



Russian Electronic Warfare Leverages Artificial Intelligence

OE Watch Commentary: The accompanying excerpted article from *Izvestia* discusses the capabilities of Russia's first brigade-level EW C2 system, the RB-109A 'Bylina' Automated EW system. The RB-109A reportedly has an artificial intelligence capability, which automates C2 duties. Presumably, this artificial intelligence is a more advanced technology, as the term 'automated' [автоматизированный] is often used to describe Russian systems, but the RB-109A is specifically mentioned to have 'artificial intelligence' [искусственный интеллект]. The excerpted article from *Voyenno-Promyshlennyy Kuryer* discusses how the Russian Moskva-1 electronic warfare system also leverages artificial intelligence. **End OE Watch Commentary (Bartles)**



EW The 1L265 Intelligence Vehicle of the 1L267 Moskva-1 System.
Source: Vitaly Kuzmin via Vitalykuzmin.net, <https://www.vitalykuzmin.net/Military/ARMY-2017-Static-p4/-KG92wV3/A>, CC BY-NC-ND 4.0

“The new complexes [Bylina] will increase the effectiveness of the employment of EW systems by 40 to 50 percent...”

-Viktor Murakhovski, Editor-in-Chief of “Arsenal of the Fatherland” Magazine

“A high-level of artificial intelligence is one of the important characteristics of the Moskva-1. For example, during a massive enemy air attack, the system automatically determines the most important targets...”

Source: Aleksey Ramm, Anton Lavrov, and Bogdan Stepovoy, “Видит цель: «Былина» сможет атаковать противника без участия оператора (See the Target: The ‘Bylina’ Will be Able to Attack the Enemy Without an Operator),” *Izvestia* Online, 16 April 2020. [https://iz.ru/1000101/aleksei-ramm-bogdan-stepovoi/vidit-tcel-bylina-smozhet-atakovat-protivnika-bez-uchastiia-operatora](https://iz.ru/1000101/aleksei-ramm-bogdan-stepovoi/vidit-tsel-bylina-smozhet-atakovat-protivnika-bez-uchastiia-operatora)

The Armed Forces are preparing for massive deliveries of “Bylina” electronic warfare (EW) complexes, which artificial intelligence will control. Units and formations will receive the unique system by 2025. Bylina can analyze the situation and find and classify targets in real time without the operators’ participation. After this, it will determine which systems will better suppress or destroy enemy communications equipment or other equipment. Experts note that the employment of those complexes will significantly increase the effectiveness of the EW systems on the battlefield...The new equipment is capable of tracking the probable enemy’s ships and submarines. The new complexes will increase the effectiveness of the employment of EW systems by 40 percent to 50 percent, “Arsenal of the Fatherland” Magazine editor in chief Viktor Murakhovskiy reported to *Izvestiya*. “The battlefield’s contemporary information space is saturated with electronic systems — both ours and the enemy’s,” he pointed out. “We are talking about unmanned aerial vehicles, communications systems, and radars. In that situation, it is important to suppress enemy electronics and, in so doing, not interfere with our own.”

It is very difficult to accurately take into account all of the nuances of the process in the manual mode. The Bylina will help precisely with this. The system uses elements of artificial intelligence. Based upon the available information, it decides which EW systems, based upon which scheme, on which frequencies, and with what output it needs to operate against some or other targets. If necessary, the Bylina makes changes to the operation of individual components in real time, the expert pointed out. The elements of artificial intelligence permit it to take into account a multitude of variable factors. As a result, the machine will instantaneously make a decision there, where a man will require time to ponder and for additional calculations...

The RB-109A Bylina Automated EW equipment control system’s equipment is mounted on five all-terrain trucks. Electronic equipment, communications gear, and also life support equipment will be installed in closed truck beds. That configuration provides full independence and adequately comfortable working conditions for the combat crews in field conditions. Having arrived at the deployment location, the soldiers and officers can immediately begin to accomplish the combat mission.

Source: “радиусе полутысячи километров все под контролем «Москвы» (‘Moskva’ Keeps Everything Under Control Within a Range of 500 km),” *Voyenno-Promyshlennyy Kuryer* Online, 30 March 2020. <https://www.vpk-news.ru/news/56157>

The Russian Moskva-1 electronic warfare system, which has been supplied to the army since 2015 and has advanced capabilities for controlling the electronic weapons of a potential enemy, has no match in the militaries of other countries...The electronic edition of the *Army Standard* made this information public. According to the publication, Moskva-1 has a range of up to 400 kilometers with a 360-degree view. The complex has two modules: the 1L265E electronic intelligence module and the 1L266E automated control post for jamming stations.

Among other things, the system is designed for the detection of the enemy’s military equipment and cruise missiles by monitoring airspace. Moskva-1 identifies targets, sets the course, measures parameters and trails air radiation sources operating in the radio frequency range.

Moskva-1 transmits data on detected enemy targets to either air defense and aviation units for destruction, or to other electronic warfare systems for suppression. Often, the Moskva-1 system works in conjunction with the Krasukha S-4 electronic warfare system. Moskva-1 can simultaneously set tasks for nine electronic warfare and air defense systems. At the same time, Moskva-1 remains invisible to the enemy’s radio surveillance, since it operates in passive radar mode and transmits all information through secure communication channels.

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