GEO-POLITICAL CHANGES DRIVING CHINA'S AVIATION INDUSTRY

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The epimorphosis of China's rise as an economic and military power was conceived in a **land of opportunities** which since then has also become instrumental in stimulating the growth and, thus, creating a Frankenstein. The emerging global order is now portrayed by an apparently declining US power and speculation about which amongst the burgeoning nations will eventually rise to power. China, beyond doubt, appears to be emerging as a front runner. Whilst the US economy is expected to grow at a conservative rate as compared to China's thriving economy, sustaining global leadership in the 21st century could become a challenge for the Americans as they continue to struggle in a debt-ridden economy serviced by the Chinese. At the same time, a flourishing Chinese economy will naturally make available far greater resources not only for socio-economic benefits but also towards greater allocation on Research and Development (R&D) and improvement in the defence industrial base. Capital and technology inflow from America has played a key role in carrying forward China's policy on reforms. America has more than 60,000 investment projects stationed in China, valued at approximately $70 billion, while Chinese holdings in the US Treasury alone are in excess of $1 trillion. Therefore, the two economies are deeply intertwined and, hence, becoming seamlessly interdependent.

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With the end of the Cold War, the break-up of the Soviet Union and American dominance in the 42-day **Gulf War**, the world witnessed a shift from a bipolar to a unipolar world, and America soon became a central player in geo-politics, with other states virtually in a celestial orbit. However, since the turn of the century, a new concept of multipolarity was brewing to occupy the centre-stage in international politics. The global order was in the cusp of witnessing a gradual shift from a unipolar to a multipolar world, with an apparent shift in power to the Eastern hemisphere as a consequence of a relatively declining superpower, emerging **Elephant** in the Indian Ocean Region(IOR) and the **Dragon** biding its time to engulf the South China Sea! Like China and Japan which were the two largest growing economies in the last decade of the previous millennium, the new millennium testified to the emergence of **'two rising great powers'** in the most active **fault lines** but in the backdrop of immense economic strength. China and India are expected to contribute more than half of the world's economic growth in 2012 in the midst of a fading Europe and America barely managing to achieve positive economic growth but with strong resistance.

Hence, along with the US as an extra-regional power, the two rising indigenous powers are bound to dominate the geo-strategic construct in East Asia. The construct's uniqueness has a resemblance to the Cold War period but with its centre of gravity rooted in the Asia-Pacific. While America will try building partnerships and restoring its influence in a profoundly changing world order, both India and China too will adroitly look for future alliances and partnerships. The key question would, however, be whether realignments and new coalitions would look beyond the 'hub and spoke' system of the Cold War era to maintain a stable balance of power in Asia? And will great powers/emerging great powers take on additional responsibility and ensure that balance is possible before disturbing it?

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Or, will inadequate clarity in defining the balance, lead once again to an arms race in the region? Will America's intervention to hug an Asia-Pacific century create further imbalance or restore the balance? Each would try to discard the **'Cold War'** mentality on the pretext of developing strategic alliances within the complexities of regional dynamics. The American presence will, however, redefine the basis of any such framework, and in that context, a future alliance would be founded on real and hard power which will form the bedrock for all coalitions in the region.

Europe in the new millennium was staring down a **'lost decade'** and overwhelmed by economic opportunities available in Asia and the emerging economies. Asia, during this period, was in the midst of a make-over and the region, apart from experiencing a relative change in the geo-strategic landscape, was also in the middle of a geo-technological revolution driven by economic capacity in the developing countries. Survivability and economic considerations were driving the business plans for major primes located in Europe and America. Most of them were prepared to offset the threat side of the equation – the prime concern being proliferation and reverse engineering. The West was ready to overlook the imperfections in the model and disposed to place their stakes on galloping trade with China, which was now repainting a new map of world prosperity. As a result, China's aerospace industry started moving ahead at an impressive rate, benefitting from increasing participation in the global commercial aerospace market as well as in the supply chains of the leading aerospace companies. The add-ons accruing to the industry are liable to spin-in benefits into the military aviation sector in the coming decade. It would, therefore, be worthwhile for other players in the region to assess and reconstruct the emerging security threat scenario likely to pan out in the 2025 framework as a consequence of China's growing economic and military prowess and, hence, its impact on the region.

STRATEGIC BLUNDER

Beijing must owe gratitude to America since *China's incredible growth story* was paradoxically manufactured in Washington! Sino-American trade, at one time considered mutually beneficial, leverages far greater dividends in China's favour today. George Friedman's theory that **"if the United States barred Chinese products, or imposed tariffs that made Chinese goods uncompetitive, China might face a massive economic crisis"** may not be conclusive in the present context because other than economics, there are over six millions jobs tied with the Sino-US trade and at the current rate of unemployment, America can ill-afford to lose these jobs! On the one hand, it is estimated that the US consumers since the turn of the century have saved at least $60 million every year by buying commodities made in China; the US, on the other hand, has been the biggest source of foreign investment, resulting in huge technology and capital inflow into China. Trade between the US and China has increased from $ 8 billion in 1985 to $80 billion at the start of the millennium and a whopping $447 billion in 2011. The most perceptible change is that the two countries have tried to establish mechanisms for dialogue within fundamental regulations for development. Though the relationship is fraught with friction and divergent views, both countries, significant in size, population, economy and global trade, have set in place stable mechanisms for coping and solving the differences. While the US is China's second largest trading partner, China, on the other hand, is America's third largest export market at $122 billion, only expected to double by 2014.[1]

America's fascination for China dates back to the 1972, **'Shanghai Communiqué'** drafted by Kissinger and Zhou for Nixon's celebrated visit to China. This was at a time when the two nations had not had diplomatic or trade relations for almost a quarter of a century and America regarded China as part of the Communist bloc and, thus, a target of containment. However, rapprochement was quite clearly part of the American strategy for withdrawing from Vietnam and, at the same time, also playing the

1. Xinhua Interview, "China and US Have 'Huge Potential for Economic Cooperation: US Expert", February 6, 2012, as appeared in the FBIS.

China card against the Soviets. From the Chinese standpoint, playing the American card was to balance the Soviets at a time when the country was recovering from the aftermath of the Cultural Revolution and the upheaval in its internal polity. The two sides, however, agreed to disagree on many irreconcilable differences with regard to Taiwan and Vietnam, but neither was prepared to make it a stumbling block in their emerging relationship. The relationship came to a standstill for a few years after the Tiananmen incident. However, in 1991, the Bush Administration once again reengaged China by not only renewing the Most Favoured Nation (MFN) status but also advocating a policy of constructive engagement, later also carried forward by Obama, thereby reiterating China's inclusion in the new global order and spelling out that both countries have common interests in the Asia-Pacific region. The overtures were highlighted in the statement that, *"the United States and China have an increasingly broad base of cooperation and share increasingly important common responsibilities on many major issues concerning global stability and prosperity"* and also that the US welcomes a *strong, prosperous and successful China that plays a greater role in world affairs,* thereby accepting China as a major world power in the 21st century. While China has elegantly manoeuvred itself as an emerging great power in the new global order, one cannot help but acknowledge Washington's prodigious role in providing soul to *China's incredible rise in the last three decades*!

Was it a strategic blunder on the part of America to actively engage China in 1991 when the world was transiting from a bipolar to a unipolar world order, with China extremely heedful at that time of its exclusion from the new order? While, on the one hand, America's restlessness to tango with China then was understandable, in hindsight would it be accurate to suggest that it was a costly miscalculation and a **'strategic blunder'** which resulted in creating a **'Frankenstein'** for the world today! Is America once again repeating the same mistake in this time making a shift from the European democracies which have been its cornerstone in engagement with the world, to hug an Asia-Pacific in the 21st century? Are these strategies a compulsion driven by necessity to restore the dwindling American and European economies and secure interests in a profoundly changing world, or

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to indicate America's continuing military primacy despite the slicing of billions from the Pentagon's budget? A strategy which could resonate well with the voters in 2012 to demonstrate that America continues to hold a position of military superiority over great as well as emerging great powers. What could be the compelling reasons for America's resolute urge to taste the waters of the South China Sea and the Indian Ocean and destabilise the already unstable tectonic plates in the region? This comes at a time when both the US and China have stressed on building a sound and stable relationship based on mutual respect and benefit, as stated by Hu Jintao in 2010 and reiterated by Vice Chairman of the Central Military Commission (CMC) and President designate, Xi Jingping. Hence, is **'back in Asia'** and **'trans-Pacific strategic economic partnership'**, a larger strategy to manipulate the strategic landscape in the region through new alliances to benefit China and America and if so, where should India position itself in the emerging global order?

America's engagement with China in the past has not been limited to building economic relations but also involves developing a proxy military partnership, as revealed by some declassified documents as a consequence of the Freedom of Information Act (FIOA) 2002. It is now out in the open that *de-facto* military training was being conducted in the garb of a civil airline modernisation programme in the **'friendly skies of America'**. A number of People's Liberation Army Air Force (PLAAF) officers were being trained in **combat readiness, bombing** and **strafing** operations at the Edward Air Force Base in 1999. The documents further revealed that most of these exchange visits were sponsored by the Federal Aviation Administration (FAA) to conceal the military component of the delegation and that this kind of training had been going on since the time of the Clinton Administration in 1993.[2] The meetings continued even in the aftermath

2. http://www.softwar.net/plaafaa.html, accessed on January 31, 2012.

of the EP-3 bombing in 2001, where the two sides apparently discussed possible US military assistance in terms of equipment and training for Air Traffic Control (ATC) and logistics support in China.[3] In 2009, the United States and China agreed to further strengthen cooperation on civil aviation, and confirmed their intent to expand the Memorandum of Understanding for Technical Cooperation in the field of civil aviation between the FAA and the Civil Aviation Administration of China (CAAC).[4] In the last 25 years, other than trade, interactions through mutual visits have increased from 10,000 to over three million every year.[5] While, on the one hand, the US was engaging China militarily as well as economically, in its very own inimitable style, it did not shy away from admonishing Israel for assisting the Chinese through the Lavi programme in the mid-1990s. Hence, it is quite obvious that China's incredible growth story has indeed been scripted in the back channels of America.

STRATEGIC CONSTRUCT

It seems quite clear that the future strategic construct will inherently lie in the realm of Asia consisting of India, China and the US as an extra-regional power. The India-China stand-off appears to be most unlikely in the next decade or two, but in case of an unexpected eventuality, what would be America's posture and thereafter the implications for the region? How different would be America's reaction to a potential Sino-India conflict in a 2020 framework compared to a 2030 framework? On the other hand, if one was to visualise a diametrically opposite construct of a Sino-India convergence in the midst of the US strategy to hug the Asia-Pacific, how would America restrategise and justify its presence in the region? And, finally, the most expected case of a US-Iran stand-off: what would be the

3. http://www.softwar.net/plaaf2.html and an article written by Charles R. Smith on October 3, 2001 which appeared on http://archive.newsmax.com/archives/articles/2001/10/3/92605.shtml, accessed on January 31, 2012.
4. US-China Joint Statement, Beijing, China, released on November 17, 2012, by Office of the Press Secretary, White House, http://www.whitehouse.gov/the-press-office/us-china-joint-statement, accessed on February 1, 2012.
5. Li Xingpin's interview to *Washington Post* during his visit to America as a state guest of US Vice President on February 13, 2012 and appeared in http://english.peopledaily.com.cn/90883/7728221.html, accessed on February 14, 2012.

likely positions of India and China in the entire dynamics and the changing strategic landscape in the region? Whilst according to many realists, the US could be trying to rebalance its presence in Asia through new alliances and coalitions to restore its strength, the larger point still remains that if the equilibrium is not well managed, the region could very easily slip into a potential conflict. While the Shanghai communiqué changed the dynamics in the Cold War era, America's shift to the Asia-Pacific could well alter the dynamics in the post Cold War era and create major fault lines in the region. Is the movement a signal pointing towards an end to today's wars and the beginning of future wars? Is America's focus on the Asia-Pacific an indiscretion of the times, a strategy of limited intervention when it appears to be suffering from war weariness and in the midst of a financial crisis, with tremendous pressure to cut down its defence expenditure? Lastly, if America is only seeking to maximise opportunities which now lie in Asia, why cannot India, China and other countries in the region look to maximise the same opportunities available in their backyard? Hence, are the new and emerging fault lines a result of a combination of economics and politics defining future opportunities?

SHIFTING FAULT LINES

Huntington in his book *Clash of Civilizations and the Remaking of World Order* argued, "*The clash of civilizations will dominate global politics. The fault lines between civilizations would be the future battlefields*" and predicted that World War III would stem from the clash of civilisations! He also said that culture and cultural identity, which at the broadest level comprise civilisational identity, are shaping patterns of cohesion, disintegration and conflict, and inter-civilisation issues are broadly replacing the earlier inter-superpower issues in the post Cold War era. However, the emergence of an economically dynamic region in the East, hungry for technology, was fast becoming the cornerstone for a new world order. And in the context of a new and evolving global order, Huntington's hypothesis will necessarily have to be extended to also include economics-technology-resources in defining fault lines in the decades ahead.

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All these factors would then become a larger construct for civilisational identity and also drivers to restructure the emerging new global order in a multipolar world. The causes of conflict may not only be limited to divergent values, ideas, culture and identity but also a result of knock-back for technology or for that matter resources in the emerging global order,all likely to have an impact in defining future fault lines. The hunger for resources will continue to drive nations into conflict zones, particularly so because of changing economics, geo-politics and strategic priorities. China, which used to be self-sufficient, has grown to outstrip its own resources and become a net importer like Japan! It is also the largest economy in Asia, second only to America, and a majority of its energy resources transit through the IOR, Malacca and the South China Sea. The IOR and South China Sea, host to two indigenous rising great powers and an arena for the extra-regional great power, have the immense potential to qualify as a potent fault line in the 21st century. While the region would continue to be a strategic challenge for some powers, it would also be a bed of opportunities for others and, in that context, the IOR could play a key role as a potent choke point for access to the Persian Gulf, Europe and Africa. While China, on the one hand, is taking bold initiatives to develop military options to counter the choke points, India, on the other, would also develop military capabilities to counter China's military build-up, thereby making the region yet another arena for the arms race in the 21st century. In the new world order, it is abundantly clear that no country, whether a superpower or an emerging great power, can afford the arrogance of believing it is immune to dangers and, therefore, the requirement of credible military power will continue to guide the strategic options in the region.

TECHNOLOGY TRENDS

China's foreign policy is complemented with a forward looking military-diplomacy trying to shape the international security environment in the realm of *real politik*. It aims to expand interaction with the international community to pursue its key national security objectives as against the earlier ideological baggage of merely pursuing the Party agenda. The increase in defence spending also creates a perception amongst its Asia-Pacific neighbours that Beijing is becoming increasingly aggressive and hostile in its foreign policy. Opacity in military estimates complemented with the *IHS Jane's* analysis that China's military expenditure could reach a colossal \$238 billion by 2015 only increases the fog and growing insecurities which could have serious security implications for the Asia-Pacific.[6] However, the key security objectives that China is strategising to follow in the coming years and decades are first, modernising the state and its defence; second, acquiring technology; third, defending its sovereignty in its core area of interest; and fourth, securing itself with adequate reserves of resources and preparing for future challenges, irrespective of the adversary.

China's quest to take on the strongest and most potent adversary in the region has resulted in an accelerated modernisation drive. It is using all the resources at its disposal through both state and military diplomacy to gain access to technology for modernising its strategic industries. China is also leveraging strategic gains by providing military assistance through arms sales to countries where it could have key strategic interests. The deepening reforms and socio-economic changes are resulting in young officers acquiring knowledge on modern military concepts, training, administration and a host of other non-operational and combat related areas through international exchanges. The open door state policy, based on mutual beneficial cooperation, and the state's investment in R&D and infrastructure has only added impetus to China's rise as a modern state and its quest for technology in the second and third decades of the 21st century. The debate on technology transfer has also undergone a paradigm shift since the second half of the 20th century to the present time, as we step into the second decade of the 21st century, and it would be foolhardy for a developed

6. http://news.xinhuanet.com/english/china/2012-02/21/c_131421249.htm and english.peoplesdaily.com.cn/90786/7734706.html, accessed on February 22, 2012.

country to expect a developing country of reasonable stature to get excited by limited technology transfer through licensed manufacturing.

It cannot be denied that initiatives by the middle income developing countries in accepting cultural assimilation and social restructuring have only added impetus for creating an environment for successful transfer of technology, and countries lagging behind in this initiative would have to forego opportunities. Steps in this direction have resulted in an increase in the numbers of trained scientists and technologists residing in some of these countries, enhancing the magnitude of scientific research and adding momentum for creating a favourable environment for technology transfer. The trend is also driven by capacity and growth and, therefore, some of these nations are aspiring for a much larger share of the pie. The role of the state has also bolstered progress in some countries like China and Brazil by increasing allocation on R&D and outlays in developing infrastructure, but not as much in India. The world is, however, appearing to be getting seamlessly interconnected as well as interdependent and the concept of free trade has percolated to such an extent that industries dealing in specialisation of component and finished products favour production facilities that serve more than one nation to derive advantage from skills inherent in the countries. The strategy rooted in the developed nations is bound to create opportunities for some emerging economies enjoying the advantage of capacity, trained manpower and economic growth, with a propensity to attract and set up manufacturing hubs and boost **'localisation'.** The industries in these developing countries will eventually become **'home markets'**[7] and a critical part in the global supply chain. On the one hand, synergy would help home markets improve financial management, incorporate better management ethics, reduce qualitative gaps and barriers for indigenous development; while, on the other, industries based in the developed countries would benefit from enhanced production capacities leading to economies of scale and cost advantage.

7. The home market is a major domestic sales market set up in a country to benefit from returns to scale and transportation costs since most of its products are consumed in the country. A home market can also become a global manufacturing hub due to cost advantages vested in the country. The concept was, however, first theorised by Paul R. Krugman in his article, "Scale Economies, Product Differentiation, and Pattern of Trade."

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It may be important to also understand the technological dynamics in the neo-liberal and neo-realist paradigm; at the same time, it is equally important to value it in the changing framework of the strategic and economic landscape of the evolving new global order. While *dependency theory* could form one part of the complex equation, emphasis on balance of power in the region could form the other part in the transfer of technology equation. Technologies in the denial list are universally controlled by the state and regarded as a zero-sum game driven by the concerns of proliferation and competition and, therefore, could be applied in the neo-liberal framework of the dependency theory. The private industries and businesses, on the other hand, appear more pragmatic in their philosophy of operating in a seamless and efficient environment, with concerns driven by economic benefits, irrespective of the direction of flow of knowledge. Hence, today, it could be conclusive to mention that absorption of technology outside the denial regime fundamentally boils down to embracing changes in the cultural paradigms and flow of knowledge as a consequence of globalisation, free trade and localisation. Availability of a broad range of scientific and technological skills, skilled manpower and adequate infrastructure in a home market cannot be ignored for application of technology developed elsewhere.

At the same time, emerging powers in the midst of a technology dilemma are being driven by the nationalistic approach in the quest for technological autarky. However, if some of these nations want to embrace technology and participate in the economics of geotechnology, they will have to strategise by enforcing social restructuring and creating a culture to invigorate innovation. Embracing technology by carrying out changes in the internal politico and socio-economic structure could be one end of the spectrum in the strategy; illegally acquiring technology with scant regard for intellectual property could form the other side of the spectrum. Hence, lifting the European Union's arms embargo on China, in the midst of the prevailing economic crisis would be a good way to suck up to the Chinese and see the *European weapons* of today become the *Chinese weapons* of tomorrow![8] Though protection of intellectual property is guaranteed in the World Trade Organisation (WTO) agreement on Trade–Related Aspects of Intellectual Property Rights (TRIPS), these agreements, more often than not, appear to be binding only for a few disciplined nations. Rogue nations, however, will continue to filch technology, defy intellectual property rights and carry out proliferation for strategic gains.

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China's economy has been growing at an unprecedented rate coupled with military modernisation, despite being in the midst of a technology dilemma. The hunger for resources is driving Beijing's urge to acquire technology at any cost. China's military is a growing threat in the Asia-Pacific and if not balanced strategically, could end up becoming another flashpoint in the region. China annihilated a satellite in 2007, conducted an anti-missile test shortly after America announced arms sales to Taiwan and constructed a massive subterranean naval base in Hainan to launch extended naval operations in the Pacific. It **'invisibly'** flew the J-20 in 2011, coinciding with Robert Gates' visit and so stealthy was the aircraft that Hu Jintao too was taken by surprise! The Chinese have also launched a series of satellites for navigation: the Tiangong-1 was launched on-board the Long March 2F rocket from the Jiuquan Satellite Launch Centre, marking the first step to establish a manned space station by 2020. China's navy too is on a long march even though it may not possess the capacity or capabilities to prowl the world's oceans like the Soviets in the Cold War era. However, it is trying hard to project power beyond its land territory to patrol farther from its home waters. China has sent 10 groups consisting of 25 warships to escort over 4,500 Chinese and foreign ships across the Gulf of Aden since 2008; it recently

8. Discussions with Air Cmde Jasjit Singh, Director CAPS, in the conference room, on February 29, 2012.

commissioned a hospital ship, *Peace Ark*, which cruised across the globe. It is building a new icebreaker for polar expeditions since it fears that environmental changes in the Arctic are bound to have a direct impact on China. At the same time, it is also strategising to acquire overseas basing rights to station forces abroad.

China is an emerging power in the new global order, with the centre of gravity lying in the Asia-Pacific. Though it may still not be prepared to challenge the best, it is hoping to fast transcend from being a regional power to achieve its global military as well as strategic aspirations. Many analysts and policy-makers have expressed that China could, in the future, threaten America's ability to project power, and Adm Robert Willard, head of the US Pacific Command, was most alarmist of them all. He mentioned that in the past decade or more, China has exceeded most of America's intelligence estimates of its military capabilities. However optimistic the aspirations and predictions regarding China's future military capabilities may appear, the aspirations will have to be backed with availability of critical and modern technology in China's backyard, and in that context, China appears to be deficient.

Hence, if China's pursuit for technology gains momentum, Beijing may not hesitate to walk the extra yard to grab technology before engaging in the art of proliferation for strategic gains – an area in which it has excelled in the past! The second and third decades of this millennium will be characterised by the desire for technology acquisition by middle income developing nations. It will, therefore, be technology and economics and not ideology alone which will become critical in polarising the world and, in that context, the geo-politics of the past will transcend to the geo-technology of tomorrow. Will the dynamics of the forces between nations, driven by a multitude of factors, permit technology to be perceived as a zero-sum game? And if technology continues to be perceived as a zero-sum game in the future, would it become another contributor to drive the region into a conflict zone, thereby creating yet another fault line which could destablise the already disturbed tectonic plates in the region?

FUTURE TRENDS

George Friedman in *The State of the World: Explaining US Strategy* has mentioned that the world order of 2012 was different, conspicuous by the absence of China, Europe and Russia of the 1990s.[9] The last decade of the previous century was an absolute disaster for Russia; Europe, on the other hand, was surviving in the difficult times of post 2008 financial crisis. India and China were the only two countries which continued to grow at an unprecedented rate of more than 8 percent at a time when global economic growth was estimated to be a modest 2.6 percent, with America growing at barely 2 percent and Japan and European Union struggling to recover from recession mode.

Riding on a robust economy, China started to focus on strategic modernisation to meet the requirements of 21st century warfare at a time when its conventional forces were despairingly inadequate in both quality and performance. It, therefore, started spending billions of dollars on modernising its air, naval and ground forces along with space, information and missiles to first challenge the best in the region and then outside of it. Since the turn of the century, the budgetary allocation had increased five-fold to $100 billion in 2011, which further stirred up the belief that the dragon was becoming a dangerous threat in the region. The enormous increase in the year on year allocations in defence expenditure highlighted Beijing's concern to defend itself against foreign aggression and catch up with the West. China's ultimate dilemma was postured on the belief of an American blockade in the region extending from the Strait Malacca to the Strait of Hormuz.

In the 1980s, Deng proposed to reform and build a capable military but on the foundation of a strong economy. However, barely a decade after he initiated the reforms, the sound of the Patriots, the overwhelming visuals of mean machines flying across the Iraqi skies, armed with smart bombs, became not only a 'cultural shock' but also a loud wake-up call, which the Chinese feared could pose a challenge in their pursuit of national security.

9. George Friedman, "State of the World : Explaining US Strategy," *STRATFOR*, February 28, 2012.

Hence, the way forward was embracing innovation through indigenous R&D which was becoming the central theme for leaders and members of the scientific community, and by integrating civil and military.

The theatrics in the 42-day 'Gulf War' became a real-time technology demonstrator for future war-fighting capabilities to lay bare how an inferior force could be easily annihilated by a superior one. Hence, the strategists within the PLA started reformulating doctrines, cutting down the size of their forces, and sought to acquire new technologies that would enable them to catch up with the West. Many scholars and think-tanks started to read and write volumes on the Gulf War and one such document that caught the eye was *Unrestricted Warfare*. China, therefore, started to flex its political and military clout in pursuit of foreign technology and set up a vision to catch up with West by the first quarter, and rub shoulders with the best by the middle of the 21st century.

China's progress in defence economy has been somewhat impressive since it embarked on reforms in the late 1990s. Linkages with global production and innovation networks of major primes from the West have provided impetus to the aviation industry. Growth in the sector can be gauged through an array of indicators like education standards, network of state level science and technology laboratories, institutional capacity to elevate science to technology, improvement in research and development along with indigenous innovation capabilities and also increase in corporate profitability.[10] The Aviation Industry of China (AVIC) spearheaded reforms in the defence economy. In 2003, AVIC, for the first time, started reflecting a healthy balance sheet with positive working capital which soared to $1.4 billion in 2009.

While the aviation industry was progressing at a brisk pace, the Chinese planners were almost certain that they would encounter strong resistance in acquiring foreign technology for the military aircraft industry. Hence, the

10. Discussions with Tai Ming Cheung during his visit to New Delhi on February 3-4, 2012. Tai Ming Cheung is the author of *Fortifying China: The Struggle to Build a Modern Defence Economy* and works at the University of California Institute on Global Conflict and Cooperation/ University of California San Diego, USA.

way forward was embracing innovation through indigenous R&D which was becoming the central theme for leaders and members of the scientific community, and by integrating civil and military in such a way that a majority of the military technological requirements could be incrementally met through spin-ins. As a result, China started investing huge amounts of capital in the 11th and 12th Plans towards development of domestic jumbo jets – the ARJ-21 and C-919. It was expected that in the next decade, the demand for the Airbus and Boeing class jets would soar to more than 4,000 aircraft. At the same time, while the indigenously manufactured home grown aircraft would augment the demand, it would also help generate flow of knowledge, develop infrastructure and capabilities to eventually spin-in civil technology to the military aviation industry. It is almost a foregone conclusion that the future growth story of the global aviation industry is likely to lie in the realm of China, which is expected to represent a major source of demand and presumably grow exponentially in the coming decades. It would, therefore, be advantageous for the home markets to become part of the global supply chain in the aviation industry. This dynamics will become inevitable as the Western primes will have no choice in the present economic environment but to head for China for sourcing requirements due to the cost advantage; and, from China's perspective, it is bound to be a good business proposition by taking advantage of inflows of foreign technologies, human resources and capital, know-how, finer management practices and market competition. At the end, all the factors put together will substantially contribute towards the development of a full grown military aviation industry with cutting edge technology, if not by the first quarter then at least by the first half of the 21st century.