

# समाचार पत्रों से चयित अंश Newspapers Clippings

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## Tamil Nadu defence industrial corridor launch on January 20

*Will be the second such hub after the one in Uttar Pradesh*

*By Dinakar Peri*

The Tamil Nadu defence industrial corridor is set to be launched later this month as part of the Centre's efforts to build an indigenous defence production ecosystem.

"Apart from major industry interaction there will be three main things — announcement of new investments both by Defence Public Sector Undertakings (DPSU) and the private sector, launch of new defence products and launch of a defence innovation hub in Coimbatore," Secretary, Defence Production, Ajay Kumar, told the media on Monday. The corridor will be formally launched by Defence Minister Nirmala Sitharaman at Tiruchirappalli on January 20. Two defence corridors — one in Tamil Nadu and the other in Uttar Pradesh — were announced in the last budget.

The Uttar Pradesh corridor was launched at Aligarh in August last year and saw investment announcements to the tune of ₹3,732 crore being made. One of the reasons for Tamil Nadu being chosen for the corridor, Mr. Kumar said, is that it is already a major manufacturing State and has a major auto components hub.

### **Ideally suited**

"Tamil Nadu will be very good for aero components due to its auto expertise and proximity to Bengaluru," he said, talking about the future scope of the corridors. He said there is a fair momentum for export of aero components. Multinational consultancy firm EY has been tasked with drawing up a roadmap on how the cluster is envisioned to grow. The corridor, like the one in U.P., will have six nodes around which investments are expected to grow. They include Hosur, Salem, Coimbatore, Tiruchirappalli, Madurai and Chennai.

The Coimbatore District Small Industries Association will take the lead in the hub and has already come out with a plan to promote defence innovation. The hub is expected to get ₹20 crore from the Defence Innovation Organisation.

<https://www.thehindu.com/news/national/tamil-nadu/tamil-nadu-defence-industrial-corridor-launch-on-january-20/article25995877.ece>



## Tamil Nadu defence corridor to be launched on Jan 20 by Nirmala

In an effort to give a fillip to create indigenous defence industrial ecosystem in the country, Defence Minister Nirmala Sitharaman will formally launch the Tamil Nadu defence corridor at Tiruchirappalli on January 20. It will be second such corridor after the first one in Uttar Pradesh was inaugurated in Aligarh in August last year.

Apart from major industry interaction there will be three main things. Announcement of new investments both by Defence Public Sector Undertakings (DPSU) and private sector, launch of some new defence products and launch of a defence innovation hub in Coimbatore, Secretary Defence Production Ajay Kumar

told the media here on Monday. Two defence corridors -- one in Tamil Nadu and the other in Uttar Pradesh - was announced in this year's budget.

On the reasons for Tamil Nadu being chosen for the corridor, Kumar said it is already a major manufacturing state in the country and has a major auto component hub. Tamil Nadu will be very good for aero components due to its auto expertise and proximity to Bangalore, he said talking of the future scope of the corridors and stating that there is a fair momentum for export of aero components from India and has a huge scope for further growth. Multinational consultancy firm Ernst & Young (E&Y) has been appointed as a consultant to draw a roadmap on how the cluster is envisioned to grow.

The corridor like the one in UP will have six nodes around which investments are expected to grow. They include Hosur, Salem, Coimbatore, Tiruchirappalli, Madurai and Chennai. The nodes stand out as key areas growing industrialisation, Kumar added.

Coimbatore industry body Coimbatore District Small Industries Association (CODISSIA) will take the lead in the innovation hub and has already come out with a plan to promote defence innovation which otherwise is known for non-defence precision engineering.

<https://www.dailypioneer.com/2019/india/tamil-nadu-defence-corridor-to-be-launched-on-jan-20-by-nirmala.html>

## The Tribune

Tue, 15 Jan 2019

### A force to reckon with

*Army Day should also be the time to revisit the many challenges and fix them*

*By Lt Gen DS Hooda (Retd), Former Northern Army Command Chief*

Today, as we celebrate the 71st Army Day, the Indian Army can be justifiably proud of its past record of having served the nation with distinction and honour, while retaining its secular and apolitical character. However, it is also an opportune time to consider the many challenges that face the Army as it looks at the year ahead.

The Army's primary responsibility is to guard the borders, and these borders remain troubled. The LOC with Pakistan is extremely hostile. As per reports, 2018 witnessed 2,936 ceasefire violation cases, the highest in 15 years. The latest martyrdom of Major Nair and another soldier in an IED attack is a grim reminder of the dangers that our soldiers are exposed to on a daily basis.

In the absence of any diplomatic engagement, only the guns will do the talking. Unfortunately, this is the bloody reality of the LOC in the foreseeable future. Faced with this, the Army will have to move urgently to minimise casualties by better individual protective gear, modern counter-IED equipment, advanced surveillance systems and an effective 'smart' fence that detects infiltration. Each death on the LOC raises high emotions among the citizens that further restrict political and diplomatic space. Some way has to be found around this vicious cycle of death and retribution.

After Doklam, there has been relative calm on the Line of Actual Control (LAC) with China. However, this should not lull us into a sense of complacency. Two neighbouring rising powers cannot have a completely harmonious relationship. As John Mearsheimer reminds us in *The Tragedy of Great Power Politics*: 'Even when a great power achieves a distinct military advantage over its rivals, it continues looking for chances to gain more power. The pursuit of power stops only when hegemony is achieved.'

An outbreak of conflict with China is unlikely, but Chumar and Doklam-type incidents are very real, and fuelled by nationalistic fervour, such incidents can take on a larger dimension. With superior Chinese infrastructure along the LAC, our Army remains at a disadvantage in many areas, particularly Arunachal Pradesh. The present government has given a push to the building of roads along the LAC but the pace remains unsatisfactory. According to the Border Roads Organisation website, by January 20, 2017, the East Directorate had achieved only about 30 per cent of its road construction targets for the financial year 2016-17. There is a need for a comprehensive plan for speeding up infrastructure development.

In internal security, J&K remains the biggest challenge. The situation is worrying, and we should not quote selective data to support claims that things are on the mend. The Army often states that its job is restricted to bringing the security situation under control so that political steps can be initiated for conflict resolution. While this statement is not incorrect, this compartmentalization of strategy has not proved helpful. In the past, on many occasions, the Army has brought the situation to near normalcy, but the opportunity was squandered as corresponding political and governance issues were not addressed.

The Army leadership must insist on the framing of a coherent government strategy for J&K that combines the security, economic, political and information domains. In the preparation of this strategy, the Army must be a major stakeholder. The political leadership ultimately has the final word, but Army leaders, with their vast experience in the state, must offer frank, unbiased and professional advice.

Internally, the Army is considering an ambitious plan to reduce its manpower. In the time of stressed military budgets, revenue costs are prohibiting modernisation plans, leaving the Army with a majority of vintage equipment. The raising of the Mountain Strike Corps has put added pressure, as in the absence of a dedicated budget for the raising, the War Wastage Reserve was depleted to equip the new corps.

There is no option but to trade off manpower for modernisation. The Army should seize this opportunity for restructuring and reforming itself to fight future wars. This requires a deeper look at emerging threats, and a review of the Army's current doctrine, strategy, and tactics. The government must support this transformation by not viewing it merely as a money-saving exercise but one that will enhance national security. This will require a comprehensive long-term plan and not one that promotes ideas like selling off cantonment lands.

The Army must also renew its focus on people. The men and women are our greatest asset and must remain highly motivated. Some current trends are worrying. More and more of our officers and men are approaching the civil courts. Dissatisfied officers from certain corps appealed against what they considered to be an unfair distribution of Colonel's vacancies as recommended by the AV Singh Committee. The arguments in the SC took on a somewhat Arms vs Services tenor that left a bad taste.

Last year, over 300 officers and soldiers approached the SC over the dilution of AFSPA. The court rejected their contention, but their worries cannot be wished away. There is obviously no ban on the rights of soldiers to appeal before courts and tribunals, but if such cases increase, it could chip away at the faith in the military organisation. Officers and soldiers must feel that they will get justice from their Army. This is squarely a priority task for the Army's leadership.

Finally, issues like women in combat role, and decriminalisation of same-sex relations and adultery are some of the matters that the Army will have to grapple with. The Indian Army has its own unique ethos and culture, but these sensitive concerns cannot be casually dismissed without a serious internal debate. Dealing with challenges defines the true mettle of an organisation.

<https://www.tribuneindia.com/news/comment/a-force-to-reckon-with/713684.html>



*Tue, 15 Jan 2019*

## **China's 'underground steel wall' nuclear shelters could stop hypersonic missiles**

*The steel wall is a series of defence facilities located deep under mountains  
that can withstand bunker busting missiles.*

*By Sutirtho Patranobis*

An octogenarian scientist who received China's top science and technology award this month has said that the "underground steel great wall" created by him for missile bases located under mountains could withstand attacks from nuclear and hypersonic weapons.

Qian Hu, 82, called the steel wall China's last line of defence and inseparable part of the country's "no first strike" nuclear doctrine.

Attached to both the Chinese Academy of Sciences and the Chinese Academy of Engineering, Qian received the 2018 State Supreme Science and Technology Award during a conference at the Great Hall of the People in Beijing earlier this month.

In an interview to state media, Qian said if attacked with nuclear or futuristic hypersonic weapons, the protective wall will give China the ability to retaliate.

Calling China's nuclear and missile arsenal "spears", Qian said the development of the shield was an important follow-up to developing weapons.

"The development of the shield must closely follow the development of spears. Our defense engineering has evolved in a timely manner as attack weapons pose new challenges," Qian told the Global Times.

"The 'underground steel great wall' is a series of defence facilities located deep under mountains. While the mountain rock is thick enough to resist enemy attacks, entrances and exits of these facilities are often vulnerable and Qian's work was to provide extra protection for these parts," the report said.

"If other lines of defence including the strategic missile interception system, anti-missile system and air defense system fail to function against hypersonic missiles and recently developed bunker-busters, Qian's work can still thwart such attacks," it added.

"National defence challenges do not only emerge from the development of advanced attack weapons but are also a result of an unpredictable international environment," Qian said.

"The defence facilities against nuclear explosions are steel underground great wall for our country," Qian had said in an earlier interview with state news agency China News Service.

"If nuclear weapons such as atomic bombs are upgraded, so should our defence system. My goal has been to design a nuclear weapons-proof wall for my country," he said.

Besides Qian, 82, Liu Yongtan, 83, also received 8 million yuan (US\$1.2 million) for his contribution to developing China's first high-frequency radar system.

"Liu's latest research helped improve the accuracy of radar-detected signals and target detection even against the backdrop of sea clutter, atmospheric noise or radio signals. Under his direction, China's first high-frequency radar system became a leader in target detection in the 1990s," state media reported.

<https://www.hindustantimes.com/world-news/china-s-underground-steel-wall-nuclear-shelters-could-stop-hypersonic-missiles/story-LymiiJlz1Jn7JtdKGkSBYO.html>

**THE ECONOMIC TIMES**

*Tue, 15 Jan 2019*

## **China has 'Underground Steel Great Wall' to protect nuclear weapons from potential attacks**

Beijing: China has built an "Underground Steel Great Wall" below the mountains to hide its nuclear weapons from the potential attacks, said a top Chinese defence scientist who recently received the country's highest defence award from President Xi Jinping.

Qian Qihu, 82, said China's "underground steel Great Wall" could "guarantee the security of the country's strategic arsenal" against potential attacks, including those from future hypersonic weapons, state-run Global Times reported on Sunday.

Qian, an academician of both the Chinese Academy of Sciences and the Chinese Academy of Engineering, told the daily that the "Underground Steel Great Wall" is a series of defence facilities located deep under mountains.

While the mountain rock is thick enough to resist enemy attacks, entrances and exits of these facilities are often vulnerable and Qian's work was to provide extra protection for these parts, the daily said.

China's nuclear strategy follows the principle of "no first use" and requires the country to have the capability of withstanding a nuclear attack before it responds with its strategic weapons, the daily said.

Qian, who received the 2018 State Preeminent Science and Technology Award during a conference at the Great Hall of the People in Beijing on Tuesday, said the "Underground Steel Great Wall," is the "country's last national defence line."

If other lines of defence including the strategic missile interception system, anti-missile system and air defence system fail to function against hypersonic missiles and recently developed bunker-busters, his work can still thwart such attacks, he said.

"The development of the shield must closely follow the development of spears. Our defence engineering has evolved in a timely manner as attack weapons pose new challenges," Qian said.

He said the hypersonic weapons that move 10 times as fast as the speed of sound are capable of changing trajectory mid-flight and penetrate any anti-missile installations.

"National defence challenges do not only emerge from the development of advanced attack weapons but are also a result of an unpredictable international environment," Qian said.

He cited the recent US stance whereby the Donald Trump administration is mulling lowering the threshold for nuclear weapons deployment.

Asked how he would spend the eight-million-yuan cash award, Qian said that part would go to research on national defence, and the rest used for social welfare projects such as fighting poverty and supporting poor students.

"I have never had a thought of earning any prize money for my research, nor would I think it came too late. I am only grateful that national recognition offers a great opportunity to raise the public's national defence awareness," he said.

Qian's work guaranteed the safety of the country's strategic weapons, launch and storage facility.

<https://economictimes.indiatimes.com/news/defence/china-has-underground-steel-great-wall-to-protect-nuclear-weapons-from-potential-attacks/articleshow/67529143.cms>



Tue, 15 Jan 2019

## Science, scientific temper and pseudo-science

*The Science Congress has moved away from its agenda of inculcating and nurturing scientific temper in society. The space provided by the event has been hijacked by the proponents of pseudo-science. They pretend that modern science already existed in ancient India. This is an injustice both to ancient civilisational knowledge systems as well as to modern science*

*By Arvind, Professor, IISER, Mohali*

The motto of the Indian Science Congress Association (ISCA) is "to advance and promote the cause of science in India". Since its inception in 1914, the ISCA has been organising the Science Congress. In 1947, then Prime Minister Jawaharlal Nehru provided a major boost to the ISCA by connecting it with the science-based national agenda and the Constitution's commitment to inculcate and nurture scientific temper in society at large. In 1976, national issues that had scientific and technological implications were brought on the ISCA agenda. Later, other components, such as science communicators' meet, science for school students and women in science, were included. The involvement of political leaders in the Science Congress was aimed at their participation in the discussions and taking a cue from the developments in the world of science to see how the nation can position itself and move forward. The showcasing of achievements of Indian scientists is also part of the ISCA agenda; lately, international participation of eminent scientists has been incorporated.

The Science Congress has moved away from its agenda in the past several years. Previously, in the post-Independence era, politicians came to the event to gain legitimacy from science for nation-building

activities. Lately, this role has undergone an inversion. Political leaders attend it with a view to use and influence the Science Congress. They seem keen to set the agenda that they think scientists should adopt. Over the years, scientists have withdrawn from this arena. Nobel Laureate Prof Venkatraman Ramakrishnan once alluded to the Science Congress as a circus in which most prominent Indian scientists didn't take part. There are several reasons for this withdrawal: Indian scientists think that it is not possible for them to participate in this event meaningfully as they perceive it as a state-organised show, not a serious scientific event; there is also a general apathy among scientists towards engaging with the public and they feel that their own career progression is more important. Very few Indian scientists make it a point to step out in the public arena, popularise science, disseminate scientific thinking, or try to inculcate scientific temper in different sections of society.

In this situation, the space provided by the Science Congress has been hijacked by the proponents of pseudo-science, which has always been making grandiose claims. Unfortunately, during the 106th edition held at Phagwara recently, this agenda unfolded during the session for school students.

What pseudo-science wants to do is to pretend that modern science already existed in ancient India. This is an injustice both to ancient civilisational knowledge systems as well as to modern science. History uses tools/methods to ratify the historicity of a claim. These claims should also be put to the test of scientific rationale — to verify their historicity and truth value. So far, the tall claims of test-tube babies and aircraft and missile technology made by proponents of pseudo-science at Science Congress meetings have failed this test.

Science is an ever-changing and evolving system of knowledge, where knowledge is generated on the basis of rational enquiry, empirical evidence and by an agreement within the community of scientists. Several concepts that were considered scientifically true earlier have now been replaced by new ones. In recent years, it has been realised by scientists that there could be a transfer of information from generation to generation which is not through DNA, which was earlier considered as the only agent for such transfers. As scientific knowledge gets updated, will we correspondingly be willing to update the holy books? This will sound blasphemous! These are just a few of the problems that emerge when attempting to mix modern scientific knowledge and the holy books. The schism between the two knowledge systems is even deeper; science is a human knowledge system created by scientists as a community, based on the scientific method, and hence this knowledge is always incomplete and perpetually in the process of getting updated. The spiritual knowledge of the holy books is supposed to have a divine origin and is hence always complete, unchanging, and final. Thus, the possibility of meshing these two knowledge systems is inherently contradictory.

Furthermore, we need to think beyond science as a means of generating technology and start thinking about science as a way of life. A scientific method equips an individual to analyse situations on the basis of scientific rationality. This aspect has been neglected by policy-makers, educationists while designing science curricula, and even by scientists themselves. There are institutions in India dedicated to promoting scientific temper and scientific thinking among the masses — the Science Congress is among the vehicles for this venture — but this task is not being pursued seriously enough.

The Science Congress organisers should ensure that the event is held in true scientific spirit. Efforts should be made to involve the scientific community more strongly. The country's three science academies — the Indian Academy of Sciences, the Indian National Science Academy and the National Academy of Sciences — should have a closer involvement with the Science Congress. The government should participate as a facilitator with a view to promoting the cause of science, not to push an agenda. It should be ensured that the talks and presentations are made by people who have a clear professional standing in the field concerned. Science academies can help in this process. The history of science and the history of ancient contributions to science in India should be left to historians of science to evaluate. If these measures are taken, the Science Congress can be brought back on track and can play an important role in integrating science with Indian society.

<https://www.tribuneindia.com/news/comment/science-scientific-temper-and-pseudo-science/713666.html>

## ISRO developing technology to reuse first & second rocket stages

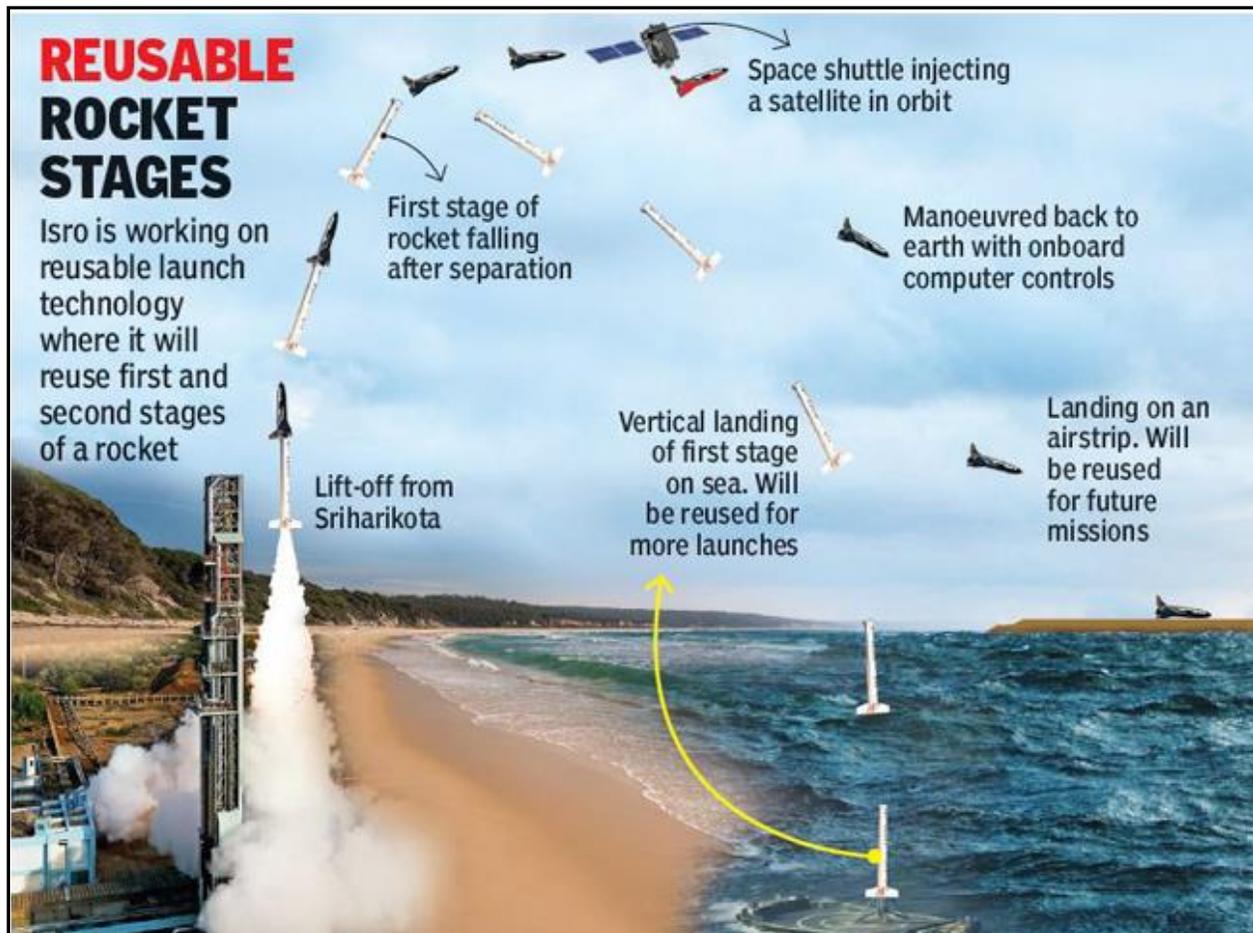
By Surendra Singh

New Delhi: In a bid to cut cost of satellite launchers, Indian Space Research Organisation (ISRO) is working on reusable launch technology for using the first and second stages of a rocket multiple times. To master this technology, ISRO is going to conduct an advanced version of the reusable launch technology (RLV) test in June-July.

Talking to TOI, ISRO chairman K Sivan said, "We are working on a reusable launch technology in order to recover the first and second stages of a rocket so that we can reuse them to cut cost and carry heavier payloads. The first rocket stage will be recovered on a vertical landing spot on the sea like SpaceX has been doing it with its Falcon rocket. However, recovering the second stage is not simple. We are, therefore, developing a winged body like a space shuttle. This shuttle will be attached as a second stage in a rocket. It will carry the top portion of the rocket comprising a satellite or spacecraft to space. Once it injects the satellite in its orbit, the shuttle will glide back to the earth and land on an airstrip like an aircraft." He said the "second stage recovery has never been tried by any other space agency in the world, not even SpaceX".

### HIGHLIGHTS

- Isro is working on reusable launch technology for using the first and second stages of a rocket multiple times
- To master this technology, Isro will conduct an advanced version of the reusable launch technology test in June-July



Recommended By Colombia ISRO is working on reusable launch technology for using the first and second stages of a rocket multiple times To master this technology, ISRO will conduct an advanced version of the reusable launch technology test in June-July.

ISRO had conducted the first demonstration test of India's winged body vehicle on May 23, 2016. Then, the RLV had reached a height of 70 km and was manoeuvred back to earth where it glided down into the Indian Ocean and disintegrated.

On the June-July test, Sivan said, "The test will be different this time where a helicopter will take the shuttle to a considerable height and from that height, the winged body will be dropped. The shuttle will then glide back to earth and land on an airstrip." ISRO is also planning to conduct a third test of the RLV from the orbit. There is speculation that the landing strip could be made in Andaman and Nicobar islands. However, no final decision has been taken yet.

Currently, SpaceX rules the Rs 39,000-crore global market of satellite launches. The Elon Musk-promoted US company which had 0% market share in 2009 gobbled up over 50% (projected) of the market share in 2018 mostly because of its reusable technology where it uses first stage rocket multiple times. On the other hand, ISRO'S share is just 0.6% in the global market. In 2018, ISRO had launched PSLV just thrice for foreign satellites. Instead, SpaceX launched Falcon rocket 20 times for commercial purpose. As the market is set to grow to \$7 billion (Rs 49,000 crore) by 2024, ISRO can grab a significant share if it is able to master the RLV technology.

<https://timesofindia.indiatimes.com/india/isro-developing-technology-to-reuse-first-second-stages-of-rocket/articleshow/67532655.cms>