

## The delivery of Russia's S-300 air defence system to Syria: dangerous, but small deployment

In late September, a crisis connected to Russia's delivery of the S-300 air defence system to Syria began. At the time and since, it has been reported in the press that the "powerful S-300 ground-to-air missile system" poses a considerable danger.<sup>1</sup> This post will clarify that while the system is dangerous, the scale of the deployment is small and the systems are therefore quite vulnerable to attack.

The first specific Russian report concerning the delivery of the S-300 to Syria appeared on 29 September. In a demonstration of the considerable resources of the Russian state, as well as their distinctly wasteful employment, it was reported the S-300 systems and their Russian operators of the 531<sup>st</sup> Guards Anti-Aircraft Missile Regiment were delivered to Syria by aircraft from the 'closed', or controlled-access, town of Aleksandrovsk in Russia's Arctic.<sup>2</sup> This town is very close to one of Russia's biggest nuclear submarine bases, Yagel'naya.<sup>3</sup> This location is some 3,700 kilometres (2,300 miles) distant from Syria as the crow flies, and Russian aircraft will have flown a considerably longer distance, since Russian military flights to Syria are predominantly flown through Iranian and Iraqi airspace.

The size of the Russian deployment was specified by the official TASS agency as consisting of three battalions of the S-300PM system with eight launchers each. Each battalion was reported as having "more than 100 missiles" to hand.<sup>4</sup> This might appear to be a considerable force, but Russia possessed some 824 launchers of the S-300 and S-400 system in 2018, while the US had 480 launchers of the similar Patriot system.<sup>5</sup> Therefore, the number of launchers sent to Syria represents just 3% of Russian or 5% of total US capability, as a rough comparison.

There has been some confusion, perhaps deliberately planted by Russian sources, concerning the precise version of the S-300 that was sent to Syria. The 531<sup>st</sup> Regiment has been in existence since 1960 and in 2017 it was estimated, based on satellite images, that it possessed three battalions of the S-400 'Triumf' and two battalions of the S-300PM2 'Favorit' system.<sup>6</sup> That the version delivered to Syria was indeed the S-300PM2 appeared to have been confirmed when the 5P85SM launchers

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<sup>1</sup> Troianovski, A, L. Morris and L. Sly. (2018, September 24). In a blow to Israel, Russia says it will send Syria powerful anti-aircraft missiles. *The Washington Post*. Retrieved from [https://www.washingtonpost.com/world/in-blow-to-israel-russia-says-it-will-send-syria-powerful-anti-aircraft-missiles/2018/09/24/674745b8-bffe-11e8-be77-516336a26305\\_story.html](https://www.washingtonpost.com/world/in-blow-to-israel-russia-says-it-will-send-syria-powerful-anti-aircraft-missiles/2018/09/24/674745b8-bffe-11e8-be77-516336a26305_story.html)

<sup>2</sup> Ural Inform Bureau. (2018, September 29). *Russia has sent S-300 systems to Syria from the Arctic*. Retrieved from <https://www.uralinform.ru/news/politics/298065-rossiya-otpravila-v-siriyu-kompleksy-s-300-iz-zapolyarya>

<sup>3</sup> GlobalSecurity. (2011, September) *Yagel'naya*. Retrieved from <https://www.globalsecurity.org/military/world/russia/yagelnaya.htm>

<sup>4</sup> TASS. (2018, October 8). *Source: Russia has supplied Syria with three S-300PM battalions free of charge*. Retrieved from <https://tass.ru/politika/5650588>

<sup>5</sup> International Institute for Strategic Studies. (2018). *The Military Balance*, pp. 49, 193-199

<sup>6</sup> For 531<sup>st</sup> Regiment, see - Holm, M. 531st Guards Nevelsko-Berlinskiy order of Lenin Red Banner orders of Suvorov, Kutuzov and Bogdan Khmel'nitskiy Anti-Aircraft Missile Regiment. Retrieved October 18, 2018 from <http://www.w2.dk/new/pvo/sam/531gvzrp.htm>; For comments on the regiment's equipment, see User 'raketchik'. The S-400 / 40R6 'Triumf' system, complex 98Zh6 – SA-21 Growler. (2017, December 7). [Online forum comment]. Message posted to <http://militaryrussia.ru/forum/viewtopic.php?p=114826#p114836>

<https://airlandbattle.wordpress.com/2018/10/23/russias-s-300-in-syria-dangerous-but-limited>

specific to this version were identified in a video of the systems' unloading in Syria.<sup>7</sup> The significance of this discussion lies in the fact that different versions of the S-300 have very different capabilities. The PM2 version can launch missiles with a maximum range of 200 kilometres (124 miles), while the initial PT version of the system had a range of just 47 kilometres (29 miles).<sup>8</sup>

As the deliveries of the S-300 to Syria appeared to have been completed, the Russian press added further confusion to its reporting. The TASS agency reported that Syrian servicemen are being trained to employ the S-300PMU-2, the export version of the PM2 discussed above.<sup>9</sup> On the same day, the *Izvestia* newspaper claimed that it was in fact the original PM2 systems, hitherto exclusive to the Russian military, that had been supplied and that these were more capable than the export version.<sup>10</sup> The same newspaper reported later the same day that the systems were being "converted" into the PMU-2 export model, by means of changes to their identification-friend-or-foe (IFF) and radar equipment, in order to make them compatible with other Syrian equipment.<sup>11</sup>

On the one hand, Russia has supplied Syria with an advanced missile system, the final version of the S-300 that was produced before the system was further developed into the S-400 system. On the other hand, 24 launchers will not be nearly enough for successful operations against the hundreds of aircraft and unmanned aerial vehicles in Israel's possession, let alone the thousands in the inventory of the United States armed forces. The **table at the end of this post** summarises the evolution of the S-300 from the first version to the S-400, showing that this system has gone through a long process of gradual evolution. Throughout, it has remained large and rather cumbersome, with the garrisons where S-300 units are based readily visible on commercial satellite imagery.<sup>12</sup> It is possible that the coming weeks will show that the development of the S-300 has produced a system which is only effective when deployed in overwhelming numbers and is otherwise vulnerable because of its considerable physical size and limited mobility.

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<sup>7</sup> halmiso1. (2018, October 2). S-300PM2 Favorit Syria <https://dailystorm.ru/news/vygruzka-s-300-v-sirii-popala-na-video> ... 5P85SM, 30N6-2, 5T99M, 5T58, 48N6, old 5V55R.... [Twitter Post]. Retrieved from <https://twitter.com/halmiso1/status/1047344449347567616>

<sup>8</sup> Katz, D. (2015, August 6). Program Dossier: S-300 Surface-To-Air Missile System. *Aviation Week Network*. Retrieved from [http://aviationweek.com/site-files/aviationweek.com/files/uploads/2015/07/asd\\_08\\_06\\_2015\\_dossier.pdf](http://aviationweek.com/site-files/aviationweek.com/files/uploads/2015/07/asd_08_06_2015_dossier.pdf)

<sup>9</sup> TASS. (2018, October 19). *Syrian servicemen trained on the S-300PMU-2 will conduct trial firing exercises in Russia*. Retrieved from <https://tass.ru/armiya-i-opk/5694677>

<sup>10</sup> Ramm, A., A. Kozachenko, B. Stepovoy (2018, October 19). Preliminary estimates: Syria received more sophisticated S-300 systems. *Izvestia*. Retrieved from <https://iz.ru/800692/aleksei-ramm-aleksei-kozachenko-bogdan-stepovoi/predvaritelnye-raschety-sirii-peredany-bolee-sovershennye-s-300>

<sup>11</sup> *Izvestia*. (2018, October 19). Russian specialists will convert the S-300 systems delivered to Syria <https://iz.ru/802322/2018-10-19/rossiiskie-spetcialisty-pereoboruduiut-dostavlennye-v-siriiu-s-300>

<sup>12</sup> The S-300P SAM System: A Site Analysis [Blog post]. (2007, August 1). Retrieved from O'Connor, S. *IMINT & Analysis*. Retrieved October 19, 2018, from <http://geimint.blogspot.com/2007/08/s-300p-sam-system-site-analysis.html>

Table of S-300 system versions, in order of development:<sup>13</sup>

Russian Version	Export Version	NATO Designation	Launcher
S-300PT/PT-1/PT-1A	none	SA-10a Grumble	5P851 or 5P851A towed by KrAZ-255B or KrAZ-260
S-300PS	S-300PMU	SA-10b Grumble	5P85S and 5P85D on self-propelled MAZ-543M
S-300PM/PM1 'Favorit-S'	S-300PMU-1	SA-10c Grumble	5P85T towed by KrAZ-260
S-300PM2 'Favorit'	S-300PMU-2	SA-10d / SA-20 Gargoyle	5P85SM on self-propelled MAZ-543M
S-400 'Triumf' (ex-S-300PM3)	none	SA-21 Growler	5P85TE2 towed by BAZ-6402 (older) 5P85SM2-01 on self-propelled MAZ-543M (newer)

<sup>13</sup> Information on export and US designations from – Copp, K. (2012, April). Almaz S-300P/PT/PS/PMU/PMU1/PMU2 Almaz-Antey S-400 Triumf SA-10/20/21 Grumble/Gargoyle. Air Power Australia. Retrieved from <http://www.ausairpower.net/APA-Grumble-Gargoyle.html>; S-300PT launcher designations from – Aminov, S. (2008, March 2). The S-300PT missile system. Vestnik PVO. Retrieved from [http://pvo.guns.ru/s300p/index\\_s300pt.htm](http://pvo.guns.ru/s300p/index_s300pt.htm); S-300PS launcher designations from – Aminov, S. (2008, March 2). The S-300PS missile system. Vestnik PVO. Retrieved from [http://pvo.guns.ru/s300p/index\\_s300ps.htm](http://pvo.guns.ru/s300p/index_s300ps.htm); S-300PM launcher designations from – New regiment of the S-300PM on Novaya Zemlya. [Blog post]. (2015, December 10) Retrieved from Aminov, S. "Vestnik PVO" Blog. Retrieved October 20, 2018, from <https://saidpvo.livejournal.com/482084.html>; S-300PM1 'Favorit-S' designation from – User raketichik. The S-300P/PMU – SA-10 GRUMBLE system. (2018, October 1). [Online forum comment]. Message posted to <http://militaryrussia.ru/forum/viewtopic.php?p=122507#p122507>; S-300PM2 launcher designations from – User raketichik. S-400 / 40R6 'Triumf' system, complex 98Zh6 – SA-21 Growler. (2017, December 7). [Online forum comment]. Message posted to <http://militaryrussia.ru/forum/viewtopic.php?p=114826#p114836>; S-300PM3 as former designation of S-400 from – RIA Novosti. (2018, October 5). The S-400 'Triumf' missile system: technical data. Retrieved from <https://ria.ru/spravka/20181005/1529791664.html>; S-400 launcher designations from – The S-400 'Triumf' air defence missile system in the Russian Armed Forces. Version 4.0. [Blog post]. (2017, December 1) Retrieved from altyn73. The accordion collector. Retrieved October 19, 2018, from <https://altyn73.livejournal.com/1269824.html>