

Military Modernization of China

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Overview

- The People's Liberation Army (PLA) of the People's Republic of China is undergoing a thorough modernization aided by the country's sustained economic growth and improvement in technological support (2011 Annual Report to Congress)
- World's largest military force, with approximately 3 million members, and has the world's largest (active) standing army, with approximately 2.25 million members
- In the late 1990s, the capabilities of the People's Liberation Army was assumed to be modest, exaggerated and unnecessarily alarmist (Goldstein)
- In the early 2010s it is reported to have a fairly modernized army capable of conducting effective military operations on land, in air, at sea and in space(2011 Annual Report to Congress)

Past Modernization

- Established on August 1, 1927 — celebrated annually as "PLA Day" — as the military arm of the Communist Party of China (CPC); then known as the Red Army (Blasko)
- First nuclear test on October 16, 1964
- Slow modernization previously; more quantity, less quality
- Beginning in 1980s, started shrinking army size, freeing up resources for economic development, focusing on quality more than quantity
- Now aided by double digit economic growth, going through a thorough modernization of all kinds of forces(Goldstein)

Recent Modernization

- Throughout the mid-1990s and the early 2000s, acquired most of its complex modern weapons systems through imports from Russia and Israel
- Over the past decade, benefitted from robust investment in modern hardware and technology and began to field indigenous weapons and hardware
- Military spending grown about 10 percent annually over the last 15 years
- 2011 military budget about US\$ 100 billion, the second largest in the world and up 12.7 % from 2010 (US\$ 87 billion) (but still only 1/7 of the U.S.'s.); 1.4% of its GDP(2011 Annual Report to Congress)
- "If spending trends continue China will achieve military equality with the United States in 15–20 years." - The International Institute for Strategic Studies, 2011
- Four key weapons platforms recognized as "surprise" developments to U.S. analysts:
 - ✓ Type 039A/B/041 (Yuan-class) diesel-electric attack submarine
 - ✓ SC-19 anti-satellite (ASAT) system
 - ✓ Dongfeng-21D (DF-21D/CSS-5) anti-ship ballistic missile (ASBM)
 - ✓ Jian-20 (J-20) stealth fighter aircraft (Chang)



PLA Military Regions

1. PLA Ground Force

- Much, but not all, of ground force modernization focused on units garrisoned nearest Taiwan
- New amphibious assault vehicle entered service in key units, improving the PLA's capability to conduct amphibious attacks
- Small numbers of modern main battle tanks, armored vehicles, self-propelled artillery, and air defense weapons entered service in selected units
- Concurrent with this modernization, PLA ground force training emphasizing combined arms operations and long-range mobility
- Reduction in personnel number, expansion of technology-intensive elements such as special operations forces (SOF), army aviation (helicopters), surface-to-air missiles (SAMs), and electronic warfare units
- Older generation telephone/radio-based command, control, and communications (C3) systems being replaced by an integrated battlefield information networks featuring local/wide-area networks (LAN/WAN), satellite communications, unmanned aerial vehicle (UAV)-based surveillance and reconnaissance systems, and mobile command and control centers (2011 Annual Report to Congress))

2. PLA Navy

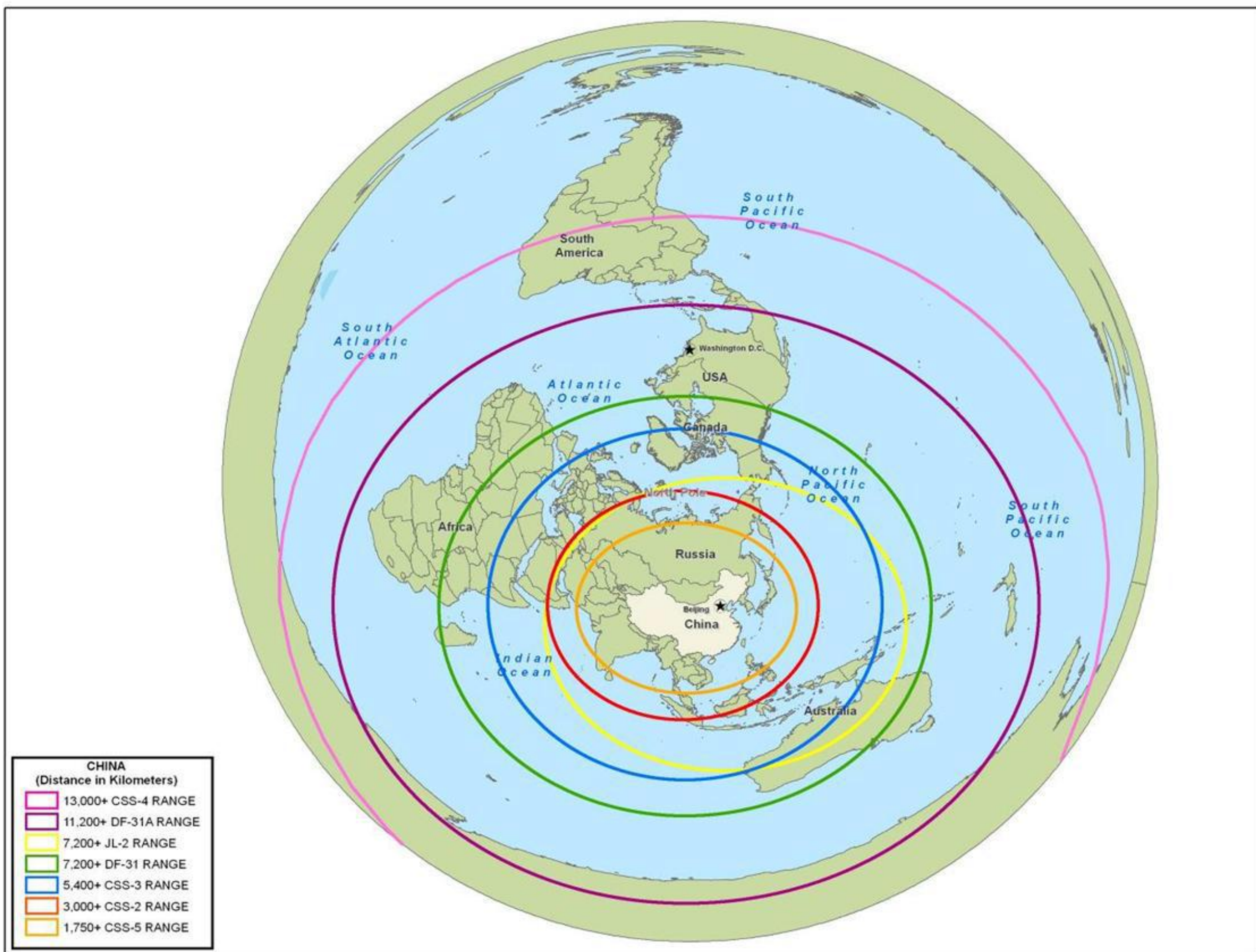
- Since the 1990s, rapidly transformed from a large fleet of low-capability, single-mission platforms, to a leaner force equipped with more modern, multi-mission platforms
- Continues to produce a new class of nuclear-powered ballistic missile submarine (SSBN)
- JIN-class (Type 094) SSBNs carrying the JL-2 submarine-launched ballistic missile with an estimated range of some 7,400 km, giving the PLA Navy its first credible sea-based nuclear capability
- Also utilizing the CJ-10 naval cruise missile system, which made its first public appearance during late 2009
- Thorough modernization of all other naval equipment (2011 Annual Report to Congress)
- Aircraft carrier began sea trials in 2011, although without aircraft
- Close to deploying the world's first "carrier-killer" ballistic missile designed to sink aircraft carriers while they are maneuvering at sea up to 1,500km offshore (BBC News)

3. PLA Air Force

- Largest air force in Asia-Pacific region and the third largest in the world (after the USAF and the Russian Air Force).
- Upgrading B-6 bomber fleet (originally adapted from the Soviet Tu-16) with a new, longer-range variant that will be armed with a new long-range cruise missile
- Continued expanding its inventory of long-range, advanced SAM systems and now possesses one of the largest such forces in the world
- Over the past five years, acquired multiple SA-20 PMU2 battalions, the most advanced SAM system Russia exports
- Introduced the indigenously designed HQ-9
- China's aviation industry developing several types of airborne early warning and control system (AWACS) aircraft ((2011 Annual Report to Congress))
- January 2011 flight test of stealth fighter highlights China's ambition to produce a fighter aircraft that incorporates stealth attributes, advanced avionics, and super-cruise capable engines over the next several years (BBC News)

4. PLA Second Artillery Corps

- By December 2010, deployed between 1,000 and 1,200 short-range ballistic missiles (SRBM) to units opposite Taiwan
- Developing an anti-ship ballistic missile (ASBM) known as the DF-21D, intended to provide the PLA the capability to attack large ships, including aircraft carriers, in the western Pacific Ocean with a range exceeding 1,500 km and armed with a maneuverable warhead
- Modernizing nuclear forces by adding more survivable delivery systems
- In recent years, the road mobile, solid propellant CSS-10 Mod 1 and CSS-10 Mod 2 (DF-31 and DF-31A) intercontinental-range ballistic missiles (ICBMs) have entered service
- The CSS-10 Mod 2, with a range in excess of 11,200 km, can reach most locations within the continental United States
- Also working on a range of technologies to attempt to counter U.S. and other countries' ballistic missile defense systems, including maneuvering re-entry vehicles, MIRVs, decoys, chaff, jamming, thermal shielding, and anti-satellite (ASAT) weapons (2011 Annual Report to Congress)



Medium and Intercontinental Range Ballistic Missiles. China is capable of targeting its nuclear forces throughout the region and most of the world, including the continental United States. Newer systems, such as the DF-31, DF-31A, and JL-2, will give China a more survivable nuclear force.

Regional Analysis

1. Taiwan

- History of Conflicts
- Military component of China's Taiwan strategy appears to include a heavy focus on amphibious operations, long range strike, and anti-access and area denial capabilities, which are intended to alter Taiwan's threat calculus as well as that of any party considering intervention in a cross-Strait crisis (2011 Annual Report to Congress)

2. Beyond Taiwan

- In 1962, the PLA fought India in the Sino-Indian War successfully neutralizing Indian defenses and achieving all objectives
- Sino-Indian defense ties were institutionalized in 2007 with the establishment of an Annual Defense Dialogue
- Investing in road development along the Sino-Indian border
- Beijing continues to view Moscow as a useful international partner
- PLA less advanced than Japanese forces in all but missile systems
- Security fears in South Korea declining due to PRC's opening to the world and reduced support for North Korean Regime
- Tensions in the hotly disputed South China Sea region subsided after the-1990s, but signs of friction re-emerged in 2007, particularly between China and Vietnam
- China's ability to deploy a more robust strategic and conventional military presence off its southern coast is having a growing impact on regional rivalries and power dynamics (2011 Annual Report to Congress)

On Aircraft Carrier, Stealth Warplane, ASAT and Cyber Warfare

- First aircraft carrier carried out sea trials in August, 2011; refurbished from a former Soviet warship called the VARYAG; 304.5 m long, aircraft capacity 50+ (The Telegraph)
- Likely to have defects such as the absence of arrestor wires (Harding)
- Will likely serve initially as a training and evaluation platform, and eventually offer a limited operational capability (BBC News)
- J-20 stealth test flight completed in January 2011 coinciding with US Secretary of Defense Robert Gates' visit
- Efficiency still in question (BBC News)
- In January 2007, successfully tested a direct-ascent ASAT weapon against own weather satellite
- In 2010, conducted a national record 15 space launches (2011 Annual Report to Congress)
- Numerous computer systems around the world, including those owned by the U.S. Government, were the target of intrusions, some of which appear to have originated within the PRC
- Intrusions focused on exfiltrating information
- China has not yet agreed with the U.S. position that existing mechanisms, such as International Humanitarian Law and the Law of Armed Conflict, apply in cyberspace (Krekell)



The Chinese aircraft carrier seen from space during its second sea trial in the Yellow Sea, approximately 100 kilometers south-southeast of the port of Dalian. Photo: DIGITALGLOBE

Arms Industry

- Primary final assembly and rocket motor production facilities have received upgrades over the past few years, likely increasing production capacity
- Space launch vehicle industry is expanding to support satellite launch services and the manned space program
- Increasing shipbuilding capacity
- Continues relying on foreign suppliers for some propulsion units
- Commercial and military aviation industries have advanced from producing direct copies of early Soviet models to developing and producing indigenous aircraft
- But the ability to surge military equipment production will be limited by its reliance on foreign sourcing for technology, as well as the lack of skilled personnel and facilities (2011 Annual Report to Congress)

Conclusion

- Modernizing smoothly with aid from sustained economic growth
- Beginning to focus more on quality and technology than on number of arms and personnel
- Faster than expected modernization in some cases
- Still quite inferior to regional and global superpowers
- In the future, China's modernized military could be put to use in ways that increase China's ability to gain diplomatic advantage or resolve disputes in its favor
- War not Imminent: economic interdependence theory and nuclear deterrence theory

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References

(2011). *ANNUAL REPORT TO CONGRESS: Military and Security Developments Involving the People's Republic of China*. Washington, D.C.: Office of the Secretary of Defense.
China's first aircraft carrier 'starts sea trials'. (2011, 08 10). *BBC News*.
Blasko, D. J. (2012). *The Chinese Army Today: Tradition And Transformation For The 21st Century*. New York: Routledge.
Branigan, T. (2011, 01 11). China confirms stealth fighter jet tests. *The Guardian*.
Chang, A. (2012). Indigenous Weapons Development in China's. In J. Dotson, *U.S.-China Economic and Security Review Commission* Goldstein, A. (1997). Great Expectations: Interpreting China's Arrival. *International Security*.
Staff Research Report. U.S.-China Economic and Security Review Commission.
Krekell, B. (2009). *Capability of the People's Republic of China to Conduct Cyber Warfare and Computer Network Exploitation*. McLean, VA: Northrop Grumman Corporation Information Systems Sector.
Harding, T. (2011, 12 15). *First satellite image of Chinese aircraft carrier reveals absence of key component*. Retrieved from The Telegraph: <http://www.telegraph.co.uk/news/worldnews/asia/china/8959279/First-satellite-image-of-Chinese-aircraft-carrier-reveals-absence-of-key-component.html>