THE BIRTH OF SIBERIAN SATELLITE CONSTRUCTION

Mikhail Fedorovich Reshetnev was one of the founders of Russian cosmonautics who made a significant contribution to the development of Russian satellite communications and satellite navigation systems.

M. F. Reshetnev was born on November 10, 1924 in the village of Barmashovo, Nikolaev region, Ukrainian SSR. He died on January 26, 1996 in Zheleznogorsk.

M. F. Reshetnev, Doctor of Technical Sciences (1967), Professor, Academician of the USSR Academy of Sciences (later the Russian Academy of Sciences), laureate of the Lenin Prize (1980) and the State Prize (1996), Hero of Socialist Labor (1974), was awarded the Orders of Lenin (1966, 1971, 1974), the Order of the Red Banner of Labor (1961), the Order of the Badge of Honor (1956), and the Order "For Merit to the Fatherland", III Class (1994).

Under his leadership, nearly thirty types of space complexes and systems were developed. Between 1959 and 1996, the enterprise he directed launched over one thousand satellites into orbit.

Mikhail Fedorovich made significant contributions to the development of higher education in the Krasnoyarsk Territory, including the founding of the Krasnoyarsk Institute of Space Technology. Today, this institution is one of the most prominent universities in Krasnoyarsk and across Siberia – the Siberian State University of Science and Technology named after academician M. F. Reshetnev (Reshetnev University). Scholarships in his name have been established for talented students from Zheleznogorsk as well as for students of the Reshetnev University.

There is a street and a square named after M. F. Reshetnev in Zheleznogorsk, where a monument to him was erected in 2007. His contributions to the development of not only the enterprise but also the city were recognized in 1984, when he was awarded the title of "Honorary Citizen of Krasnoyarsk-26". The name M. F. Reshetnev was also given to an Il-96 passenger aircraft and a minor planet. The Russian Cosmonautics Federation established the M. F. Reshetnev Medal in his honor.

In 1959, the formation of a powerful Siberian rocket and space cluster began at the Krasnoyarsk Machine-Building Plant. S. P. Korolev's student, his deputy, 35-year-old Candidate of Technical Sciences M. F. Reshetnev was appointed as the head and chief designer of the Siberian branch of OKB-1, which became the independent OKB-10 (OKB experimental design bureau) in 1961, in the closed city of Krasnoyarsk-26 (now Zheleznogorsk).

On August 18, 1964, the first launch of the Kosmos-3 launch vehicle prototype, manufactured in Siberia, successfully delivered three Strela-1 spacecraft prototypes into low Earth orbit from the Baikonur Cosmodrome. This date, August 18, 1964, became a milestone for OKB-10, marking the birth of Siberian satellite construction.

Alongside the development of multi-satellite low-orbit groups, since 1964 in Siberia, the development of the production of heavier Molniya satellites, transferred from OKB-1, began. For the young production facility in Krasnoyarsk-26, this marked a significant breakthrough in technological capability. Despite the fact that Mikhail Fedorovich himself made a lot of efforts to obtain the Moscow-based projects, S. P. Korolev chose his enterprise for a reason. Sergei Pavlovich highly appreciated his design talent and organizational flair, which allowed him to assemble a young, energetic and capable team of developers near Krasnoyarsk.

In 1967, OKB-10 was renamed the Design Bureau of Applied Mechanics (KB PM), and M. F. Reshetnev became the general designer of an independent design bureau. Over the following years, KB PM focused primarily on developing information satellite systems for communications, television

broadcasting, navigation, and geodesy, serving both military and civilian purposes. The bureau developed an entire series of Molniya-type spacecraft modifications, including the Molniya-1S, Molniya-1T, Molniya-2, Molniya-3, and Molniya-3K models.

Thus, by the end of the 1970s, a new domestic, self-sufficient rocket and space complex had been established near the geographical center of the Soviet Union, surrounded by major industries such as energy, aluminum, and machine-building. The Design Bureau of Applied Mechanics (KB PM), led by General Designer M. F. Reshetnev, played a key role as the leader and primary developer of new rocket and space technologies within this complex.

Reshetnev's satellites became essential for addressing a wide range of practical challenges in the interests of the state and its citizens. A significant space scientific, technical, and intellectual reserve was established in Siberia, and the universities and technical schools of Krasnoyarsk began training their own specialists in space fields.

For its success in developing first-generation satellite constellations, in 1974 the company was awarded the highest state award of the USSR – the Order of Lenin.

From 1977 to 1996, M. F. Reshetnev worked as the general designer and general director of the Scientific and Production Association of Applied Mechanics.

The main achievement of the 1980s in satellite navigation in the USSR was the initiation of work on the deployment of a fundamentally new multi-satellite orbital constellation, GLONASS, in medium-high inclined circular orbits. The initiator and lead contractor for this system was NPO PM, with M. F. Reshetnev appointed as the chief designer of the system.

Despite the near collapse of orders for communication satellites within Russia in the 1990s, thanks to the immense authority of academician M. F. Reshetnev and his personal efforts, in 1995 NPO PM became the first domestic space company to receive an order from the well-known international operator Eutelsat. This order was for the creation, in collaboration with AlcatelSpace and several other foreign partners, of a heavy and highly powerful geostationary communications satellite (at the time, the most powerful of its kind) with the significant name "Siberian-European Satellite" (SESAT).

M. F. Reshetnev himself, to his great regret, did not have a chance to see the launch and the results of the SESAT satellite in flight, however, the impetus he gave to the implementation of this project and the scientific, production, educational, personnel, experimental and social bases he formed in Siberia allowed the team of the enterprise, which was named after him (1997), to bring the project to success in 2000.

Over more than 60 years of its existence, JSC Information Satellite Systems named after academician M. F. Reshetnev (JSC RESHETNEV) has developed and put into operation over 40 space systems and complexes for the benefit of our country, including around 1,300 spacecraft.

We are proud that our university bears the name of Reshetnev, and we strive with all our might to uphold the high standards of education and science that Mikhail Fedorovich himself set.

Rector of the Siberian State University of Science and Technology
named after academician M. F. Reshetnev
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