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**A.THE RUSSIAN AEROSPACE INDUSTRY IS STRONG AND WILL CONTINUE TO BE – IT HAS CARVED OUT A SIGNIFICANT PIECE OF THE GLOBAL MARKET**

**Reuters, June 21, 2011**, Russia keen to show it can take on Boeing, Airbus, accessed June 22, 2011, <http://uk.reuters.com/article/2011/06/21/uk-airshow-russia-idUKTRE75K33020110621>, MD

(Reuters) - A visit to the Paris Air Show by Prime Minister Vladimir Putin, more exhibition space than ever and demonstrations of its Sukhoi airliner -- Russia is getting serious about challenging the dominance of Boeing Co (BA.N) and Airbus (EAD.PA). With exhibition space at 1,700 square metres, the Russian Federation is one of the 10 largest national participants at this year's Paris air show, highlighting its desire to make a mark. State-owned United Aircraft Corp (UAC), which owns Sukhoi, believes it can become a serious third player in the commercial market by 2025, pinning its hopes on its mid-sized MS-21/MC-21 airliner. "We are here to convince our customers, our potential customers, that we are capable of all these targets that we put in front of us," UAC Chairman Mikhail Pogosyan said at the Paris Air Show. His colleague Alexey Fedorov, president of Sukhoi unit Irkut, said: "Any new planes from Airbus and Boeing won't come until around 2020, so we feel the MC-21 will enable us to take a good share of the market and compete well with them." Sukhoi also announced the launch of a business jet version of the regional SuperJet 100. Moscow is pushing for Russian companies to raise their spending in research and development as the government seeks to modernise and diversify the economy away from energy and other resources. State-owned Russian Technologies said it would use the Paris Air Show to improve its contacts with foreign partners as it seeks to move from assembly to developing its own platforms. "We are pursuing this in a serious direction. In the next two to three years, our priority in cooperation with foreign partners will be implementing our own technology," Russian Technologies deputy general director Dmitry Shugayev said. FUTURE ORDERS However, whether Russia can translate its ambitions into hard orders is another matter, given competition from Brazil's Embraer (EMBR3.SA), Canada's Bombardier (BBDb.TO) and fellow new market entrant China. Commercial Aircraft Corp of China (COMAC) is not short of ambition and on Tuesday signed an agreement with Ryanair (RYA.I), a traditional Boeing customer, to consult on the development of a new narrow-bodied aircraft.

**B. RUSSIA IS EXPANDING ITS SPACE EXPLORATION PROGRAM AT THE TIME THE US IS CUTTING BACK – RUSSIAN LAWMAKERS WANT THEIR AEROSPACE INDUSTRY TO CONTINUE TO CARVE OUT A SUBSTANTIAL PART OF THE WORLD MARKET TO ANCHOR ITS ECONOMY**

Ilya **Arkipov and** Lyubov **Pronina,** reporters for Bloomberg News, “Russia Speeds Up Space Mission Plans as U.S. May Cut Spending”, April 5th, **2011**, <http://www.bloomberg.com/news/2011-04-04/russia-speeds-up-moon-mars-plans-as-u-s-may-cut-space-funds.html>, accessed on June 22, 2011, CJJ

Russia may accelerate planned missions to the moon and Mars as it seeks to maintain its lead over China in space exploration and close the gap with the U.S. Russia may start manned flights to the moon by the end of the decade, 10 years earlier than previously planned, and establish a base there by 2030, according to Russia’s Roscosmos space agency. Russia may also send a man to Mars by 2040. “It is the first time that the government has allocated decent financing to us,” Anatoly Perminov, head of the Russian space agency Roscosmos, said in a phone interview on April 2. The agency’s $3.5 billion budget for 2011 has almost tripled since 2007, reaching the highest since the collapse of the Soviet Union in 1991. “We can now advance on all themes a bit,” Perminov said. Unlike 50 years ago, when beating the U.S. into space marked a geopolitical victory in the Cold War, Russia is focusing on the commercial, technological and scientific aspects of space travel. President Dmitry Medvedev has named aerospace one of five industries the government plans to nurture to help diversify the economy of the world’s largest energy supplier away from resource extraction. “We are increasing the space budget as the time has come for a technological breakthrough,”[Dmitry Peskov](http://topics.bloomberg.com/dmitry-peskov/), the spokesman for Prime Minister Vladimir Putin, said by phone yesterday. “We need to replace outdated infrastructure and continue to support the flagship status of the space industry.” Space Station Cooperation Russia’s Soyuz TMA-21 spacecraft with three astronauts on board was launched early today from the Baikonur Cosmodrome in Kazakhstan to the International Space Station. The launch marks the 50th anniversary on April 12 of Yuri Gagarin’s first mission to space. Alexander Samokutiaev and Andrey Borisenko of Roscosmos and NASA’s Ron Garan are scheduled to arrive at the station on April 7, Roscosmos said on its website. Russia is working on the ISS with the U.S. It will provide the only way for U.S. astronauts to travel to the station following a decision to end the almost 30-year-old space shuttle program this year, with the last two flights scheduled for April and June.

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**C. CONTINUED INVESTMENT IN RUSSIA’S AEROSPACE INDUSTRY IS KEY – INTERNATIONAL COMPETITION DIVERTS INVESTORS ELSEWHERE**

**LOGSDON AND MILLER 2001** [John – professor of political science and international affairs @ George Washington University, “U.S.-Russian cooperation in human space flight: Assessing the impacts, August 11, <http://www.gwu.edu/~spi/assets/docs/usrussia.pdf>, Accessed: June 24, 2011] ttate

As one workshop participant noted: "In the immediate aftermath of the Soviet break-up and through the mid-1990s, however, Russia's space/missile industry suffered steep declines in state orders, stimulating a desperate search for foreign partners that might enable it to maintain its workforce and production lines. A number of deals were made during this period with states of proliferation concern (such as Iraq, Iran, and India). At the same time, the simultaneous development of initial contacts with Western space interests raised another, more positive outlet for Russia's products and creative energies. A struggle between these two tendencies began that continues to this day." Though budgetary constraints on the funds available for space cooperation have limited its scope, "Russian leading producers in the space/missile industry (like Khrunichev, Energomash, and others) have redirected their main productive focus from weapons for the Russian military to civilian products for Western companies. This support has helped keep missile specialists from immigrating abroad, kept the industry alive, and allowed Russia to continue as a leading participant in international space development, giving Russians themselves hope for the country's transformation in a positive direction. Through this process, a sector once exclusively state-run, highly secretive, and extremely nationalistic has evolved into a much more open, more civilian-oriented, and more internationally focused industry." Another participant noted that "Among Russia's export-oriented hi-tech industries, RKA's7 managed and coordinated space industry is regarded as the most Western-oriented. Its Director General Yuri Koptev has a reputation of an industrial leader promoting pro-Western values and joint projects." Another added, "The Russian space sector has come a long way. If you look back ten years the space sector was totally within the military establishment, the so-called military industrial complex. It was an immense success for Yuri Koptev to take over the Russian space sector from the military - this was both successful and a massive bureaucratic struggle. This was,actually, a tremendously successful conversion; it is not complete, but still impressive." Also, "Russia's commercial partnerships with U.S. aerospace companies play a pivotal role in complementing the ISS engagement. If the ISS project provides Russia an opportunity for highly visible international space cooperation and limited financial support, the real flow of hard currency comes from a variety of commercial contracts. They not only keep the space industry afloat but also help fulfill Russia's ISS obligations. In other words, the U.S. government-funded ISS project helped develop a mentality and infrastructure for U.S. companies to step in and engage Russian partners in their own meaningful commercial contracts." As a result, "Unlike Russia's other hi-tech sectors, the space industry has been successful in developing a degree of compatibility with Western research standards, business practices, and political sensitivities."In particular, Lockheed Martin has been a leader among the U.S. aerospace industry in developing partnerships with Russia,8 and "Lockheed Martin's pitch to promote its space partnerships with Russia is based on the need to make the world safer by engaging thousands of highly skilled Russian aerospace engineers and scientists in commercial pursuits, thereby fulfilling cooperative threat reduction objectives. Moreover, because this is being done on a company-to-company basis, there is no expenditure of public funds and the presence of meaningful opportunities to affect real change in the way business is carried out in Russia. . . . This commercial cooperation promotes accountability and adherence to the international export control regimes. Lockheed Martin's business may be more effective than U.S. diplomatic efforts and sanctions in persuading Russia to steer clear of cooperation with rogue countries."

**D. RUSSIA’S AEROSPACE INDUSTRY IS NOW THE VITAL LYNCHPIN TO THE RUSSIAN ECONOMY**

Isabel **Gorst, central Asia correspondent at the Financial Times**, November 16th 20**09**, "Russia: Superjet aims to blaze a trail", accessed on June 20th, 2011, <http://www.ft.com/cms/s/0/5ef96a62-cfe9-11de-a36d-00144feabdc0.html#axzz1PraLrbRB>, CJJ

Two decades ago Russian aerospace manufacturers accounted for about a quarter of the civil aircraft and 40 per cent of the military jets produced in the world. But after the Soviet Union collapsed, state funding for aerospace evaporated and the industry declined. By 2000, when Vladimir Putin became president, Russia was building just four civilian aircraft a year – the same amount Airbus and Boeing produce in one week. Russian aerospace is now seeing a revival as the government funnels some of the country’s huge oil windfall into the industry. The Antonov-148, a regional passenger jet built to land in difficult terrain, is one of a crop of Soviet-designed aircraft that have been re-engineered, often using western technology. The Superjet 100, the first new passenger aircraft developed in post-Soviet Russia, will enter service next year, taking Russian civil aviation to new heights. The development of a strong aerospace industry serves twin Kremlin goals of projecting Russian power on to the world stage and diversifying the economy away from oil into high-technology industries. “Without aviation the Russian economy has no future, and it is impossible to have a defence capability without modern equipment,” Mr Putin, now the prime minister, said during a visit to an aviation show outside Moscow in August.

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**E. Russian economic collapse leads to extinction – loose nukes**

Graham **Allison**, Douglas Dillon Professor of Government and Director of the Belfer Center for Science and International Affairs at Harvard University's Kennedy School of Government. From 1993 to 1994 he was Assistant Secretary of Defense for Policy and Plans, “Why Russia’s Meltdown Matters”, August 31st, **1998**, <http://belfercenter.ksg.harvard.edu/publication/1312/why_russias_meltdown_matters.html>, accessed on June 21, 2011, CJJ

But Russia is not Indonesia. The reason why **Russia's meltdown matters** for Americans is much more specific and potentially catastrophic. As an economic crisis accelerates the disintegration of authority in Russia, history has left a superpower arsenal. Start with 7,000 nuclear warheads: armed, mounted on missiles, capable of arriving at targets in the United States less than an hour after a decision to launch. Add 5,000 tactical nuclear weapons, many without any locking devices to prevent their use. Recognize that many of these are at bases where a colonel with the cooperation of two lieutenants could privatize a dozen warheads, take them to world markets and monetize their value. Add 12,000 nuclear weapons in various storage facilities of Russia, protected by guards whose salaries have been delayed for months. Consider approximately 70,000 nuclear weapons equivalents in stockpiles of highly enriched uranium and plutonium. One unit to Osama bin Laden's terrorists would provide the critical ingredient for a crude nuclear device. Compound this with biological weapons materials, chemical weapons and thousands of ICBMs and know-how for producing more missiles without limit. In sum, the overriding reason Russia's economic meltdown matters for Americans is that it magnifies the threat of "loose nukes": the theft of one or a dozen weapons, sale to a rogue state or terrorist group and the use of these weapons to threaten or attack Americans at home and abroad.

# 2nc must reads

**NOW IS THE KEY TIME FOR THE RUSSIAN AEROSPACE INDUSTRY TO MAINTAIN ITS LEVEL OF COMPETITIVENESS – RUSSIA AEROSPACE HAS TO MAINTAIN ITS MARKET TO AVOID STAGNATION AND DECLINE**

**PANTELEEV 2010** [Oleg - Chief Editor of Aviaport, an interview with RussianAvia.net, date last modified: Sep 23, <http://www.russianavia.net/index.php#state=InterviewDetail&id=61>, date accessed: June 25, 2011] ttate

In order to estimate the competitiveness of Russian aerospace industry against the foreign aircraft, we should first keep in mind its current position in general. Back in early 90s it became clear that State participation in this sphere was shrinking dramatically… As a result, the Soviet heritage in civil aviation is two mass-produced long-haul modern aircraft: Il-96 and Tu-204. Regional turbojet Il-114, that was to replace An-24 for local flights in the European part of the USSR, did not go into mass production… efforts are being made to resuscitate the program. It was not much easier for the aircraft that appeared later, in independent Russia. For Tu-334, a short-haul aircraft, and the amphibian aircraft Be-200, mass production was not developed even after its certification was completed. The next aircraft, regional jet An-148 with a type certificate, was a joint development of Russia and Ukraine with mass production in Voronezh and Kiev. Finally, the short-haul Sukhoi SuperJet 100, created under broad international cooperation, is being tested and has not yet been certified. All the mentioned aircraft have a very high technological level and flight characteristics whereas their actual efficiency, that is determined by sales financing and after-sale service, is lower than that of the world aircraft construction leaders. That means that the aircraft are competitive as such but not as market products. Competitiveness of Russian aviation equipment will depend on whether it will be possible to concentrate on the chosen segments and projects. As a matter of fact, up to now the federal budget has been the most important but limited source of financing for all the developments. Vertically integrated structures covering the whole production cycle have been created in the industry in Russia to increase its competitiveness and, to some extent, stop the internal competition… However, it is still too early to discuss elimination of internal competition and concentration on the priority spheres. Today the largest problems of the Russian aviation are a long period of stagnation, low financing and disintegration; the main challenge in future will be the absence of unique breakthrough products that could overcome the foreign samples in terms of integral efficiency, although Russia has not yet lost the necessary production potential. What will be essential for the development of Russian aviation in a short-term prospect? Are there any prospects for development of civil aviation? One of the key conditions of winning the competition is to consolidate the available construction and technological resources. But it’s not the only condition. It is possible to retain the position of one of the world aviation leaders given there is a solution of some structural questions. The first is the question of human resources. The state should have a leading role in training future specialists and providing conditions for their stable work at aviation enterprises. It is necessary to rebuild the training program for both workers and scientists. The time gap between the older and the younger generation is close to a critical point when the know-how and priceless experience of Soviet designers and engineers can be lost irrecoverably. The costs of rebuilding HR potential in aviation are enormous but they are much lower than the potential damage of completely losing the old designer schools. It is more reasonable to think about the future than try to support inefficient structures and projects. Besides, aviation industry is very much centered in Moscow and, given potential competition among the aviation sectors for qualified human resources and Moscow’s business structures overtaking the best people, creation of regional R&D clusters might be the only way out. In the sphere of technologies - namely, instrument making and engine construction - it is necessary to introduce a limited number of projects and aim at unifying them. As for on-board electronics, Russia has good chances of winning a solid position in software development. What is your assessment of the prospects of Sukhoi SuperJet 100 and MS-21 projects? SSJ100 is the first project in Russian aviation that is implemented taking into account the world experience and traditions in civil aircraft construction. It is for the first time in the Russian aviation industry that after-sale service is unfolded in parallel with the construction of the aircraft. But the initial priority was the timeframe of launching this product on the market and provision of a 10% technical advantage over the competitors. If it takes too long to enter the market, the aircraft will lose its competitive advantage. The regional jet market, divided between Embraer and Bombardier, is difficult to enter but a kick-off contractor such as Aeroflot is a chance for the aircraft to demonstrate its operation and make it a landmark for other airlines. Again, time is a big factor here. Europe is a huge potential market with three leaders – Air France, Lufthansa and British Airways, and all of them have filled their fleet for development of regional flights, unfortunately not with SSJ100. Another competitor is China’s ARJ-21 program; Japan continues to develop the MRJ aircraft. Every day the market gets tighter.

# 2NC MUST READS

**RUSSIA AND THE US COMPETE NOW FOR AEROSPACE CONTRACTS IN INDIA – RUSSIA IS WINNING NOW – KEY TO RUSSIA’S ECONOMY AND PAYING OFF ITS FOREIGN DEBT**

**KOGAN 2006** [Eugene - Defense analyst with PhD from University of Warwick, “The State of the Russian Aviation Industry and Export Opportunities,” Conflict Studies Research Centre, January] TTATE

It is important to stress that export opportunities provide Russia with the chance to repay debts to countries such as the Czech Republic, Slovakia, and South Korea. Undoubtedly, the best promotion for the Russian-built aircraft was and still is an air-to-air exercise. For instance, in February 2004 such an exercise was staged between the United States Air Force (USAF) F-15Cs and Indian Air Force Su-30MKs. Although details of the engagement are classified, it has been evident that a poor performance by the F-15C has shaken the Air Force’s fighter pilot community. Service leaders have claimed that US-trained pilots in Sukhoi fighters usually defeat similar pilots in F-15s and F-16s, but they now appear concerned that they have lost advantages in training and equipment.182 Six Su-30K aircraft of the Indian Air Force took part in the `Garuda II´ exercise from 15 June to 1 July 2005. French pilots used the exercise to assess the `threat-benchmark´ of the Su-30. One Mirage pilot said that `In close combat the Mirage 2000-5 [appears] more “nervous” than the Sukhoi. A decision must be achieved in the first minute or the sheer power and the agility of the Su-30 will overwhelm you.´183 It appears that after years of the Soviet and present Russian government’s monopoly of the Indian defence market, the current government and the officials of the defence industry realised that the monopoly may be short-lived. As a result, Russia is fortifying itself to face competition in the Indian defence market from US rivals that are savvy about after-sales service. To improve its image in that sector, Russia is launching a joint venture in Mumbai called Rosoboronservice India Limited (RIL) to provide after-sales warranty work on Russian naval and Air Force equipment. As well as India, the company also expects to serve Russian equipment buyers in Indonesia, Malaysia and Sri Lanka.184 Undoubtedly, countries such as Indonesia, Malaysia and Vietnam will continue to purchase Russian-built aircraft, but they cannot under any circumstances replace Russia’s major customers, China and India. Even though Thailand and Russia concluded their first bilateral agreement on military co-operation in late October 2003, the author is not convinced that Thailand will purchase military craft from Russia. More words than deeds have come from the government of Thailand. Two reports published on 19 and 20 December 2005 contradicted each other. The first report, published in the Moscow Times, claimed that Russia has signed a preliminary agreement to sell a dozen Su fighters to Thailand.185 The next day, Thailand denied the report. Thai Prime Minister Thaksin Shinawatra told reporters that `It is just a discussion, we have not agreed on anything´.186 On the other hand, the Philippines in about 2011 may consider purchasing the MiG-29. As a result, RAC MIG will have to work out a long-term plan of how to keep the Philippines interested in purchasing the aircraft.

# uniqueness – russia aerospace industry strong now

**RUSSIAN AVIATION INDUSTRY SHOWING STRENGTH AND MODERNIZATION NOW – NEW FIGHTER JET PROGRAM PROVES**

Dmitriy **Litovkin**, prominent defense journalist, "Russian fifth-generation fighter tests well, seen "more advanced" than US F-22", **May 17th, 2011**, <http://www.lexisnexis.com/hottopics/lnacademic/>, accessed on June 21st, 2011, CJJ

The second Russian T-50 fifth-generation aircraft, which specialists are calling the Advanced Aviation Complex for Frontline Aviation (PAK FA), has now completed its first flight from Komsomolsk-na-Amure. The involvement of this second aircraft in the tests testifies to the intent of our military to create a fighter aircraft more advanced than the American F-22 Raptor. The F-22 has been in the service of the US Air Force for a long time and is considered one of the best combat aircraft in the world. Russia was just a little delayed in the development of such equipment and is now making up for lost ground. According to United Aircraft Corporation (OAK) head Mikhail Pogosyan, one more T-50 fighter aircraft prototype - the third overall - will be involved in the summer programme this year. In so doing, industry will be able to accelerate the pace of testing the new aircraft's onboard equipment, radar systems, and components. The PAK FA is far from merely a new exterior. An entire array of innovative solutions connected to the development of the technologies of decreased radar signature, new design materials and coatings, artificial intelligence, and hardware components has been realized in the aircraft. Ministry of Defence Public Council member Igor Korotchenko told Izvestiya this: "This design will take our military aviation production to a fundamentally different technological level." The expert believes that "PAK FA is quintessential of everything modern that there is in Russian aviation." For example, an entire spectrum of the newest polymer carbon fibre plastics was employed in the T-50 for the first time. They are twice as light as aluminium of comparable durability and four to five times lighter than steel, as well as half the weight of titanium. The new materials compose 70 per cent of the fighter aircraft's coating. Its weight turns out four times less than an aircraft assembled of conventional materials. At the Sukhoi Design Bureau they talk about an "unprecedentedly low" level of radar, optical, and infrared "signature" for the aircraft. So, the effective area of the reflective surface of the T-50 will be equal to 0.5 square meters (for the Su-30 MKI it is 20 square meters).

**Russia’s flight industry is on the rise along with its economy – greater consumer confidence**

Kirill **Skopchevskiy et al**., corporate associate in Dechert LLP's Moscow office who advises on mergers and acquisitions and capital markets transactions as well as real estate law matters, September 23rd, 20**10**, “Russian aviation industry grows with economy”, accessed on June 20th, 2011, <http://www.modernrussia.com/content/russian-aviation-industry-grows-economy>, CJJ

[The Russian aviation industry](http://www.themoscowtimes.com/business/article/airline-passenger-volumes-recovering/413765.html) experienced a rise in activity in 2010, which has been attributed to low costs of oil, competitive flight prices and the rebound of consumer confidence in the Russian economy.

the number of passengers on Russian domestic and international flights rose from 24 million to 31.2 million in the first seven months of this year, an increase of 30 percent. The agency also announced that Russia’s top five airlines are economically stable. Aeroflot, the market leader in the Russian industry, carried 6.3 million passengers between January and July, a 33 percent increase over the same time period in 2009. Consumers have also shown interest in [low-cost airlines such as Avianova](http://www.avianova.ru/media/content/about/press/6_months_release_final.pdf), which offer flight prices as low as 250 roubles ($8 U.S.). Avianova moved from a top 20 domestic airline in January to the fourth-most flown domestic airline this past June.

**RUSSIAN AEROSPACE INDUSTRY STRONG AND WILL CONTINUE TO BE – COOPERATION AGREEMENTS WITH ISRAEL**

**Novosti News Agency 3/27**/11, ( Novosti news agency is a news agency in Moscow. “Russia, Israel sign agreement on space cooperation”, <http://libproxy.library.unt.edu:2051/hottopics/lnacademic/>. 6/20/11. google. AW)

Netanyahu described Russia, with its powerful space industry, as a "natural partner" for Israel, which is just developing its space industry but which already has a number of technological advantages and is nurturing ambitious plans. [Passage omitted] For his part, Perminov said cooperation in space between the two countries "is now at the initial stage", and the sides were establishing contacts between Russian and Israeli organizations in the space-missile industry and studying new areas of cooperation. "At the same time, our countries already have positive experience of mutually advantageous partnership in the space sphere. Suffice it to say that five Israeli spacecraft have been put into orbit with the help ofRussian launch vehicles. And Russia is currently making the Amos-5 telecom spacecraft for an Israeli customer," the head of Roskosmos said. According to the two sides, the agreement meets the political and economic interests of the two countries, it will help to fully implement Russia's and Israel's potential in the framework of large-scale long-termspace programmes and projects, and give additional impetus to the development of fruitful cooperation between Russia and Israel in the field of research and use of space for peaceful purposes, the Roskosmos report said.

# uniqueness – russian aerospace industry strong

**UNITED AIRCRAFT CORPORATION STRONG NOW – SET TO DOUBLE PRODUCTION**

**Russia & CIS Military Newswire, June 20, 2011**, Russia to double aircraft production by 2020 - UAC head, accessed June 22, 2011, accessed through Lexis- Nexis.

(UAC) is planning to double aircraft production by 2020, UAC President Mikhail Pogosyan told reporters on Monday. "We should increase production from today's $4 billion worth of aircraft per year to $6-8 billion," Pogosyan told reporters at the Le Bourget Air Show. Military aircraft will account for 25-30% or $6-8 billion worth of the UAC's total output and the rest will be civil aircraft, the UAC head said. "We want to bring the volume of output to $25-30 billion per year," he said.

**ROLL-OUT OF LARGE AEROSPACEDEFENSE SYSTEMS SHOW RUSSIAN AEROSPACE INDUSTRY STRONG NOW**

**Interfax – AVN 4/20**/11, (Interfax – AVN is a military news organization, 4/20/11. “Russian official says S-500 air defence system to enter service in 2015”. 6/21/11, AW)

Ashuluk, Astrakhan Region, 20 April: Newest S**-500 surface-to-air missile systems, which will constitute the basis of Russia's****aerospacedefence, must enter service in the****Russian army in 2015,** head of the Russian Air Force Antiaircraft Missile Troops Maj-Gen Sergey Popov said. "According to Almaz Design Bureau, the system is due to enter service in 2015, Popov told journalists on Wednesday [20 April]. Asked what the Russian military are expecting from the new weapon, the general said: **"We are expecting a capability to destroy an aerial and****aerospace enemy within any possible range of application." In creating this weapon, its developers "took into account, among other things, the experience of other nations which have advanced modern weapon systems that can operate in airspace, near outer space, and can also use both airspace and outer space**," he said. All this work, including research and development, "is carried out under vigilant control of both the industry and the military," he said. "This is why **the new weapon is designed with a minimum development prospect of 15-20 years ahead," Popov said.**

# uniqueness – russia aerospace industry will continue to be strong

**RUSSIAN AERSOPACE INDUSTRY POISED TO CONTINUE TO BE GLOBAL LEADER – RUSSIAN GOVERNMENT INVESTING IN ITS CONTINUED PROWESS**

**OIL AND GAS CHRONICLE 2010** [“Mxi technologies and Pba Consult LLC announce exclusive teaming agreement”, June 04, Accessed: June 22, 2011, <http://www.oilandgaschronicle.com/tag/russias/>] ttate

Mxi Technologies, the leader in aviation maintenance management software, and Pba Consult LLC, a leading Russian automated-solutions provider, announced today the signing of an exclusive teaming agreement which sees the organizations partner to deliver a comprehensive aviation lifecycle management solution to one of Russia’s leading civil aircraft manufacturers.

“In our role as General Contractor on this project it was extremely important to us to partner with a solutions vendor that we could fully support and feel confident in bringing to the table. In Mxi we have found the perfect partner with the experience and industry acumen necessary to take this project forward,” says Kirill Tukhtikov, Chief Executive Officer, Pba Consult.

The Russian aviation industry has emerged as a top priority for the Russian government. At MAKS 2009, Russia’s International Aviation and Space Salon in Moscow, Vladimir Putin noted in his opening remarks that “the development of aircraft building and space exploration is an undoubted priority [for Russia.” In 2009, the industry was further bolstered by government financing totalling .6 billion (US) — an amount equal to 20 times previous spending levels. Pba Consult’s exclusive partnership with Mxi Technologies is added evidence that leading Russian suppliers to the aviation industry are looking to partner with international, best-of-breed vendors to further develop and support Russia’s burgeoning aerospace industry.

“Our partnership with Pba Consult represents a considerable strategic opportunity for our organizations to support the rapid growth of the Russian aviation industry through one of the most ambitious civil aircraft programs in Russia’s recent history,” says Dave Curley, Senior Vice President, Marketing and Product Management at Mxi Technologies.

**RUSSIAN AIRCRAFT INDUSTRY BOOMING – WILL CONTINUE TO EXPAND ITS PROFITS THROUGH 2012**

**RIA Novosti,** Russian international news source**,** March 2, **2010**, Russia's United Aircraft Corporation to double production by 2012, accessed June 21, 2011, <http://en.rian.ru/russia/20100302/158067417.html>, MD

Russia's United Aircraft Corporation (UAC) is to double production by 2012 from 2009 to 200 planes, the company said on Tuesday. The target is part of the corporation's draft plan for 2010-12. In 2009, UAC reportedly delivered 95 aircraft, including 31 MiG-29 and two Su-34 fighter jets and 17 passenger airliners. The state-controlled corporation, established to streamline the Russian aviation industry, incorporates aircraft-making and affiliated firms engaged in the manufacture, design and marketing of civilian and military aircraft, including unmanned aerial vehicles. UAC has been described by analysts as one of the large Russian companies expected not only to seek profit, but also to advance national interests. The Russian government has pledged a steady flow of contracts for the domestic aircraft industry, as well as additional financial support and a restructuring of its 46 billion ruble ($1.6 bln) debt. In August, Prime Minister Putin criticized the UAC for selling planes to domestic and foreign companies at a loss. Apart from the ongoing recession, the MiG corporation has been hit by Algeria's decision to tear up a $1.28 billion contract to buy 34 MiG-29s, signed in 2006, over the planes' "inferior quality." The 15 planes were sent back to Russia.

**RUSSIAN AIRCRAFT INDUSTRY WILL CONTINUE TO BE COMPETITIVE AT LEAST UNTIL 2015**

**NET NEWS PUBLISHER 2008**  [“Russia’s aircraft industry output up 16.4% in 2007, February 07, <http://www.netnewspublisher.com/russias-aircraft-industry-output-up-164-in-2007/>] ttate

Russia’s aircraft industry increased production 16.4%, year-on-year, in 2007, the Industry and Energy Ministry said on Thursday. Growth in helicopter production was mainly secured by export contracts, while demand was driven by the high quality of Russian-built rotary-winged aircraft and their relatively low prices, the ministry said in a press release posted on its official website. The ministry said the state would implement an array of measures to stimulate demand, in particular, by increasing the United Aircraft-Building Corporation’s (UABC) authorized capital, granting state subsidies to UABC subsidiaries and affiliates, and extending soft loans to Russian leasing companies for the acquisition of Russian-made aircraft. It also said that the industry’s development strategy through 2015 would enable it to significantly increase sales of Russian manufactured long-haul and regional airplanes.

# uniqueness – russia aerospace industry will continue to be strong

**UNITED AIRCRAFT CORPORATION SET TO EXPAND OVER THE NEXT FEW YEARS – NEW CORPORATE STRUCTURE PLANS**

**Gregory Polak, Aviation International News staff writer, June 21, 2011**, Paris 2011: Russia’s United Aircraft Corp. Plots Course To Become One of the Industry’s Top Three Companies, accessed June 22, 2011, <http://www.ainonline.com/news/single-news-page/article/paris-2011-russias-united-aircraft-corp-plots-course-to-become-one-of-the-industrys-top-thre/>, MD

Russia’s United Aircraft Corp. (UAC) yesterday spelled out its vision for joining Boeing and Airbus as one of the world’s top three major global aerospace players. Company president Mikhail Pogosyan presented a strategic roadmap to the year 2025 here at Le Bourget, posting three major milestones for the company. According to the plan, from 2011 to 2013 the company will continue on its growth platform, during which it structures the entire business into what Pogosyan called a functional unit. From 2014 through 2018, the company plans an innovation leap, during which it expects to embark on a number of technical advances meant to introduce it to markets in which it doesn’t now command a presence. In 2019 it would enter a period of slower, stable growth until it reaches its desired status as one of the world’s three aerospace industry leaders. UAC plans to form a new corporate structure before 2018, dividing itself into UAC Defense, UAC Commercial Aviation, UAC Transport Aviation and UAC Special Aviation. As part of the plan, it would establish so-called multi-program competence centers, namely a composite-wing center, a high-lift devices and empennage production center and wing lift-devices production center, all in Ulyanovsk. It also plans a wing-assembly center in Kazan and an avionics-integration center at an unidentified location. Pogosyan said that within two years, UAC could introduce another new commercial project to take the company beyond the regional jet and narrowbody sectors. “Our two top priorities for today are the Sukhoi Superjet 100 and the MC-21 project in the seating capacity beginning at 130 seats and up to 180 seats,” he said. “Then maybe we’ll move further and we’ll look into this perspective, and maybe in a year-and-a-half or two we will be able to make further announcements on the launch of future projects.”

# uniqueness – at: sino industry strong

**CHINA’S AERO INDUSTRY LAGS BEHIND – RUSSIA IS AHEAD OF SINO COUNTERPARTS IN NEW TECHNOLOGICAL BREAKTHROUGHS**

**RIA Novosti**, Online Russian news service, **June 20th**, 2011, "China's 5G fighter 'a showoff'", <http://en.rian.ru/world/20110620/164727664.html>, accessed on June 21st, 2011, CJJ

China's fifth-generation fighter program is more for effect than substance, Russia's leading aircraft maker said on Monday. China carried out its first test-flight of a fifth-generation stealth fighter in January. "It was more a demonstration than a real program," Mikhail Pogosyan, head of United Aircraft Corporation, said. The Chinese aircraft industry is developing successfully but it lacks what is required for a breakthrough, he said. "There will be no breakthroughs here. Great scale and great experience are needed to carry out such programs," Pogosyan said. Russia is testing its own fifth-generation aircraft T-50 PAK FA developed by the Sukhoi design bureau. The aircraft is expected to become operational in 2015. China's prototype Black Silk J-20 stealth fighter is thought to be similar to the U.S. F-22 Raptor and the Russo-Indian T-50 jets, although imagery and video footage appearing on the internet suggested the Chinese model is larger. This means it could be capable of flying a longer range and carrying a heavier load. China has been working on a future fighter program since the mid-1990s, and the J-20 is notionally anticipated to enter service around 2018-2020.

# uniqueness – russian aerospace industry competitive now

**RUSSIAN AIRCRAFT SECTOR GLOBALLY COMPETITIVE NOW**

**RUSSIA & CIS MILITARY DAILY 2010** [“Interfax Russia & CIS Military Daily”, July 01, page lexis] ttate

The Russian aircraft construction industry can cater to a niche market on the world stage with its products, Prime Minister Vladimir Putin said. "We are sure the Russian aircraft construction industry can find its place on the global market and we pin great hopes on this sector. We are well aware of the current situation on the global aviation markets and we know how stiff the competition is and how tough niches are filled and developed. But we are also sure that that we have our own capabilities and niches," the prime minister said. "We have absolute competitive advantages in what concerns specialized and combat aircraft. Russian transport aircraft have their own advantages too," he said

**RUSSIAN AIRCRAFT SECTOR INCREASING ITS COMPETITIVENESS NOW – INDUSTRY RESTRUCTURING**

**INSIDE S&T 2010** [“The Russian Flight Simulator Industry,” May 18, <http://halldale.com/insidesnt/russian-flight-simulator-industry>] ttate

These are still not the glory days of the former Soviet Union, but the outlook is improving. There are three main reasons for this resurgence: The first impetus came from the Russian government, which restructured the disaggregated aerospace industry, concentrating the remaining capabilities to ensure a more targeted use of the scarce resources - in some experts’ view also an attempt to (re)gain state control over the strategic industries. In addition, the new national export agency, Rosoboronexport, altered the strategy for promoting military aircraft. Instead of offering just the aircraft, the agency aimed to establish service centres in the customer countries, with training centres included. Secondly, for the first time in years, increased military budgets meant that sufficient funding was available to purchase new equipment. In 2009, a record-breaking 1 trillion roubles (32 billion US$) was spent on armament. Finally, competition that was getting ever fiercer in an open domestic market soon separated the wheat from the chaff. Companies that were not able to keep pace fell by the wayside. ERA JSC, one of the famous Penza-based simulator manufacturers, no longer exists. The Penza Simulation Design Company (PSDC), once the only enterprise in the USSR and Russia to specialise solely in the design and manufacture of simulators, has not produced a single simulator over the past decade. PSDC stays afloat by repairing the rare equipment that still remain from the thousands of units produced in its heyday. Today, more than 30 enterprises in the Russian Federation are involved in simulation and training for the air, land and sea domains. Basically, only three companies, however, develop and produce flight training devices on a larger scale: the closed joint-stock companies (ZAO) CSTS Dinamika, Transas / R.E.T. Kronshtadt, and Spetztekhnika.

# uniqueness – russian space program expanding now

**RUSSIAN SPACE PROGRAM EXPANDING NOW AS US SPACE PROGRAM DECLINES**

Ilya **Arkipov and** Lyubov **Pronina**, reporters for Bloomberg News, “Russia Speeds Up Space Mission Plans as U.S. May Cut Spending”, April 5th, **2011**, <http://www.bloomberg.com/news/2011-04-04/russia-speeds-up-moon-mars-plans-as-u-s-may-cut-space-funds.html>, accessed on June 22, 2011, CJJ

U.S. Funds Russia receives $752 million from the U.S. for sending crews to the ISS through 2015. The country is using the launch fee of $63 million per member on craft development, maintenance and upgrade, Perminov said. U.S. President Barack Obama in February last year announced an end to NASA’s Constellation program, developed under former President George W. Bush’s administration, which would have built rockets and spacecraft for a return to the moon by 2020. The decision has been criticized by former NASA astronauts and officials, including the agency’s previous administrator and Neil Armstrong, the first man to walk on the Moon, saying it will sideline the American space program. With no manned government rockets ready to go, routine trips to so-called low- earth orbit will be outsourced to private companies. NASA is seeking an $18.7 billion budget for next year, $300 million less than the funding targeted for this year. Russia intends to continue allocating more funds for the space industry, Peskov said. “We’ll increase financing if possible, depending on the budget balance, because the industry was and remains one of our priorities,” he said. China’s Plans China, which made its first successful manned flight in 2003 aboard the Shenzhou spacecraft, plans to put a capsule on the moon in 2013 and have the technology for a manned mission in 2020, Xu Shijie, a member of the Chinese People’s Political Consultative Conference said on March 3 in Beijing. The country plans to have its own orbital station in about 2020. Russia’s space industry suffered a blow last year when a Proton-M rocket failed to deliver three navigation satellites into orbit for Glonass, a rival to the U.S. Global Positioning System. Medvedev fired Viktor Remishevsky, the deputy head of Roscosmos, and Vyacheslav Filin, the deputy chief of rocket maker RKK Energia, over the loss of the satellites. Medvedev also issued a reprimand to Perminov. “We need the Mars flight as it will help create new large- scale technologies,” Yuriy Karash, member of the Russian Space Academy, said by phone yesterday. “It means there will be new rockets, new engines, new anti-radiation medicine that will protect people in outer space.”

**RUSSIA CONTINUES TO EXPAND ITS SPACE EXPLORATION SECTOR IN THE FACE OF US SCALEBACK, INCLUDING LUNAR PROJECTS**

**ZAK 05-29-2011** [Anatoly – Russian space historian and journalist, “Russian space program in the 2010s”, <http://www.russianspaceweb.com/russia_2010s.html>, Accessed: 6/23/11. google, AW]

**Thanks to government subsidies, the Russian space industry weathered the latest economic crisis relatively unscathed.** However despite improved funding, the reality showed that money couldn't buy everything. Typically for the Russian economy, the nation's space sector continued suffering from the aging work force, brain drain and inefficiency. ([*Details inside*](http://www.russianspaceweb.com/centers_industry_2000s.html)) Traditionally, manned space flight remained one of the strongest areas of the Russian space program. **With improved funding in the second half of 2000s, the Russian government started planning new goals for its cosmonauts, largely reflecting US efforts, including lunar expeditions**. However, in February 2010, the **Obama** administration [**proposed to cancel**](http://www.russianspaceweb.com/sei_end.html) **the plan to return to the Moon within the** [**Constellation program**](http://www.russianspaceweb.com/sei.html)**. The move could have a major implications**) (both positive and negative **for other space-faring powers, first of all Russia** and [Europe](http://www.russianspaceweb.com/ard.html), for years to come. **Russian space officials hurried to re-affirm the public that the crisis in the US would have no effect on the the nation's long-term plans.** However, an overly ambitious program by Roskosmos to build a [new launch center](http://www.russianspaceweb.com/svobodny.html), introduce a whole [new type of rockets](http://www.russianspaceweb.com/ppts_lv.html) in [2015](http://www.russianspaceweb.com/2015.html) and a [next-generation manned spacecraft](http://www.russianspaceweb.com/ppts.html) in [2018](http://www.russianspaceweb.com/2018.html) looked less and less realistic. Critics questioned the wisdom of committing to a decade-long development program, instead of upgrading the existing [Soyuz](http://www.russianspaceweb.com/soyuz.html) spacecraft for [lunar missions](http://www.russianspaceweb.com/soyuz_acts.html), which could be accomplished within a few years. Even RKK Energia, the country's main and only manned spacecraft developer, was weary of the agency's grandiose space plans. During 2010 and 2011, the company tried to convince Roskosmos to limit the mass of the next-generation spacecraft to 12 tons, thus enabling its launch on the medium-class vehicle based on the existing [Zenit rocket](http://www.russianspaceweb.com/zenit.html) and [launch facilities](http://www.russianspaceweb.com/baikonur_zenit.html) in [Baikonur](http://www.russianspaceweb.com/baikonur.html). The company was also quietly seeking commercial collaboration with an emerging crop of manned spacecraft developers in the US.

# uniqueness – russian space program expanding now

**RUSSIAN SPACE PROGRAM EXPANDING NOW AND WILL CONTINUE TO EXPAND – HAPPENING IN THE FACE OF US SPACE PROGRAM DECLINE**

Boyle 2005 [Alan - Science Editor at MSNBC.com, received recognition from the American Association for the Advancement of Science, the National Association of Science Writers, and the Space Frontier Foundation, “Russia Thriving Again On The Final Frontier: As NASA Agonizes Over Vision, Russian Space Program Picks Up Momentum”, MSNBC.com, 9-29, <http://www.msnbc.msn.com/id/9509254/ns/technology_and_science-space/t/russia-thriving-again-final-frontier/>] ttate

The future of the Russian space program is just a stairway and a corridor away from its past. On one side of the Federal Space Agency's Mission Control Center, just outside Moscow, you'll find a darkened auditorium, with plaques commemorating four decades’ worth of Soviet and Russian space crews. This is where ground controllers managed the Mir space station until its fall four years ago. On the other side, the lights are on in a very similar auditorium, where controllers and a huge display screen keep track of the international space station. This is where Russia has placed its bets for at least the next decade — a decision that could have an impact on NASA's own vision for future space exploration. Russia's role in supporting the space station takes the spotlight this weekend with the launch Friday night of a two-man relief crew and millionaire space passenger Greg Olsen aboard a Russian Soyuz capsule. The 10-day mission underlines how crucial Russia has been to the station's operation in the wake of the 2003 Columbia disaster and continuing safety concerns about the U.S. shuttles. "It certainly is fair to say that the Russian space program saved the space station itself," said Yuri Karash, a space policy consultant based in Moscow. Now the orbital outpost is a key point of contention as Russia re-energizes its space effort and tries to match NASA's ambitions for future exploration. What a difference four years makes: In 2001, when Mir plunged out of orbit, it looked as if Russia's space program was going down with it , scraping by on a budget of less than $200 million a year. Today, boosted by Russia's oil revenue, the government has committed to a 10-year plan for space exploration, funded to the tune of $1 billion a year. That's far less than the price tag for NASA's 13-year, $104 billion plan to return to the moon. But while America's space effort is struggling with safety issues and tight budgets, Russia is now seen as having the world's safest, most cost-effective human spaceflight system. A mock-up of Russia's reusable Kliper spacecraft went on display in August at the MAKS-2005 aerospace show in the town of Zhukovsky, near Moscow. Like NASA, the Russians plan to develop a new breed of spaceship: a winged craft called the Kliper , capable of carrying a crew of six and built in partnership with the European Space Agency. Like NASA, the Russians plan to work toward lunar landings in the latter half of the next decade, leading to the establishment of permanent moon bases as steppingstones to Mars and beyond**.** Unlike NASA, the Russians plan to keep selling tickets to space, seeing it as a way to boost both budgets and public perception of the space program.Their goals are ambitious here as well, with plans to sell a trip around the moon for $100 million a seat . Of course, the Russian space effort has never suffered from a shortage of grand plans. Among the ideas floated in the past are the Enterprise commercial space module, the free-flying Mini Station 1, the Marpost spacecraft for Martian exploration and yet another bargain-basement Mars mission . Nothing ever came of any of these. "There are many more plans available than money," Karash observed. This time, however, Russia's plans sound more ... well, down to earth. Nikolai Sevastianov, the president and general designer of Russia's Energia rocket company, outlined for MSNBC.com a development program that for the most part builds on tried-and-true hardware design. Energia, the Russian space industry's equivalent of the Boeing Co. and Lockheed Martin Corp., is heavily involved in the space station construction. "We are planning to build three additional modules which will be part of the ISS,” Sevastianov said, estimating that the Russian side of the station could be complete in 2011. He said Russia's 10-year space roadmap called for an expansion of satellite operations, drawing upon commercial as well as state funding. New lines of launch vehicles, such as the Angara rocket, would take their place alongside an upgraded version of the Soyuz rocket, Russia’s traditional launcher for manned spaceflight.

# uniqueness – no brain drain now

**NO RUSSIAN BRAIN DRAIN NOW – RUSSIAN TECHNOLOGICAL SPECIALISTS FEEL THEY HAVE GOOD PROSPECTS NOW**

**Miteva 9/2/10** (Tsvetelina Miteva - staff writer for RIA novosti news agency, “Russia’s IT brain drain over”. RIA NOVOSTI, <http://en.rian.ru/business/20100902/160441955.html>, Accessed: 6/21/11. AW)

**Russian IT specialists no longer want to work in Europe and the United States, as they now have good prospects at home, a leading recruitment figure told RIA Novosti.** Since Soviet times, Russian top professionals and scientists have been emigrating abroad or abandoned scientific work in favor of higher incomes in commerce or other spheres. Independent reports estimate at least 80,000 emigrated in the early 1990s**. The situation in the IT sphere is now likely to change dramatically. "Russia now has a variety of good jobs for IT specialists.** Many leading IT companies, including Oracle and Microsoft, have opened branches in Russia over the last 10 years," Tatyana Dolyakova, head of the Penny Lane Personnel recruiting company said. **The standard of living for IT specialists in Russia is comparable to that they could enjoy in Europe and the United States. In 2010, salaries in the IT sphere were among the highest in Russia, along with the banking sector, she added.**

**RUSSIA IS RECLAIMING ITS SCIENTISTS – NO BRAIN DRAIN NOW**

**GLOBAL INSIGHT 2010** [“Russia withdraws from CIS scientific co-operation agreement without explanation”, August 18, page lexis] ttate

Russian president Dmitry Medvedev issued a decree withdrawing Russia from the International Scientific-Technical Center (ISTC) agreement signed in November 1992 by a number of former Soviet countries as well as Canada, the United States, European Union (EU), Japan, Norway and South Korea. The ISTC was set up to prevent nuclear proliferation and redirect the former Soviet scientists' knowledge and skills of weapons of mass destruction into more peaceful and commercially appealing projects. With Russia's exit Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan and Tajikistan remain in the ISTC, while Ukraine hosts ISTC's sister company Science and Technology Centre in Ukraine (STCU). Russia's membership will expire in six months when all ISTC members will be notified. The Russian government has not explained the reason behind the withdrawal. Significance:There are some 58,000 weapons scientists and 756 research centres in the Commonwealth of Independent States (CIS), the vast majority of whom live in Russia. The ISTC was born out of the drive to use the talents of these scientists and most importantly prevent unemployed scientists from selling their skills and expertise to other regimes after the collapse of the Soviet Union. The United States was particularly keen to see the transformation of Russian military industry into civilian commercial enterprises where the scientists could be retrained and be engaged in civilian research and development programmes away from military projects. When the ISTC was launched, the Russian government had to deal with a collapsing economy and back then the ISTC project--championed by the U.S. Chief of Staff James Baker--offered a solution to the pressing problem of unemployment among many Russian scientists. However, Russia has progressed economically since then and also adopted new foreign policy priorities. The government is keen to bring back the scientists that left the country in the years of brain-drain. It is also interested in expanding its military industry, a lucrative industry that brought in US$7.4 billion in 2009. The Russian government did not clarify the reasons behind its withdrawal but it is not a difficult decision to interpret.

# uniqueness – russian economy strong now

**Russia’s economy high now – high oil prices and foreign investors - Russian economy will continue to improve**

**Evans 06-16-2011** ( Julian Evans is a staff writer for WSJ**,** 6/16**/**11, “Why are they leaving”, <http://online.wsj.com/article/SB10001424052748704816604576333030245934982.html>. 6/20/11. Google. AW)

Here's the paradox of the Russian capital markets. On the one hand**, the markets appear to be booming. The economy is forecast by the International Monetary Fund to grow by 4.8% this year, the RTS Index of 50 Russian stocks was up 15% by April,** although it has fallen back slightly since, **and Russian exchange-traded funds have attracted around 50% of all emerging market inflows so far this year.** Yet, on the other hand, Russian initial public offerings are struggling. Five Russian IPOs have been pulled this year while many of those that have managed to come to market have done so at the bottom of their price range, and traded lower still in the secondary market. Only two Russian listings this year, by state-owned bank VTB Group and internet search engine Yandex, are trading above their listing prices. So do foreign portfolio investors like Russia or don't they? The popularity of Russian ETFs this year doesn't necessarily indicate that investors favor Russia as an investment destination in itself. **The increase in ETF flows are more likely to be correlated to the rise in the price of oil. "Investors have been using Russian ETFs as a proxy on rising oil prices,** whether to get exposure or as a hedge," says Chris Weafer, chief strategist at Uralsib, a Russian brokerage. Riccardo Orcel, head of Central and Eastern Europe, the Middle East and Africa investment banking at Bank of America Merrill Lynch, believes **Russia's economy will continue to be supported by high oil prices and is optimistic for the future. "Prospects for the country are very positive considering several headwinds faced by other countries and regions in the world," he says.**

**RUSSIAN ECONOMY BOUNCING BACK NOW**

The **Associated Press, June 15, 2011**, Putin Says Russia's Economy Two-Thirds Recovered, accessed June 20, 2011, <http://www.npr.org/templates/story/story.php?storyId=137172118>, MD

Russia's economy is recovering, but remains well below the level it was at before the global financial crisis, says Prime Minister Vladimir Putin, addressing a U.N. labor meeting in Geneva on Wednesday. Putin said Russia has "managed to recover two-thirds of our economy, but still we have not reached pre-crisis levels." The Russian economy contracted by almost 8 percent during the recession. He added that the economy — the world's sixth-largest — would reach pre-crisis levels by 2012, eventually rising to become one of the world's top five. Putin also called for "a more fair and balanced economic model," as nations gradually recover from the world financial crisis that hit in 2008. In April, Putin said in his annual address before Russian parliament that the key lesson from the financial crisis was for the country to be self-reliant and strong enough to resist outside pressure. He said Russia's economy grew 4 percent last year. Putin, widely seen as wanting to reclaim his nation's presidency, said on Wednesday that his government is emphasizing social programs such as increasing aid for young mothers, disabled workers and people with health problems as it recovers. Later in the day, Putin met with top U.N. officials to discuss refugees, Europe's economy, telecommunications and other issues. He said the information shared over satellites and radio frequencies that supports everything from cell phones to GPS devices is "gaining more and more importance on the international agenda." On Tuesday, German Chancellor Angela Merkel told the 100th annual meeting of the International Labor Organization that her country has emerged from the financial crisis economically healthy and benefited from a government-backed plan for companies to reduce working hours. Germany's unemployment rate stood at 7 percent in May, far below that of most European countries, despite high labor costs. Merkel also said she hoped the labor meeting in Geneva would approve a new pact to protect domestic workers — such as cooks, nannies and cleaners — around the world. The pact — the Domestic Workers Convention — is scheduled for approval Thursday, but has faced opposition from some African and Asian countries wary of granting labor rights to tens of millions of informal workers.

# uniqueness – russian economy strong now

**RUSSIAN ECONOMY ON ROAD TO RECOVERY NOW – CONTINUED INNOVATION AND PRODUCTIVITY KEY TO MAINTAINING**

**Wall Street Journal, June 8, 2011**, “World Bank: Russia 2011 Inflation May Exceed Government Forecast”, accessed June 21, 2011, <http://online.wsj.com/article/BT-CO-20110608-703385.html#printMode>, MD)

MOSCOW (Dow Jones)--Russia's government is unlikely to reach its inflation target for the year in 2011, while the country's economy will not grow faster than expected despite higher oil prices, the World Bank said in a report Wednesday. After revising its oil prices outlook, the Bank now projects a considerable improvement of Russia's fiscal position in 2011 and 2012. Despite high volatility in capital flows--which the Bank attributes in part to pre-elections political risks--the overall balance of payments is expected to remain stable in 2011 because of high oil prices. The Bank said, however, that "given the current trend and policies, inflationary pressure is expected to diminish somewhat toward end-2011," and that Russia's "government is unlikely to reach its revised inflation target of 6.5% to 7.5%". The World Bank expects inflation to reach between 7.5% to 8% in 2011, and to be below 7% in 2012, driven down by an easing of commodity prices and a good harvest in Russia. The institution also notes that further monetary tightening could help contain inflation in Russia, but sees no signs that the country's monetary authorities would do it by the end of 2011. The World Bank left its forecast for Russian economic growth in 2011 unchanged at 4.4%, despite higher than expected oil prices. The Bank cites a sluggish growth in domestic demand and credit activities, during the first four months of 2011, as a sign that the inventory restocking will close up during the second half of 2011--leaving private consumption to be the main driver of growth. The Russian Economy Ministry sees growth at 4.2% in 2011. For 2012 the Bank sees economic growth in Russia at 4%, adding that as "the economy closes the output gap, the pace of economic activity is likely" to slow. However, "with [the] right structural policies" aimed at higher productivity, innovation and competition, "Russia could achieve an even higher long-term growth and standards of living for its people", the Bank said. Meanwhile, the Bank's global forecasts for growth were only marginally changed from its January report. Global growth for 2011 was revised down to 3.2%, while 2012 and 2013 growth remained unchanged at 3.6%.

# uniqueness – russian economy strong now

**RUSSIAN ECONOMY RECOVERING NOW – PUTIN WANTS TO CONTINUE FOCUS ON JOB GROWTH TO MAINTAIN RECOVERY**

Lisa **Schlein, staff writer at VOA News, June 15th, 2011**, “ Putin: Russia Expects Full Economic Recovery Next Year”, accessed on June 20th, 2011, <http://www.voanews.com/english/news/europe/Putin-Russia-Expects-Full-Economic-Recovery-Next-Year-123908434.html>, CJJ

Russian Prime Minister, Vladimir Putin, says his country is still struggling with the debilitating effects of the global economic crisis, but expects Russia's economy to fully recover by next year. Putin presented his views on the economy, labor and social rights at the 100th session of the International Labor Organization (ILO) Conference. He is the first head of the Russian government to address the ILO Conference. Putin, says Russia has managed to retrieve about two-thirds of its lost economy. But, he acknowledges his country has not yet reached pre-crisis levels and has much to do before the economy fully recovers. Putin says he expects this to happen by next year. He added that Russia currently is working on post-crisis development strategies. "We have put forth an ambitious goal in the next decade to make Russia one of the five largest economies of the world," Putin said. "And, as for GDP per capita, to increase this figure from $19,700 to more than $35,000 per capita, per person. But, to do this, we need to increase the productivity two times …and in non-raw material, high-tech sphere three or four fold." For the economy to move ahead, Prime Minister Putin says it is critical to eliminate inefficient jobs. He says his government plans to create 25 million high tech, highly paid modern jobs and to modernize and streamline existing jobs over the next 10 to 15 years. He admits the scale of this enterprise is huge and daunting. He notes 70 million people work in Russia. That means every third job in the nation has to be modernized. Putin says Russia will not shirk its social responsibilities. He says it is essential to protect the poorest and most vulnerable members of society in the drive to improve the business environment and to increase profits. "We will not retreat from our social commitments," added Putin. "We will not increase the already existing 40-hour working week. We will not compromise on safety and environmental standards. In dynamic and economic growth innovations and modernizations are not important themselves. They need to create new opportunities for people, to increase salaries …and improve the quality of life." The Russian prime minister says people should be the focus and the center of this development strategy. He says their fundamental rights and freedoms must not be violated in the search for economic growth. He says one of the basic lessons drawn from the global economic crisis is the responsibilities States have in protecting the rights and the welfare of their citizens. Putin calls this a social mission and appeals to all States, businesses, international, political and financial organizations to live up to these responsibilities.

# uniqueness – russian economy will continue to be strong

**PREFER OUR UNIQUENESS EVIDENCE – IT IS PREDICTIVE – RUSSIA’S ECONOMY WILL CONTINUE TO GROW**

**IFW 06-08-11** [Freight and Logistics News Service, “Forwarders slam Russian ports”, <http://www.ifw-net.com/freightpubs/ifw/index/forwarders-slam-russian-ports/20017877777.htm>] ttate

The Russian economy is forecast to grow at over 4% this year. Trade volumes with Western Europe are among the fastest growing in Europe, but forwarders contacted by *IFW* said more investment in processes and facilities was required to facilitate increased trade. Lisa Hemmings, Manager of FS Mackenzie International’s Russian/CIS Department, said out-dated customs procedures at ports were driving up operating costs with regulations varying by location and by cargo. Stefan Karlen, Area Manager Black & Caspian Sea at Panalpina, said Russian gateways were generally more expensive than ports in most of the rest of Europe both on terminal handling and demurrage charges. “Service levels at different ports differ from shipping line to shipping line,” he added. “Close, regular monitoring of entry ports is necessary in case unforeseen events such as natural disasters or congestion negatively impact the operation and thus service and timing.” Hemmings agreed it was important to have staff on the ground at key locations to deal with local difficulties. “It is paramount to have an office in St Petersburg,” she said. “Through our own office there we are able to work with the port closely and have our staff available to go to the port to resolve any potential problems that may arise.” Leineweber said the strong drive towards containerisation would slowly improve efficiency, however, and with increased container handling capacity Russia’s key ports at St Petersburg, Vladivostok and Novorossiysk would eventually become more competitive.

# links – us space exploration expansion

**RUSSIAN AEROSPACE INDUSTRY IS ON THE BRINK – EXPANSION OF US SPACE PROGRAM EFFORTS AND TECHNOLOGY TRADES-OFF WITH THE GROWTH OF THE RUSSIAN SPACE SECTOR**

**Associated Press 4/12/11**, (VLADIMIR ISACHENKOV is a staff writer for Associated Press, “<http://news.yahoo.com/s/ap/20110412/ap_on_hi_te/eu_russia_gagarin>. “ Medvedev: Space will remain a key Russian priority”. 6/23/11, google. AW)

MOSCOW – **Russia must preserve its pre-eminence in space,** President Dmitry Medvedev declared Tuesday on the 50th anniversary of the first human spaceflight by cosmonaut Yuri Gagarin.

**The statement followed warnings** by another cosmonaut **that Russia risks losing its edge in space research** by relying solely on Soviet-era achievements and doing little to develop new space technologies. Gagarin's 108-minute mission on April 12, 1961, remains a source of great national pride, and Russia marked the day with fanfare resembling Soviet-era celebrations. Schools had special lessons dedicated to Gagarin, billboards carried his smiling face and national television channels broadcast a flow of movies and documentaries about the flight. "**We were the first to fly to space and have had a great number of achievements, and we mustn't lose our advantage," Medvedev said** during a visit to Mission Control outside Moscow. On Monday, Svetlana Savitskaya, who flew space missions in 1982 and 1984 and became the first woman to make a spacewalk, harshly criticized the Kremlin for paying little attention to space research after the 1991 collapse of the Soviet Union. "There's nothing new to be proud of in the last 20 years," said Savitskaya, a member of Russian parliament from the Communist Party. Russia has used the Soyuz and Progress spacecraft, whose designs date back to the 1960s, to send an increasing number of crew and cargo to the International Space Station. **Russia's importance will grow even more after the U.S. space shuttle Atlantis closes out the U.S. program this summer, leaving the Russian spacecraft as the only link to the station.** But Savitskaya and some other cosmonauts have warned that **Russia has done little to build a replacement to the Soyuz and could quickly fall behind America after it builds a new-generation spaceship.** Boris **Chertok, the former deputy to Sergei Korolyov, the father of the Soviet space program, says it has become increasingly difficult for Russia's space industries to hire new personnel. Salaries in space industries are much lower than average salaries in banks and commercial companies**," Chertok, 99, told reporters last week. "We need (more) people of Korolyov's caliber." Korolyov, a visionary scientist as well as a tough manager, led the team that put the world's first manmade satellite in orbit on October 4, 1957. He then spearheaded a massive effort to score another first with Gagarin's mission. **"Our competition with America was spurring us to move faster** to make the first human spaceflight," Valery Kubasov, a member of Korolyov's design team who later became a cosmonaut, told The Associated Press.

**INCREASING US AEROSPACE COMPETITIVENESS TRADES-OFF WITH RUSSIAN AEROSPACE SECTOR – SQUEEZES RUSSIA OUT OF GLOBAL MARKET**

**ELENKOV 1995** [Detelin S. - professor at the School of Management and Business and director of the Center for Eastern European Business and Economic Research (CEEBER) @ Adelphi University, “Russian Aerospace MNCs in Global Competition,” Columbia Journal of World Business, Summer] ttate

In short, the strong Russian aerospace military sector was nurtured at the expense of the largely neglected civilian sector. Military-oriented R&D and production enjoyed preferential treatment and received special resources. At the same time, the civilian sector was assigned low priority. Hence, the determined political leadership has been one of the factors that have made the aerospace/military sector the most successful part of the Russian economy. Science and technology is also one of the fields in which Russia has done world-class work. For many years this country has directed much of its money and human talent into technical and scientific endeavors. According to recently published statistical data, Russia has about 1.7 million scientific workers and 7 million engineers, which is more than twice the numbers of trained scientists and engineers in the United States.[ 11] However, science and technology in the former Soviet Union were not really designed to advance the quality of human life, but to help in solving the problems specified by the authorities. That meant first and foremost supporting the aerospace/military programs. Russian expertise in space and military technology is well-known throughout the world. The success of the first Russian artificial satellite Sputnik 1 has become legendary. According to the U.S. Department of Defense, Russian military technology and products are roughly on a par with U.S. technology and products in areas such as aerodynamics, conventional and nuclear warheads, power sources and laser technology. In some strategic weapon systems, like ballistic missile defense and surface-to-air missiles, the Russians have even appeared to excel.[ 12] It is a tradition in the Russian aerospace/military sector to implement designs that stress simplicity, commonality, performance and economy. One example is the engine for the MiG-21 which contains about one-tenth as many parts as the engine used in F-4, its U.S. equivalent of the day.[ 13] As a result of the aforementioned historical developments, several Russian companies associated with the aerospace/military sector have built a capability to offer high-performance products at prices significantly below the level of the competition. In order to study the specificity of competitive strengths, strategic priorities, and forms of multinational business operations of these companies, I conducted exploratory research in Russia during the summer and fall of 1993 and the summer of 1994. In particular, I utilized a combination of interviews, direct observation and review of official company documents.

# links – us space exploration expansion

**RUSSIAN AND US AEROSPACE INDUSTRIES FEEL THE SAME PRESSURES – COMPETE FOR THE SAME CONTRACTS**

**KOGAN 2006** [Eugene - Defense analyst with PhD from University of Warwick, “The State of the Russian Aviation Industry and Export Opportunities,” Conflict Studies Research Centre, January] TTATE

As far back as May 2002 it was reported that US Congressional analysis suggested that the American and Russian military aviation industries shared similar pressures; among them the need for continuing consolidation and the drive to sell more aircraft overseas. Non-Russian research contracts in 2002 made up 32 per cent of the work of TsAGI, which is the major Russian aviation research facility. Only 10 per cent comes from Russian aviation companies.16 It can be said that in the early 1990s the engine industry lost people and capability. For instance, up to 1999 the number of workers employed in the enterprises and the design bureaus decreased yearly by 10 per cent, then from 2000 the number of workers increased annually by about 2 to 7 per cent.17 As a result, the industry has not fully recovered from the losses of the early 1990s. In addition, several design bureaus in the engine sector have ceased to exist. As a result, organisations such as the Moscow-based Salyut Machine-Building Production Organisation and/or Association (also known as MMPP Salyut and/or Salyut) and the Ufa Machine-Building Production Organisation (also known as UMPO) took over and/or set up their own design bureaus. According to Valery Bezverkhnyy, `Much of the real manufacturing capability has already been lost. Today the capacity is really very small´.18 How small remains unknown. It also needs to be stressed that a large number of domestic suppliers and manufacturing facilities ceased to exist because of a lack of domestic orders. In order to understand fully what constitutes the current aviation industry sector, we will now examine the company profiles.

**US AND RUSSIAN AIRCRAFT INDUSTRIES DIRECTLY COMPETE WITH EACH OTHER**

**US INTERNATIONAL TRADE COMMISSION 1998** [“The Changing Structure of the Global Large Civil Aircraft Industry and Market: Implications for the Competitiveness of the U.S. Industry,” November, papers.ssrn.com/sol3/Delivery.../SSRN\_ID1452731\_code1052262.pdf] ttate

For the last 50 years, the United States has been the leading supplier of LCA to the world. Changes in the structure of the global LCA industry and its market may ultimately affect the U.S. industry’s continued dominance, as competition increases and aspiring producers seek to enter the market. The most notable structural change is the merger of Boeing and McDonnell Douglas, which essentially reduced the global LCA industry to two major LCA manufacturers -- Boeing of the United States and Airbus Industrie, a consortium of four European partners, headquartered in France. Boeing has gained significant resources from McDonnell Douglas, but faces numerous challenges as well. The ongoing restructuring of the Airbus business operations could, if successful, significantly lower its cost of doing business and enhance its competitive position visàvis Boeing. New competition for Boeing and Airbus may come from Russia and/or Asia. While the Russian LCA industry has a long history of aeronautical design and manufacturing for its own and former Soviet bloc markets, capital constraints have caused significant delays in bringing its new designs to market. The industry has nearly collapsed since the breakup of the Soviet Union; industry consolidation and corporate restructuring are essential to the industry’s survival. While the current economic crisis in Asia has curtailed the availability of capital, Asian countries remain resolute in their desire to manufacture LCA. Asia’s high passenger traffic growth rates are an incentive for Western producers’ participation in offset agreements, which would further Asian understanding of aircraft and parts manufacturing processes.

# link helpers – russia set to expand space exploration now

**RUSSIA EXPANDING ITS SPACE EXPLORATION EFFORTS NOW – SHUTTLE FLIGHTS, MOON EXPLORATION, MARS EXPLORATION**

**Huffington Post, April 10, 2011,** Russia Plans Space Program Expansion And Moon Base By 2030: Reports, accessed June 22, 2011, <http://www.huffingtonpost.com/2011/04/10/russia-space-program-expansion-_n_846702.html>, MD

Russia is planning a massive increase in its space launches and may even build a base on the moon as part of a manned mission to Mars in the next two decades, according to reports. Prime Minister Vladimir Putin said Thursday that his country's plans go well beyond transporting crews to the International Space Station. With a 2010-2011 space budget estimated at 200 billion rubles ($7.09 billion), Russia is the world's fourth-largest spender on space after U.S. space agency NASA, the European Space Agency and France, Reuters reports. "Russia should not limit itself to the role of an international space ferryman. We need to increase our presence on the global space market," Putin is quoted as having said at his residence outside Moscow. The meeting was planned specifically to coincide with the 50th anniversary of Yuri Gagarin's pioneering space flight. Other reports cite official documents which claim a manned Russian mission to Mars could be possible in 2030 following the creation of a moon base. "Above all, we are talking about flights to the moon and the creation of a base close to its north pole where there is likely to be a source of water," read one of the documents, according to the Telegraph. Russian scientists are also said to have touted the moon as a potential source of energy, saying it contains large reserves of helium 3, a sought-after isotope that may be the key to a new way of generating power.

# links – mars

**RUSSIA GEARING UP TO EXPAND THEIR MARS EXPLORATION EFFORTS - RUSSIA’S AEROSPACE INDUSTRY IS ONE OF THE FEW RUSSIAN INDUSTRIES THAT IS COMPETING STRONG GLOBALLY – IT IS POSITIONED TO HAVE A VERY STRONG PIECE OF THE GLOBAL SPACE EXPLORATION MARKET**

**Moscow Times 6/19**/11, ( Moscow times is a news org. in Moscow, 6/19/11. “Looking for new vistas of space exploration”. <http://english.ruvr.ru/2011/06/19/52070511.html>, 6/20/11. google. AW)

With the ISS slated to go out of business in 2020 the world needs to decide exactly where manned cosmonautics is going from there. Speaking at a professional roundtable, held on the fringes of the International Economic Forum in St. Petersburg, the new head of*Roscosmos* space agency, Vladimir Popovkin, outlined what he described as a two-pronged future of manned space flights. "First, **we need to continue our exploration of the Moon. Secondly, we need a better picture of how our solar system actually came about and for this we’ll have to fly to Mars and its satellites**… **This year we are going to send a probe to get rock samples from one of the Red Planet’s satellites,**" Popovkin said. The US, Russia, the European Space Agency, India, China and even Iran have long unveiled their plans of manned missions to the Moon. Some of these plans seem to have changed a tad over the past few years though with NASA setting its sights on a mission to an incoming asteroid  and Russia focusing on unmanned flights to the Moon and the creation of a permanent base there. A manned flight to Mars still remains an overarching priority though, Vladimir Popovkin said. "Man has already walked on the Moon, so doing it again makes no sense… Mars is a different… It’s a whole new objective calling for new breakthrough technology and a whole new exploration track too," Popovkin said. In November NASA will be sending a science lab to Mars with Russian and European instruments on board and here the ISS could  serve as an orbital training center for  future manned flights to the Red Planet. Lang-haul space missions require new sources of energy and new engines too, said Vitaly Lapota, the head of Russia’s Energiyaspace rocket corporation: "There is one thing we all need to know and that is Mars is the farthest we can possibly go on a manned mission. To go beyond this limit we need a new sourse of energy…" "Nuclear energy could answer this question, the participants agreed, but  viable nuclear jet engines are still a thing of the future…" Vladimir Popovkin then reminded that **the Russian space industry is one of the few competitive  sectors around and here Russia is ready for equal-footed cooperation with everyone and has everything it needs to take up between 10% and 12% of the global space exploration market**.

**Russia committed to Mars mission now**

Ilya **Arkipov and** Lyubov **Pronina**, reporters for Bloomberg News, “Russia Speeds Up Space Mission Plans as U.S. May Cut Spending”, April 5th, **2011,** <http://www.bloomberg.com/news/2011-04-04/russia-speeds-up-moon-mars-plans-as-u-s-may-cut-space-funds.html>, accessed on June 22, 2011, CJJ

Mars Mission Russia may be able to complete a Mars mission within 12 years if it is included in the new federal space program, Karash said. Roscosmos is working on a plan that will start in 2015, focusing more on outer space than before, Perminov said in the interview. A flight to Mars is more likely in cooperation with other space programs, according to the Roscosmos plan. Roscosmos last June began a Mars flight simulation program, locking three Russians, two Europeans and a Chinese astronaut in 1,750 square-meter (18,800-square-foot), five-module complex to live there in isolation for 17 months. Russia will need a new rocket, a new manned spacecraft for crews of between four and six members and a new launch site to operate manned flights as early as in 2018, Perminov said. The new rocket, Rus-M, which is to become Russia’s main vehicle for manned spaceflights, should be ready for the 2015 start of Russia’s new space program, he said. Cosmodrome Vostochny in Russia’s Far East will launch unmanned craft from the end of 2015, in line with the Roscosmos plan. The country will continue to use Kazakhstan’s Baikonur Cosmodrome until 2050. Russia is also considering building a new-generation orbital station, according to Roscosmos. Space Tourism The need to accommodate expanded crews has halted travel by paying space tourists 2009, Perminov said, adding that space tourism may resume in 2013. Astronauts from other countries have to wait in line as demand for flights to the ISS is growing and Russia’s capacity is limited by the number of spacecraft, Perminov said. Russia would be able to earn $1 billion a year if it could carry out all requested launches, including commercial flights on its Proton and Soyuz rockets, he said. “It would be good to have two, three or more tourists a year,” Perminov said. Roscosmos is in talks with Russian spacecraft maker RKK Energia to increase production, he said.

# links – space tourism

**RUSSIA LOOKING TO EXPAND THEIR SPACE TOURISM SECTOR**

William **Harwood**, staff writer for CBS News, “Resumption of Soyuz tourist flights announced, January 12th, **2011**, <http://spaceflightnow.com/news/n1101/12soyuz/>, accessed on June 23, 2011, CJJ

The Russian space agency and the Rocket Space Corporation Energia have agreed to build additional Soyuz spacecraft to carry paying customers to the International Space Station starting in 2013 in a deal announced Wednesday by Space Adventures Ltd. of Vienna, Va "It's a great indication of the market and the fact that we're able to restart with the Russians," Eric Anderson, chairman of Space Adventures, told CBS News. "I think it's notable this is the first time the capacity for an additional launch has specifically been increased based on the market demand. "We've got a number of people who have expressed interest over the years who are waiting with bated breath for us to come out with the dates for these new opportunities. So a lot of things are going to start happening as of today." Space Adventures has arranged eight commercial flights to the space station for six men and one woman, starting with Dennis Tito in 2001 and most recently with Guy Laliberte, the founder of Cirque du Soleil, who visited the outpost in 2009. Charles Simonyi, a software developer and entrepreneur, paid for two flights. But future tourist flights to the lab complex were in doubt because of a U.S. decision to retire NASA's shuttle fleet after just three more missions. NASA has contracts in place to launch U.S., European, Japanese and Canadian astronauts to the space station through 2014 aboard Russian Soyuz spacecraft until new commercial rockets and capsules ordered by the Obama administration become available. The Russians had been building and launching two three-seat Soyuz spacecraft per year to carry cosmonauts and the occasional tourist to the station. With the NASA contracts, production has been increased to four vehicles per year, allowing the station's partners to support a full-time crew of six. But no additional seats were available for space tourists.

# internal link helpers – aerospace key to russian economy

**PUTIN HAS REVITALIZED THE RUSSIAN AEROSPACE INDUSTRY – IT IS NOW A FORMIDABLE PLAYER IN THE GLOBAL MARKET – ITS SUCCESS KEY TO RUSSIAN ECONOMY AND NATIONAL SECURITY**

**US DEPARTMENT OF COMMERCE 2008** [“Russia: Consolidation of the Aerospace industry – MAS/OAAI/Aerospace team”, <http://trade.gov/static/aero_rpt_russian_industry_consolidation.pdf>, accessed: June 20, 2011] ttate

The Russian aviation industry is one of several key business sectors kept under constant review and scrutiny by the Ministry of Industry and Energy. The reasons for this close review are twofold; Russia considers a strong aviation industry vital not only to economic success but also to national security.

While Russia’s military aviation sector marginally successful, at the beginning of the 21st century, Russia’s aviation industry as a whole was essentially a non-player in the global aviation market. Mindful of this reality, President Vladimir Putin directed the formation a Government Commission to study the idea of industry consolidation as a means of revitalizing and developing an industry that had fallen on hard times. The recommendation of the Commission was the creation of an open joint stock company consolidating many of the state-owned aerospace companies under a single entity. This consolidated entity, the United Aircraft Corporation (UAC), has moved quickly to transform and revitalize the Russian aviation industry and has positioned itself as both a formidable competitor and potential partner in the global aviation market. (See Chart 1).

**RUSSIAN AEROSPACE INDUSTRY KEY TO THE RUSSIAN ECONOMY – TRUMPS OIL**

**SAWYER 2005**  [Cameron, CEO at Rutley Russia Property Asset Management and Owner, GVA Sawyer “RE: Russian Aviation and the Metric System,” World Association of International Studies, Jan 22, <http://cgi.stanford.edu/group/wais/cgi-bin/index.php?p=1019>] ttate

The Russian airliner industry has not yet recovered from the collapse of the Soviet Union. At the time of the end of Communism, Russian airliners were powered by noisy, thirsty, high-maintenance turbojets, rather than fanjets as used in the West, and had primitive avionics. The Ilyushin-86 jumbo has at last been updated with new Russian fanjets and modern avionics, and Tupolev has developed a modern fanjet-powered successor to the mainstay Tu-154, but orders are slow. Russian airlines are leasing Boeings and Airbuses on favorable terms from the West which cannot be matched inside Russia due to the high cost of capital here. But the Russian aerospace manufacturing sector is awash in orders from the West and is recovering rapidly. The new Boeing Dreamliner, which was largely designed by Russian engineers in Boeing’s Moscow design bureau, will also have many components manufactured in Russia, including the airframe itself. Boeing is particularly active in Russia, with joint ventures to produce a regional jet and a supersonic business jet in Russia. And Russian liquid-fueled rocket engines are now used in all U.S. commercial space launches, having squeezed U.S. manufacturers entirely out of the market. They are more expensive than U.S.-made rocket engines, but they are far superior in terms of reliability and power-to-weight ratio. The Russian aerospace industry is in many ways a model for the development of the Russian economy. The export of oil and other natural resources is very lucrative at the moment but by itself cannot the basis for a modern economy. High technology manufacturing, on the other hand, is, and this is Russia’s best hope for the future. Let’s hope that in the future the Russians can successfully apply this potential to purposes other than military.

**AIRCRAFT SECTOR VITAL TO RUSSIAN ECONOMY – RUSSIA CANNOT AFFORD TO BE SQUEEZED OUT OF GLOBAL MARKET**

**IVANOV 2006** [Sergei -Russian Defense Minister, “What the Papers Say, Part A” December 14, p. lexis] ttate

Sergei Ivanov: I'll put it this way: as deputy prime minister and defense minister, I have been instructed to chair the OAK board of directors. First of all, air power is becoming increasingly important for national security. Secondly, over the past century, the aviation sector's needs have stimulated the development of advanced technologies - serving as a driving force in the development of science and industry. And Russia must not fall behind other countries in this field. Thirdly, aircraft-building is one of the few high-tech sectors in which Russia is still competitive, despite the hardships of the 1990s. Aviation offers the primary opportunity for implementing the innovation-based development model which is the only alternative to the dead-end path of an economy dependent on raw materials exports. Finally, Russia's vast expanses require us to develop civil aviation as the leading form of transport - in some areas, the only form.

# internal link helpers – aerospace key to russian economy

**RUSSIAN AVIATION/AEROSPACE INDUSTRY KEY TO RUSSIAN ECONOMY**

**ICDP 1996**, ( ICDP is a project to advise commercial diplomats, “ Barriers to aviation/aerospace investment”. <http://www.commercialdiplomacy.org/sampledocuments_htm/Labor/White_paper_Russia.htm#INTRODUCTION>. 6/23/11. google, AW)

**The Russian Aerospace/Aviation industry provides enormous possibilities for cooperation with and investment from the West**, including partnerships, technology exchanges and supplier relationships as described above. **This cooperation and investment will bring great benefits to Russian producers both domestically and in international markets. As domestic and international competitiveness improve, domestic production will increase, jobs will be created and the aviation infrastructure will modernize and grow**. Spin-off effects for the economy overall will be tremendous as development of the transportation infrastructure will promote commerce generally and the benefits of research and development spill over into other areas of commercial application. However, at the current time the obstacles to foreign investment in Russia are substantial. The **barriers to American investment** addressed by this paper, **especially certification issues, customs problems and taxation, are not specific to the aerospace industry--therefore the progress made in resolving these issues will bring increased investment and resulting benefits to many industries and to the Russian economy as a whole.**

**AEROSPACE INDUSTRY KEY TO OVERALL RUSSIAN COMPETITIVENESS**

**ELENKOV 1995** [Detelin S. - professor at the School of Management and Business and director of the Center for Eastern European Business and Economic Research (CEEBER) @ Adelphi University, “Russian Aerospace MNCs in Global Competition,” Columbia Journal of World Business, Summer] ttate

Russian aerospace multinationals are characterized by world-class R&D and engineering operations and state-of-the-art technology, but they lack the capital and marketing expertise necessary to sell their products in the global marketplace. Elenkov discusses how Russian MNCs must form strategic alliances with partners from Western industrialized countries to gain the necessary capital and marketing skills to compete globally. Russia has a weak economy, stifled by a deep recession. The drop in industrial production is approximately 30% to 40%.[ 1] Political uncertainty, ever changing legislation, non-convertibility of the ruble, and lack of business infrastructure, as known in the West, have seriously impeded the operations of Russian companies.[ 2] According to popular opinion, the Russian economy is much like a Third World economy.[ 3] Western business-people also take for granted that Russian companies will not be able to successfully compete in the West for another 15 to 20 years. Russia will need at least that much time to solve its most significant socioeconomic problems, create new political and legal institutions, build a market economy, generate entrepreneurial spirit and train a generation of young managers.[ 4] Yet, exports of some Russian companies have seriously shaken a number of markets in the West since 1991.[ 5] Consider the satellite-launch service sector. Before the Russians came on board, the business had been a cartel. The price for launching a typical three-ton telecommunications satellite into geostationary orbit had been set at around $60 million. Since the Russians entered the market, the satellite-launch cartel has been worried. In the first case where the Russians were permitted to bid, they won hands down. The Russian bid was only $36 million (some $25 million less than the American and Western European offers) to use a four-stage Proton rocket to launch a communications satellite into geostationary orbit for London-based Inmarsat. Moreover, the Russians reportedly allowed themselves a mark-up of something close to 100%.[ 6] It is also important to note that Proton, Soyuz and the other Russian space vehicles have failure rates of 3%, versus a failure rate of over 5% for Europe's Ariane rocket, Martin Marietta's Titan rocket and General Dynamics' Atlas rocket. As a result, the reliability of the Russian rockets appears to be another advantage that has given aerospace enterprises of that country a competitive edge in the satellite-launch market. Creation of strategic alliances between Russian organizations and Western companies in the aerospace/ military sector and growing U.S./ Russian collaboration in aeronautics and satellite-based ballistic missile tracking data give additional examples of increasing Russian involvement in international business.[ 7] These are really surprising developments, especially in light of the history of the Cold War. They also seem to suggest that some Russian enterprises, especially in the aerospace/military sector, are capable of competing in the West.

# internal link helpers – brain drain – each scientist key

**EACH RUSSIAN SCIENTIST IS KEY – ONE LOSS OF A RUSSIAN SCIENTISTS COSTS THEIR ECONOMY HUNDREDS OF THOUSANDS OF DOLLARS**

Illarion A. **Simonov, BCM.ru staff writer, March 10, 2011**, Why do young scientists leave Russia?, accessed June 21, 2011, <http://www.newsbcm.com/doc/670>, MD

Why do young scientists leave Russia? "You can't grasp Russia with your mind..." – this line from a verse by the famous Russian poet Fyodor Tyutchev can probably tell us a lot… When investing huge amounts in the Olympics-2014 and the 2018 FIFA World Cup, the officials want to gain too many results at once: to impress foreigners, to show that Russia is not only the largest, but also the most generous country… And it does not matter that her piggy bank is as bare as the palm of one's hand, and the chic on display is phoney. After all, nobody can see that so far... Let’s take the Eurovision Song Contest 2009. They invested 42 million dollars and received 24 hours of glory, not more. Yes, they did surprise everyone, I admit. But was not that surprise too expensive? Perhaps it would have been better to spend the money on some more important issues? On Russia’s brain drain, for example. More precisely, on what would help keep young scientists within the country. Only over the last three decades, our country has lost a third of its scientific potential. And from 1999 to 2004, around 25 thousand scientists left Russia, not counting the 30,000 that had gone abroad to work under contracts. According to official statistics, already about 700-800 thousand scientists from Russia are employed overseas. And if earlier they used to leave by themselves or with their families at best, now they are leaving their country in teams, laboratories and groups. According to the UN scientists’ estimates, as reported by rys-arhipelag.ucoz.ru, the departure of just one of such genii overseas from Russia inflicts a loss to the state in the amount of 300-800 thousand dollars. And the rector of Moscow State University, academician V. Sadovnichy, says that the training of only one such world-class specialist means that Moscow State University has to shell out $400 thousand. So, is not it time to have the problem solved, or at least to look into the causes? For example, among the main reasons for professional emigration are: 1) the absence of technical base – the share of new equipment in Russian Research Institutes does not exceed 20%; 2) an extremely low level of social security and wages: the earnings of a young scientist rarely surpass 15 thousand rubles; 3) a very low demand for scientific findings imposes is own imprint on the situation (the level of investment ideas accepted for development is equal to 1%). While abroad, the works of Russian specialists are appreciated. Therefore, our researchers, even if they do not leave the country, can publish their research results in foreign journals that their fellow countrymen still can not afford to see (because of the high cost of subscriptions, unbearable for Russian academic libraries). It turns then out that our scientists, although they did not emigrate, still worked for ‘an uncle abroad’, so their research results are often taken by their foreign employers as their own. To some countries, young scientists are lured especially persistently. Sometimes it is the newcomers that keep the foreign science afloat. For example, according to the US National Research Foundation, the share of foreign scientific experts in the US accounts for 40% of all doctorates in chemistry and biology, 50% of the doctorates in mathematics and computer science, 58% – in engineering, 32.1% of the doctoral degrees in natural and exact sciences, and 61,3% – in engineering disciplines. To prevent further brain drain, action must be taken already now. For example, young professionals with higher education can be prohibited from leaving the country to work for ten years after the graduation. To do that, however, they have to be provided with decent wages so that the desire to go abroad would disappear completely. Of course, there are other reasons for emigration: a highly criminal situation, a most profound economic crisis, political instability in Russia. Unfortunately, we are unlikely to succeed in dealing with these issues in the near future. Will we succeed later?

# internal link helpers – proliferation

**COLLAPSE OF THE RUSSIAN TECHNOLOGICAL INDUSTRY MEANS THESE SCIENTISTS WILL GO TO THE “HIGHEST BIDDER” – RUSSIAN BRAIN DRAIN INCREASES GLOBAL PROLIFERATION RISKS – THE BRINK IS NOW – CONDITIONS ARE RIPE FOR SCIENTISTS TO LOOK ELSEWHERE**

**Martin 3/2/11** ( Mike Martin - UPI science correspondent, “Report cites dangerous Russian brain drain”, WEEKLY SCIENTIST, Accessed: 6/21/11. <http://www.weeklyscientist.com/ws/articles/braindrain.htm>. AW)

WASHINGTON, May 2 (UPI) - The Carnegie Endowment for International Peace today released a report detailing the decline in living conditions and economic standards for employees of the Russian nuclear industry. According to the report, **the situation in so-called "nuclear and missile cities" populated by scientists, technicians, and engineers in those industries is so dire it presents a national security emergency to the United States and other western nations. "This is a major threat facing the U.S**.," John Wolfsthal, the Carnegie report's editor, told a press conference at the nation's capitol. "**The Russian nuclear and missile defense industry is a gloomy picture of underpaid but highly-skilled and educated workers with poor morale who are ready to emigrate to the land of the highest bidder."** According to Wolfsthal, the Carnegie Endowment took a census of nuclear cities to "get a good idea of how tough life is among people in the Russian nuclear industry." The Endowment looked at 8 nuclear and missile cities, sampling 2% of their populations. According to the survey, 63% make less than $50 per month, and almost none make over $125 per month. The workers desire, on the other hand, not more than $150 per month.**This makes it very cheap for a potential nuclear proliferater to come in and help these communities,"** Wolfsthal maintained. **Any entity helping these downtrodden nuclear workers could also be helping themselves to the necessary expertise to create a major threat to world peace,** Wolfsthal explained. "These people have a strong desire to moonlight," Wolfsthal said. "14% want to get out of Russia entirely, and another **6% will work for anyone, anywhere."**

# impact helpers – russian economy key to world economy

**RUSSIAN ECONOMY KEY TO THE GLOBAL ECONOMY**

**COOPER 2008** [William – Congressional Research Service specialist in international trade and finance foreign affairs, defense, and trade division, “Russia’s economic performance and policies and their implications for the United States,”, Accessed: June 23, 2011, <http://www.fas.org/sgp/crs/row/RL34512.pdf>, MD]

Until recently, the Russian economy was one of the fastest growing economies in the world. The growth brought an improvement in the standard of living of the average Russian citizen and also brought economic stability that Russia had not experienced in at least a decade. This strong economic performance had been a major factor in the popular support that the Russian leadership enjoyed and was also arguably a factor in the boldness with which that leadership reasserted Russia’s status as a world power, challenging the United States, Europe, the neighboring former Soviet states in economic and national security areas. However, as has been the case with most of the world’s economies, the Russian economy has been hit hard by the global financial crisis and recession, the effects of which have been readily apparent since the fourth quarter of 2008. The crisis brought an abrupt end to the decade’s long (1999-2008) economic growth with real gross domestic product (GDP) increasing 6.9% annually on average. Russia is expected to experience negative growth in 2009 and only modest growth at best in 2010. Its real GDP decreased 9.8% during the first quarter of 2009. The high oil prices were a major factor in the economic success Russian enjoyed, especially in the early and middle parts of this decade; however, the collapse of world prices for oil and other commodities in 2008 exposed the downside of Russia’s dependence on the production and export of oil, gas, and other natural resources. The failure of Russia to complete important economic reforms and the government’s penchant for re-asserting its control over key economic sectors loom among the possible roadblocks to a return to high economic growth rates down the road. Although its influence has been greatly diminished since the Soviet period, Russia remains a formidable force on the global stage, and its influence seems to be growing. **Russia’s economy is large enough to influence global economic conditions.** Many European countries and former Soviet states are highly dependent on Russian natural gas. Russia is a significant player on a number of issues critical to the United States, for example, nuclear proliferation by Iran and North Korea. Russia’s perceived national interests do not always match those of the United States, creating an environment for disagreement if not conflict. While U.S. exports to Russia are still relatively small, it is an important market for U.S. exporters of poultry, energy equipment, and technology. Russia is also an important supplier of a number of raw materials that are critical to U.S. manufacturers. These links have drawn the attention of some Members of Congress. Congress may consider in the near future whether to extend permanent normal trade relations (PNTR) status to Russia

**RUSSIAN ECONOMIC COLLAPSE DESTROYS US AND WORLD ECONOMIES**

**COOPER 2008** [William – Congressional Research Service specialist in international trade and finance foreign affairs, defense, and trade division, “Russia’s economic performance and policies and their implications for the United States,”, Accessed: June 23, 2011, <http://www.fas.org/sgp/crs/row/RL34512.pdf>, AW]

**Russia’s economic prospects have direct and indirect implications for the United States.** One way to measure the direct implications is by examining the status ofU.S.-Russian economic ties. U.S.-Russian trade and investment flows have increased in the post-Cold War period reflecting the changed U.S.-Russian relationship. Many experts have suggested that the relationship could expand even further. U.S. imports from Russia have increased substantially, rising from $0.5 billion in 1992 to a peak of $26.8 billion in 2008. The large increase in U.S. imports reflects not so much an increase in the volume of trade but the rise in world prices of raw materials, particularly oil, that comprise the bulk of those imports (64% in 2008). U.S. exports have increased from $2.1 billion in 1992 peaking at $9.3 billion in 2008. Major U.S. exports to Russia consist of machinery, vehicles, and meat (mostly chicken). Russia and the United States have never been major economic partners, and it unlikely that the significance of bilateral trade will increase much in the near term. However, **in some areas, such as agriculture, Russia has become an important market for U.S. exports. Russia is the largest foreign market for U.S. poultry. Furthermore, U.S. exports to Russia of energy exploration equipment and technology, as well as industrial and agricultural equipment, have increased as the dollar has declined in value**. Russian demand for these products will likely grow as old equipment and technology need to be replaced and modernized. Russia’s significance as a supplier of U.S. imports will also likely remain small given the lack of international competitiveness of Russian production outside of oil, gas, and other natural resources. U.S.-Russian investment relations could grow tighter if Russia’s business climate improves; however, U.S. business concerns about the Russian government’s seemingly capricious intervention in energy and othersectors coulddampen the enthusiasm of all but adventuresome investors. **The greater importance of Russia’s economic policies and prospects to the United States lie in their indirect effect on the overall economic and political environment in which the United States and Russia operate. From this perspective, Russia’s continuing economic stability and growth can be considered positive for the United States. Because financial markets are interrelated, chaos in even some of the smaller economies can cause uncertainty throughout the rest of the world.** Such was the case during Russia’s financial meltdown in 1998 and more recently with the 2008-2009 crisis. Promotion of economic stability in Russia has been a basis for U.S. support for Russia’s membership in international economic organizations, including the IMF, the World Bank, and the WTO. **As a major oil producer and exporter, Russia influences world oil prices that affect U.S. consumers**.

# russian economy impacts – laundry list

**RUSSIAN DECLINE LEADS TO NUCLEAR WAR, WMD PROLIFERATION, TERRORISM, DISEASE, AND WORLD ECONOMIC COLLAPSE**

**OLIKER AND CHARLICK-PALEY 2002** [Olga and Tanya - RAND Corporation Project Air Force, “Assessing Russia’s Decline,” [www.rand.org/pubs/monograph\_reports/MR1442](http://www.rand.org/pubs/monograph_reports/MR1442), Accessed: 06-24-2011, ttate]

The preceding chapters have illustrated the ways in which Russia’s decline affects that country and may evolve into challenges and dangers that extend well beyond its borders. The political factors of decline may make Russia a less stable international actor and other factors may increase the risk of internal unrest. Together and separately, they increase the risk of conflict and the potential scope of other imaginable disasters. The trends of regionalization, particularly the disparate rates of economic growth among regions, combined with the politicization of regional economic and military interests, will be important to watch. The potential for locale, or possibly ethnicity, to serve as a rallying point for internal conflict is low at present, but these factors have the potential to feed into precisely the cycle of instability that political scientists have identified as making states in transition to democracy more likely to become involved in war. These factors also increase the potential for domestic turmoil, which further increases the risk of international conflict, for instance if Moscow seeks to united a divided nation and/or demonstrate globally that its waning power remains something to be reckoned with. Given Russia’s conventional weakness, an increased risk of conflict carries with it an increased risk of nuclear weapons use, and Russia’s demographic situation increases the potential for a major epidemic with possible implications for Europe and perhaps beyond. The dangers posed by Russia’s civilian and military nuclear weapons complex, aside from the threat of nuclear weapons use, create a real risk of proliferation of weapons or weapons materials to terrorist groups, as well as perpetuating an increasing risk of accident at one of Russia’s nuclear power plants or other facilities. These elements touch upon key security interests, thus raising serious concerns for the United States. A declining Russia increases the likelihood of conflict—internal or otherwise—and the general deterioration that Russia has in common with “failing” states raises serious questions about its capacity to respond to an emerging crisis. A crisis in large, populous, and nuclear-armed Russia can easily affect the interests of the United States and its allies. In response to such a scenario, the United States, whether alone or as part of a larger coalition, could be asked to send military forces to the area in and around Russia. This chapter will explore a handful of scenarios that could call for U.S. involvement. A wide range of crisis scenarios can be reasonably extrapolated from the trends implicit in Russia’s decline. A notional list includes: Authorized or unauthorized belligerent actions by Russia troops in trouble-prone Russian regions or in neighboring states could lead to armed conflict. Border clashes with China in the Russian Far East or between Russia and Ukraine, the Baltic states, Kazakhstan, or another neighbor could escalate into interstate combat. Nuclear-armed terrorists based in Russia or using weapons or materials diverted from Russian facilities could threaten Russia, Europe, Asia, or the United States. Civil war in Russia could involve fighting near storage sites for nuclear, chemical, or biological weapons and agents, risking large-scale contamination and humanitarian disaster. A nuclear accident at a power plant or facility could endanger life and health in Russia and neighboring states. A chemical accident at a plant or nuclear or nuclear-related facility could endanger life and health in Rusisa and neighboring states. Ethnic pogrom in south Russia could force refugees into Georgia, Azerbaijan, Armenia, and/or Ukraine. Economic and ethnic conflicts in Caucasus could erupt into armed clashes, which would endanger oil and gas pipelines in the region. A massive ecological disaster such as an earthquake, famine, or epidemic could spawn refugees and spread illness and death across borders. An increasingly criminalized Russian economy could create a safe haven for crime or even terrorist-linked groups. From this base, criminals, drug traders, and terrorists could threaten the people and economies of Europe, Asia, and the United States. Accelerated Russian weapons and technology sales or unauthorized diversion could foster the proliferation of weapons and weapon materials to rogue states and nonstate terrorist actors, increasing the risk of nuclear war.

# russian economy impacts – nuclear war

**RUSSIAN ECONOMIC DECLINE --> NUCLEAR WAR**

Steven R. **David**, Professor of International Relations and Vice Dean for Undergraduate Education at Johns Hopkins University, **1999**, “Saving America from the Coming Civil Wars”, accessed on June 24, 2011, CJJ

If internal war does strike Russia, economic deterioration will be a prime cause. From 1989 to the present, the GDP has fallen by 50 percent. In a society where, ten years ago, unemployment scarcely existed, it reached 9.5 percent in 1997 with many economists declaring the true figure to be much higher. Twenty-two percent of Russians live below the official poverty line (earning less than $ 70 a month). Modern Russia can neither collect taxes (it gathers only half the revenue it is due) nor significantly cut spending. Reformers tout privatization as the country's cure-all, but in a land without well-defined property rights or contract law and where subsidies remain a way of life, the prospects for transition to an American-style capitalist economy look remote at best. As the massive devaluation of the ruble and the current political crisis show, Russia's condition is even worse than most analysts feared. If conditions get worse, even the stoic Russian people will soon run out of patience. A future conflict would quickly draw in Russia's military. In the Soviet days civilian rule kept the powerful armed forces in check. But with the Communist Party out of office, what little civilian control remains relies on an exceedingly fragile foundation -- personal friendships between government leaders and military commanders. Meanwhile, the morale of Russian soldiers has fallen to a dangerous low. Drastic cuts in spending mean inadequate pay, housing, and medical care. A new emphasis on domestic missions has created an ideological split between the old and new guard in the military leadership, increasing the risk that disgruntled generals may enter the political fray and feeding the resentment of soldiers who dislike being used as a national police force. Newly enhanced ties between military units and local authorities pose another danger. Soldiers grow ever more dependent on local governments for housing, food, and wages. Draftees serve closer to home, and new laws have increased local control over the armed forces. Were a conflict to emerge between a regional power and Moscow, it is not at all clear which side the military would support. Divining the military's allegiance is crucial, however, since the structure of the Russian Federation makes it virtually certain that regional conflicts will continue to erupt. Russia's 89 republics, krais, and oblasts grow ever more independent in a system that does little to keep them together. As the central government finds itself unable to force its will beyond Moscow (if even that far), power devolves to the periphery. With the economy collapsing, republics feel less and less incentive to pay taxes to Moscow when they receive so little in return. Three-quarters of them already have their own constitutions, nearly all of which make some claim to sovereignty. Strong ethnic bonds promoted by shortsighted Soviet policies may motivate nonRussians to secede from the Federation. Chechnya's successful revolt against Russian control inspired similar movements for autonomy and independence throughout the country. If these rebellions spread and Moscow responds with force, civil war is likely. Should Russia succumb to internal war, the consequences for the United States and Europe will be severe. A major power like Russia -- even though in decline -- does not suffer civil war quietly or alone. An embattled Russian Federation might provoke opportunistic attacks from enemies such as China. Massive flows of refugees would pour into central and western Europe. Armed struggles in Russia could easily spill into its neighbors. Damage from the fighting, particularly attacks on nuclear plants, would poison the environment of much of Europe and Asia. Within Russia, the consequences would be even worse. Just as the sheer brutality of the last Russian civil war laid the basis for the privations of Soviet communism, a second civil war might produce another horrific regime. Most alarming is the real possibility that the violent disintegration of Russia could lead to loss of control over its nuclear arsenal. No nuclear state has ever fallen victim to civil war, but even without a clear precedent the grim consequences can be foreseen. Russia retains some 20,000 nuclear weapons and the raw material for tens of thousands more, in scores of sites scattered throughout the country. So far, the government has managed to prevent the loss of any weapons or much material. If war erupts, however, Moscow's already weak grip on nuclear sites will slacken, making weapons and supplies available to a wide range of anti-American groups and states. Such dispersal of nuclear weapons represents the greatest physical threat America now faces. And it is hard to think of anything that would increase this threat more than the chaos that would follow a Russian civil war.

# russian economy impacts – nuclear war

**RUSSIAN ECONOMIC COLLAPSE --> NUCLEAR WAR AND ENVIRONMENTAL DESTRUCTION**

**OLIKER AND CHARLICK-PALEY 2002** [Olga and Tanya - RAND Corporation Project Air Force, “Assessing Russia’s Decline,” [www.rand.org/pubs/monograph\_reports/MR1442](http://www.rand.org/pubs/monograph_reports/MR1442), Accessed: 06-24-2011, ttate]

What challenges does today’s Russia pose for the U.S. Air Force and the U.S. military as a whole? Certainly Russia cannot present even a fraction of the threat the Soviet monolith posed and for which the United States prepared for decades. Yet, if certain negative trends continue, they may create a new set of dangers that can in some ways prove even more real, and therefore more frightening, than the far-off specter of Russian attack ever was. As a weak state, Russia shares some attributes with “failed” or “failing” states, which the academic literature agrees increase the likelihood of internal and interstate conflict and upheaval. Tracing through the specifics of these processes in Russia reveals a great many additional dangers, both humanitarian and strategic. Moscow’s efforts to reassert central control show that much control is already lost, perhaps irretrievably. This is manifested both in center-periphery relations and in the increasing failure of law and order throughout the country, most clearly seen in the increasing institutionalization of corruption and crime. Although Russia’s weakened armed forces are unlikely, by temperament and history, to carry out a coup, real concerns exist that the forces may grow less inclined to go along with aspects of government policy, particularly if they are increasingly used as instruments of internal control as in Chechnya. Moreover, the fact that the Russian military is unlikely to attempt to take power does not mean that it will not seek to increase its influence over policymaking and policy-makers. The uncertainties of military command and control threaten the possibility of accidental (or intentional) nuclear weapon use, while deterioration in the civilian nuclear sector increases the risk of a tragic accident. Russia’s demographic trajectory of ill health and male mortality bodes ill for the nation’s ability to resolve its economic troubles (given an increasingly graying population) and creates concerns about its continued capacity to maintain a fighting force even at current levels of effectiveness. Finally, the fact that economic, political, and demographic declines affect parts of Russia very differently, combined with increased regional political autonomy over the course of Russian independence and continuing concerns about interethnic and interregional tension, creates a danger that locality and/or ethnicity could become rallying cries for internal conflict. While some might argue that Russia’s weakness, or even the potential for its eventual collapse, has little to do with the United States, the truth is that a range of U.S. interests is directly affected by Russia’s deterioration and the threats that it embodies. The dangers of proliferation or use of nuclear or other weapons of mass destruction (WMD), heightened by Russian weakness, quite directly threaten the United States and its vital interests. Organized crime in Russia is linked to a large and growing multinational network of criminal groups that threatens the United States and its economy both directly and through links with (and support of) global and local terrorist organizations. Russia is also a major energy producer and a transit state for oil and gas from the Caspian at a time when the U.S. government has identified that region, and energy interests in general, as key to its national security. Washington’s allies, closer to Russia physically, are not only the customers for much of this energy but are also the likely victims of any refugee flows, environmental crises, or potential flare-ups of violence that Russian decline may spur. Finally, recent history suggests a strong possibility that the Untied States would play a role in seeking to alleviate a humanitarian crisis on or near Russian soil, whether it was caused by epidemic, war, or a nuclear/industrial catastrophe.

# Russian economy impacts – sino/russian war module

**COLLAPSE OF RUSSIAN ECONOMY --> RUSSIA/SINO WAR**

**TRENIN 2002 [**Dmitri = Deputy Director of the Carnegie Endowment for International Peace, Former Russian Officer, After Eurasia, pp 308-309] ttate

Usually, there is no shortage of dire predictions concerning Russia’s ultimate fate. In a characteristic exchange of views on the eve of the year 2000, a prominent Russian intellectual predicted Russia’s disintegration within 10 to 15 years. His European counterpart’s vision of Russia was that of Muscovy west of the Urals, with Siberia under Chinese control. The American scholar limited himself to the vision of a Sino-Russian war. If a doomsday scenario were to become a reality, this would be the result of a major economic catastrophe. If Russia became a loose confederation, its borderlands would gravitate in different directions, and governing Russia would require the art of managing these very different orientations. In other words, Russia would still join the world, but it would do so in less than one piece.

# russian economy impacts – iranian proliferation module

**ECONOMIC COLLAPSE IN RUSSIA LEADS TO SALE OF WEAPONS TO IRAN**

**SESTANOVICH 2008 [**Stephen - George F. Kennan Senior Fellow for Russian and Eurasian Studies, “Russia and the Global Economic Crisis”, 11-25, Council on Foreign Relations, <http://www.cfr.org/economic-development/russia-global-economic-crisis/p17844?breadcrumb=%2Fpublication%2Fby_type%2Fregion_issue_brief>] ttate

Unlike most other countries, Russia can always use its arms exports as a means of sweetening commercial deals. At a time when Russian economic needs are especially great, however, its customers are likely to press their advantage-seeking more advanced equipment than they have been offered in the recent past. China, whose own military purchases from Russia have slowed recently, is one Russian client likely to push for such upgrades. Iran and Venezuela are two others of special interest to the United States. It is widely thought that Russia, while steadily increasing its arms sales to Iran, has declined to sell Tehran its most advanced air-defense systems. A protracted economic crisis will surely inspire many inside the Russian defense industry--and probably within the government as well--to call for a review of this policy. All of these strategic adjustments--in defense spending, arms control, pipeline construction, weapons exports--represent matters of high policy for Russia's leadership. Yet, all politics being local, some of the most consequential issues created by the economic crisis may prove to be those that would ordinarily be considered matters of low policy. When production falls and unemployment rises in Russia, many of the Gastarbeiter, or guest workers, that have been needed to fuel the boom are usually sent home. For countries of the Caucasus and Central Asia, which have provided most of this enormous transient labor force (some estimate more than one million workers in Moscow alone), this will be a huge jolt. Quickly, Russia will go from being an important safety valve for socioeconomic discontent to a source of it. In the short term, Russia's neighbors will doubtless see this reflux of their own citizens as a reason to maintain good relations with Moscow, in hopes of winning coordinated management of a potentially dangerous problem.

# russian economy impacts – iranian proliferation module

AND, NUCLEAR WAR

FERGUSON 2006 [Nial - professor of history@ Harvard, “The origins of the Great War of 2007 - and how it could have been prevented,” Telegraph, 1/15/06, <http://www.telegraph.co.uk/comment/personal-view/3622324/The-origins-of-the-Great-War-of-2007-and-how-it-could-have-been-prevented.html>] ttate

With every passing year after the turn of the century, the instability of the Gulf region grew. By the beginning of 2006, nearly all the combustible ingredients for a conflict - far bigger in its scale and scope than the wars of 1991 or 2003 - were in place. The first underlying cause of the war was the increase in the region's relative importance as a source of petroleum. On the one hand, the rest of the world's oil reserves were being rapidly exhausted. On the other, the breakneck growth of the Asian economies had caused a huge surge in global demand for energy. It is hard to believe today, but for most of the 1990s the price of oil had averaged less than $20 a barrel. A second precondition of war was demographic. While European fertility had fallen below the natural replacement rate in the 1970s, the decline in the Islamic world had been much slower. By the late 1990s the fertility rate in the eight Muslim countries to the south and east of the European Union was two and half times higher than the European figure. This tendency was especially pronounced in Iran, where the social conservatism of the 1979 Revolution - which had lowered the age of marriage and prohibited contraception - combined with the high mortality of the Iran-Iraq War and the subsequent baby boom to produce, by the first decade of the new century, a quite extraordinary surplus of young men. More than two fifths of the population of Iran in 1995 had been aged 14 or younger. This was the generation that was ready to fight in 2007. This not only gave Islamic societies a youthful energy that contrasted markedly with the slothful senescence of Europe. It also signified a profound shift in the balance of world population. In 1950, there had three times as many people in Britain as in Iran. By 1995, the population of Iran had overtaken that of Britain and was forecast to be 50 per cent higher by 2050. Yet people in the West struggled to grasp the implications of this shift. Subliminally, they still thought of the Middle East as a region they could lord it over, as they had in the mid-20th century. The third and perhaps most important precondition for war was cultural. Since 1979, not just Iran but the greater part of the Muslim world had been swept by a wave of religious fervour, the very opposite of the process of secularisation that was emptying Europe's churches. Although few countries followed Iran down the road to full-blown theocracy, there was a transformation in politics everywhere. From Morocco to Pakistan, the feudal dynasties or military strongmen who had dominated Islamic politics since the 1950s came under intense pressure from religious radicals. The ideological cocktail that produced 'Islamism' was as potent as either of the extreme ideologies the West had produced in the previous century, communism and fascism. Islamism was anti-Western, anti-capitalist and anti-Semitic. A seminal moment was the Iranian president Mahmoud Ahmadinejad's intemperate attack on Israel in December 2005, when he called the Holocaust a 'myth'. The state of Israel was a 'disgraceful blot', he had previously declared, to be wiped 'off the map'. Prior to 2007, the Islamists had seen no alternative but to wage war against their enemies by means of terrorism. From the Gaza to Manhattan, the hero of 2001 was the suicide bomber. Yet Ahmadinejad, a veteran of the Iran-Iraq War, craved a more serious weapon than strapped-on explosives. His decision to accelerate Iran's nuclear weapons programme was intended to give Iran the kind of power North Korea already wielded in East Asia: the power to defy the United States; the power to obliterate America's closest regional ally. Under different circumstances, it would not have been difficult to thwart Ahmadinejad's ambitions. The Israelis had shown themselves capable of pre-emptive air strikes against Iraq's nuclear facilities in 1981. Similar strikes against Iran's were urged on President Bush by neo-conservative commentators throughout 2006. The United States, they argued, was perfectly placed to carry out such strikes. It had the bases in neighbouring Iraq and Afghanistan. It had the intelligence proving Iran's contravention of the Non-Proliferation Treaty. But the President was advised by his Secretary of State, Condoleezza Rice, to opt instead for diplomacy. Not just European opinion but American opinion was strongly opposed to an attack on Iran. The invasion of Iraq in 2003 had been discredited by the failure to find the weapons of mass destruction Saddam Hussein had supposedly possessed and by the failure of the US-led coalition to quell a bloody insurgency. Americans did not want to increase their military commitments overseas; they wanted to reduce them. Europeans did not want to hear that Iran was about to build its own WMD. Even if Ahmad-inejad had broadcast a nuclear test live on CNN, liberals would have said it was a CIA con-trick. So history repeated itself. As in the 1930s, an anti-Semitic demagogue broke his country's treaty obligations and armed for war. Having first tried appeasement, offering the Iranians economic incentives to desist, the West appealed to international agencies - the International Atomic Energy Agency and the United Nations Security Council. Thanks to China's veto, however, the UN produced nothing but empty resolutions and ineffectual sanctions, like the exclusion of Iran from the 2006 World Cup finals. Only one man might have stiffened President Bush's resolve in the crisis: not Tony Blair, he had wrecked his domestic credibility over Iraq and was in any case on the point of retirement - Ariel Sharon. Yet he had been struck down by a stroke as the Iranian crisis came to a head. With Israel leaderless, Ahmadinejad had a free hand. As in the 1930s, too, the West fell back on wishful thinking. Perhaps, some said, Ahmadinejad was only sabre-rattling because his domestic position was so weak. Perhaps his political rivals in the Iranian clergy were on the point of getting rid of him. In that case, the last thing the West should do was to take a tough line; that would only bolster Ahmadinejad by inflaming Iranian popular feeling. So in Washington and in London people crossed their fingers, hoping for the deus ex machina of a home-grown regime change in Teheran. This gave the Iranians all the time they needed to produce weapons-grade enriched uranium at Natanz. The dream of nuclear non-proliferation, already interrupted by Israel, Pakistan and India, was definitively shattered. Now Teheran had a nuclear missile pointed at Tel-Aviv. And the new Israeli government of Benjamin Netanyahu had a missile pointed right back at Teheran. The optimists argued that the Cuban Missile Crisis would replay itself in the Middle East. Both sides would threaten war - and then both sides would blink. That was Secretary Rice's hope - indeed, her prayer - as she shuttled between the capitals. But it was not to be. The devastating nuclear exchange of August 2007 represented not only the failure of diplomacy, it marked the end of the oil age. Some even said it marked the twilight of the West. Certainly, that was one way of interpreting the subsequent spread of the conflict as Iraq's Shi'ite population overran the remaining American bases in their country and the Chinese threatened to intervene on the side of Teheran.

# russia loose nukes impacts – extinction

**Russian loose nukes lead to extinction**

Alan **Cranston,** former US Senator, “Nukes Beget Nukes: Away with Bombs”, November 16th, **1999**, <http://www.gsinstitute.org/archives/000028.shtml>, accessed on June 21, 2011, CJJ

The bomb has been developed further. One super bomb could now let loose more destructive energy than all that has been released from all weapons fired in all wars in all history. The power of self-extinction is now in our uncertain hands. The leaders responsible for America's defense warn that the only significant threat today to the security and survival of the U.S. is nuclear proliferation. Their Alice in Wonderland position seems to be that the danger lies in nations that do not possess nuclear weapons, not in those that do. Actually, nuclear weapons beget nuclear weapons. The threat of a Hitler bomb begot the American bomb. The American arsenal begot the Soviet arsenal. The U.S. and Soviet arsenals led to the British, French and Chinese arsenals. These led to bombs of Israel, India and Pakistan. What next? The U.S. Senate's recent rejection of the Comprehensive Test Ban Treaty, and the Russian Duma's failure to ratify START II, suggest the two nations with the largest nuclear arsenals intend to hang onto them forever. This is a prescription for more begetting. The Non-Proliferation Treaty was a bargain. The 180 nations without nuclear weapons pledged not to acquire them-and they haven't. The five nations that had nuclear weapons when the treaty was negotiated decades ago-China, France, the Soviet Union (Russia), the United Kingdom and the United States-pledged to get rid of them-but they haven't. The 180 are losing patience. Some may withdraw from the Non-Proliferation Treaty, advising the U.S. and the other nuclear nations: "If you need these weapons so badly, maybe we need them too." Today's rogue states and terrorists seek the bomb. And there's grave danger that "loose nukes" can be bought or stolen in Russia, where command, control and custody are deteriorating. Russian chaos could cause an accidental or unauthorized nuclear launch that could provoke a U.S.-Russian holocaust. By no means immune from error, too, are U.S. missiles and warheads, the computers that direct their use, and the human beings who command the computers. It is more likely now than it was during the more stable days of the Cold War that weapons of mass destruction will be used. Former Secretary of Defense William Perry says, "It isn't a question of whether, but of where and when." Gen. Charles Horner, who commanded Allied Air Forces in the Gulf War, says he expects that a nuclear weapon will be exploded in some city in the next 10 years. Former Ambassador Robert Galluci, who negotiated on nuclear weapons with Iraq and North Korea, agrees and predicts it will be an American city. Galucci described how it could happen:

# RUSSIA LOOSE NUKES IMPACTS – PROBABILITY

**Nuclear terrorism is the most probable scenario for extinction.**

Graham **Allison 2004**, ( Graham Allison is a director for the belfer center for science and foreign affairs. “Nuclear terrorism: How serious a threat to Russia”, [http://belfercenter.ksg.harvard.edu/publication/660/nuclear\_terrorism.html. 6/24/11](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html.%206/24/11). google, AW)

**Realistically, nuclear terrorists are most likely to use a small weapon stolen from the arsenal of one of the nuclear states, or an elementary nuclear bomb made from stolen HEU or plutonium.  Of particular interest would be the former Soviet arsenal of tactical nuclear weapons, which was even larger and much more widely dispersed than the strategic nuclear forces**. These bombs included suitcase nuclear devices; suitcase backpacks (yadernyi ranets), such as the Army’s RA-155 and Navy’s RA-115-01 (to be used underwater), which weighed as little as 65 pounds and could be detonated by one solider in ten minutes, producing a yield of between 0.5 and 2 kilotons;[[14]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn14" \o ") atomic landmines weighing 200 pounds; air-defense warheads; and 120-pound atomic artillery shells designed to destroy an enemy force at a 200-mile range.[[15]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn15" \o ")  The public museum at Russia’s largest nuclear weapon design center, Chelyabinsk-70, displays what it claims is the world’s smallest nuclear weapon, an artillery shell eighteen inches long and six inches in diameter.[[16]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn16" \o ")   A picture of this mini-nuke, standing next to the largest bomb in history, the Tsar Bomba (“King of Bombs”), a 100-megaton weapon, can be viewed on the Web.[[17]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn17" \o ")  The full extent of the Soviet tactical arsenal, however, remains shrouded in secrecy, particularly the existence and fate of special KGB “suitcase” nuclear weapons.  Furthermore**, the security of some tactical nuclear weapons, which are held in about 90 storage sites throughout Russia, remains questionable.**[[18]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn18" \o ")**National security experts agree that the most likely way terrorists will obtain a nuclear bomb will involve** not theft or purchase of a fully operational device, but **purchase of fissile material** from which they construct their own.  Terrorists would find it easiest to steal fissile material because it is smaller, lighter, more abundant, and less protected than the weapons themselves. With about 100 pounds of HEU, a crude gun-type nuclear device is simple to design, build, and detonate.  In fact, two declassified U.S. government publications based on the work of Manhattan Project scientists and engineers in the 1940s, The Los Alamos Primer: The First Lectures on How to Build an Atomic Bomb and Atomic Energy for Military Purposes, offer instruction about how to build such a device.  Furthermore, recent revelations about A. Q. Khan’s nuclear network demonstrated that complete bomb designs are now available for sale on the black market.[[23]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn23" \o ")  An IAEA official who reviewed plans confiscated in Libya remarked to the journalist Seymour Hersh that the design in question was “a sweet little bomb” that would be “too big and too heavy for a Scud, but it’ll go into a family car” -- a “terrorist’s dream.”[24] Supplies of HEU are extensive, and numerous instances of HEU smuggling have been documented.  During the Cold War, the Soviet Unionestablished a vast nuclear enterprise under its Ministry of Atomic Energy that employed more than a million people in ten “closed” cities requiring special entry and exit visas.  The scientists and technicians in these cities designed and built weapons and produced uranium and plutonium not only for weapons but also for the fuel that powered the nation’s fleet of nuclear-powered submarines and its nuclear power plants. **U.S.experts have estimated that Russiapossesses over 2 million pounds of weapons-usable material, or enough for more than 80,000 weapons.**[[25]](http://belfercenter.ksg.harvard.edu/publication/660/nuclear_terrorism.html" \l "_ftn25" \o ")**Yet a dozen years after the dissolution of the Soviet Union, much of this vast stockpile remains dangerously insecure**. **Contrary to the Russian government’s claims, there can be no doubt about the fact that enough nuclear material to build more than 20 nuclear weapons was lost in the transition from the Soviet Union to Russia**. Indeed, 1,000 pounds of HEU was purchased by the U.S. government, removed from an unprotected site in Almaty, Kazakhstan, and is now securely stored in Oak Ridge, Tennessee.  Moreover, as former CIA director John Deutch testified to Congress in 1998, “It’s not so much that what I know that worries me, as what I know that I don’t know.”

**RUSSIA MOST LIKELY SCENARIO FOR TERRORIST ACQUISITION OF NUCLEAR WEAPONS**

Jon **Wolfstal 2002**, ( Jon Wolfstal is a senior fellow at the Carnegie institute, “Nuclear terrorism and warhead control in Russia”. <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=946>. 6/24/11. google, AW)

**The most likely source from which terrorists might acquire nuclear material or a complete warhead is Russia**, which **possesses a vast nuclear complex containing hundreds of tons of fissile material (plutonium and highly enriched uranium) protected by inadequate or nonexistent security.** In January 2001, a bipartisan commission chaired by Howard Baker, former Senate Republican majority leader, and Lloyd Cutler, former Clinton White House counsel, found that **“[t]he most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen and sold to terrorists or hostile nation states and used against American troops abroad and citizens at home**.”2 More recently, in February 2002 the U.S. intelligence community confirmed to Congress that “weapons-grade and weapons-usable nuclear materials have been stolen from some Russian institutes. We assess that undetected smuggling has occurred, although we do not know the extent or magnitude of such thefts.”3 According to Viktor Yerastov, who heads the Russian Ministry of Atomic Energy’s Nuclear Materials Accounting and Control Department, “quite sufficient material to produce an atomic bomb” was stolen from the Chelyabinsk region in 1998.4 Commenting on that theft to The Washington Post, a U.S. official said that, “given the known and suspected capabilities of the Russian mafia, it’s perfectly plausible that al Qaeda would have access to such material.”5 **The risk of a complete nuclear device falling into the hands of terrorists or a would-be nuclear-weapon state is a nightmare scenario, but because of gaps in Russian warhead security, it is a possibility**. According to the U.S. intelligence community, **the Russian warhead-security system “was designed in the Soviet era to protect weapons primarily against a threat from outside the country and may not be sufficient to meet today’s challenge of a knowledgeable insider collaborating with a criminal or terrorist group**

# russia space program impact module – asteroids

**RUSSIAN SPACE PROGRAM IS ON THE BRINK NOW – LOSS OF SKILLED WORKERS COLLAPSES ITS PROGRAM**

**OBERG 2010** [James – space analyst and former Mission Control operator at Johnson Space Center, “How risky is it to rely on Russian spaceflight?” MSNBC, June 15, <http://www.msnbc.msn.com/id/37713521/ns/technology_and_science-space/>] ttate

6. Demographics: The saddest secret of Russia’s space program is the aging workforce, retiring or dying off at their posts. These critical experts are only partially being replaced by new employees willing to work for laughably low wages because they are devoted to the ideal of spaceflight. Even recent cosmonaut recruitment efforts actually had to actively seek candidates for the job — there simply weren’t enough qualified applicants mailing in their forms. Combined with a cultural trait of not documenting procedures and past events (the fewer people who know something, the more essential become those who can remember it), these staffing trends are alarming in terms of the diminution of skills and corporate memory through continued hemorrhage of irreplaceable skilled workers. In the long run, NASA will be able to turn to U.S. commercial launch providers as well as the Russians for rides to space. And even in the short run, the risks associated with Russian spaceflight are by no means a guarantee that something will go wrong. Rather, they define areas where constant alertness and remedial work is needed. Absence or inadequacy of that kind of work could then open the door to sudden failure.

**RUSSIA SPACE PROGRAM UNIQUELY NEEDED – DEVELOPING TECHNOLOGY TO PREVENT ASTEROID COLLISION**

**RT,** Russian English-language news channel**,** May 19**, 2010**, Preventing Armageddon, accessed June 23, 2011, <http://rt.com/politics/press/2010-05-19/>, MD

Russian scientists are promising to develop a cosmic device for exploration of a celestial body which, according to certain astronomers, presents a certain threat to life on Earth. On Tuesday, director of the Space Research Institute, RAS, academician Lev Zeleny, told journalists that the leading domestic enterprise in the rocket and space industry – Lavochkin Scientific Production Association, is creating a device for the exploration of the asteroid Apophis. “In 2029, the trajectory of Apophis will be at a fairly close distance from the Earth, and during the second cycle of movement, in 2036, there is a probability that it will collide with our planet,” cautioned academician Zeleny. According to him, the damage resulting from such a collision will be three times more severe than the destruction that was caused by the Tunguska meteorite. Scientists believe that the space object that caused the explosion near the Podkamennaya Tunguska River on June 30, 1908, was 50 meters in diameter and could have weighed 1-2 million tons. For comparison: the size of Apophis, discovered in 2004, is 270 by 60 meters, and the asteroid’s total weight, according to various estimates, amounts to anywhere from 26 to 45 tons. For comparison: the size of Apophis, discovered in 2004, is 270 by 60 meters, and the asteroid's total weight, according to various estimates, amounts to anywhere from 26 to 45 tons. The likelihood that the giant cosmic "cobblestone" will collide with the Earth in 2029 is negligible: according to official estimates, published by NASA, the probability of a collision is 1 in 250,000. However, Apophis will "come near" our planet; according to the latest estimates, in 2029, the asteroid will pass the Earth's surface at a distance of 28,900 kilometers (give or take 200-300 km). Such proximity could have an effect on the orbit of a small celestial body. Deviation from the previous route could result in the Apophis to once again pass the Earth at a dangerously close distance 7 years later, in 2036. According to NASA, in the event the "celestial guest" collides with the Earth, an explosion with the force of more than 500 megatons is possible (for comparison: the effects of the Tunguska meteorite's landing are estimated at about 10 megatons, which is equivalent to an explosion of a hydrogen bomb). Scientists, who based their estimates on a maximum possible size of the asteroid - 390 meters - concluded that if such a celestial body were to enter the Earth's atmosphere at a speed of 12.6 km/s, then the collision would form a crater on the Earth's surface of almost 6 km in diameter and trigger an earthquake, measuring 6.5 on the Richter scale, within a 10 km radius. If the asteroid falls into an ocean, it would result in an enormous tsunami; and, if a densely populated area is stricken, the destruction will affect several hundreds of kilometers. However, scientists note that even such a pessimistic scenario does not assume that this will be a global-scale catastrophe, similar to the one which led to the distinction of the dinosaurs - Apophis is simply too small for this. According to the hypothesis of a Nobel Prize laureate, Luis Alvarez, the "stone" that caused a nuclear winter 65 million years ago was about 10 km in diameter. "People's lives are in danger. It is better we spend a few hundred million dollars and create a system that will allow us to avoid a collision, than sit and wait for this to happen and thousands of people lose their lives," Anatoly Perminov, head of Russia's Federal Space Agency Roscosmos, warned the public in January of this year. However, astronomers say that one should not expect the end of the world to come in 2036; the probability Apophis will collide with Earth is very small, but, as was noted by academician Lev Zeleny, this is not a "zero probability". In order to obtain some more precise data on the behavior of the asteroid it was suggested to place a special beacon on Apophis. This, according to Mr. Zeleny, should be accomplished in 2029 as the asteroid approaches the Earth. "The beacon will make it possible to obtain very precise trajectory measurements of the asteroid, which will allow making a more precise forecast as to whether or not it will collide with the Earth 7 years later as well as taking the necessary measures to divert it from its dangerous course," explained the director of the Space Research Institute, RAS. The topic of protection of the Earth from the asteroid threat has not only been discussed within the scientific community for a long time, but has also become a part of the mass culture - take the Hollywood production, Armageddon, as an example, which was filmed six years prior to the discovery of Apophis in 1998. In the movie, an American expedition lands on an asteroid, as it approaches the Earth, and destroys it with a nuclear explosion. Scientists are offering measures for eliminating the uninvited celestial guest that are no-less-effective and, at a first glance, equally science-fictional. For example, the space device could deploy a "solar sail" - a thin light-reflecting film - on the asteroid. It is believed that the pressure of electromagnetic rays could alter the asteroid's speed and direction. Experts of the European Space Agency proposed changing the trajectory of Apophis with the use of a special "orbit evacuator". The asteroid should be approached by a space ship, which will hover above it at the nearest possible proximity, which will be made possible by engines powered by solar batteries. The "cosmic traction engine" will pull the asteroid, while slightly accelerating is movement, and eventually bring the celestial body to a safer orbit. The development of such a "traction ship" or a "cosmic traction device" has been promised by the British corporation, EADS Atrium. In turn, the Lavochkin Scientific Production Association, which has not only produced artificial Earth satellites Lunokhod-1, and devices for the exploration of Venus and Mars, but also intercontinental cruise missiles, could use its designs. However, as was noted last December by the head of Roscosmos, Anatoly Perminov, there are no plans to destroy the asteroid. "No nuclear explosions, everything will be done based on the laws of physics," stressed the head of the space agency.

# russian power decline impacts – sino module

**A WEAKENED RUSSIA MEANS CHINA STEPS IN TO FILL THE REGIONAL POWER VACUUM – ERUPTS IN CONFLICT AND WILL DRAW OTHER PLAYERS IN**

KR **Bolton 2009**,( KR Bolton is a fellow at the Academy of social and political research, “Russia and China: An approaching conflict”. [http://www.scribd.com/doc/22944897/Russia-and-China-an-Approaching-Conflict. 6/23/11](http://www.scribd.com/doc/22944897/Russia-and-China-an-Approaching-Conflict.%206/23/11). google, AW)

Oil volumes fell last year but **defence sales crashed, prompting analysts to speculate that China's People's Liberation Army no longer relies on Russian technology. Russia once supplied the bulk of Chinese industrial machinery but now the long lines of excavators, trucks and machinery are all heading the other way. China is meanwhile increasing its dominance of almost every sector of the Siberian consumer goods market**. Two years ago the mayor of Vladivostok made the hyperbolic claim that all of the port city's retail trade and half of its trade in services were controlled by Chinese. China is meanwhile increasing its dominance of almost every sector of the Siberian consumer goods market**. For all the fuss about a Russian-China axis against Islamic separatists and US missile shields, the relationship is constrained by Russian insecurity and Chinese insensitivity.** It is just one example of how China's ascendancy is provoking fear and resentment throughout the world and particularly in its immediate neighbours, where the impact is most intense. [Emphasis added]. **China is presently taking over the Russian Far East by stealth, through commerce. Tensions are arising, and one day will erupt. Where will the USA stand? Other states in Asia will be drawn into such a conflict. India is traditionally aligned to Russia, Pakistan to China.**

**AND, RUSSIA-SINO WAR --> EXTINCTION**

**SHARAVIN 2001 [**Alexander, Director of the Institute for Military and Political Analysis, What the Papers Say, Oct 3, p. lexis] ttate

Now, a few words about the third type of war. A real military threat to Russia from China has not merely been ignored; it has been denied by Russia's leaders and nearly all of the political forces. Let's see some statistic figures at first. The territory of Siberia and the Russian Far East comprises 12,765,900 square kilometers (75% of Russia's entire area), with a population of 40,553,900 people (28% of Russia's population). The territory of China is 9,597,000 square kilometers and its population is 1.265 billion (which is 29 times greater than the population of Siberia and the Russian Far East). China's economy is among the fastest-growing economies in the world. It remains socialistic in many aspects, i.e. extensive and highly expensive, demanding more and more natural resources. China's natural resources are rather limited, whereas the depths of Siberia and the Russian Far East are almost inexhaustible. Chinese propaganda has constantly been showing us skyscrapers in free trade zones in southeastern China. It should not be forgotten, however, that some 250 to 300 million people live there, i.e. at most a quarter of China's population. A billion Chinese people are still living in misery. For them, even the living standards of a backwater Russian town remain inaccessibly high. They have absolutely nothing to lose. There is every prerequisite for "the final throw to the north." The strength of the Chinese People's Liberation Army (CPLA) has been growing quicker than the Chinese economy. A decade ago the CPLA was equipped with inferior copies of Russian arms from late 1950s to the early 1960s. However, through its own efforts Russia has nearly managed to liquidate its most significant technological advantage. Thanks to our zeal, from antique MiG-21 fighters of the earliest modifications and S-75 air defense missile systems the Chinese antiaircraft defense forces have adopted Su-27 fighters and S-300 air defense missile systems. China's air defense forces have received Tor systems instead of anti-aircraft guns which could have been used during World War II. The shock air force of our "eastern brethren" will in the near future replace antique Tu-16 and Il-28 airplanes with Su-30 fighters, which are not yet available to the Russian Armed Forces! Russia may face the "wonderful" prospect of combating the Chinese army, which, if full mobilization is called, is comparable in size with Russia's entire population, which also has nuclear weapons (even tactical weapons become strategic if states have common borders) and would be absolutely insensitive to losses (even a loss of a few million of the servicemen would be acceptable for China). Such a war would be more horrible than the World War II. It would require from our state maximal tension, universal mobilization and complete accumulation of the army military hardware, up to the last tank or a plane, in a single direction (we would have to forget such "trifles" like Talebs and Basaev, but this does not guarantee success either). Massive nuclear strikes on basic military forces and cities of China would finally be the only way out, what would exhaust Russia's armament completely. We have not got another set of intercontinental ballistic missiles and submarine-based missiles, whereas the general forces would be extremely exhausted in the border combats. In the long run, even if the aggression would be stopped after the majority of the Chinese are killed, our country would be absolutely unprotected against the "Chechen" and the "Balkan" variants both, and even against the first frost of a possible nuclear winter.

# russian power decline impacts – china vacuum exts

**A DECLINE IN RUSSIAN STRENGTH MEANS CHINA STEPS IN TO FILL THE REGIONAL POWER VACCUM**

Llan **Berman** 1/31/**2010**, ( Llan Berman is a vice president on the American foreign policy council, “Russia’s real threat: failure”, <http://www.washingtontimes.com/news/2010/jan/31/russias-real-threat-failure/>. 6/23/11, google. AW)

**The second is Russia’s growing strategic imbalance with neighboring China**. Since they mended diplomatic fences in the mid-1980s, improving bilateral diplomatic, economic and military ties has been a cardinal priority for both countries. This meeting of the minds has led Moscow and Beijing to erect a formidable strategic partnership over the past 2 1/2 decades, one built in large part upon a shared desire for “multipolarity” and a diminution of America’s global influence. Today, however, **the two could be on a strategic collision course, even if they don’t publicly acknowledge it. The bulk of Russia’s strategic resources - its claim to fame as a global power - are concentrated in the country’s inhospitable Far East, a territory that a dying Russia will find increasingly difficult to harness, let alone populate, in the years ahead. China doesn’t have that problem. The Chinese population on its side of the countries’ shared border is already exponentially larger than Russia’s, and that disparity is only likely to grow in coming years. At some point in the not-too-distant future, therefore, Chinese leaders could seek to satisfy their country’s voracious appetite for resources by looking north to Russian territory** (which once was theirs). All of this goes a long way toward explaining why, when Russia and China inked their long-planned Treaty on Good-Neighborliness and Friendly Cooperation back in 2001, they did so for a mere 20-year time span. Two decades hence, Beijing thinks, the demographic balance between itself and Russia may be quite different, and a re-evaluation of the current, peaceful status quo could be called for. None of this means that the United States no longer has to worry about Russia. Quite the contrary. The Kremlin’s neo-imperial foreign policy, its persistent designs over Eurasian energy and its ongoing efforts to oust Western influence from the “post-Soviet space” are all guaranteed to preoccupy policymakers in Washington in the years ahead. What it does indicate, however, is that further into the future, **the strategic challenge posed by Russia might not stem from its strength, but from its weakness**.

**MORE EVIDENCE – WEAKENED RUSSIA --> SINO RISE**

Vladimir **Paramanov and** Aleksey **Strokov 2006**, ( Vkadimir and Aleksey are fellows at the defense academy of the United Kingdom. “Russian – Chinese relations: Past, Present, and Future”. [www.da.mod.uk/colleges/arag/document.../**russian**/06(46)VPEnglish.pdf](http://www.da.mod.uk/colleges/arag/document.../russian/06(46)VPEnglish.pdf). 6/23/11. google. AW)

In practice, however, there are insufficient grounds to claim that relations between Russia and China will actually develop along these lines. Moscow and Beijing to give the impression that there are no serious problems between them, while totally ignoring the question of developing mutually-advantageous economic links. From today's perspective, therefore, **the most realistic scenario foreseeable is the gradual economic absorption by China of the Asiatic part of Russia. This scenario is a potential source of conflict, not only between Russia and China, but also in their relations with all of Eurasia (half of which is made up of Russia and China). One can only speculate on the possible outcomes in the event of another collision of interests, like the ones which came before, between two regional powers occupying important positions in the global system of international and economic relations and both possessing powerful nuclear missile-equipped armed forces.**

# aff answers – 2ac uniqueness thumper

**WE WILL CONTROL UNIQUENESS – THE RUSSIAN AEROSPACE INDUSTRY HAS BEEN A DISMAL FAILURE – THE UNITED AIRCRAFT CORPORATION WILL CONTINUE TO BE PLAGUED WITH PROBLEMS – BEING CROWDED OUT OF THE MARKET NOW**

Konstantin **Rozhnov Business reporter, BBC News**, **June 2010**, Russian planemakers eye global markets, accessed June 22, 2011, <http://www.bbc.co.uk/news/business-10779035>, MD

Desperate to shed its Soviet Union image as a manufacturer of clunky airliners, Russia is eager to become a significant player in the global civil aviation market. So is this lofty goal achievable? The mighty nation is pinning its hopes on two new aircraft projects and its reputation as a trusted arms exporter. But first, it will need to win over sceptics in the home market. Not a single new Russian civil aircraft engineering project has been successfully turned into a mass-produced plane during the past two decades since the USSR ceased to exist. And domestic-made planes that used to offer the only means of air transport have suffered a heavy defeat in a battle with foreign flying machines. According to some estimates, foreign-built aircraft now carry out about 75% of all flights by Russian airlines. 'Likely delays' The collapse of the entire aircraft building infrastructure that was built up during the Soviet era was accelerated by a desperate lack of funds during the 1990s. So the newcomers have arguably started from scratch, gradually, painstakingly building the foundations for what they hope will be a solid aerospace industry. And at last they have something to show for their efforts. At last week's Farnborough air show, Sukhoi's regional Superjet 100 was shown and flown, while another flagship project, the MS-21, was displayed in form of a cabin mock-up. Several contracts and memorandums of understanding worth billions of dollars to deliver both planes in future were signed. But critics point out that intention to deliver does not equate ability, predicting painful delays before the first planes are actually delivered to carriers. Besides, mutter the sceptics, the Russian planes face fierce competition, not only from the world's leading aircraft makers Boeing and Airbus, but also from smaller players such as Japan's Mitsubishi, Brazil's Embraer and Canada's Bombardier, as well as from rival newcomer Comac, the Chinese player. Private partners Sukhoi is well known as a producer of fighter jets, but the Superjet 100 project is its first in commercial aviation. The plane has been created by a joint venture, majority owned by Sukhoi. Italy's Finmeccanica and a number of other foreign and Russian firms are also involved. "Superjet will be built in more than just tiny numbers, which is a triumph, considering the fate of all other post-USSR civil aerospace programs," says Richard Aboulafia, vice president at Teal Group, an aerospace industry consultant. The project seems to have succeeded, he says "where the Westernised TU-204 and IL-96 and others have failed". Mr Aboulafia believes that the success is the result of private sector companies' involvement. "Government-owned industries do an extremely poor job at meeting commercial market needs," he says. A hundred planes But Roman Gussarov, editor of industry website Avia.ru, says that there are still a lot of problems with the Superjet 100. "So far, Superjet's parameters are not the ones promised by Sukhoi at the beginning," he explains. "Sukhoi thought that they would be able to achieve necessary results without composite materials," he says, highlighting the planemaker's inexperience in creating commercial aircraft. Deliveries to launch customer Aeroflot, Russia's flagship carrier, have been delayed, mainly because of engine certification problems. But Russian officials hope that the plane will be delivered later this year. Sukhoi has managed to secure orders for or intentions to buy more than 100 Superjet planes at $31.7m (£20.3m) per plane according to official prices - enough to break even according to company officials. Hardy plane Building planes suitable for Russia's climate and terrain is challenging.

# aff answers – nu – russia aerospace industry weak now

**RUSSIAN AEROSPACE INDUSTRY WEAK NOW – FALLING BEHIND ON PROJECTS**

**Interfax – AVN 5/13/10** ( Interfax – AVN is a military news organization, 5/13/10. “ Russian aerospace down”. 6/21/11, AW)

Moscow, 13 May: Aerospace threats are today's most serious threats to the military security of Russia, Army Gen Anatoliy Kornukov, former commander-in-chief of the Air Force, has said. Kornukov is an adviser to the director-general of the GSKB [Leading Systems Design Bureau] of the Almaz-Antey air defence concern. "Nowadays, an aerial attack from space decides everything," Kornukov said at a news conference at the Interfax central office on Thursday [13 May], adding that "strikes from space can hit any location on Earth". According to him, the Concept of Aerospace Defence has been under consideration in Russia for some time already. "Unfortunately, **there have been few practical decisions or concrete results so far. New air defence systems are being developed very slowly," the general noted. It takes 20-30 years to create a new****aerospace defence system, Anatoliy Kornukov noted. "Unfortunately, we have fallen behind our virtual opponent, let's call it that, by 20-30 years," t**he general noted. In his turn, Col-Gen Anatoliy Sitnov, former Armed Forces Chief of Armaments who also took part in the news conference, said that in recent years **Russia lost about 300 super-technologies in aviation and air defence. We lost 300 super-technologies, primarily in aviation and air defence. In particular, in the production of supergraphite, which is used in nose cones for missiles, nuclear warheads** and so on," the general noted. According to him**, the absence of a focused command of****aerospace defence is the main reason of "stagnation" in this area of defence.** "There is no-one to be in command, no-one to command and control forces and means, no-one to commission new air defence systems," the general specified.

**Russian aerospace industry failing now - failures in defense capabilities**

**Interfax**, Russian news agency, "Medvedev dismisses defence ministry, industry officials for arms order failures", May **17th 2011**, <http://www.lexisnexis.com/hottopics/lnacademic/>, accessed on June 21st, 2011, CJJ

Moscow, 17 May: Russian Deputy Prime Minister Sergey Ivanov has reported to President Dmitriy Medvedev about the implementation of instructions about responsibility for failures in the state defence order, the president's press service reported on Tuesday [17 May]. "In accordance with the Russian president's instructions, disciplinary measures have been taken against senior officials at the organizations which did not ensure the supply of arms and military equipment in 2010," it says in the statement. Director-general of OAO Izhmash [Izhevsk Machines Plant] Vladimir Grodetskiy and FGUP [federal state unitary enterprise] Electrical Engineering Research Institute Arkadiy Khokhlovich have been dismissed from their posts. "In connection with shortfalls in supplies of arms and military equipment to the Russian Defence Ministry, a number of officials from the senior staff of the military directorate's procurement bodies have been dismissed from military service, including deputy head of the Armed Forces' Main Directorate Maj-Gen I.I. Vaganov, head of the directorate for the development and procurement of aviation equipment and arms Col I.V. Krylov and Deputy Commander-in-Chief of the Russian Navy for armaments Vice-Adm N.K. Borisov," it says in the statement. "For lowering the level of management of production by subordinate enterprises, and a lack of the necessary coordination of work in fulfilling tasks for state defence order for 2010", the general designer and director-general of the [Reshetnev] Information Satellite Systems company Nikolay Testoyedov and director-general of the military-industrial corporation [Russian acronym VPK] NPO Mashinostroyeniya Aleksandr Leonov have been reprimanded. It is also proposed that deputy head of Roskosmos [also Roscosmos; Federal Space Agency] Anatoliy Shilov should be reprimanded "for poor management of organizations of the rocket and space industry in creating military spacecraft. "Administrative and disciplinary measures have also been taken against eight heads of other defence industry organizations who allowed failures in the implementation of tasks for the state defence order," the Kremlin press service noted. A meeting of the board of directors of OAO PO Sevmash [the Sevmash production association open joint-stock company] has been set for June, on the issue of whether the enterprise's director-general Nikolay Kalistratov is fit for the post. It is also planned to consider issues about the personal responsibility of managers for the failure to meet aircraft delivery schedules at the boards of directors of subsidiary companies of OAO United Aircraft "Personnel decisions taken concerning the managers of defence industry organizations and the Russian Defence Ministry officials who allowed tasks for the state defence order for 2010 to fail are sufficient both for increasing implementation standards and personal responsibility and for avoiding incidents of failing to meet deadlines for delivering products to the customer," it says in the press service's statement.

**RUSSIAN AEROSPACE INDUSTRY WEAK NOW – FALLING BEHIND ON KEY PROJECTS**

Alexey **Komarov, AVIATION WEEK's contributing editor in Moscow, September 6th, 2010,** "Russian Renewal", accessed on June 20th, 2011, <http://www.lexisnexis.com/hottopics/lnacademic/>, CJJ

Moreover, industry officials doubt the Russian aerospace industry will be able to build 25 An-140s by 2016—the Aviakor plant in Samara has managed to assemble only four aircraft since 2006. The new MS-21 long-range narrowbody transport is set to enter the market in 2016. The 150-passenger MS-21-200, the first model that will be available, recently passed its preliminary design review, and first flight is tentatively scheduled for 2014. But the first of the new aircraft to hit the fleet will be the Superjet 100, now due for handover around year-end. Aeroflot has yet to include the aircraft in its timetable, however, owing to repeated program delays. It was hoping to do so almost two years ago, but Sukhoi was unable to complete the development on time due to a combination of issues with the aircraft and the PowerJet SaM146 turbofan. The program suffered another small delay in recent months, when the delivery of the first two production-standard SaM146s bult by the Snecma/NPO Saturn joint venture slipped from July to August.

# aff answers – nu – russia aerospace industry not world leader now

**RUSSIA NOT DOMINATING GLOBAL AEROSPACE MARKET NOW – CHINA IS FILLING IN THE VACUUM**

Reuben F. **Johnson, an aerospace- and defense-technology expert based in Kiev, Ukraine**, May 4th, 20**10**, "China eager for Russian air technology; Delegation to industry expo largest", accessed on June 20th, 2011, <http://www.lexisnexis.com/hottopics/lnacademic/>, CJJ

"By far the largest delegation from any country was a group of about 30 Chinese specialists who had all obviously come to this show with specific assignments for targeted collection of technical data on Russian jet-propulsion systems," said a Russian aerospace-industry analyst who spoke to The Washington Times. "They broke up into groups of two or three persons each and then systematically launched out at the displays of jet-engine hardware or models that they were tasked to learn all they could about." China's jet-fighter program has advanced in recent years as part of Beijing's major military buildup, with recent fielding of a new indigenous jet and development of a more advanced fighter announced in November. Aerospace and military trade shows often are used by specialists from foreign industry and intelligence services to gather data on new design concepts and technologies from Russian industry, the analyst said. "But this 'field trip' that these Chinese specialists were on was just over the top. For one, it was too many people - like ants on the march," the analyst said. The analyst noted that at this year's trade show, the Chinese were especially aggressive. "It was all too obvious that they had been well-briefed on what their targets were for collecting information." China's active partnership with Russia in defense technology began in the early 1990s with the purchase of an initial batch of Sukhoi Su-27 fighter aircraft, at the time Russia's most advanced warplane. Later orders for Su-27s and eventually an agreement to produce the jet in China under license at the Shenyang Aircraft Works (SAC), along with purchases of a more advanced model, the Su-30MKK, followed throughout the next decade. Since the 1990s, Russian defense industrial know-how has been turned over to the Chinese through such trade, creating a renaissance within China's defense sector and resulting in the production of what are viewed widely as world-class weapon systems. But production of current-day jet engines that are reliable and operate at acceptable levels of military efficiency still eludes most of China's aerospace sector. Two of the newest fighter aircraft developed and produced at the Chengdu Aerospace Complex (CAC) in Sichuan province - the FC-1 and the J-10 - are both powered with Russian-built engines. The engines are manufactured in Moscow and St. Petersburg in special configurations for Chinese aircraft and then delivered to CAC as finished products, so there is minimal technology transfer to Chinese industry with these engines. The J-10 is based on Israel's canceled Lavi fighter-aircraft design, which included U.S. technology. The J-10 recently was made the new aircraft for China's Bai-Yi demonstration squadron - the equivalent of the U.S. Air Force Thunderbirds. China's propulsion technology is one of the few industrial sectors where Beijing has been unable to match the production skills of the Russians, mainly because of the difficult demands of aircraft-engine manufacturing. In addition to jet-fighter engines, China also is working on turbofan engines for its growing arsenal of cruise missiles. For example, in October, China unveiled its first long-range land-attack cruise missile, the DH-10. The weapons are part of what the Pentagon calls "area-denial" weapons that would be used to attack U.S. aircraft carriers that likely would be sent to waters near Taiwan in any future conflict over the island. The military goal appears to be among the highest priorities for Chinese weapon designers. "There were so many Chinese huddled around the mock-up of the Saturn TRDD-50 [cruise missile] engine at this show it reminded me of bees buzzing around honey," said one of the Russian participants in the show who spoke to The Times.

# aff answers – nu – russian aerospace decline inevitable

**RUSSIAN AEROSPACE INDUSTRY WILL INEVITABLY BE SQUEEZED OUT OF GLOBAL MARKET-LACK OF INFRASTRUCTURE AND MODERNIZED R&D**

Eugene **Kogan,** a guest researcher at the Research Institute of the German Council on Foreign Relations in Berlin, January **2006**, “The State of the Russian Aviation Industry and Export Opportunities”, accessed on June 24, 2011, CJJ

According to the US-based Teal Group forecast, up to 2012 Russia’s share of the global fighter market will be kept at about 11 per cent. However, by about 2015 the Russian fourth-generation aircraft will be pushed to the side by either the F-35 or F/A-18. The forecast for the Russian-built fifth-generation aircraft has been gloomy.203 Data from CAST suggests that between 200 and 300 new Su-27 and Su30 fighters could be exported in the next ten to fifteen years, bringing in between $US5 billion to $US9 billion.204 Experts of the US-based company Forecast International estimate Sukhoi’s share of the current world market of manufacturers of military fighters at about 14 per cent. In 2015 this share is to increase to 16 per cent. Sukhoi’s export share on the aviation world market including co-production and production under licence is currently 25 per cent.205 It can also be suggested that RAC MIG export aviation’s share in the years to come is likely to increase. Earlier obituaries have been premature. RAC MIG’s venture into the commercial craft sector has taught the management a very valuable lesson, namely that the development and manufacture of passenger aircraft is not the company’s forte. Instead RAC MIG needs to concentrate on design, development, manufacture and sales of military craft and the associated simulator systems. Not least important will be the increasing share of Mil helicopter producers. It is also evident that the Russian aviation companies will need to invest heavily in maintaining their infrastructure and keeping up an increased level of research and development. The government will not support them financially. According to Yuri Koptev, head of the aerospace industry department within the Ministry of Industry and Energy, without governmental support `we cannot count on remaining the world’s third [largest] aircraft manufacturing centre´.206 According to the development strategy of the aviation industry the funding for the design of the new generation of aviation technologies should be increased to $US1.6 billion from the overall budget of the Russian Federation. The proposed funding should cover expenses for research and development, for the design bureaus and the enterprises.207 This is certainly wishful thinking, but the reality of the last decade has highlighted the inability of the state to provide much-needed funds. In addition, Yuri Koptev’s statement should not be taken at face value. It may apply and might appeal to the grievances of the domestic manufacturers, but it has very little to do with reality.

# aff answers – nu – russia economy weak now

**RUSSIA ECONOMY WEAK NOW – POOR ECONOMIC REFORMS AND OIL PRICES**

Ilya **Arkhipov**, Henry **Meyer and** Lyubov **Pronina, (insert quals), June 16, 2011**, Khodorkovsky Says Corruption Means Russia Needs $200 Oil, accessed June 21, 2011, <http://www.bloomberg.com/news/2011-06-15/khodorkovsky-says-corruption-means-russia-economy-needs-200-oil.html>, MD)

Russia’s failure to stop corruption and diversify the economy means it needs $200 a barrel oil to match the economic growth of China and India, said Mikhail Khodorkovsky, the former billionaire jailed since 2003. Khodorkovsky, who says the charges are politically motivated, said his case should remind global business leaders gathering for the St. Petersburg International Economic Forum, which starts today, that no one is safe from extortion. Graft threatens the foreign investment President Dmitry Medvedev seeks to help boost growth to as much as 10 percent, he said. “Economic reforms require 100 percent guarantees for private property and an effective, lawful state,” Khodorkovsky, 47, said in written answers to questions relayed through his lawyers. “Under the current political and economic model, to get a 10 percent growth rate for the Russian economy the oil price would have to remain solidly above $200 per barrel.” Khodorkovsky, Russia’s richest man when he was arrested on the tarmac of a Siberian airport in October 2003, says he’s been persecuted by Prime Minister Vladimir Putin because he financed opposition parties. The former chief executive officer of Yukos Oil Co. was convicted of fraud and tax evasion in 2005 and oil embezzlement in December 2010, pushing his sentence to 13 years. He responded to questions from Bloomberg News while being held at a detention center in Moscow. The answers were delivered June 10, the day he was sent to an undisclosed penal colony.

# aff answers – brain drain inevitable

**RECENT MANDATES BY THE RUSSIAN MILITARY MEANS BRAIN DRAIN INEVITABLE – YOUNG SCIENTISTS WILL ABANDON RUSSIAN UNIVERSITIES NOW**

**VEDOMOSTI 05-12** [“Candidate soldiers”. News agency in Moscow. Accessed: 06/21/2011. AW]

**Russia risks losing several thousands of its best young minds. Because of bureaucratic disagreements between the Defence Ministry and the Ministry of Education and Science, a peculiar interpretation of the law by military commissariats, and, finally, the slowness of the rectors of a number of higher educational establishments**, **thousands of future young scientists could be drafted, preventing them from defending their dissertations. Notices to appear in order to be sent to the troops at the end of May-beginning of June have already been received by thousands of future candidates of sciences** from Moscow, St Petersburg, Ulyanovsk, Voronezh, Omsk, and Samara. Today several dozen postgraduate students from Moscow and regional higher educational establishments will gather in Moscow to speak about the call-up of their school fellows. The damage from calling up postgraduate students is difficult to assess. Even assuming that fellow servicemen and officers will not taunt a "too clever" soldier, a scientist or lecturer will lose a year for scientific or pedagogical work that will be not be easy to make up. **The idea of drafting postgraduate students into the Army could become a signal for thousands of young talents to go abroad, which jeopardizes the development of science and the modernization plans of the tandem**. The call-up of postgraduate students is not the end of it. From the new academic year higher educational establishments will finally switch to a two-stage system of education according to the scheme "baccalaureate - master." According to the law "On Military Service," students of only those higher educational establishments that have accreditation for training will receive a deferment. But this accreditation, as a rule, is granted to a higher educational establishment only after it has produced the first graduates under the corresponding programmes. In the last academic year only 144,000 out of 1.4 million students became baccalaureates or masters, so that the next fall draft could be formed extremely dramatically.

# aff answers – nu – brain drain now

**BRAIN DRAIN IN RUSSIAN SPACE SECTOR ALREADY HAPPENING NOW – YOUNG, TALENTED RUSSIAN SCIENTISTS LEAVING NOW**

Anatoly **Zak**, space reporter for BBC, IEEE Spectrum, and Air & Space Smithsonian, “The Russian space industry at the turn of the 21st century”, May 20th, **2011**, <http://www.russianspaceweb.com/centers_industry_2000s.html>, accessed on June 23, 2011, CJJ

After being one of the most prestigious sectors of the Soviet economy, the space industry lost much of its luster for the young work force entering the job market during the 1990s. As a result, space companies struggled to maintain the high professional qualification of their workers and engineers. One of the critical factors which led to the loss of the qualified personnel was low wages within the industry. Although the times when workers were going without pay for months had been overcome, rocket companies still lagged behind other sectors of the Russian economy in pay rates. According to the report by the Tsiolkovsky Academy of Astronautics, the average monthly pay within the space industry was 6,108 rubles per month. For comparison, gas producers would pay their employees on average 13,500 rubles per month, while the oil industry would compensate its workers with 24,800 rubles. The situation started improving slowly in the first decade of the 21st century. In 2008, the average salary at TsSKB Progress was reported to be 13,000 rubles. A medium-level technician at NPO Lavochkin would earn 9,000-12,000 rubles per month. A high-level engineer with experience would be reportedly offered 16,000 - 20,000 rubles. During a work assignment in Baikonur, a worker would reportedly earn $55 a day, while their French counterpart earned 800 Euro! The Russian space industry made at least some attempts to attract former employees lost in the previous decade. In 2009, a poster on the online forum of the Novosti Kosmonavtiki magazine quoted job postings at the Proton-PM propulsion development company in the city of Perm, offering re-training and retaining of an uninterrupted work experience -- an important incentive for former workers. The lowest machinist salaries were hovering around 25,000 rubles per month.

**RUSSIAN SCIENTISTS NOT HAPPY NOW – BRAIN DRAIN HAPPENING IN THE STATUS QUO**

**Evans** **06-16-2011** ( Julian evans is a staff writer for WSJ**,** 6/16**/**11, “why are they leaving”, <http://online.wsj.com/article/SB10001424052748704816604576333030245934982.html>. 6/20/11. Google. AW)

Unfortunately, Mr. Gaaze's story is far from unique. More and more young**, educated Russians are talking about leaving Russia, to live in the U.S., Europe, Israel, Asia, or Latin America**. The reasons are myriad: Whether **it is the difficulty of setting up a business in Russia, the dearth of political freedoms, poor education or simply better jobs abroad,** Russia's talent exodus is gaining momentum."We're expected to work 10 to 20 years to buy a flat, or five years to buy a car," says Mr. Gaaze. "There are no chances for promotion. It's very hard to set up your own business. Loans cost 20% to 30% a year, and the system is very regulated. The most secure job is to work for the government. But I've done that, and don't want to do it anymore." What is disturbing, according to Mr. Oreshkin, is that it is the "strongest and most gifted people" who are leaving Russia, because they feel they have no place in the state capitalist model constructed by prime minister Vladimir Putin over the last decade. In an online poll of 7,237 Novaya Gazeta readers, **62.5% said they were considering leaving because of discontent with the economic and political regime. Surveys by the Levada Center, an independent research institute in Moscow, find a similar broad trend. The percentage of respondents who were thinking about living abroad rose from 42% at the beginning of Mr. Putin's presidency to 44% in 2009, despite the rise in living standards during that period**. The vast majority of those who admitted wanting to leave were under 35 years old, lived in a major city, and spoke a foreign language**. While only making up a small percentage of Russia's total population, this demographic also represents the country's economic, political and cultural future.**

**BRAIN DRAIN NOW IN THE STATUS QUO – RUSSIAN SCIENTISTS ARE ALREADY FLEEING**

**Moscow Times 1/19**/11, (“A verdict against Putin”. <http://www.cdi.org/russia/johnson/russia-brain-drain-emigration-khodorkovsky-verdict-puting-jan-225.cfm>. Date accessed: 6/22/11, google, AW)

On the other side of the social spectrum, **many innovative Russians have** also **given up on the country**. Over the past decade, nearly 1 million people have left the country, about 80 percent of whom were highly qualified specialists and talented students, Ryzhkov said, citing statistics from the Federal Migration Service. Just as Putin during his annual call-in show delivered his guilty verdict on Khodorkovsky, these Russians delivered their own guilty verdict on Putin's Russia by voting with their feet. **When the political and economic situation gets bad enough, first the money flees ­ a record $230 billion over the past three years, according to the Central Bank ­ and then the people follow. This trend of losing 80,000 talented and entrepreneurial citizens to emigration every year can be expected to continue as long as the government is unable to control corruption or provide basic rule of law, above all property protection**. According to an August poll conducted by Superjobs.ru, 73 percent of the 1,000 "economically active" Russians surveyed said they would leave Russia given the opportunity. It is these enterprising people who the country needs the most to modernize.

# aff answers – nu – brain drain now

**Brain drain in the squo – nationalism and higher taxes**

**Whitmore** 2/01/**11**, (Brian Whitmore is a senior correspondant @ RFE/RL, 6/21/11. “emigration blues: Russia’s sixth brain drain”. <http://www.rferl.org/content/emigration_blues_russias_sixth_brain_drain/2294463.html>. 6/20/11, google. AW)

As noted in yesterday's [**web roundup**](http://www.rferl.org/content/russia_around_the_web/2293289.html), political analyst Dmitry Oreshkin has an interesting piece in the latest issue of "**Novaya gazeta**" looking at earlier emigration waves from Russia and the Soviet Union, and at the reasons why people are leaving the country now.Sergei Stepashin, head of the Audit Chamber, says **approximately 1.25 million Russians have left the country permanently in the last several years.** That figure is less than the two million who left in the two waves in the early 20th century -- immediately after the 1917 Bolshevik Revolution and following the advent of the Stalin-era terror in the 1930s. **It is** also **slightly more than the estimated one million who fled the USSR in both the World War II era and in the 1970s.** (The fifth wave was the mainly economically motivated exodus that immediately followed the Soviet collapse in the 1990s, the so-called "sausage emigration.") So why are Russians leaving now? According to an online poll of 7237 readers of "Novaya gazeta" who are considering emigrating (which [**Paul Goble**](http://windowoneurasia.blogspot.com/2011/01/window-on-eurasia-putins-approach.html) points out in a post today is not the most representative sample**),  2.2 percent cited rising nationalism, one percent said higher taxes, and 28.9 percent identified the possibility of Vladimir Putin returning as president. Most interestingly, a whopping 62.5 percent said they were considering leaving for all of these reasons combined**

# aff answers – competition link turn

**RUSSIAN AEROSPACE INDUSTRY FALLING BEHIND NOW – RUSSIAN SPACE PROGRAM HAS 1/5 OF NASA’S BUDGET – COMPETITION NEEDED TO SPUR INNOVATION IN RUSSIA**

**DE CARBONNEL 2011** [Alissa – contributing writer for the Moscow Times, “Analysis: Stagnation fears haunt Russian space program, REUTERS, April 10, <http://www.reuters.com/article/2011/04/10/us-russia-space-gagarin-idUSTRE73910C20110410>] AW

In the 1960s, Gagarin's flight seemed to leap off the pages of fantasy novels, inspiring dreams of Martian colonies and imminent deep-space travel.

But much of that initial rapture has now faded, leaving nostalgia among many in Russia for the days when the struggle between the two nuclear-armed superpowers fueled and financed the pursuit of new horizons in science. U.S. astronauts and Russian cosmonauts "were never enemies in space, but when we began cooperating on the ground they cut the funding," said veteran cosmonaut Georgy Grechko, 79. "Even the Americans would call us and say 'launch something new, so they'll give us money.'" With competition eclipsed by cooperation, Russia's space agency has survived over the past two decades by hiring out the third seat aboard the Soyuz to foreigners. "Cooperation is good, but as the example of the international space station shows, it also leads to stagnation," Russian space policy analyst Yuri Karash said, according to state-run news agency RIA. Gubarev said Russia had fallen so far behind it could achieve little better than a supporting role today in the most cutting-edge projects. "In the meantime, America will take its time out and build an entirely new spacecraft, so that five or six years down the line our Soyuz will be entirely redundant," he said. "No serious money is spent on breakthrough projects." Experts say China could soon challenge both Russia and the United States in space. "The most important role will be played by our Russian Soyuz craft now. But we cannot discount the Chinese, who are following their own path and doing all this independently," Shamsutdinov told Reuters. NASA officials have voiced worries that the current budget financing will not be enough to fund a new rocket and capsule system for deep space travel. NASA's proposed budget for fiscal 2011 is $18.7 billion, some five times higher than Russia's. Russian industry insiders say President Barack Obama's decision to halt work on NASA's next-generation Orion capsule threatens to take the wind out of a parallel Russian effort to design a replacement for the Soyuz that can fly beyond the International Space Station's low 354-km (220 mile) orbit. "A little residual competition is a good thing," Sergei Krikalev, 52, who heads Russia's cosmonaut training center after chalking up a record 803 days in space, told Reuters.

**TURN – STRONG GLOBAL COMPETITION IS KEY TO THE STRENGTH OF THE RUSSIAN DEFENSE SECTOR**

**BBC WORLDWIDE MONITORING 2010** [Russian newspaper Vedimosti, “Russian Armed Forces modernization may improve in 2011, paper says”, August 20, p. lexis] ttate

Even in Soviet times the country's political leadership understood the importance of competition in the production of military equipment. Aircraft, helicopters, and tanks were developed and manufactured at three to six design bureaus and defence plants. A distinctive form of competition existed within the space and missile spheres. In combination with the fact that as much as 70 per cent of the military budget was used for investment needs, it provided very impressive results making the Soviet army one of the most advanced in the world. Today instead of dozens of design bureaus there are various "unified" corporations, but progress can only be seen in the squandering of funds and the inflating of production costs. Moreover, the financing of projects is delayed by hook or by crook, which is difficult to label as promising: the situation with the notorious non-flying "Bulava," which is stubbornly given preference over the more reliable "Sineva," is a good example of this. In addition, the features of Russian equipment are seriously losing ground to foreign analogs.

In such a situation the Ministry of Defence leadership is behaving absolutely as it should by starting to purchase military equipment overseas. Can a reasonable military man really refrain from acquiring two strike helicopter carriers from France at a cost of 900m dollars (and the construction of another two in Russia), if our directors have over the past five years been modernizing the aircraft carrier cruiser, the "Admiral Gorshkov," which was sold to India for 2.2bn dollars, and the work on which there is no end in sight (the George H. W. Bush, the newest of the American Nimitz class aircraft carriers, which was added to the weaponry of the US Navy in 2009 and was built over a period of six years at a cost of 6.4bn dollars, is twice the size of the "Gorshkov" in water displacement and four-times greater in strike capacity). How much financing can go into the unmanned aerial vehicle programme if they ca n be purchased from Israel for far less? Or should the "Russian vehicles" be supported by buying their "Tigr" vehicles, whose features are substantially inferior to the Italian IVECO-LMV M65? The military men are right: in the standoff between producers and consumers priority must be given to the consumers -the soldiers and officers who must defend the motherland, rather than attempting to control equipment that operates from time to time, thereby sacrificing the other line items of the military budget for the sake of the immoderate appetites of our producers.

The Russian military-industrial complex is in a bad way, but the only way out may be to optimize expenses, establish cooperation with foreign companies, and increase competitiveness. We are losing foreign markets (in recent years Algeria refused to purchase a batch of Mig-29 aircraft; China refused to buy 38 transport and Il-76/78S air-to-air refueling aircraft; and India, Norway, and Greece have reexamined several contracts), while largely retaining a presence where it is delivering weapons on credit, such as to Venezuela. Russia is losing ground not only with its traditional, but also its new competitors, particularly its "friend," China. Compensating for the problems of our defence complex by increasing purchases of outdated and very costly equipment for its own army is a big mistake. In an epoch when bloc-based confrontation has become a thing of the past, and the nuclear shield gives Russia a certain amount of time to defend against the major powers' possible aggressive feeble efforts, the critical task is to create a mobile, highly-professional army that is equipped with modern weapons. Towards this end it is necessary to preserve and develop those branches of the military-industrial complex that have serious reserves, but to put them in conditions of rigid competition on the domestic market, which essentially did not exist earlier. And starting to purchase foreign military equipment is a significant first step along the path, by which our army can be transformed from the "most modernized" into a relatively modern one. This is a difficult, but correct step.

# aff answers – impact d – russian space program

**NO IMPACT TO COLLAPSE OF RUSSIAN SPACE PROGRAM – PROGRAM LACKS PUBLIC SUPPORT AND IT WON’T BE SUCCESSFUL IN COMPLETING THE GOALS OF ITS PROJECTS**

Mark **Whittington, space staff writer** for the Washington Post, USA Today, the LA Times, and the Houston Chronicle, **April 7, 2011,** Does the Russian Space Program Have a Future 50 Years After Gagarin?, accessed June 23, 2011, <http://news.yahoo.com/s/ac/20110407/sc_ac/8234823_does_the_russian_space_program_have_a_future_50_years_after_gagarin_1>, MD

COMMENTARY | Fifty years ago on April 12, Soviet cosmonaut Yuri Gagarin became the first man to fly in space, making one orbit of the Earth before landing successfully. The mission was then a source of pride for Soviets, but is now a distant memory of a past glory. What is the state of the Russian space program today? Currently Russia's space program is firmly tied with that of the United States. Russia is a partner, along with the United States, the European Union, Canada, and Japan, on the International Space Station, providing cosmonaut crew members and transportation services with its Soyuz manned spacecraft and Progress cargo spacecraft. Formerly communist Russia has also gone capitalist, selling seats on its Soyuz spacecraft to the well-heeled and adventurous at about $20 million or so for short stays on the ISS. Russia also has a thriving satellite launch industry. A recent article in Novesti suggests that modern Russians, unlike at the time of Gagarin, do not think that their country's space program has any relevance. Unlike the American space program, the Russian effort has not contributed very much to the national economy, particularly in consumer goods. Russians by and large think that their current space program is a drain and not an asset. Does the Russian space program have a future? It does if the Russian leadership has any say in the matter. As Russia struggles to emerge from the doldrums that followed the fall of the Soviet Union, its leaders are looking for ways to reestablish its super power bona fides. One way to do that is reignite its space program. Russian leaders talk airily of new launch vehicles, such as the Angara, and of missions to the Moon and Mars, perhaps in cooperation with other countries. It is clear that many in the Russian leadership look back on the days of Gagarin and Leonov and grand plans that the Soviet Union had for exploring and colonizing space and would like to resume them. Whether anything will come of it remains to be seen. The Russian economy, thanks to increased oil prices, has recovered somewhat. Spending for space has almost matched the level of the height of the Soviet Union. But Russia's approach to space seems to be primarily state-centric. There is no equivalent to an Elon Musk or Richard Branson trying out innovation and building rockets for both a government and commercial market. The American approach to space commercialization may not be perfect, but this may be the Achilles heel of Russian space aspirations.

**RUSSIAN SPACE PROGRAM PLAGUED WITH FAILURES – NO IMPACT TO LOSS OF RUSSIAN SPACE PROGRAM**

Stuart **Williams**, staff writer for physorg.com, “Russia slams ‘childish’ space agency errors”, February 28th, **2011**, <http://www.physorg.com/news/2011-02-russia-deputy-pm-blasts-childish.html>, accessed on June 23, 2011, CJJ

Russia's powerful Deputy Prime Minister Sergei Ivanov issued the dressing down at a meeting with Roskosmos's leadership after two satellite launches ended in partial or complete failure in the last three months.

In December three Glonass navigation satellites ended up plummeting into the Pacific off the US state of Hawaii after launch due to what officials concluded was a simple fuel miscalculation.

And this month Russia put its new Geo-IK-2 military satellite into the wrong orbit, rendering it useless for defence purposes.

"The recent failure with the Glonass satellites is a characteristic example," Ivanov said. "I won't go into details, this was a mistake, but a childish one and a mistake that had serious consequences."

"Any repeat of the mistakes of the recent past -- and I am referring to the loss of the Glonass satellites and the partial Geo-IK failure -- is of course unacceptable," he warned, quoted by Russian news agencies.

The failures have been particularly painful as Russia gears up to celebrate in April the 50th anniversary of Yuri Gagarin becoming the first man in space, still seen as one of the most important achievements in its history.

First Deputy Defence Minister Vladimir Popovkin bluntly declared last week "that the Geo-IK-2 spacecraft is lost for the Defence Ministry. It will not be used for its intended purpose."

Ivanov said that the failed launch of the Glonass satellites alone had cost Russia 2.5 billion rubles ($86 million, 63 million euros).

The head of Roskosmos, Anatoly Perminov, said the cause of the Glonass failure had been insufficient control over new technology.

Meanwhile, Ivanov said that Roskosmos had failed to meet its goals in the production of spacecraft and rockets, saying that in 2010 it produced only five out of the 11 spacecraft it was supposed to make.

He said that six spacecraft for civilian purposes had failed to launch in 2010 due to the delays.

# aff answers – IMPACT D – RUSSIA BRAIN DRAIN

**NO IMPACT TO RUSSIAN BRAIN DRAIN – BREAK-UP OF THE SOVIET UNION SHOULD HAVE CAUSED THE MASS EXODUS AND THE DOOMSDAY PROLIFERATION IMPACTS, BUT DIDN’T – DISPROVES YOUR INTERNAL LINK**

**HYMANS 2010** [Jacques - professor @ school of int’l relations @ USC., “Beautiful Stranger: The Proliferation Implications of Footloose Nuclear Scientists”. August 22. <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1642169>. 6/21/11. AW)

**Observing the poor conditions faced by the nuclear scientific establishment in the former Soviet Union in the early 1990s, scholars** and policymakers rightly **sounded the alarm that a massive emigration of ex-Soviet scientific talent might soon happen.** Indeed, over the past twenty years many scientific workers have emigrated from the post-Soviet space. But in addition, **the proliferation literature also tended to assume that an exodus of nuclear scientific workers *from* a place like the former Soviet Union necessarily meant a significant movement of such people *to* developing country nuclear programs** such as those of Syria or Libya. **This assumption was much less reasonable. Indeed, if it had happened it would be a stunning exception to the typical scientific migration patterns**, which as noted in Chapter 6 are either brain circulation within the North or brain drain from South to North—not brain drain from North to South. The point is not that we can be completely sure that no ex-Soviet scientist has found his way to Damascus or Tripoli, but rather that **we can be quite confident that the brain drain to such places has at most been a very small trickle, and that even in the absence of Western aid programs it would certainly not be a flood.** However, the literature often suggests that the arrival of even a tiny number of top-flight scientists in such contexts may be enough to, Ball and Gerber‟s words, “jeopardize international security.”8 As Dorothy Zinberg writes, “If 100,000 SE&Ts emigrate and five of them go to work for Iran or Libya, or if 100 leave and the same number work for would-be nuclear weapons states, **the scale of the emigration is of little significance.”9 Therefore we need to think hard about what such highly qualified scientific émigrés might be able to accomplish in their new environment, even though the ex-Soviet nuclear scientists who have moved to places like Libya or Syria may be counted on the fingers of one hand.**

# aff answers – IMPACT D - russian loose nukes

**Recent safeguards mean there is no risk of loose Russian nukes**

**FAS**, (Federation of American Scientists), “Overview of US Efforts to Control the Spread of Russian Nuclear Weapons, Materials, and Expertise”, **2005**, <http://www.fas.org/ssp/docs/020500-heu/app_a.pdf>, accessed on June 21, 2011, CJJ

The United States government currently conducts about twenty programs, costing upwards of half a billion dollars a year, that aim to control the spread of Russian nuclear weapons, materials, and expertise. 58 The first was the Cooperative Threat Reduction Program in the Department of Defense (DOD), which began in 1992 as the “Nunn-Lugar” program. As part of that program, DOD has taken the lead in efforts including the dismantlement of nuclear weapons delivery systems, construction of a secure storage facility for fissile materials from dismantled nuclear weapons, and cooperating with the Russian Ministry of Defense. The Department of State manages programs to address “brain drain” problems in Russia and other countries of the FSU. It also has the lead role in negotiating government-to-government agreements such as an agreement that governs joint activities for the disposition of plutonium. The Department of Energy (DOE) is the lead agency for efforts to secure, monitor and reduce nuclear material stockpiles in the FSU, reduce the size of the Russian weapons complex, and redirect weapons experts to civilian employment. Related programs are conducted by the US Customs Service, the Nuclear Regulatory Commission, and other agencies. The results of these programs have been impressive. Hundreds of ICBMs (intercontinental ballistic missiles) and other delivery systems have been destroyed, and thousands of nuclear weapons have been dismantled. Nuclear warheads and delivery systems in Ukraine, Belarus, and Kazakhstan have all been returned to Russia or destroyed. Warheads at over 500 sites in the FSU have been consolidated to fewer than 80 sites, 59 all within Russia, and they are tightly guarded. All major sites with weapons-usable fissile material in the FSU, with the exception of four nuclear warhead assembly and dismantlement plants in Russia, are cooperating with DOE’s Materials Protection, Control and Accounting (MPC&A) Program. 60 Under this program, DOE funds upgrades to security systems at sites holding stockpiles of fissile materials. Work on these security upgrades has begun at nearly every site and has been completed at many of them. In the brain drain area, several US and international programs have provided grants and assistance that engage in civilian endeavors more than 40,000 FSU scientists and engineers with weapons-ofmass-destruction-related expertise.

**More evidence – Massive initiatives to secure Russian nukes are happening in the status quo, no chance of loose nukes**

**BBC News**, “’Loose nukes’ fear spurs US-Russia action”, January 5th, **2005,** <http://news.bbc.co.uk/2/hi/europe/4149153.stm>, accessed on June 21st, 2011, CJJ

Until it touched down amid tight security, the details of the flight were kept highly classified for fear of terrorists intercepting the cargo - four specialised transport canisters containing 6kg of highly enriched uranium which could be used for nuclear weapons. The flight marked a further step in an increasingly aggressive programme to secure nuclear material by Russia and the US amid continuing fears that gaining nuclear material is a priority for al-Qaeda.

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Meeting in London on 4 January were the two top officials involved in the US-Russian efforts - US Secretary of Energy Spencer Abraham and Director of the Russian Federal Atomy Energy Agency Aleksandr Rumyantsev. They told the BBC news website that they were accelerating their protection programme and expanding the scope of co-operation between their two countries to try to ensure that no nuclear material could fall into the wrong hands. "If terrorists somehow managed to get hold of fissile material then the consequences would be devastating," Mr Rumyantsev said. And he warned that even if the number of casualties was low, the psychological impact of something like a dirty bomb would compare with the impact Chernobyl had on the Russian psyche. Long-standing target After the end of the Cold War, the biggest concern was so-called "loose nukes" in the former Soviet Union where there were more than 27,000 nuclear weapons. The fear was that poorly secured nuclear weapons could be stolen by criminals or terrorists. Since then major efforts have been undertaken jointly by the US and Russia to try to prevent this by destroying weapons and improving security at sites. But while securing such weapons remains a priority, there is now increased concern that nuclear materials rather than a fully developed weapon might become the target for terrorists. Al-Qaeda's desire to get hold of nuclear material is longstanding and was recognised by British intelligence at least as early as 1998, although some of Osama Bin Laden's early attempts to secure such material proved amateurish and unsuccessful. However, recent reports suggest Osama Bin Laden's desire to get hold of some kind of nuclear material is undimmed, and concern will only have been heightened by news that in 2003, he sought and received approval from a Saudi cleric for the use of a nuclear weapon against the US.

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However, most experts believe that a dirty bomb - involving the dispersal of radiological material by an explosion - is a far more plausible threat than the detonation of a nuclear warhead. The former requires far less technical know-how, merely the combination of a traditional bomb with whatever material terrorists can lay their hands on. To counter this, the US and Russia are placing a growing emphasis on a "global clearout" that reaches beyond the two nations and beyond just nuclear weapons by covering things like nuclear fuel held at research reactors in third countries. So far, as well as the 22 December Czech flight, there have also been deals with Serbia, Bulgaria, Romania, Libya and Uzbekistan to return materials from reactors back to either the US or Russia where the technology was developed. "The significance of this can't be overestimated," Spencer Abraham told the BBC news website.

# aff answers – russian economy impact turns – nuclearization

**Russian economic crisis leads to further nuclearization – they’re cheaper than conventional warfare tools**

Nikolai **Sokov**, a senior research associate at the Center for Nonproliferation Studies at the Monterey Institute of International Studies, “Nuclear Weapons and Russia’s Economic Crisis”, November **1998,** <http://www.gwu.edu/~ieresgwu/assets/docs/ponars/pm_0043.pdf>, accessed on June 21st, 2011, CJJ

Modernization of nuclear weapons is cheaper than that of conventional armed forces, and sustaining the relatively small (in terms of manpower and facilities) strategic triad is cheaper than sustaining a much larger, even if reduced, general purpose forces and the Navy. This means that relatively higher attention to nuclear weapons will continue under the conditions of the economic crisis because it provides for a near-optimal combination of political imperatives and economic costs. As a consequence, no amount of external pressure can force Russia to abandon strategic modernization. If, for example, the United States were to link Cooperative Threat Reduction (CTR), the Material Protection, Control and Accounting program (MPC&A), and similar programs to modernization (although, it should be recognized, no such plans apparently exist), this would only mean that less money will be spent on CTR-related activities. Reallocation of resources is highly unlikely.

# aff answers – strong russia economy bad exts – military modernization

**Economic prosperity key to Russian ability to wage war – empirics prove**

Kristie **Snyder**, Editor at Discerning the Times, "Why Russia Believes She Can Win a Nuclear War--Editor's Commentary", November **1999**, <http://www.discerningtoday.org/members/Digest/1999Digest/November/Why%20Russia%20Believes.htm>, accessed on June 21st, 2011, CJJ

For Americans who are old enough to remember the cold war, this one fact we know: the cold war is over and we won; end of story. Or is it? Whether we call them Communists or Socialists, the hardliners still remain in control beneath the surface in Russia. The boys at the KGB didn’t trade in their side arms for love beads and peace signs in the wake of perestroika. The images of freedom seekers being shot as they tried to get over the wall in East Berlin remain fresh in my mind. I am utterly unconvinced that the mind-set behind that kind of oppression has changed. Remember what the Marxists espouse—the opulent, capitalist order of the west must be destroyed. The Russia portrayed in the media today is a nation in serious economic crisis whose people are going hungry. This image, however, is false. While her people do suffer economic hardship and America continues to radically downsize its military force, a hidden economy is building a Russian war machine second to none. Russia has been building as many modern, high technology attack and nuclear missile submarines as they have decommissioned. They have been building as many ships, bombers, fighters, and tanks as they did at the height of the Cold War—all using advanced technology stolen or purchased from the U.S. According to Col. Lunev, the highest ranking military intelligence officer ever to have defected from Russia, in the midst of their supposed economic crisis, Russia continues to build a state-of-the-art war machine. Last year, Yeltsin commissioned Peter the Great, the largest ballistic missile cruiser ever built. She has also unveiled her stealth bomber. By this December, they will have deployed 20 mobile Topol-M intercontinental ballistic missiles. The Topol-M can change its trajectory in mid flight and is multiple warhead capable. Unlike America, Russia has also deployed 10,000 to 12,000 Anti-Ballistic Missiles (ABMs), disguising them as Surface to Air Missiles (SAMs), according to William T. Lee, a former CIA Russian analyst. Huge underground nuclear-hardened bunkers have also been constructed to be used in case of war. The largest of these is in Yamantau Mountain in the Urals, east of Moscow and is as large as Washington, D.C. "Yamantau," claims Col. Lunev, "is a huge underground city which could be used in time when many Russian cities are destroyed, but the military and political elite will survive and live until our planet will try to restore itself."

AEROSPACE INDUSTRY KEY TO NATIONAL PRESTIGE????

Bloomberg Businessweek, “Russia's Grand Plan To Restore Its Glory”, September 18th, 2006, <http://www.businessweek.com/magazine/content/06_38/b4001064.htm>, accessed on June 21st, 2011, CJJ

Is it an opportunistic piece of financial speculation, or the start of a new strategic partnership? That's the question following recent reports that Russia's Vneshtorgbank (VTB) has laid out $1 billion for nearly 5% of the European Aeronautic Defence & Space Co. (EADS), which owns Airbus. Neither VTB nor EADS would comment. VTB's interest might be explained by the price of EADS shares, which have fallen 28% this year, largely over concerns about Airbus' new A380 megajet. But state-owned VTB works closely with the Kremlin, and Russia's own aviation industry is about to launch a major restructuring. Under a Kremlin-approved plan, eight aircraft plants and five design bureaus are to be merged into a giant holding called United Aircraft Corp. The company, which will be 75% state-owned and boast close to $3 billion in revenues, could benefit from links to Western aerospace outfits. Indeed, EADS will own about 2.5% of United Aircraft through its 2004 purchase of 10% of Irkut Corp., a unit of the holding company. The shakeup is just the latest example of a major shift under way in Russia. In a bid to reestablish the country's industrial might, President Vladimir V. Putin is overseeing the creation of large corporations, owned or heavily backed by the state, that will dominate strategic sectors and act as national champions abroad. It is in aerospace that Russia's yearning to regain lost prestige is most evident. During the Cold War, Russia was second only to the U.S. in aviation. While Russia still accounts for some 25% of the global market for military aircraft, it makes just a dozen or so passenger jets annually, or less than 1% of the world market. Its planes are still based on Soviet-era models that pollute, gulp fuel, and have a poor safety record. TECHNOLOGY HUNGER Over the coming decade the government has promised to invest $13.7 billion in United Aircraft. Moscow also seems keen to attract foreign partners that have the technology needed to drag Russian aircraft designs into the 21st century. The industry is pinning its hopes on niche models such as the Sukhoi Superjet 100, a new 95-seat passenger plane that has the backing of Boeing ([BA](javascript:%20void%20showTicker('BA')) ), French engine maker Snecma ([BA](javascript:%20void%20showTicker('BA')) ), and Italy's Finmeccanica. "Russia's aviation industry will be saved by cooperation with European and American companies," says Victor Soubbotine, general director of Sukhoi Civil Aircraft Co., which will become part of United. Such cooperation could include a strategic tie-up with a company such as EADS. Russia is "a potential source of lower-cost components for Airbus, which needs to address its lack of competitiveness," says Nick Cunningham, an analyst at London brokerage Panmure Gordon. Although EADS may not want to create a strong link with Russia, which could hurt its chances of winning U.S. defense contracts, Moscow's hopes are still likely riding on injections of Western technology. It's probably the only way Russia's aviation industry can get back in the global game.