Changing the balance of power – Worldwide air force`s capability turbulences

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DOI: 10.13111/2066-8201.2012.4.1.16

Abstract: *In past Century, the air power had undergone a significant journey. In its humble beginnings during WWI an airplane proved itself a perspective and highly capable new weapon. WWII demonstrated the importance of air superiority for waging a global warfare. The Cold War mastered technologies enabling air power to be not only a weapon a mass destruction but also a surgical tool. On one hand, an aircraft has become a state of art technology, yet on the other hand a cost for its development, procurement, and servicing grew into an astronomic levels. Therefore, since mid 1970s there have been trends to shift airpower from quantity into quality, which has gained a new moment with the end of the Cold War. Starting with the first Gulf War, in past two decades demonstrated a growing importance of a multirole fighter aircraft that is able to carry out a full specter of missions for minimal costs. When analyzing five most potent airpowers of the 21st century, we can witness that this is the trend is on and it will surely continue in future.*

Key Words: *capabilities, security, USAF, aircraft, threat, development*

1. INTRODUCTION

Apart from the WWII, the fifties of the last Century was an era when, as a result of the outbreak of the Cold War, military aviation entered into the era of unprecedented development both, in its quality and power projection. To be exact, this era has been initiated by the Korean War and continued throughout the entire period of the Cold War. In the late sixties, the existing air powers reached their peak in terms of the absolute numbers of the aircrafts and capabilities. Eventually, the increased technical and tactical capabilities allowed the powers to steadily decrease the numbers of their air force fleets, while maintaining or even strengthening their power projection.

With the end of the Cold War, this trend has continued, yet in more dramatic path. With the end of the bipolar world financial resources allocated to defense budgets were significantly cut in all NATO and former Warsaw pact nations. With a disappearance of a potential adversary, combined with the tremendous surplus of obsolete and thus unnecessary military equipment and shrinking military budged resources has had an impact on military aviation. It was clear that for many nations that it was simply out of question to poses a large

quantity of purely mission oriented military equipment. This was especially true for the military aviation, which generally represents the state of art technology that is also the most expensive for maintaining to be operational. Consequently, the trend has been to acquire military equipment that is versatile enough to be used in various kinds of military operations. In terms of military aviation the this shift meant that major air forces have focused their attention on developing and introducing into service a multirole fighters instead of purely mission oriented aircrafts.

However, for many experts it is clear that even the most powerful air force cannot replace its aviation fleet at once. Over the past two decades the combat squadrons of all countries have steadily decreased their numbers. With the slow replacement of the bulk of obsolete aircraft, which for a very long time constituted the force's offensive backbone, the military planners face serious concerns about how to fill these capability gaps.

This article will analyze and compare how this issue is being tackled down by major air forces around of the contemporary world. For the purpose of this article, we will focus our attention to the European Union, United States of America, Peoples' Republic of China, India, and Russian Federation.

2. EUROPEAN UNION

Despite the fact that we cannot talk about the European Union Air force, the European Union (EU) is an entity that is central for our analysis. The EU itself is composed of 27 nations, which soon are going to be joined by the Republic of Croatia. Originally, the purpose of the EU, or its predecessor the European Community, was primarily economic cooperation among European nations in order to avoid any potential conflict. Since 1993 the European Union is transferring itself into a military entity as well. This process is, unfortunately for the EU, very slow and painful but it is evolving. The latest proof of its evolution is the Lisbon Treaty that clearly defines military ambitions of the EU. Nevertheless, the major problem for the EU is fact that the EU is not a nation but an entity often addressed as international organization *sui generis*, which is composed of nation states that still have a major say in terms of security and defense policies. As the result the EU is composed of 27 different militaries and air forces of various qualities and strengths. Therefore, when discussing the trends in the air forces of the EU we will address them as European Air Forces.

Comparing to other global players, European Air Forces, as a whole, are nowadays in the worst possible situation. Rather modest, if any, military ambitions of most of the European governments, along with financial crisis are being demonstrated by consecutive cuts, which have impacted European militaries significantly. Logically, European Air Forces, as the main military funds consumers, are suffering the most. This situation of neglecting European Security and Defense is due to the fact that the EU has not suffered a real conflict in recent years and it is hard to sell to its inhabitants the importance of investing into own security and defense.

Consequently, the cuts have impacted all types of aircrafts in European inventory regardless whether they are already in use, newly purchased, or planned to procure. The ageing aircrafts are reduced or dissolved, those planned to be procured are mostly postponed or cancelled, and as such only small numbers are being ordered, purchased, and put into armament inventories.

One of the main European problems with existing military equipment is a huge variability and unbalance in aircraft types and their level within the EU states. What is even worse, there are some of the countries with no supersonic capabilities, so the Quick Reaction

Alert (QRA) is provided by other countries on rotational basis. Therefore, even the countries with adequate skills have to split their limited resources on secondary tasks instead of vital deployments. Another problem is that Europe does not act en block but instead each country represents itself with absolutely no joint approach. As a result of this trend there is an absence of joint European project either for research and development, acquisition, or operating purely European aircrafts. Some may argue that projects such *Airbus A-400, Eurofighter 2000*, or *Eurocopter* are precisely such projects. When ignoring questionable added value of these projects, one should keep in mind that these projects are legacies of the Cold War and were developed by some EU states on bilateral bases. Moreover, the only reason of their continuation is simply money already invested rather than real needs. As such they are more product of NATO rather than the EU.

As of the foreseen future, it is reasonable to expect that with continuing economic difficulties and traditional interests of European governments, security and defence sector will not be the priority for the EU for years to come. It is already clear that neither desired nor current levels of air force strengths will be maintained for a long time. As thus, defence ministries will be forced to choose their priorities, reduce some capabilities, investments, personnel and handle the situation with reduced finances. European expectations on international field are very high, but national interests are still outweighing the joint interests. Now, in times of financial crisis and uncertain future of the EU itself, foreign politics is not on the list. Each member country is unique with different interests, so reaching a consensus agreement of all countries is almost impossible. That is the reason why the EU, unfortunately, cannot be considered as a global player for the time being.

3. UNITED STATES OF AMERICA

United States of America (US) is the only nation with total dominance in all military services including the Air Force. As for numbers of aircraft and capabilities, the US has no equal match in the world. Therefore, it is more than clear that in the next decade its supremacy will be maintained.

With a closer look, however, we can observe possible challenges for the US air power. Nearly all of the USAF`s aircraft and equipment are wearing out at once due to its age. What is even more troublesome for the US is the fact that it is happening in the toughest budgetary environment in the history of American air power. The budget exercise that lies ahead in Washington is not simple and will not be painless. The US air arm will continue to shrink and will not be in as many places at once like during so called „March madness“ of 2011, when the USAF was engaged in Iraq, Afghanistan, Libya, and supporting a Presidential trip to South America.

Replacement of the legacy fleet and overpriced programs are the main challenge for the US. The Department of Defense expects the lack of tactical aircraft in next twenty years, and need to adequately manage scarce resources between the present main fund consument, the *Joint Strike Fighter* programme, and the need to keep its current fleet operational. The overall shortfall period depends on resiliency of the legacy aircraft and on time needed to introduce the delayed and costly new fighter. But due to increased multirole capability and astronomic price of the replaced aircraft, less new aircraft will be procured and the „shortfall“ will became permanent. Now the strategic strike, close air support, airlift and Intelligence, Surveillance and Reconnaissance (ISR) missions have received priority over the less critical missions. Today, the United States Air Force (USAF) has arguably reached a point where all tangential missions already have been eliminated, meaning that if future

planners choose to pay bills by reducing force structure, they will be cutting into the bone, reducing fundamental capabilities in core mission areas.

Another problem for the USAF is the questionable and enormously overpriced procurement of the latest acquisitions, namely the *Raptor*, *Osprey* and the *JSF*. The *Raptor*, presented as the cutting-edge air superiority stealth aircraft has been produced in insufficient numbers and still not deployed and verified in a real combat missions. *Osprey* is a tilt-rotor aircraft with a very controversial past and uncertain future.

But thanks to its deployment experience, operational and self-defense problems, the aircraft is now assigned only to low threat theater operations and not fulfilling the missions it was intended for. *JSF*, the most expensive program in USAF history, is in delay and its price is steadily rising each year although the aircraft has not entered operational service yet. The design is still in testing phase and suffers from many childhood diseases and the first units will become operational at the end of this decade at the best.

4. PEOPLES` REPUBLIC OF CHINA

Peoples' Republic of China (PRC)'s air power has improved significantly over the past ten years. In 2000, of the estimated more than three thousand fighter aircraft only one hundred of them were the fourth-generation *Flankers*. The rest of them were the vulnerable second-generation Soviet origin copies, or licensed build planes, not equipped with beyond-visual-range (BVR) missiles, and dependent on ground based radar chain. Moreover, PRC had only one operational airborne early warning (AEW) aircraft and its electronic warfare capabilities were minimal as well.

Now the picture is much different. PRC has reduced the overall size of its air force, halved its fighter force size and streamlined the organizational structure, making the remaining forces considerably more capable than the one of decade ago. The number of second-generation fighters in PRC's inventory has been reduced by two-thirds and the number of fourth-generation fighters has more than quadrupled.

Among the main future developments of PRC's aviation capabilities are a fifth generation fighter, which is now undergoing flight trials, and the U(C)AV programme. China is nowadays confident about its military development, latest technology and overall domestic industry. Typical example of this perhaps overconfidence is the revelation of the fifth generation stealth fighter *J-20*.

This relatively public and transparent aircraft, when compared to other past Chinese projects, serves also as a great power projection mean and persistently occupies first pages of worldwide periodicals.

Rise of the capabilities, research and development of new weapons like precision ammunition, U(C)AVs or navalised *Flankers* are highly monitored outside the PRC, especially in US and Southeast Asia. Nevertheless, PRC, according to its Defense White Papers, is pursuing a defensive national policy called Active Defense. Peaceful development and international cooperation remains the key object at present, although Beijing is aware of multiple global challenges and emerging security threats. Except the US-Sino struggle to dominate the western Pacific, the most sensitive inner threats to China`s security are the separatist attempts in Tibet and East Turkistan together with Taiwan`s friction.

Despite a numerous improvements, PRC's air force is still only partly modernized, lacks long-range heavy bombers and has only limited aerial refueling and strategic airlift capabilities. Moreover, the quality of training still falls well short behind US standards.

5. INDIA

The Indian Air Force (IAF), which currently operates over thirty fixed- and rotary-wing asset, remains import dependent in developing its capabilities. Its inventory still consists of hundreds of military aircraft dinosaurs of western provenience (*Jaguars*) and Soviet origin (*Fishbeds* and *Floggers*). These aircrafts will be deployed by the IAF for at least another five to ten years before being completely replaced by newly procured successors. Over its history, it has been compelled to buy an air force rather than indigenously build the service using India`s vast state run military-industrial complex, or through its emerging but largely ignored private sector.

The only exception was a development of *Tejas Light Combat Aircraft* (*LCA*), indigenously designed and hugely delayed aircraft. Twenty eight years after the programme was started and with the developmental costs increased nearly 3,000 percent, LCA is finally entering the service. The IAF representatives remain skeptical about the LCA`s operational efficiency and have expressed uncertainty about its projected capabilities due to delays and frequent changes during the development.

Perhaps this is the reason why India has decided to sign a contract with the Russian Federation to jointly develop and procure up to three hundred a fifth generation fighter aircraft, making it India`s largest ever individual defence acquisition worth approximately 35 billion USD. New Delhi's acquisition plans are formalised with the objective to provide the IAF with the capability to neutralise conventional and sub-conventional threats. These capabilities will allow the IAF to address security concerns within its area of interest.

The IAF's war fighting doctrine envisions the country's strategic reach extending from the Persian Gulf to the Malacca Strait. IAF planners admit that strategic defence doctrines were largely guided by Pakistan and PRC rapidly upgrading their respective air forces, which individually and jointly pose a serious threat. Hence, it is not a surprise that India is strengthening its western and northern borders, modernizing the whole air fleet, upgrading its airfields along the „hot frontiers" and developing related advanced war-waging capabilities. Moreover, the operational plans need to factor in a two front threat scenario.

The ongoing introduction of modern fighter platforms, force multipliers and heavy-lift platforms into service would, in ten or fifteen years, allow the air force to have a continental reach rather than a confined subcontinental presence.

India visualizes itself as a global player in the years to come, hoping eventually to emerge as an expeditionary force capable of deploying rapidly to distant locations as part of a wider continental construct. The aim of the IAF is to reach a formidable regional strategic force capable of ably confronting challenges like conventional and nuclear warfare, safeguarding an economically resurgent India's energy security needs and deploying on disaster relief at home and abroad.

6. RUSSIAN FEDERATION

Since the collapse of the Soviet Union, the Russian Air Force (RuAF) has struggled to match its vision for the modernization of its vast fleet with the necessary resources.

In recent years, however, increased military budget, presidential support, and a new willingness to scale back initial plans to match budgetary constraints have begun to alleviate some of the RuAF`s problems.

Upgrade and procurement programmes, which have stalled in the decade following the end of the Soviet Union, are finally beginning to show their fruits. It is due to the fact that a

resurgent Russian Federation (RF) buoyed by vast oil and gas revenues has placed increased emphasis on the modernization of the country's Armed Forces.

The RuAF in particular has reaped the benefits of this process as defense procurement spending has considerably increased. It is for the first time since the end of the Cold War, the RuAF appears to have a clear and achievable roadmap for modernization, which is beginning to show tangible results. Although with slow progress, especially when compared to the Cold War era tempo, the procurement and modernization of the entire fleet steadily continues. Possibly the most high-profile element of the RuAF`s modernization programme is *Sukhoi`s Future Air Complex for Tactical Air Force* (*PAK FA*) project, which will produce Russian first fifth generation fighter. The programme made considerable progress when Moscow and New Delhi formalized India`s involvement in the venture and the finalization of the aircraft`s design.

It seems that the era of past twenty years when the RuAF was only a shadow of once mighty and respected force, accompanied by lack of funds, spare parts and minimal flying activity has ended. Over this period of time, total numbers aircrafts had been steadily scaled down with seldom new procurements and the capabilities remained only at the Cold War level. Now, it looks like that this gap could be an advantage for the RuAF. Small quantities of legacy aircraft do not burden the budget so that RuAF is now able to purchase annually two-digit numbers of latest attack and multipurpose helicopters or 4+ generation multirole fighters and trainers.

RF remains PRC`s almost exclusive supplier and India`s principal supplier of defense materiel. For example, over seventy percent of India`s military hardware, particularly that belonging to the IAF, is sourced from Moscow. This makes around 1,5 billion USD worth of bilateral defense business conducted annually. It is not yet clear whether RF wants to establish a closer alliance with PRC or to be an independent international player. The decision to join PRC side or to act alone will be crucial in the Asia Pacific region, because this market is the key area for Russian military hardware sales.

7. CONCLUSION

As history has shown us numerous times, military rise goes hand-to-hand with the economic growth. Strong and well-balanced armed forces are a powerful tool to promote national desires, control naval trade routes, and to pace and dominate the whole surrounding region. Since the 20th century, the air power is major part of this equation.

The role of airpower has significantly changed in past three decades. The developments in inventory trends of major air forces demonstrate a shift from pure quantity quality that is measured not by numbers but rather by individual combat performance of individual aircrafts.

These trends are visible when analyzing five major airpowers of current times, the EU, PRC, US, India and RF. The EU's economic difficulties and lack of desire to be a military actor, along with the US problems besetting the US' *F-35 Joint Strike Fighter* and the *F-22 Raptor*, could potentially accelerate the emergence of PRC and RF as potential rivals in the jet fighter attack aircraft stakes.

Relations among the existing economic and military centers of power are considered to be relatively stable. Only in case of US-PRC and India-PRC relations are visible some tensions induced by PRC's matchless rise even in times of global economic recession. In terms of the US and PRC, when comparing India – PRC relations, the tension lays more in rhetorical level than in real. Therefore, a potential threat of a local conflict is highly

improbable. However this does not mean that we cannot experience a conflict of local scale, where these airpowers will be involved or their aircrafts will be used.

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