



Russia's Modernization of Battlefield Command and Control

OE Watch Commentary: Modernizing command and control by developing an automated command and control system has been a long-term goal for the Russian Federation. The intent of this reform is to assist the commander in choosing his given course of action, and then rapidly generating and disseminating orders throughout the command. The first accompanying passage from a recent *Izvestiya* article discusses the Russian Airborne (VDV) and their recent exploits in the use of automated command and control to facilitate ground-air operations during a large-scale airborne troops exercise in Crimea. The second accompanying passage from *Izvestiya* discusses the 'backbone' over which the automated command and control rides. This "military internet," a highly secure local wireless network, reportedly has 1,500 mobile communications and encryption complexes stretched over 2,000 km that is capable of transfer rates of up to 300 megabits per second. **End OE Watch Commentary (Bartles)**

“The use of automated control systems is especially important for the Airborne Troops, as paratroopers operate at great distances from base and their combat is characterized by high speed...This is why paratroopers need accurate coordination with the Aerospace Forces’ strike systems and the long-range fire systems of the Ground Troops’ Missile Troops and Artillery...It is no coincidence that the paratroopers were among the first to adopt such a system...” -- Viktor Murakhovskiy, the editor-in-chief of the Arsenal Otechestva magazine

Source: Aleksey Kozachenko, “Десант на автомате: в Крыму испытали умную систему управления огнем (Automatically Controlled Assault Landing: Smart Fire Control System Tested in Crimea),” *Izvestiya* Online, 23 July 2019. <https://iz.ru/900825/aleksei-kozachenko/desant-na-avtomate-v-krymu-ispytali-umnuiu-sistemu-upravleniia-ognem>

Automatically Controlled Assault Landing: Smart Fire Control System Tested in Crimea

A fundamentally new command and control system has been tested during a large-scale airborne troops exercise in Crimea, where almost 2,500 servicemen were airdropped in one landing operation. An Il-76 battle formation was controlled at the same time by the crew of an A-50U “airborne radar.” Information was transmitted in real time via an Il-22 airborne relay aircraft to a military transport aviation command post and a command post at a test range in Crimea. This was the first time that a single combat information loop was tested in the field, Izvestiya was told at the Ministry of Defense. The loop was made up of several automated control systems, including the automated command and control systems of the Airborne Troops, the Air Defense Troops, and the Air Forces.

The operations by reconnaissance troops, paratroopers, aviation, and land-based weapons were controlled in real time by a command post deployed on an A-50U airborne early warning and control aircraft. The single combat loop included not only airborne troops, but also about 50 transport, fighter, and attack aircraft. Thanks to the synchronization of the automatic command and control systems, a single command post was able to control an air battle, airstrikes on ground targets, as well as landing and ground operations – several dozens of transport Il-76s, Su-25 attack aircraft, Su-27 fighters, and 2,500 paratroopers in all.

During the exercise, every radar, airplane, helicopter, and effectively every participant in the exercise served as a source of information. They transmitted their coordinates, direction of movement, and information about the enemy, and exchanged information about the operations and position of the enemy’s aircraft, radars, and antiaircraft weapons. This provided the commanders with the most accurate picture of what was happening in the theater.

All the information flowing to the airborne command post was analyzed with the help of an automated control system. Based on the results of the analysis, the electronics provided the commanders with recommendations on the choice of weapons necessary for the destruction of a particular target... At the same time, the information was transmitted to the National Defense Management Center. Not only did the center receive in real time information about everything happening in the air and on the ground, but it was also able to make corrections to the course of the exercise.

The use of automated control systems is especially important for the Airborne Troops, as paratroopers operate at great distances from base and their combat is characterized by high speed, Viktor Murakhovskiy, the editor-in-chief of the Arsenal Otechestva magazine, told Izvestia. “This is why paratroopers need accurate coordination with the Aerospace Forces’ strike systems and the long-range fire systems of the Ground Troops’ Missile Troops and Artillery,” the expert said. “It is no coincidence that the paratroopers were among the first to adopt such a system. Its elements have been used in exercises before. The system has now received its final form and can be considered as the technical basis for the command and control of the Airborne Troops...”



Continued: Russia's Modernization of Battlefield Command and Control

Source: Aleksey Kozachenko and Aleksey Ramm, “Гиги по небу: Минобороны тестирует дальнобойный «военный интернет» (Gigabytes Through the Sky: The Ministry of Defense Is Testing the Long-Range ‘Military Internet’),” *Izvestiya Online*, 1 August 2019. <https://iz.ru/905053/aleksei-kozachenko-aleksei-ramm/gigi-po-nebu-minoborony-testiruet-dalnoboinyi-voennyi-internet>

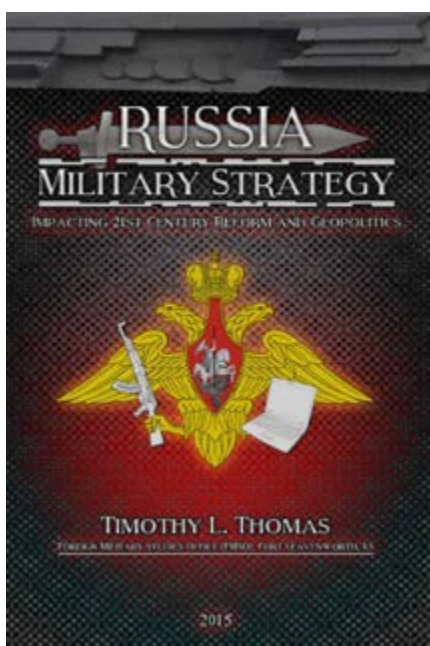
Gigabytes Through the Sky: The Ministry of Defense Is Testing the Long-Range ‘Military Internet’

The unique exercises were conducted in Central Military District, a Ministry of Defense spokesman told Izvestiya. The special radio communications channels, through which the digital information was transmitted, were created during the course of the exercises. A highly secure local wireless network, which permitted the transmission of large-volume files, including audio and video conference files, supported the exchange. The data was transmitted to a distance of over 2,000 kilometers. More than 4,500 servicemen were involved in the exercises and more than 1,500 state-of-the-art communications systems were used to create the wireless network...The created network is totally autonomous and doesn't have internet exchange points, which connect it to the “outside” internet. All important information was transmitted via Ministry of Defense hardware with the employment of encryption. This permitted them to avoid possible leaks. In the future, these communications lines will permit the organization of the high-speed transmission of practically any volume of information throughout the country's entire territory, a Military Department spokesman clarified...

Today the majority of the automated combat command and control automated systems, which military personnel use, need stable and secure communications channels, “Arsenal of the Fatherland” Magazine Editor-in-Chief Viktor Murakhovskiy thinks. “Stable communications lines support the stable operation of the automated command and control systems (ASU)”, the expert told Izvestiya. “All communications channels are used to create those lines. As before, Radio-relay communications are considered to be reliable and high-performance. Tropospheric, satellite and other types of long-range communications are also used to create those communications channels. In contrast to the internet, these are totally secure channels. The primary advantage of military communications networks is that they are absolutely autonomous and resistant to outside impact – outside consumers even theoretically cannot obtain access to them”.

Major flows of encrypted information are transmitted during the course of video conferences at the National Command Center. During them, video communications are organized with all of the main commands and types of troops, the military districts, the fleets, and even with separate units. The signal must be super-stable and encrypted to do this. But the signal – is only the visible portion. The main mission of those communications channels is data transmission and processing for the automated combat command and control systems. A state-of-the-art automated troop command and control system permits the headquarters to obtain exhaustive information directly from the battlefield, for example, to see fuel and ammunition reserves of a specific tank or Infantry Fighting Vehicle (BMP) in real time...

This year, the RF Armed Forces have begun to create a sovereign internet. The secure system for the exchange of digital information has already received a name – the multiservice backhaul network (MTSS) [мультисервисная транспортная сеть связи (MTCC)]. The first phase of the work will be completed by the end of 2019 and it will be completely ready in two years. Its own search engine will appear for MTSS and military personnel will lay a fiber-optic cable across the Arctic for its independent functioning. The MTSS must provide the country's electronic security on a par with the secure Russian segment of the Worldwide web, the project for the development of which is being discussed right now.



RUSSIA MILITARY STRATEGY: IMPACTING 21ST CENTURY REFORM AND GEOPOLITICS by TIMOTHY L. THOMAS

Russian military's main tasks are to maintain the combat readiness of the Armed Forces and to ensure the Russian Federation's defensive capability. Russia's military heritage will assist this process tremendously. Combat readiness includes updated strategic thought, new equipment revelations, and future-war projections. Defensive capability includes not just protecting Russia's territory, but also the security of the nation's national interests and conduct of geopolitics. Capturing the essence of these developments is the goal of this book. In the process a few templates for understanding Russian military thought and actions are offered for further consideration and use.

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