



Sat, 04 Feb, 2017

(Online)

DRDO Working On Four New Projects & Technologies For Accurate Avalanche Prediction:Govt

The government said on Friday that India's Defence Research Development Organisation (DRDO) is working on four projects to develop new technologies for more accurate prediction of avalanches. Early Warning System in High Altitude Areas : For avalanche warning, 56 High Altitude Observatories and 55 Automatic Weather Stations have been set up by DRDO in Uttarakhand, Himachal and J&K. Further, mountain weather and avalanche related forecast specific for Army personnel is drawn by DRDO from its five Avalanche Mitigation Centres. The new projects and technologies being worked upon by DRDO will help in making accurate predictions of avalanches, Minister of State for Defence Dr. Subhash Bhamre said in a written reply in Lok Sabha on February, 3, 2017.

Defence Research and Development Organisation (DRDO), an R&D Wing of Ministry of Defence, is primarily involved in design and development of strategic, complex and security sensitive systems in the fields of armaments, missiles, unmanned aerial vehicles, radars, electronic warfare systems, sonars, combat vehicles, combat aircraft, sensors, etc for the Armed Forces as per their specific Qualitative Requirements.

"Presently, the DRDO is working on four projects to develop new technologies for more accurate prediction of avalanches," he said in a written response. Last month, 15 soldiers lost their lives due to avalanche. Replying to another question, Bhamre said the jawans deployed at places such as Siachen Glacier are provided with the best-quality winter clothing. This comprises 22 items of clothing in all, including trousers, jackets, gloves and sun glasses. "The winter clothing provided to the jawans is designed to withstand extreme temperatures that even go below minus 50 degrees Celsius," Bhamre said, adding that no shortcomings have been reported in the clothing provided and its upgradation is a continuous process. He said the soldiers deployed in Siachen are being provided pre-fabricated insulated shelters. At places where construction of integrated shelters is not possible, soldiers are provided with insulated tents to withstand extreme low temperatures.

Responding to another question, he said screening of personnel for any stress markers, psychological counselling by trained military psychological counsellors is undertaken regularly. "In Navy, advisories on mental health are issued from time to time and stress relieving activities like yoga, art of living are conducted periodically. "There is also Manasik Seva Helpline working at the Air Force Central Medical Establishment and all personnel found to be having any psychiatric deviation are referred to psychiatrists in nearest service hospitals," Bhamre said.

A look at DRDO's major projects (that cost more than Rs. 100 Cr. sanctioned since 1st January, 2014):

S.No	Project	Date of Sanction	Sanctioned Cost
1	National Open Air Range	Aug 2014	468.00
2	Quick Reaction Surface To Air Missile (QR-SAM)	Jul 2014	476.43
3	AIP system on P-75 submarines and development of deliverable lox system	Jun 2014	270.00
4	Submarine Periscope	Mar 2014	163.77
5	Technology Development of Engine Fuel Control System (EFCS)	Oct 2014	177.72
6	Collaborative Development of Low Vulnerable High Performance Propellant with Low Temperature Coefficient and Improved Life of Ammunition	Sep 2014	267.02

7	Project Pralay	Mar 2015	332.88
8	Development of Multi-kilowatt Fibre Laser	May 2015	289.55
9	Lead-in Project for Design of GHATAK and Development of Critical advanced Technologies for GHATAK & AMCA	May 2106	231.00
10	AKASH-NG – New Generation	Sep 2016	470.00
11	Development of Supersonic Missile Assisted Release of Torpedo SMART	Nov 2016	340.00
12	Rudra M-II	Mar 2016	489.06
13	ANVESHA	May 2016	479.28

Details of expenditure made by the Department of Defence Research and Development during the last three years and current year are given below:

Year	Expenditure (Rs. in crore)
2013-14	10868.88
2014-15	13257.98
2015-16	13277.27
2016-17 (BE)	13593.78

Business Standard

Sun, 05 Feb, 2017

Why India-US defence ties will endure

By Premvir Das

US interests in the Indian Ocean Region, and its view of India as the major regional power, will ensure that the defence engagement between the two continues despite likely Chinese protests on arms transfers.

Eyebrows are being raised at the amazing changes in the political environment in the United States, which have brought an entirely unexpected protagonist — Donald Trump — into play and created uncertainty around the world. With a focus on tightened immigration procedures and scrutiny of entry into the country, including those related to work, India is very much an affected party, given its footprint in IT services there. While the larger relationship and its several elements can be discussed separately, how is the changed scenario likely to impact the developing defence cooperation between India and the US?

In the last 15 years, military engagement between the two countries has progressed at a pretty fast pace, given the historical suspicion that had existed during the Cold War years. Joint exercises between the armed forces have enhanced qualitatively, the Malabar events at sea leading the way. Purchases of platforms and weaponry have crossed \$15 billion in this same period, with force multipliers and aircraft with long reach such as P8I, C130J and C17 added to the Indian inventory.

To this should be added American readiness, with the support of Congressional legislation, to transfer high-end technology to us. The transfers have not only made India a reasonably credible Indian Ocean Region (IOR) player, but also emphasise the “major regional power” role that the US would like India to discharge in this part of the world. All this would not have happened if the two countries did not see their mutual concerns in convergence. The question is whether this stance will remain unchanged in the Trump administration.

Improvement in defence engagement began during the Clinton days, but picked up only when President George W Bush took a personal interest in enhancing the overall relationship. Mr Bush saw India as one of

four or five major powers in the years to come, and one with which the US would have compatible interests. Along with cooperative measures in defence, he supported efforts in countering terrorism and sharing intelligence, and the requisite mechanisms were put in place. His most significant contribution, of course, was to have signed the civil nuclear deal with India, which opened the supply of hitherto frozen nuclear components to India for peaceful purposes not just from the US but from all other countries.

The Obama administration did not see India in the same significant terms but continued the generally supportive engagement. The last several years have seen America become more involved with Russian intervention in Ukraine and affairs in West Asia (Syria in particular) and the activities of the radical Islamist group, ISIS. Finally, China's assertive moves in the South China Sea flowing from the rebuilding of some reefs and for possible use as military stations, with implied sovereignty over those waters, have posed challenges to American predominance.

This brings us to President Trump. His focus areas are now well articulated: Create jobs, "Make in USA", improve infrastructure, deal with countries bilaterally rather than through multilateral groups, re-negotiate important trade deals and impose immigration restrictions. But as yet we have no idea of his world view and the role that India may be seen to play in it; the new US secretary of defence and the national security advisor do not have backgrounds familiar with Indian concerns. US relations with Russia are likely to improve despite some strongly held views to the contrary by senior Congressmen and Senators, while those with China could see a downturn.

The first should facilitate improvement in our own interface with Russia, which has diminished in the last decade partly due to the growing links with the US; this will be a positive. It is the China card which will put our diplomacy to serious test. Affairs in the South China Sea will, almost certainly, test the Trump presidency and America's perceived interests in the western Pacific. While allies like Japan can be expected to toe the US line, the country that can be expected to come under pressure to take a more assertive position will be India.

So far, we have remained diplomatically distanced by maintaining that freedom of navigation and adherence to international laws by all is necessary. Mr Trump, being a self-professed deal negotiator, may ask for something more. Our policy so far has been to seek engagement with the US based on shared values such as democracy and common interests; we may now have to think of positions which will meet the standard of transactions — what do we give in return for what we get? It is a whole new way of doing business in international relations where we may have some learning to do. This having been said, US interests in the IOR — our area of primary interest — are likely to continue seeing India as the major regional power. This will see the defence engagement continuing despite likely Chinese protestations on arms transfers. America's approach towards Pakistan is unlikely to change very much, given its compulsions in Afghanistan. It will ask us to be more assertive on the South China Sea and reformulation of possible options to do this may already be underway. All things considered, the transition brings both challenges and opportunities. Our trump cards lie in the IOR; how we play them will determine the deal we get.



Sun, 05 Feb, 2017

Lighter purse for arms deals

But India is likely to seal some of the biggest 'Make-in-India' deals in the sector

A close reading of the Budget numbers show that capital allocation for the purchase of new weapons and platforms for 2017-18 is lower than that in the present year. In the coming financial year, India is also likely to conclude some of the biggest "Make-in-India" deals in defence sector.

"For defence expenditure excluding pensions, I have provided a sum of 2,74,114 crore including 86,488 crore for defence capital," Mr. Jaitley said in his Budget speech on Wednesday. On the face of it, compared with the 78,586.68 crore capital allocation for this year, it represents a 10% increase. However a closer look at the Budget documents presents a different picture.

Miscellaneous component

The defence Budget has various components of revenue, capital, miscellaneous and pensions. Of these the allocation for the miscellaneous component has gone down from 36,133.18 to 14,852.22. The balance has been readjusted to revenue and capital heads. Stating this is a note at the end of the “Notes on demands for grants on capital outlay for ministry for defence (Misc)”: “The provisions relating to revenue and capital expenditure of Defence Ordnance Factories, Research and Development, Director General Quality Audit (DGQA), Rashtriya Rifles and National Cadet Corps have been shifted from this demand to demands for grants of defence services in BE 2017-18.”

Of this, the combined allocation under the five heads in the capital expenditure is 8,488 crore. When deducted from the total capital allocation for the services, the revised figure is 78,000 crore which is in effect 586.68 crore less than last year’s.

In addition, there is annual inflation and currency fluctuation to be factored in. The capital budget includes payments for committed liabilities, which are payments for weapons already contracted, and remaining for procurement of new systems. “Inflation does not affect the committee liabilities. It is the exchange rate fluctuation which affects that,” said Amit Cowshish, former Financial Adviser (Acquisition) in the Defence Ministry and Distinguished Fellow at Institute for Defence Studies & Analysis.

On the overall defence allocation, he said that it was a “flat budget”.



Sat, 04 Feb, 2017

MoD learnt name of missile from Net

New Delhi: In an embarrassment of sorts, the Ministry of Defence on Friday said it learnt from the Internet that the long-range missile system being jointly developed with Israel is referred to as the ‘Barak-8’.

This faux pas came to light less than five months after the Government's Press Information Bureau issued a statement welcoming the successful test-fire of the ‘Barak-8’. India and Israel are developing a series of surface-to-air missiles — the Barak — which can be fired from land as well as warships. TNS



Fri, 03 Feb, 2017

(Online)

China to sell new short-range missile to foreign countries

The AR-2 is seen as tough competition for US, French and Israeli missiles.

China plans to sell to foreign countries its new short-range air to surface missile which can be mounted on drones and is designed for anti-terrorism operations. The China Academy of Aerospace Aerodynamics, the country’s largest military drone exporter by number of products sold overseas, said it recently conducted live-fire tests on the AR-2 short-range air-to-surface missile in northwestern China. The AR-2 is seen as tough competition for US, French and Israeli missiles, state-run China Daily reported on Friday. With a weight of about 20 kilograms and a 5 kilograms warhead, an AR-2 has a maximum range of 8 kms and a top speed of 735 kms per hour. It is effective against personnel, armoured cars, houses or bunkers, its designers said.

A CH-4 reconnaissance/combat drone was used in the tests, though the missile can also be mounted on other CH drones, officials said. The academy’s CH-series drones have been sold to military users in over 10 countries, it said. The missile also can be carried by Chinese attack helicopters and other unmanned aircraft after minor technical modifications, they said. Zeng Like, project manager for the AR-2, said that the academy

hopes to win market share from the United States' AGM-114 Hellfire, widely used in the 1990s and 2000s. At least 29 nations, including Australia, France and South Korea, deploy the Hellfire.

“There are a lot of counter-terrorism operations and low-intensity conflicts in the world that create a huge demand for low-cost, high-efficiency weapons to hit cars or light-duty, armored vehicles,” he said. “We believe that most ground targets designated for drones are soft targets or lightly armoured vehicles, so using a heavier missile such as the AGM-114 Hellfire for such operations is a waste,” Like said.

Smaller, cheaper missiles like the AR-2 are powerful enough to handle those targets, and their lighter weight enables a drone to carry more missiles, Zeng said. The AR-2's biggest competitors are the US' AGM-176 Griffin, currently the best-selling lightweight precision-strike weapon, France's Lightweight Multirole Missile and Israel's Whip Shot missile, he said. But, Zeng said, “the AR-2 features strong capabilities and a lower price, so we are positive it will have good market prospects”.

The academy also said trainees from one of its foreign clients performed a test in which four CH drones were networked to perform as a fleet. It however has not named the foreign client. Ground controllers from the unnamed foreign nation who were trained at the academy guided four CH-4B drones via satellite to work together in a patrol. Huang Wei, a senior researcher who oversaw the test, said the networking of multiple drones is useful for joint operations in combat. He claimed only China and the US are capable of conducting joint operations using multiple drones.



Sat, 04 Feb, 2017

Missile test fallout: US slaps new sanctions on Iranian entities

The US today slapped more than two dozen Iranian entities with sanctions, two days after the Islamic republic dismissed President Donald Trump's warnings over its latest missile test as baseless and provocative.

The announcement also comes a day after Trump put Iran “on notice” for its alleged destabilising behaviour

Tehran unmoved by US threats

- Iran's Foreign Minister Mohammad Javad Zarif tweeted on Friday that the Islamic Republic was unmoved by US threats following its missile test launch and that Tehran would never initiate war. “Iran unmoved by threats as we derive security from our people. Will never initiate war, but we can only rely on our own means of defence,” Zarif wrote
- Zarif said Iran had no intention to use its military might against any country, except in self-defence. “We will never use our weapons against anyone, except in self-defence. Let us see if any of those who complain can make the same statement,” he tweeted. Iran said on Thursday it would not yield to “useless” US threats

Iran bans travel of US wrestlers

- Iran banned US wrestlers from participating in the Freestyle World Cup competition this month in response to Trump's executive order forbidding visas for Iranians
- The decision marks the first action taken by Iran in response to Trump's executive. Earlier this week, Iran said it would take retaliatory action

US revokes 100K visas

- The US has revoked more than 1,00,000 visas after the President's travel ban, an attorney for the govt told a federal court on Friday
- The attorney revealed this number during a hearing in Alexandria, Virginia, for a lawsuit involving two Yemeni brothers who were sent back to Ethiopia after arriving in Washington DC

and carrying out ballistic missile test in violation of the UN Security Council Resolution 2231, which calls on Tehran not to test missiles capable of delivering a nuclear weapon.

The ballistic missile launch was the first by Iran since Trump became president. According to reports, Iran's missile test occurred at a well-known site outside Semnan, about 225 km east of Tehran. The Khorramshahr medium-range ballistic missile flew 600 miles before exploding.

In a statement, the Treasury Department said the multiple entities and individuals

slapped with sanctions were involved in procuring technology and materials to support Iran's ballistic missile programme, as well as for acting for or on behalf of, or providing support to, Iran's Islamic Revolutionary

Guard Corps-Qods Force (IRGC-QF). “This action reflects the United States' commitment to enforcing sanctions on Iran with respect to its ballistic missile program and destabilising activities in the region and is fully consistent with the United States' commitments under the Joint Comprehensive Plan of Action (JCPOA),” the Treasury said.

“Iran's continued support for terrorism and development of its ballistic missile program poses a threat to the region, to our partners worldwide, and to the United States,” said John E Smith, Acting Director at the Department of Treasury's Office of Foreign Assets Control (OFAC).

“Today's action is part of Treasury's ongoing efforts to counter Iranian malign activity abroad that is outside the scope of the JCPOA,” he added.

The Treasury said OFAC designated several networks and supporters of Iran's ballistic missile procurement, including a critical Iranian procurement agent and eight individuals and entities in his Iran — and China-based network, an Iranian procurement company and its Gulf-based network, and five individuals and entities that are part of an Iran-based procurement network connected to Mabrooka Trading, which was designated on January 17 last year.

It also designated a key IRGC-QF-run support network working with Hizballah, including IRGC-QF official Hasan Deghan Ebrahimi, his associates Muhammad Abd-al-Amir Farhat and Yahya al-Hajj, and several affiliated companies in Lebanon. Iran has previously warned that new US sanctions could constitute a violation of the nuclear deal, setting up a scenario in which the agreement could unravel-something that hardliners in both countries would welcome. — PTI



Sun, 05 Feb, 2017

Iran vows ‘roaring missiles’ if threatened, defies new sanctions

A Revolutionary Guards commander said Iran would use its missiles if its security was under threat, as the elite force defied new US sanctions on its missile programme by holding a military exercise on Saturday.

Tensions between Tehran and Washington have risen since a recent Iranian ballistic missile test that prompted US President Donald Trump's administration to impose sanctions on individuals and entities linked to the Revolutionary Guards. Trump's national security adviser Michael Flynn said the Washington was putting Iran on notice over its "destabilising activity", and Trump tweeted Tehran was "playing with fire" "We are working day and night to protect Iran's security," head of Revolutionary Guards' aerospace unit, Brigadier General Amir Ali Hajizadeh was quoted as saying by Tasnim news agency.

"If we see smallest misstep from the enemies, our roaring missiles will fall on their heads," he added.

Despite the heated words, US Defense Secretary Jim Mattis said on Saturday he was not considering raising the number of US forces in the Middle East to address Iran's "misbehavior", but warned that the world would not ignore Iranian activities. Iran's Revolutionary Guards is holding the military exercise in Semnan province on Saturday to test missile and radar systems and to "showcase the power of Iran's revolution and to dismiss the sanctions", according to the force's website.

Iranian state news agencies reported that homemade missile systems, radars, command and control centres, and cyber warfare systems would be tested in the drill.

Iran has one of the Middle East's largest missile programmes and held a similar exercise in December to showcase its defence systems, including radars, anti-missile defence units, and short and medium-range missiles. Tehran confirmed on Wednesday that it had test-fired a new ballistic missile, but said the test did not breach the Islamic Republic's nuclear agreement with world powers or a UN Security Council resolution endorsing the pact.

Iran has test-fired several ballistic missiles since the nuclear deal in 2015, but the latest test was the first since Trump entered the White House. Trump said during his election campaign that he would stop Iran's missile programme.

The United Nations Security Council held an emergency meeting on Tuesday and recommended the missile testing be studied at committee level. The new US ambassador to the United Nations, Nikki Haley, called the test "unacceptable".

The Security Council resolution was adopted to buttress the deal under which Iran curbed its nuclear activities to allay concerns they could be used to develop atomic bombs, in exchange for relief from economic sanctions.

The resolution urged Tehran to refrain from work on ballistic missiles designed to deliver nuclear weapons. Critics say the resolution's language does not make this obligatory.

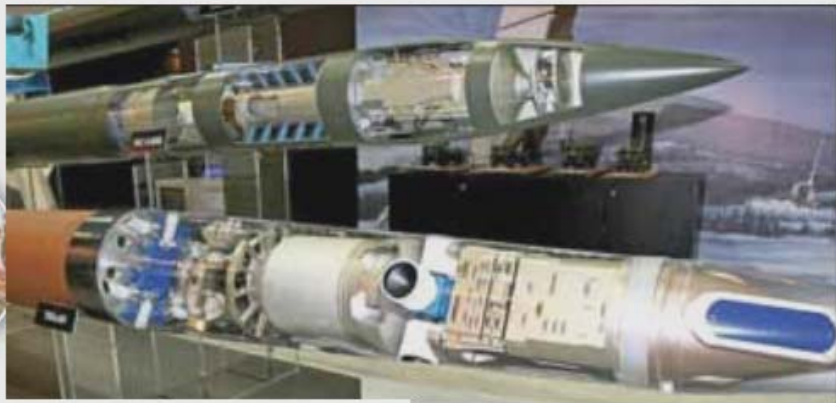
Tehran says it has not carried out any work on missiles specifically designed to carry nuclear payloads. — Reuters

पंजाब केसरी

Sat, 04 Feb, 2017

उ. कोरिया के परमाणु हमले का करारा जवाब देंगे

सोल, (एएफपी): अमेरिकी रक्षा मंत्री जेम्स मैटिस ने सोल में आज कहा कि उत्तर कोरिया के किसी भी परमाणु हमले का करारा जवाब दिया जाएगा। उन्होंने अमेरिकी राष्ट्रपति डोनाल्ड ट्रंप के शपथ ग्रहण के बाद एशिया में अमेरिका के सहयोगी दक्षिण कोरिया को आश्वस्त करने के लिए यह बात कही। मैटिस जापान जाने से पहले दक्षिण कोरिया में थे। नए राष्ट्रपति के तहत क्षेत्र में अमेरिकी नीति के रुख को लेकर उपजी चिंताओं के बीच ट्रंप प्रशासन के किसी वरिष्ठ



चीन नाराज

- इस साल के अंत तक थाड तैनाती पर सहमत अमेरिका-द. कोरिया
- उत्तर कोरिया से निपटने की कोशिश

अधिकारी का यह पहला विदेश दौरा है। अमेरिकी राष्ट्रपति डोनाल्ड ट्रंप ने अपने चुनाव अभियान के दौरान जापान और

दक्षिण कोरिया को धमकी दी थी कि अगर वे आर्थिक सहायता में इजाफा नहीं करेंगे तो अमेरिकी सैन्य बल उनके देशों से हटा लिए जाएंगे। दक्षिण कोरिया को परमाणु क्षमता से संपन्न देश उत्तर कोरिया से बचाने के लिए यहां 28,500 सैनिक हैं जबकि जापान में 47,000 अमेरिकी सैनिक तैनात हैं। मैटिस ने द. कोरिया के अपने समकक्ष हान मीन-कू के साथ होने वाली बैठक से पहले संवाददाताओं से कहा, "अमेरिका या हमारे सहयोगियों पर किसी भी हमले को बेकार कर दिया जाएगा और परमाणु हथियारों के इस्तेमाल का करारा जवाब दिया जाएगा।" उन्होंने यह बात भी साफ की कि दक्षिण कोरिया में लोकतंत्र को बचाने के लिए अमेरिका पूरी तरह से प्रतिबद्ध

है। उत्तर कोरिया ने पिछले साल दो परमाणु परीक्षणों समेत कई मिसाइल लांच की थी साथ ही क्षेत्र में सुरक्षा संबंधी चिंताओं को जन्म दिया था। दोनों देशों के बीच इस वर्ष के अंत तक कोरियाई प्रायद्वीप में मिसाइल रक्षा प्रणाली टर्मिनल हाई एल्टीट्यूड एरिया डिफेंस (टीएचएएडी) यानी थाड मिसाइल की तैनाती पर सहमति बन गयी है जबकि चीन ने इसका विरोध किया है।

China gains on the US in the artificial intelligence arms race

Robert O Work, the veteran defence official retained as deputy secretary by President Trump, calls them his “AI dudes.” The breezy moniker belies their serious task: The dudes have been a kitchen cabinet of sorts, and have advised Work as he has sought to reshape warfare by bringing artificial intelligence to the battlefield.

Last spring, he asked, “OK, you guys are the smartest guys in AI, right?”

No, the dudes told him, “the smartest guys are at Facebook and Google,” Work recalled in an interview.

Now, increasingly, they’re also in China. The United States no longer has a strategic monopoly on the technology, which is widely seen as the key factor in the next generation of warfare.

The Pentagon’s plan to bring AI to the military is taking shape as Chinese researchers assert themselves in the nascent technology field. And that shift is reflected in surprising commercial advances in artificial intelligence among Chinese companies.

Last year, for example, Microsoft researchers proclaimed that the company had created software capable of matching human skills in understanding speech.

Although they boasted that they had outperformed their United States competitors, a well-known AI researcher who leads a Silicon Valley laboratory for the Chinese web services company Baidu gently taunted Microsoft, noting that Baidu had achieved similar accuracy with the Chinese language two years earlier.

That, in a nutshell, is the challenge the United States faces as it embarks on a new military strategy founded on the assumption of its continued superiority in technologies such as robotics and artificial intelligence.

First announced last year by Ashton B Carter, former US president Barack Obama’s defence secretary, the “Third Offset” strategy provides a formula for maintaining a military advantage in the face of a renewed rivalry with China and Russia.

Well into the 1960s, the United States held a military advantage based on technological leadership in nuclear weapons. In the 1970s, that perceived lead shifted to smart weapons, based on brand-new Silicon Valley technologies like computer chips. Now, the nation’s leaders plan on retaining that military advantage with a significant commitment to artificial intelligence and robotic weapons.

But the global technology balance of power is shifting. From the 1950s through the 1980s, the United States carefully guarded its advantage. It led the world in computer and material science technology, and it jealously hoarded its leadership with military secrecy and export controls.

In the late 1980s, the emergence of the inexpensive and universally available microchip upended the Pentagon’s ability to control technological progress. Now, rather than trickling down from military and advanced corporate laboratories, today’s new technologies increasingly come from consumer electronics firms. Put simply, the companies that make the fastest computers are the same ones that put things under our Christmas trees.

As consumer electronics manufacturing has moved to Asia, both Chinese companies and the nation’s government laboratories are making major investments in artificial intelligence. The advance of the Chinese was underscored last month when Qi Lu, a veteran Microsoft artificial intelligence specialist, left the company to become chief operating officer at Baidu, where he will oversee the company’s ambitious plan to become a global leader in AI.

And last year, Tencent, developer of the mobile app WeChat, a Facebook competitor, created an artificial intelligence research laboratory and began investing in United States-based AI companies.

Rapid Chinese progress has touched off a debate in the United States between military strategists and technologists over whether the Chinese are merely imitating advances or are engaged in independent innovation that will soon overtake the US in the field.

“The Chinese leadership is increasingly thinking about how to ensure they are competitive in the next wave of technologies,” said Adam Segal, a specialist in emerging technologies and national security at the Council on Foreign Relations. In August, the staterun reported that the country had embarked on the development of a cruise missile system with a “high level” of artificial intelligence. The new system appears to be a response to a missile the United States Navy is expected to deploy in 2018 to counter growing Chinese military influence in the Pacific.

Known as the Long Range Anti-Ship Missile, or LRASM, it is described as a “semiautonomous” weapon. According to the Pentagon, this means that though targets are chosen by human soldiers, the missile uses artificial intelligence technology to avoid defenses and make final targeting decisions.

The new Chinese weapon typifies a strategy known as “remote warfare,” said John Arquilla, a military strategist at the Naval Post Graduate School in Monterey, Calif. The idea is to build large fleets of small ships that deploy missiles, to attack an enemy with larger ships, like aircraft carriers. “They are making their machines more creative,” he said. “A little bit of automation gives the machines a tremendous boost.”

Whether or not the Chinese will quickly catch the United States in artificial intelligence and robotics technologies is a matter of intense discussion and disagreement in the US. Andrew Ng, chief scientist at Baidu, said the US may be too myopic and self-confident to understand the speed of the Chinese competition.

“There are many occasions of something being simultaneously invented in China and elsewhere, or being invented first in China and then later making it overseas,” he said. “But then US media reports only on the US version. This leads to a misperception of those ideas having been first invented in the US.”



Sat, 04 Feb, 2017

Battered Toshiba seeks exit from UK, India in nuclear retreat: sources

Toshiba Corp plans to withdraw from its lead role in projects to build nuclear plants in Britain and India, sources with direct knowledge of the matter said, marking a retreat as it wrestles with an imminent multi-billion dollar writedown.

Such a move would leave Toshiba's U.S.-based Westinghouse focused on the much narrower field of nuclear reactors and services, rather than civil engineering for nuclear power plants, or their construction, the sources said.

But it would throw into question the future of a key plank in Britain's plans to replace ageing nuclear reactors, and the future of India's biggest nuclear project to date.

Toshiba became one of the nuclear sector's biggest players with the purchase of Westinghouse in 2006, the height of a short-lived boom. But the industry was left battered by the 2011 Fukushima nuclear disaster and Toshiba's woes have only deepened - first with a 2015 accounting scandal and now damaging cost overruns at U.S. projects.

Sources familiar with the matter have said the writedown on the U.S. business - set to be detailed on Feb. 14 when Toshiba reports earnings - could be around \$6 billion, wiping out the group's shareholder equity.

NuGen, a Toshiba-led venture with French utility Engie, was set up to build three AP1000 nuclear reactors designed by the Japanese conglomerate's Westinghouse unit at the Moorside site on the coast of Cumbria.

But the \$15 billion-\$20 billion investment is now an impossible financial burden for Toshiba to help shoulder, one of the sources said, adding it had not yet notified the UK government.

Two of the sources said Engie also wants to pull out of NuGen, as new Chief Executive Isabelle Kocher does not want to invest in new nuclear projects. Engie declined to comment.

That could leave Britain searching for new backers.

"It has to be someone with a big cheque book. The real question for London is to what extent should this be a private sector venture anyway," said one veteran adviser.

One of the sources said Toshiba was considering a full exit from the NuGen project, in which it currently has a 60 percent stake, but would take a firm decision once it had completed the sale of a stake in its memory chips business. That sale was announced last month but started on Friday.

All three sources with knowledge of the matter declined to be identified as they were not authorized to speak to the media.

A Toshiba spokesman said it was reviewing all its nuclear power business outside Japan. "Nothing has been decided at this time, including the impact on our Moorside nuclear project."

NuGen declined to comment.

Out of India

In India, Westinghouse has also been in talks with state-owned Nuclear Power Corporation of India about a contract to build six AP1000s, a project strongly backed by both Prime Minister Narendra Modi and former U.S. President Barack Obama. The three sources said that was now almost impossible.

"The Indian government was happy to have one sole counterpart, but this cannot continue," the first source said, adding that either an Indian civil engineering group or a foreign, possibly American, group would have to step in to negotiate, oversee and eventually finance the project.

Westinghouse would instead just provide nuclear equipment, the source said.

Representatives for India's state-run nuclear body and the Ministry of External Affairs did not immediately respond to requests for comment.

Westinghouse has traditionally been a builder of nuclear reactors, not entire nuclear power plants including steam turbines, generators and transformers.

But as tightening safety regulations following Fukushima made building nuclear plants more expensive, nuclear reactor builders and their shareholders have been increasingly forced to take on the civil engineering side too.

The source said Westinghouse will return to its roots as a nuclear specialist, while Toshiba will stop taking on projects to build entire nuclear plants just so that Westinghouse can sell its AP1000 reactors.

"Toshiba will withdraw from being a general contractor for nuclear plants," the source said.