

Air Power as a Security Factor: Case study Syria

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Abstract: *The aim of our work was to identify the role and the potential of the Air Power in modern warfare as a security factor. The Air Power itself is a concept, which had initially materialized almost one hundred years ago over the battlefields of the World War I. Since then we could witness a staging development in the field of technology and the Art of War, which momentum and scope has no precedence in history. In other words, it has taken less than one hundred years for human to move from fragile and underpowered biplanes to supersonic jet fighters and stealth bombers, which represent a state of art technology of mankind. Such speed in development had no precedence in any other operational domain, except maybe of cyberspace.*

Key Words: security, civil war, security forces, Air Power in Syria, Islamic Stat, terrorism

1. INTRODUCTION

Over past two decades we have been informed in media about the invincibility of the Air Power in modern warfare. One could get an impression, that a state of art air force deployed in sufficient quantity is a guarantee quick and decisive military victory. However, by many military experts this philosophy is considered to be incorrect. The latest examples of current warfare prove sceptics on invincibility of the Air Power correct. It has been already five years since the civil war in Syria has broken up, and it is still going on. The Syrian Armed Forces possess, at least on paper, a relatively large yet outdated air force, but the main burden of warfare lays on the ground forces. Nevertheless, media brings us news on occasional use of the Air Power in Syria, not only because of the length and brutality of the conflict itself, but also because of the involvement of a significant number of state and non-state actors. From the perspective of the Air Power, the conflict in Syria has demonstrated once again that when properly used, it is a game changer to influence conflict but not a

magic solution to end it. When assessing the use of the Air Power in Syria, we can look at it from three perspectives. The first is the Syrian Arab Air Force (SyAAF), the second Russian Air Force (RuAF), and the third is Coalition Air Force.

In respect to the SyAAF it is need to state that it was already severely outdated, underequipped and undertrained in time of the beginning of the Civil War. But from the point from view of loyalty, intellect, and professionalism it represented the best what the Syrian Arab Armed Forces (SAAF) had to offer. Despite many shortcomings and the lack of effective operational planning in the initial phase of war, the SyAAF was able to effectively evacuate, survive in the environment of civil war, maintain certain tempo of operations, and relatively positively influence the development on the ground for the governmental troops. This was achieved despite relatively obsolete air fleet, which was balanced by improvisation and motivation of the air personnel. The price for such achievement was rather high for both, military equipment and human tool. However, it is needed to say that SyAAF would not hold for a significantly longer period of time without intervention of the Russia.

The involvement of the RuAF was a true game changer of the conflict and a surprise for many, in the form of training, modernization of SyAAF fleet, combat reconnaissance, air strikes against terrorist and rebel groups and infrastructure, and close air support and supply delivery to the SAAF troops on the ground, which significantly boosted SAAF morale and combat effectiveness of their troops. The tangible of these efforts can be observed in strategic shift in favour of Syrian government in form of strategic initiative of the SAAF. In late 2015, the situation for the Syrian government was highly critical and on the verge of collapse. With the Air Power provided by the RuAF the situation has changed dramatically in next 12 month. By the end of the 2016, Syrian government regained many of its lost territories, in the first time since 2012 it effectively controlled all the major cities, and it was able to hold besieged strategic city Deir ez-Zor. During this time the RuAF demonstrated new, boosted, highly effective and lethal capabilities. The RuAF used in the conflict large variety of strategic and tactical air assets, which delivered devastating blow to terrorist and rebel groups. This was achieved with a relatively small air presence over Syria. Of course one must keep in mind, that besides the support to Syrian government, RF is following also its economic interest, where an effective demonstration of new weaponry system is both, best testing and advertisement ground.

The Coalition Air Power participation focused on the elimination of ISIL targets was not a surprise when comparing to the other above mentioned case studies. The United States (U.S.) led Coalition demonstrated the quality of western made air assets, as well as the correctness of their doctrinal use. From this perspective, it was proved once again modern equipment is only a one part of equation. The other is adequate training. This is clearly in favour of the U.S. and its western Allies when comparing to their Arabic Allies. Nevertheless, many perceive the Coalition involvement as highly limited and selective, which can be observed by relatively small achievements on the ground. In this respect one must keep in mind that this was not caused by military inability of the Coalition AF, but rather by a complex political limitation imposed by the western leadership on its military.

2. PRELUDE TO THE CONFLICT, SYRIAN ARAB AIR FORCE AND REBEL FORCES

In March 2011, protests against the President Bashar al Assad broke out in the southern province of Dar'a. The unrest was sparked by the arrest of a group of school children, but reflected long-standing political and socioeconomic grievances. Largely peaceful protesters

called for political and economic reforms rather than the removal of the President Bashar al Assad government. As security forces responded with mass arrests. Occasional shooting from unknown individuals into demonstrators took place and the protests became larger and spread to other towns and provinces. The opposition movement eventually coalesced into two umbrella groups - one political, one armed - and both based primarily in exile. Political groups merged to form the Syrian National Council (SNC), although members struggled to establish trust and develop shared goals. A small number of junior military defectors formed the Free Syrian Army (FSA), which claimed leadership over the armed opposition but whose authority was generally unrecognized by local armed groups. Meanwhile Al Qaeda’s affiliate in Iraq tasked some of its members to commence operations in Syria under the banner of a new group known as Jabhat al Nusra (aka the Nusra Front). In December 2011, the first Nusra Front suicide attacks hit government buildings in downtown Damascus (Fig. 1).

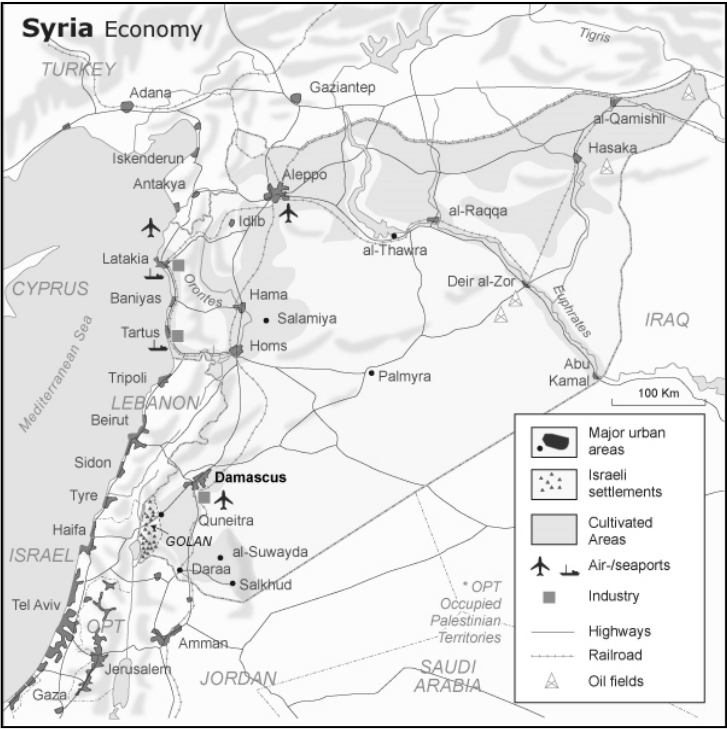


Fig. 1 – Syria - Economy Map [1]

Declared “in operational” by most of foreign observers already at the start of Syrian uprising in 2011, the Syrian Arab Air Force not only remains operational, but - regardless of how badly impacted by attrition over the years - is showing surprising signs of vitality. Tom Cooper, analyst and Middle East air power specialist, May 11, 2016.

Table 1 – Syrian Arab Air Force Order of Battle [2, 3, 4]

Type	Year 2015 World Air Forces	Year 2015 Military Balance	Year 2017 Military Balance	Airbase
Fighter/Ground Attack				
MiG-21	53	105	53 - 70	Deir Zzor, Hamah
MiG-23BN	90 (all variants)	50	30 - 41	An Nasiriya, Dumair, Hamah, Saiqal, Shayrat
MiG-29SM*	20	24	20	Saiqal

Su-22	42	50	36 - 42	Dumair, Shayrat, Khalkhalah
Su-24*	18	20	11 - 20	Saiqal
Air Defence Fighter				
MiG-23ML	90 (all variants)	80	39 - 50	An Nasiriya, Dumair, Hamah, Khalkhalah
MiG-25	-	30 (grounded)	0?	Tiyat
MiG-29A	20 (all variants)	40	20 - 30	Saiqal
MiG-31	-	8?	0	
Recce				
MiG-21R	-	40	?	Hamah, Khalkhalah
MiG-25R	2	8	0?	
Transport				
An-24/26	3	7	7	Damascus
Il-76	?	5 - 6	5	Damascus
Trainer (combat capable)				
L-39	66	40 - 70	< 65	Abu ad Duhur, Aleppo, Rasm el Abboud
MiG-21U	?	15	< 9	
MiG-29UB	?	6	6	
Attack Helicopters				
Mi-24/25	28	33 - 48	25	Marj Ruhayyil, Sfireh
Transport Helicopters				
Mi-2	13	10 - 20	?	
Mi-8/17	51	80 - 100	50	Aleppo, Latakia, Damascus, Hamah, Sfireh
SA-342L	62	30 - 35	30	Damascus
SBAD Units				
SA-2		320	320	
SA-3		148	148	
SA-5		44	44	
SA-6		195	195	
SA-7		4000+	4000+	
SA-11		20	20	
SA-13		30	30	

* - PGM capable

Since the breakout of Syrian civil war, the large part of the Syrian fleet of helicopters and combat aircraft - the total was estimated at over 500 as of 2010 - was grounded. Types like MiG-23Ms, MiG-25P/PDS/PU/RBs and Su-20s had been withdrawn from service in the 2000s. Nearly 50 percent of the remaining Mi-8/17s, MiG-21MF/bis/UMs, MiG-23MF/MLs and Su-22s were in need of major overhaul, if not an outright replacement. The insurgent advance on Aleppo, Syria's largest city, in late July 2012 forced the air force into all-out action. For much of the second half of 2012 and through most of 2013, the SyAAF flew and fought in full swing. Its fighter-bombers were regularly striking targets from Salma near the Turkish border to Dayr Az Zawr in eastern Syria and from Aleppo to Dera'a. Acting as the regime's "fire brigade," the SyAAF even pressed interceptor types such as the MiG-23MF, MiG-23ML and MiG-29 into the ground-attack role, altogether flying up to 230 sorties a day. Measured by the number of available examples, Syria's fleet of just 19 Sukhoi Su-

24M2s was the most heavily utilized element of the air force. Intensive operations inevitably resulted in heavy losses.

Between July 2012 and July 2013, the SyAAF experienced the heaviest attrition during this conflict - at least 45 helicopters and 30 fighter jets were claimed as crashed, shoot down or destroyed on ground. By early 2014, the service was left with barely 60 operational helicopters and fewer than 150 operational fighter-bombers, nearly all of which were once again in need of overhaul [5]. Most of the losses was caused by AAA fire. The rate of losses dramatically decreased since that period and thanks to seizing back the city of Aleppo to Assad hands, "The Works" - crucial maintenance facility together with assemblies from inoperable aircraft and spares acquired from abroad, enable to restore more than 30 aircraft in recent years. In the face of continuous and prolonged action, security standards have significantly decreased.

Aircraft are often sent to a mission with only most basic systems in operational condition. Stocks of ammunition are exhausted to a level where the SyAAF has been forced to launch domestic production of improvised bombs (barrel bomb) with poor operational record. Many of them fail to detonate and if so, very often prematurely, destroying precious aircraft and killing or injuring ground personnel.

This had also negative impact on the moral and professional aspect of the aircrews. As an example, it is possible to mention that in the given time some of pilots have begun showing obvious signs of becoming reckless. The crew of the Su-24MK2 shot down by Israeli PAC-2 Patriot missiles on Sept. 23, 2014 failed to activate their electronic countermeasures and then flew into Israeli-controlled airspace over the Golan Heights.

In five years of civil war, Al Assad's air force has suffered a confirmed loss of at least 55 aircraft and 57 helicopters shot down or crashed and another 28 helicopters and 51 aircraft written-off on the ground - notably, most of the latter were in unserviceable condition. Included in these numbers are about a dozen of L-39s, seven MiG-23s of all variants, at least four Su-22s and four Su-24MK2s, and no fewer than 10 MiG-21bis. Deploying Mig-21UMs trainers into combat and heavy utilization of MIG-29s in the ground-attack role forced the SyAAF to overhaul two MiG-25PDS and return them to "operational-like" condition. Although rarely flown, they are kept on constant alert at Tiyas Air Base [5].

The SyAAF has its own special forces detachments and air force officers serve in senior command positions in the Special Forces and Airborne Forces. The SyAAF has strong links to the Russian air force and defence industry stretching back to the 1960s because of the air force's dependence on Soviet era military hardware. All SyAAF commanders, aircrew and ground maintenance personnel are long term professionals. Air base ground defence personnel are conscripts [6].

The forces that combat governmental regime do not possess any air force capabilities in a true sense. Despite the fact that some of the rebel and terrorist groups were able to seize governmental air assets when occupying the SyAAF airbases, these were in non-flyable conditions. Furthermore, even if not flyable, these air assets were damaged by retreating governmental forces to extend beyond repair.

Nonetheless, these elements dispose of limited air defence capabilities in the form of AAA and SAM supplied by foreign players or gained by seized governmental military hardware such as ZU-23-2 , 37 mm automatic air defence gun M1939 , 57 mm AZP S-60 , ZPU, ZSU-23-4 "Shilka", 9K33 Osa, 9K32 Strela-2, 9K310 Igla-1, 9K338 Igla-S, and FN-6. Despite the fact that the use of these air defence systems is rather sporadic and used without any coordination, it was able to cause the harm to SyAAF.

3. AIR CAMPAIGN - GENERAL OVERVIEW, SyAAF OPERATIONS AND RUSSIAN PRESENCE

In December 2011 the first Nusra Front suicide attacks, that hit government buildings in downtown Damascus, took place.

2012: In 2012, the conflict became increasingly violent, as the government began to use artillery and fixed wing aircraft against opposition targets. Extremist attacks became more frequent between November 2011 and December 2012, the Nusra Front claimed responsibility for nearly 600 attacks in Syria, ranging from more than 40 suicide attacks to small arms and improvised explosive device operations [7]. In February 2012, the United States closed its embassy in Damascus, citing security concerns. Local armed groups began to seize pockets of territory around the country, primarily in rural areas. A July bombing in downtown Damascus killed several senior regime officials, including the then-Minister of Defence. In August 2012, U.S. President Obama declared: *We have been very clear to the Assad regime, but also to other players on the ground, that a red line for us is we start seeing a whole bunch of chemical weapons moving around or being utilized...* [8].

The international community also increased efforts to seek a negotiated solution to the conflict. In June, the United States and Russia signed the Geneva Communiqué, which called for the establishment of a transitional governing body with full executive powers. Although the document, which became the basis of future negotiations between the government and the opposition, did not clarify the role of Assad in any future government, Syria's political opposition remained divided and in flux. In November, the SNC became part of a larger umbrella group known as the National Coalition of Syrian Revolutionary and Opposition Forces (the Syrian Opposition Coalition (SOC)), a move which some described as an effort to dilute the influence of Islamist members.

2013: In March 2013, rebels seized the city of Raqqah, which became the first provincial capital to fall out of government control. A series of other opposition victories in the area led the government to effectively concede control of Syria's rural northeast to the opposition. At the same time, the Assad government received military and intelligence support from Iran and Lebanese Hezbollah, as well as political backing from Russia. In turn, the United States, Turkey, and some European and Arab Gulf states increased their support to the Syrian opposition - each prioritizing their own interests and at times working at cross purposes.

In August, the United States attributed a large-scale chemical weapons (CW) attack on the Damascus suburb of Ghouta to the Syrian government [9]. President Obama requested congressional approval of a limited authorization for the use of military force to respond. The following month, Russia negotiated an agreement for the Syrian government to dispose of its CW stockpiles and destroy associated facilities in exchange for staving off a U.S. military response.

2014: In February 2014, Al Qaeda formally disavowed the Islamic State (IS, then known as the Islamic State of Iraq and Al Sham, aka ISIL/ISIS) because of the Islamic State's interference in Syria and its demands that the Nusra Front recognize IS leadership. After the Nusra Front and other opposition groups forced IS fighters from some areas of north-western Syria, IS fighters seized vast stretches of territory in central and northeast Syria from local armed groups and in June declared the establishment of a caliphate spanning areas of both Syria and Iraq. Thousands of foreign fighters travelled to Syria and Iraq to join the Islamic State. In August, the United States began airstrikes in neighbouring Iraq to stop the group's territorial advance and reduce the threat to U.S. personnel in Iraq. In September, the United States expanded airstrikes to Syria, with the goal of preventing the Islamic State from using

Syria as a base for its operations in Iraq. A subsequent air campaign to lift the IS siege on the Syrian Kurdish town of Kobane brought the United States into partnership with the Kurdish People's Protection Units (YPG), which U.S. officials have come to view as among the United States' most effective partners in the anti-IS campaign. In September 2014, Congress authorized the Administration to begin a train and equip program for select Syrian forces [10].

2015: In 2015, the Syrian government faced a number of additional territorial losses. Opposition forces captured the provincial capital of Idlib in north-western Syria and surrounding areas with the support of Al Qaeda-linked fighters. Islamic State fighters seized territory in central Homs province, and Kurdish fighters expanded their control over areas along the Turkish border. In May, the United States began training the first batch of recruits for the Syria Train and Equip Program. The program was designed to build a local force capable of fighting the Islamic State and protecting opposition-held areas.

Over the summer of 2015, Russia began a gradual build-up of Russian personnel, combat aircraft, and military equipment inside Syria, and began airstrikes in September. The following month, the United States and Russia signed a memorandum of understanding to establish a safety-of-flight protocol for aircraft operating in the same airspace. Also in October, challenges in implementation led the Administration to modify the Syria Train and Equip program to focus on equipping existing units commanded by vetted leaders. Kurdish YPG forces that had received U.S. support in operations at Kobane merged with a small number of non-Kurdish groups to form the Syrian Democratic Forces (SDF), which began to receive U.S. support [10].

2016: In February 2016, the United States and Russia negotiated a cessation of hostilities (CoH) between pro-government and opposition forces, and agreed to use their respective influence with the warring sides to implement the agreement. The CoH excluded the Islamic State and the Nusra Front, which remained legitimate targets for attack by all parties. The CoH was widely violated by all sides and was criticized for lacking enforcement and accountability mechanisms. Nonetheless, U.S. officials stated that it led to a decrease in violence in some areas. In summer 2016, reports began to emerge suggesting that the United States was considering cooperation with Russia to target groups such as the Nusra Front [11].

SyAAF operations

Since the start of the civil war in 2011, the SyAAF has played an important role in several areas:

1. Offensive strike operations against rebel forces and population centres;
2. Airlift of supplies and personnel to isolated pro-government enclaves, and between bases;
3. SyAAF intelligence and special forces contingents are in forefront on ground operations against rebels. SyAAF Colonel Suheil Hassan commands the Tiger Force special operations unit;
4. SyAAF Air Bases act as "anchors" in army ground defensive positions, using their anti-aircraft artillery in the direct fire role against ground targets;
5. The SyAAF has developed and employed one of the most iconic weapons of the Syrian civil war, the infamous "barrel bomb".

Syrian strike operations involve predominately the MiG-21, MiG-23 and Su-22 units. The MiG-21, MiG-23 and Su-22 units are distributed around Syria to ensure air support is available across every battle front. They operate predominately in the local area around their

home air bases. They are armed with unguided 'dumb' bombs or forward firing rocket pods. The Su-24MK and MiG-29SM units are the most capable assets in the SyAAF's inventory and are the service's only aircraft capable of employing precision guided munitions. They operate in a strategic role, striking targets across throughout the country. These aircraft are based in the central desert region and are often called upon to hit opposition forces threatening their local area. The SyAAF helicopter force has borne a disproportionate burden of the service's involvement in the civil war. Mi-8/17 helicopters are deployed to every battlefield, flying transport and in attack missions. They flying regular missions to re-supply isolated government out-posts behind rebel lines. Small units of Mi-8/17s and Mi-24/25s are detached to airbases around the country to ensure helicopter support is available to all army units. The Mi-24/25 attack helicopter force is used aggressively, with detachments based at forward air bases in every battlefield. SyAAF airbases play an important part in Syrian ground defence plans. Each SyAAF airbase has a dedicated ground defence battalion, with some 500 troops equipped with anti-aircraft missiles and guns, armoured vehicles and tanks. Two SyAAF bases - Kwaïres and Dier Ezor-have withstood long term sieges by IS forces. All the main SyAAF air bases have hardened shelters to protect aircraft, key ground support equipment and underground ammunition dumps [6].

Russian Presence

Since September 2014, the U.S.- led coalition had conducted airstrikes in Syria against ISIL, which was widely seen as unsuccessful in achieving their goals [12]. In July 2015, the Syrian President Bashar al-Asad made a formal request to Russia for air strikes combating international terrorism. On 26 August 2015, a treaty was signed between Russia and Syria that stipulated terms and conditions of Russian presence in the country. In the meantime (August-September 2015), Russia began to send its warplanes, tanks and artillery to the Khmeimim (Latakia) Air Base, while the Black Sea Fleet warships reached the area of eastern Mediterranean [13]. On September 30, 2015, the Russian Parliament granted the request by Russian President Vladimir Putin to deploy the Russian military component in Syria. On the same day, Russian airplanes started performing airstrikes against targets represented by ISIL and rebel units.

2015: First phase of air strikes occurred near the cities of Homs and Hama, targeting ISIL, U.S. supported FSA and Saudi Arabia supported Islamic Front. Following attacks were aimed at rebel positions (headquarters, weapon depots, convoys) mostly in northern and western part of Syria. All airstrikes were closely coordinated with Syrian land forces. On 7 October 2015, Russians brought to the game four warships from the Navy's Caspian Flotilla, launching 26 SS-N-27 Sizzler LACM missiles on 11 targets in Syria. These missiles passed via Iranian and Iraqi airspace and hit their targets at a distance of more than 900 miles. Russian aircraft soon reached the tempo up to 60 sorties a day. During late November 2015, Russia started to operate Tupolev Tu-160 Blackjacks, Tu-22 Backfires and Tu-95 Bears - long range strategic bombers to fire ALCMs against targets in the area.

On November 24, 2015, a Russian Su-24 strike aircraft was shot down by a patrolling TuAF F-16. While WSO was rescued by Russian forces, Pilot was captured and lynched by Syrian rebels. According to Turkey's claims presented to the UN Security Council, two planes, whose nationalities were unknown to them at the time and were warned 10 times during a period of 5 minutes, violated Turkish airspace over the Yayladağı province (southernmost border between Turkey, Syria and Mediterranean Sea) to a depth of 1.36 miles for 17 seconds. According to Turkey, the planes disregarded the multiple warnings and were subsequently fired upon by Turkish F-16s patrolling the area. After the Turkish fire, one of

the planes left Turkish airspace and the other crashed into Syrian territory (Turkey's letter to the UN 2015). This incident deepened the Russian-Turkish tensions and resulted into deployment of S-300F (SA-N-6 Grumble) on Moskva cruiser and S-400 (SA-21 Growler) to Latakia [14]. In the end of 2015, Russian presence was expanded by utilizing attack helicopters from Shayrat airbase near the city of Homs.

2016-2017: Since the very beginning of 2016, SyAAF and Russian Air Component started performing joint operations that resulted in recapture of town of Rabia, last rebel stronghold in Latakia province in Western Syria. In the meantime, Russian Su-35S fighters made their combat debut in the area. On March 14, 2016, following the Geneva peace talks on Syria, Russia ordered withdrawal of the "main part" of the Russian forces from Syria. In fact, the Russian leader, however, did not give a deadline for the completion of the withdrawal and both Russian bases (Tartus and Khmeimim) resumed their operation mode. Joint Russian-Syrian initiative brought another highlighted success - the recapture of UNESCO Heritage Site of Palmyra during March 2016 [15]. In May 2016, the Russian military suffered a setback when fires on Tiyas AB (T4) in Homs province destroyed four Mi-24 attack helicopters, several trucks loaded with missiles and Syrian jets as well. Although ISIS claimed responsibility for the attack on the base, but U.S. officials tell Fox News the intelligence community believes it was an "accident," not an IS terror attack [16]. Syrian renewed offensive against rebel held city of Aleppo was victim of heavy fighting with another losses - On July 8, 2016, a Syrian Mi-25 (a Russian Mi-35, according to other unofficial military sources) was destroyed on the ground from a U.S. made BGM-71 TOW anti-tank missile; On August 1, 2016, a Russian Mi-8AMTSh transport helicopter was shot down on its way back to the Khmeimim base from a humanitarian mission to Aleppo by ground fire, killing all five people on board [17]. Since August, Russia started using Iran's Hamedan AB for the first time for their Tu-22M bombers and Su-34 strike fighters. By the end of 2017, Syrian government re-established control of important city of Aleppo, forcing out rebels who had held the eastern part of city since 2012. In October, aircraft carrier Admiral Kuznetsov departed for Mediterranean Sea in support of Russian airborne operations. Its short journey was ceased by two crashes (MiG-29K in October and Su-33 in November) due to problems with ship's arresting cables.

2018: Beginning of 2018 was a witness of increased cooperation and improved long term shaky relationship between Turkey and Russia. Both countries declared willingness and determination to fight the terrorism. Since the January, their warplanes conducted numerous joint air raids striking ISIL targets. In conclusion, it is worth mentioning that since the deployment of the Russian air group in September 2015 new infra-structure construction has been underway at two sites. The runway at SyAAF airfield at Shayrat in Homs province has been improved. A new helicopter base has been constructed at Istamo, north west of Latakia airbase to accommodate helicopters that had to be re-located to make room for the Russian air group at the Latakia's main airport [6].

4. INHERENT RESOLVE - COALITION CONTRIBUTION AGAINST ISLAMIC STATE OF IRAQ AND AL SHAM (ISIL)

On September 10, 2014, President Obama announced the formation of a global coalition to "degrade and ultimately defeat" the Islamic State (IS, aka the Islamic State of Iraq and the Levant, ISIL/ISIS or the Arabic acronym Da'esh). Subsequently, over 60 nations and partner organizations agreed to participate, contributing either military forces or resources (or both) to the campaign. In Brussels in December 2014, 60 of these partners agreed to organize

themselves along five “lines of effort,” (by contrast, the United States strategy involves nine lines of effort), with at least two countries in the lead for each [18]:

1. Supporting military operations, capacity building, and training (led by the United States and Iraq);
2. Stopping the flow of foreign terrorist fighters (led by The Netherlands and Turkey);
3. Cutting off IS access to financing and funding (led by Italy, the Kingdom of Saudi Arabia and the United States);
4. Addressing associated humanitarian relief and crises (led by Germany and the United Arab Emirates); and
5. Exposing IS’ true nature (led by the United Arab Emirates, the United Kingdom, and the United States).

Each of these 66 countries is contributing to the coalition in a manner commensurate with its national interests and comparative advantage [19]. Contributions include both military and non-military assistance, although reporting on non-military contributions tends to be sporadic, as many countries donate humanitarian assistance directly to local governments or non-governmental organizations operating on the ground.

In terms of the legal basis for the coalition, several United Nations Security Council Resolutions - in particular, 2170, 2178 and 2199 - call on UN member states to take a variety of steps (to include coalition activities such as countering terrorist financing, assisting with humanitarian relief, countering IS messaging and assisting with stabilization support), although these fall short of explicitly authorizing the use of military force against the Islamic State. U.S. Administration officials underscore that the military campaign is only one part of the overall effort to counter the Islamic State, asserting that success depends upon the ability to make progress in non-military areas [20]. Operation Inherent Resolve, the military component of the global coalition to defeat the Islamic State, began on August 8, 2014. Subsequently, according to United States Central Command and open source reporting, some 27 nations have joined the military component of the coalition. The current objectives of the coalition campaign are “destroying ISIL’s parent tumour in Iraq and Syria, combating its worldwide spread, and protecting all homelands.” Accordingly, the campaign currently has three primary military components: coordinated air strikes, training and equipping local security forces, and targeted special operations, some based out of Northern Iraq while others apparently dedicated to operations in Syria [18]. As of February 22, 2017, the U.S. and coalition have conducted a total of 18,458 strikes (11,160 Iraq / 7,298 Syria). U.S. has conducted 14,524 strikes in Iraq and Syria (7,573 Iraq / 6,951 Syria). Rest of Coalition has conducted 3,934 strikes in Iraq and Syria (3,587 Iraq / 347 Syria). Between August 8, 2014 and February 6, 2017, U.S. and partner-nation aircraft have flown an estimated 138,136 sorties in support of operations in Iraq and Syria. As of January 15, 2017, the total cost of operations related to ISIS since kinetic operations started on August 8, 2014, is \$11.2 billion and the average daily cost is \$12.6 million for 892 days of operations [21]. Turkey: Since the summer of 2015, Turkey has allowed the United States and other members of the anti-IS coalition to use Turkish airspace and bases to conduct strikes on the Islamic State in Iraq and Syria. Turkey has also periodically carried out its own air and artillery strikes in Syria against IS targets, including in response to apparent IS rocket attacks. Albeit since 2016, Turkey and U.S. forces begin joint operations to fight IS fighters, a July 2016 failed coup in Turkey has led to a massive government response aimed at reorganizing the command and personnel structure of the Turkish military, along with several other important official and unofficial institutions in Turkish society. Key Turkish commanders, including those with responsibility for the Syrian border and the Turkish presence at Incirlik air base (where most

anti-IS coalition forces are based) were reportedly detained in connection with the coup plot. The sudden and significant changes have raised questions about Turkish military capabilities and morale, as well as about U.S./NATO-Turkey dynamics that could affect future coalition use of Turkish bases and other aspects of Turkey's participation in the anti-IS coalition [22].

Table 2 – Coalition Contribution to Countering the IS [2, 3, 4, 24]

Country	Training & Advising MSN Contribution (No. of Personnel)	Airstrike Contribution	Other Contribution
Australia	300 + 80 in special forces in Iraq	Strikes in I. & S. 4x F/A-18, tanker, AWACS	400 p. in support
Bahrain	N/A	Strikes in Syria ? A/C	N/A
Belgium	35	Strikes in Iraq 6x F-16 in Jordan	120 p. in support
Canada	210	N/A	640 p. in support 1x CC-150 Polaris 2x CP-140 Aurora
Denmark	180	Strikes in I. & S. 7x F-16 at Incirlik	20 staff officers at regional HQ
Finland	100	N/A	N/A
France	1000	Strikes in I. & S. 6x Rafale M, 8x Mirage2000D, 1x E-3F AWACS, 1x KC-135FR, 1x Atlantique 2, Charles de Gaulle carrier strike group	1000
Germany	150	N/A	1200 in Turkey, Qatar & Kuwait 6x Tornado ECR, 1x A-310 MRTT
Hungary	150 in Iraq	N/A	15 Iraqi Counter-IED NCOs training in Hungary
Italy	1500	N/A	260 p. in support, 4x AMX (ISR), 1x KC-767A, 2x MQ-1 Predator
Jordan	Training grounds	Strikes in I. & S. UNK No. of A/C	UNK., Prince Hasan AB opened to coalition A/C
Latvia	10	N/A	N/A
New Zealand	105	N/A	C-130 Transport
Netherlands	150	Strikes in I. & S. F-16s RTB in July 1, 2016	50 staff officers
Norway	150	N/A	150, UNK No. of special forces-Syria
Poland	60	N/A	150 in Kuwait, 4x F-16C (ISR)

Portugal	30	N/A	N/A
Qatar	Training grounds	N/A	In-country basing, transport A/C
Saudi Arabia	Training facilities	Strikes in Syria, UNK No. of A/C	-
Spain	300	N/A	N/A
Sweden	35	N/A	N/A
Turkey	Training grounds	Strikes in I. & S. UNK No. of A/C	Long-range artillery strikes in I. & S.
UAE	Unspecified No. of personnel in Syria	UNK No. of A/C	N/A
United Kingdom	400	Strikes in I. & S. Tornado GR4, Reaper UCAV, Sentinel ISR, Voyager tanker	Leader in program for the coalition to provide training and equipment to counter the threat from IED.
USA	4 647 in Iraq 300 in Syria	Strikes in I. & S. UNK No. of A/C, largest contributor of material and personnel	uses global capabilities and short term deployment of key enablers to meet operational requirements.

5. CONCLUSIONS

Organizing and prosecuting a coalition campaign presents a variety of challenges in addition to the military task of defeating an opponent. In the first instance, without a single authority responsible for prioritizing and adjudicating between different multinational civilian and military lines of effort, various actors often work at cross-purposes without intending to do so [23]. These coalition coordination challenges were demonstrated in recent military campaigns (particularly in Afghanistan). Exacerbating matters, other actors in the region - some of whom are coalition partners - have different, and often conflicting, longer-term regional geopolitical interests from those of the United States or other coalition members. This, in turn, may lead nations participating in the coalition to advance their goals and objectives in ways that might contradict each other. Finally, participants in the coalition have different tolerances for risk, and therefore will determine “Rules of Engagement” (ROE), or “caveats” that can constrain the ability of military commanders from employing military force as they see fit. While navigable, all these factors can make it considerably more difficult to consolidate gains and achieve campaign success. SyAAF personnel are some of the most highly motivated in the Syrian armed forces. The mass execution of captured SyAAF personnel by Islamic State at Tabqa and Palmyra airbases and by the Nusra Front at Abu Dhourhas created a desire among SyAAF personnel for revenge. The SyAAF is an implacable opponent of Islamic State and other Jihadhi groups. Estimated SyAAF personnel strength in January 2016 is 500 aircrew, 5000 maintenance personnel, 1,000 command staff and around 10,000 ground defence and support personnel - some 25% of its pre-war strength. Its inventory, includes 245 fixed wing combat aircraft, 90 helicopters and 26 transport aircraft, operating from 15 airbases and airports. According to reporting by the Syrian Observatory for Human Rights, from late 2014 to January 2016, the SyAAF was estimated to have carried out 45,865 strike sorties, or 3,057 strike sorties a month, excluding airlift, reconnaissance and support missions. After the start of Russian intervention in September 2015, the SyAAF sortie rate rose by 40% per month [6]. While in Libya, the

regular military rapidly split, with significant numbers immediately joining rebel forces, in Syria, the military remained largely cohesive, although there have been some defections to protesters' ranks [24]. If we want to assess Russian presence in Syria, we can quote David Axe, recognized author and reporter: Moscow's bombing runs have devastated military and civilian strongholds and cleared a path for Syrian regime forces to counterattack against ISIS militants and rebels. For example in February 2016, while Russia has launched around 60 air raids every day in Syria, the U.S. and its allies have pulled off just seven, on average, since launching their first attacks in Syria in September 2014. With Russian jets providing cover, regime ground forces are steadily pushing back against ISIS and rebel fighters in western and north-central Syria. Meanwhile, the U.S. air war lately has focused on "militants' economy" - destroying ISIS' oil facilities and oil-transportation tanker trucks. Each Russian air raid is arguably much more destructive than an equivalent coalition attack. The Kremlin claimed that each of its strikes destroys three or four targets, on average. By contrast, the American coalition said it hits, on average, two targets every time it launches a jet. There are simple explanations for Russia's busier strike schedule and for the alleged greater destructiveness of Moscow's warplanes. Typically, Russian planes only need to travel a short distance before bombing their targets and can reach them in a few minutes.

By contrast, many coalition warplanes still travel hundreds of miles to reach their targets, limiting how many sorties they can fly in a given period of time. And that means Moscow can launch more frequent attacks, even though its air wing of around 40 planes is smaller than the U.S.-led force, which usually includes more than 100 jet fighters and bombers scattered across several air bases [25]. The case of the civil war in Syria proved once again correctness of our hypothesis. The effective air dominance on strategic and operational level over the theatre airspace by SyAAF and RuAF was a key step for an effective degradation of opponent's freedom of action. It has become a great enabler for support land operations of SAAF forces on tactical level. Nevertheless, despite the above-mentioned benefits of the Air-Power, the major works still lays on the shoulder of SAAF to capture contested territory and to securing the ground. As a memento of these conclusions one should remember the case of Palmyra, which was liberated with the effective use of the Air Power but once again lost due to the ineffective approach by SAAF [26]. In summary of our paper, we can claim, that our main findings on the use of the Air Power and its effectiveness in a modern warfare were correct. The Air Power in the modern conflict is decisive but it is not a magic tool for victory. Despite the fact that the Air Power is a great enabler, for the purposes of gaining victory in a modern conflict, the Air Power will have to be used in close collaboration and coherence with the other operational joint domains.

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