies. This would allow satellite operators to become unprecedentedly flexible and better serve our users.

Zheleznogorsk teleport ●●●