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DRDO takes pride in ATAGS, to be showcased at R-Day parade

The Defence Research and Development Organisation (DRDO) has always been under the scanner for not indigenously building artillery guns and looking to import essential parts from other countries.

But the DRDO has this time gone ahead and in collaboration with private firms built the Advanced Towed Artillery Gun System (ATAGS), a 155-mm, 52-calibre towed artillery gun.

The ATAGS will be showcased at this year's Republic Day parade on January 26.

Hailing the development, Praveen Kumar Mehta, Director General - Armaments and Combat Engineering Systems, DRDO, said they take pride in manufacturing guns in India and always strive to meet the international standards.

"We take pride to do things in the country and even if it's not at par with the international standards, we still strive to make it the best. Hence, this gun is a very good example of how the DRDO and the Ordnance Factory Board (OFB), along with the industry, can come out with a system within the country and compete with the best in the world. In fact, we look forward to the export of such systems in the time to come," he said.

He added, "This gun is an example that you can build the best guns in the country with the best possible specifications that can match the specifications of any contemporary gun in this class built in other countries."

Mehta enlisted the parameters where the ATAGS scores above all its competitors from other countries. He said, "Every gun is different in its class. In its class, it has got the maximum range. It has developed the highest pressure in the chamber. The range has been tested for 45 km and is the greatest amongst all guns in this category." "A gun is identified by its calibre. Bofors was a 39-calibre gun; 'Dhanush', which is an improved version of Bofors, is a 42-calibre gun. ATAGS is a 55-km calibre gun - the maximum calibre," he added.

Mehta also commented on the firing range of the ATAGS and said it's the maximum if compared with others.

"The Rate of Firing (RoF) is 30 rounds within 60 minutes, which is again at par with the best in the world," he said. Clarifying that the DRDO manufactures its own guns wherever possible, Mehta said, "As far as certain areas are concerned where we didn't have other options, we built those things in the country. The DRDO has built them. In areas where systems could be imported from outside, we have done that too." "We require a lot of guns of this type, along with 'Dhanush' and Bofors guns. Every gun serves a specific purpose and accordingly, each gun is used in varying numbers. And this gun will, in the time to come, prove to be great for the nation," he added. Mehta also explained that though the gun is towed, it can still move on its own within short distances. He said, "It's a towed gun, but has got a self-mobility also. So, in a limited area, it can move by itself and in a larger space, it will have to be towed with a vehicle in front of it."

"Also, it is air-transportable but that is yet to be tried," he added.

The benefits that come with being indigenous are that any modifications required, if need be, can be carried out in India only. "It's designed and developed in India only. So, if there arises a need to amend its design or repair it, it can be done in the country only," Mehta said.

He added, "We have built these guns in collaboration with two companies - Tata Power ACD and Bharat Force. The first prototype has been built and a full-proof testing has also taken place. Now, we are in the process of developing an additional prototype which will be fielded for the user trial in a very short time."

Amit Bhatiwala from Armament Research and Development Establishment, Pune, who has been working as Scientist D at the DRDO, said that the calibre of the ATAGS should not be increased any further as it might increase the gun's weight and affect its efficiency.

"It's a 52-calibre gun, which should not be increased any further. Otherwise, the weight might increase affecting the efficiency of the gun," he said.

Bhatiwala was all praises for the indigenous gun and said it is the most contemporaneous gun in the world right now.

"We were given this project in the year 2012 and we were able to start the manufacture and design by 2014. The most difficult part under this was designing the specification. We wanted the gun to be at par with the guns of other countries or may be superior. And that we have accomplished. We have built the gun in such a way that this is the most contemporaneous gun in the world right now. All the parameters are either at par or superior if compared with those of other countries," he added.

Another indigenous gun that will be showcased at the parade this year is the long-range artillery gun 'Dhanush'.

Developed by OFB and manufactured by Jabalpur-based Gun Carriage Factory (GCF), the 155-mm desi howitzer is a significantly improved version of Bofors 39-calibre field gun.

Indigenously designed Medium Power Radar System 'Arudhra' will also make its debut at the R-Day parade. Arudhra has been developed by Electronics and Radar Development Establishment (LRDE), Bengaluru, a wing of DRDO.

Stating that it one of the best radar systems manufactured, LRDE scientist Manoharan told ANI, "Arudhra is a ground-based radar mounted on a mobile platform. It can be transported by road, rail or air. It has an antenna at the top which works on a new technology that's introduced in India. In this, you can shift the beam. Earlier, beam movement was not possible. Its instrumental range is 400 km and has 360 degree coverage. It can cover 800 km area and 30 km height. It can detect 150 targets simultaneously."

He added, "It can even tell you whether the target is a friendly target or enemy target. In its capability, this is one of the best radar systems made."

Crown Prince Sheikh Mohammed bin Zayed of the United Arab Emirates will be the guest of honour at this year's R-Day parade. *(This story has not been edited by Business Standard staff and is auto-generated from a syndicated feed.)*



Wed, 25 Jan, 2017
(Online)

LCA (TEJAS) and AEW&C will Fly-Past for first time at RD Parade -2017

The Light Combat Aircraft (LCA) Tejas and Airborne Early Warning & Control System (AEW&C) developed by DRDO will fly-past for the first time during the Republic Day Parade 2017.

Representing India's stride in indigenous Defence Technologies, the DRDO contingent this year consists of the 155 mm/52 Calibre Advanced Towed Artillery Gun System (ATAGS) and Arudhra- the Medium Power Radar. Tejas is indigenously developed by Aeronautical Development Agency, an autonomous society of DRDO and produced by Hindustan Aeronautics Limited.

It is a light-weight and multirole four plus generation tactical fighter aircraft which can carry laser guided bombs and modern missiles to cause extreme damage to the target.

Tejas has been inducted into 45th Squadron of Indian Air Force. It is a move towards self-reliance in 'Air Power' requirement of the nation. Tejas is the pride of the country and a step towards "Make in India" initiative. The Airborne Early Warning & Control System (AEW&C) is an 'Eye in the Sky'.

It is a force multiplier, developed by DRDO for IAF with Centre for Air Borne Systems (CABS) as nodal agency. AEW&C system consists of multiple sensors for Surveillance and Signal Intelligence. It helps in Air Defence operations and is capable of communicating using VHF, UHF, C-Band and SATCOM links for Network Centric Operations.

Induction of AEW&C into services will make the country self-reliant and position India in top five countries having this capability.

The Advanced Towed Artillery Gun System (ATAGS) is an indigenous weapon system developed by DRDO under Prime Minister's 'Make in India' initiative. Armament Research and Development Establishment (ARDE); a Pune based premiere R&D establishment of DRDO is the nodal agency for design and development of ATAGS with industry partners namely Bharat Forge Limited and Tata Power SED.

ATAGS has excellent accuracy, consistency, mobility, reliability and automation and is capable of achieving 47 plus km range.

The armament system of the ATAGS which comprises 52 calibre Gun Barrel with Breech Mechanism, Muzzle Brake and Recoil System has been designed and developed to fire the 155 mm calibre ammunitions held by Army with enhanced range, accuracy and precision as well as greater fire power.

The system is configured with All Electric Drive technology for the first time in the world that will ensure maintenance free and reliable operation over longer periods of time.

Medium Power Radar – Arudhra has been indigenously developed by Electronics and Radar Development Establishment (LRDE), Bengaluru, an establishment of DRDO. Arudhra is the first indigenous rotating active phased array multi-function radar with Digital Beam forming technology. The radar covers 360 degree in azimuth and is capable of performing volumetric surveillance to detect and track aerial targets up to 400 km in range and 30 km altitude. This radar can survive intense ECM environment and electromagnetic interference.

It is integrated with modern identification of Friend or Foe system to recognize enemy targets and is transportable by road, rail and Air.

DRDO in a statement said it's mission is to empower India with self-reliance in defence technologies. Since its creation in 1958, DRDO's research, design and development efforts have led to the production of hundreds of products that include state-of-the-art weapons, platforms, equipment and life support systems for the Indian armed forces, it added.

Today, the production value of systems (excluding the strategic systems) already inducted or approved for induction, exceeds Rupees Two lakh sixty thousand crores. The strategic systems developed by DRDO have given our country the much needed multi-level strategic deterrence.



*Tue, 24 Jan, 2017
(Online)*

India conducts second successful test of Guided Pinaka Rocket

India on Tuesday conducted the second successful test of the Guided Pinaka rocket from the Integrated Test Range (ITR) launch pad at Chandipur in Odisha.

India on Tuesday conducted the second successful test of the Guided Pinaka rocket from the Integrated Test Range (ITR) launch pad at Chandipur in Odisha.

The Defence Research and Development Organisation (DRDO) successfully test fired the Pinaka Multi Barrel Rocket System around 12.45 p.m from the ITR in the presence of senior artillery officers, sources said.

According to sources, the range of the rocket has increased from 40 to 70 km with an improved accuracy from 500m to 50m. On January 12, the first test flight of the improved version was conducted by the DRDO.

The Guided Pinaka is developed jointly by Armament Research & Development Establishment (ARDE), Research Centre Imarat (RCI) and Defence Research and Development Laboratory (DRDL). India at present is operating two regiments of Pinaka and has ordered for two more regiments. The Defence Acquisition Council (DAC) last year cleared a proposal for six additional regiments at a cost of Rs 14,633 crore.

THE ASIAN AGE

Thu, 26 Jan, 2017

Gallantry medals to LoC operation heroes

Five of the 10 Shaurya Chakras awarded went to personnel of the Special Forces team that conducted the surgical strike.

New Delhi: Two serving generals — Lt. Gen. Praveen Bakshi and Lt. Gen. P.M. Hariz — superseded by General Bipin Rawat in the race for the country's top Army post on December 31, have been awarded the Param Vishisht Seva Medal (PVSM).

The Kirti Chakra has been awarded to Major Mohit Suri of 4 Para and Lance Havildar Prem Bahadur Resmi Magar (posthumously) of the Third Battalion of the First Gorkha Rifles.

Mr Bakshi heads the Eastern Command that looks after the eastern border adjoining China and the Army's anti-insurgency operation in the north-east, while Mr Hariz is the Commander-in-Chief of the Southern Command — the second in order of precedence of peacetime gallantry awards after the Ashok Chakra.

Major Suri led his Special Forces team to devastating effect in the surgical strikes across the Line of Control on the intervening night of September 28-29, while Ghatak commando Lance Havildar Magar died on June 15 in Jammu and Kashmir's Tangdhar battling terrorists.

Magar had already shot dead four terrorists. He was also instrumental in killing seven terrorists in two previous operations at the same area.

Five of the 10 Shaurya Chakras awarded went to personnel of the Special Forces team that conducted the surgical strike. The Shaurya Chakra is the third award in order of precedence of peacetime gallantry awards.

In all, 19 soldiers of the 4 and 9 Para, the Special Forces units that conducted the cross-border surgical strike, have been awarded gallantry medals. The commanding officers — Col. Kapil Yadav of 9 Para and Col. Harpreet Sandhu of 4 Para — have been given the Yudh Sewa Medal.

Besides the two Kirti Chakras and 10 Shaurya Chakras, President Pranab Mukherjee, on the occasion of Republic Day 2017, stamped his seal of approval on 20 PVSMs, five Uttam Yudh Seva Medals and 32 Ati Vishismand.

While the PVSM is given in recognition of peacetime services of the most exceptional order, the Kirti Chakht Seva Medals, 14 Yudh Seva Medals, 134 Sena Medals (94 for gallantry and 40 for distinguished services), and 76 Vishisht Seva Medals for 44 personnel were mentioned in despatches.



Thu, 26 Jan, 2017

Lt Gen Abhay Krishna takes over SWC

Jaipur: Lieutenant General Abhay Krishna on Wednesday took over the South Western Command of the Army. He paid tribute to martyrs at the Prerna Sthal and later reviewed Guard of Honour. Commissioned into the Rajputana Rifles in 1980, he has had an outstanding professional career spanning over 37 years.

He has a distinct service profile covering all military theatres ranging from counter-insurgency, anti-terrorism operations in Eastern and Northern Commands, commanding troops in Ladakh and Sikkim to mechanised

operations in Rajasthan and Punjab. Prior to assuming command at Jaipur, he was commanding the largest Corps of the Army in the Northeast. — OC

Business Standard

Thu, 26 Jan, 2017

Policy delay keeps defence firms grounded

The government is struggling to forge a consensus on the policy for selecting strategic partners for defence production

Defence Minister Manohar Parrikar, even after repeated unfulfilled promises, has been unable to formulate a policy for nominating “strategic partners” — or private companies pre-selected as the defence ministry’s production agency in ten different technology areas such as warships, submarines, aircraft and others.

While the new Defence Procurement Procedure of 2016 (DPP-2016) was promulgated on March 28, it has a gaping hole where Chapter VI should be. This is the chapter on strategic partners, the policy for which has still not been finalised.

The idea of strategic partners was mooted by the Dhirendra Singh Committee, which, in July 2015, recommended amendments to the Defence Procurement Procedure of 2013 to smoothen the path to producing more defence equipment in India, thus lowering imports.

Defence production through strategic partners relates to the “Buy & Make” procurement category, which, in essence, amounts to building foreign defence equipment in India with technology provided by a foreign vendor. An Indian company nominated as the strategic partner would be the automatic production partner in India. If the Indian Air Force contracted to buy Gripen E fighters, then its manufacturer, Saab of Sweden, would go straight to the designated strategic partner and jointly manufacture in India.

In the joint venture, the foreign company is allowed a stake up to 49 per cent. This could be problematic, like during negotiations with French vendor, Dassault, for building Rafale fighters in Hindustan Aeronautics. Dassault declined to take responsibility for the fighters the Indian company built, since it did not control the company.

The nomination of strategic partners was meant to bring clarity and predictability to defence contracting. Overseas vendors would know which Indian firm to negotiate with and build long-term capability that might come in use during production. Most importantly, private firms nominated as strategic partners would be able to invest in building capability, having been assured of business over the coming years.

Comparing two plans

While superficially resembling the Vijay Kelkar Committee’s 2005 proposal to designate “Raksha Udyog Ratnas” (RuRs) from amongst the most capable private sector companies, the notion of strategic partners is different in important ways. First, the RuRs were not intended just for licensed manufacture, but to also design and develop indigenous defence platforms. Being designated an RuR placed a firm on the defence ministry’s “go-to shortlist”, on par with the defence public sector units.

In contrast, strategic partners will merely be a production partner for foreign vendors, enabling incountry manufacture of a large enough share of the system to meet the modest indigenisation requirements of a “Buy and Make” contract. Nor would this involve building futuristic defence technology, since a “Buy and Make” contract, by definition, is for proven weapons systems that are already in service. Separately, the strategic partner would be expected to absorb maintenance technologies from the foreign vendor, enabling it to provide “life cycle support” to the equipment it had part-manufactured. While the strategic partner would develop a level of maintenance capability, it would have to work on its own to acquire design and development capabilities needed for futuristic defence weapons. With the foreign partner holding 49 per cent stake, it would be likely to block the development of a rival capability in India.

Another vital distinction was that, with a number of RuRs bidding for each tender, there was an inbuilt element of competition. A strategic partner, on the other hand, would enjoy a near-monopoly for a decade or two. Essentially, a private sector strategic partner only replaces a public sector monopoly with a private sector one.

Unfortunately, the idea of strategic partners has been contentious from the outset. Defence firms vie bitterly to be nominated as strategic partners; they see it as a “golden key” to entitlement, with automatic benefits flowing from India’s foreign arms procurements. This has generated cutthroat competition, with private defence vendors lobbying frantically for guidelines that would enhance their prospects for selection.

Meanwhile, defence ministry bureaucrats have steadfastly undermined the strategic partner policy, for fear that the exercise of discretion in selecting privileged winners might— as in the spectrum and coal block allocations — place even honest officials in the cross-hairs of corruption investigations later.

There is equal apprehension, both in the ministries of defence and finance, about any strategic partner-like arrangements that would subsequently involve granting contracts without going through the process of price discovery.

In order to smoothen the process of selecting strategic partners, Parrikar appointed a body under VK Aatre, a former Defence R&D Organisation chief. The VK Aatre Task Force submitted its findings in January 2016, laying down two sets of eligibility criteria for evaluating firms. A “financial gate” was specified to ensure a company has deep pockets to support its equipment for the duration of its service life, often decades long. Separately, a “technical gate” required applicants to be capable of building systems with multiple technologies.

While the Dhirendra Singh Committee recommended selecting one strategic partner for each “strategic segment”, the Aatre Task Force rearranged the segments into two groups. It recommends selecting one strategic partner for each segment in Group I, which includes aircraft, helicopters, aero engines, submarines, warships, guns and artillery, and armoured vehicles. For another three segments in Group II — metallic material and alloys; non-metallic materials; and ammunition, including smart munitions — the Aatre Task Force recommended selecting two strategic partners for each.

Adding to confusion

Controversially, it has been recommended that a single company should be selected as a strategic partner for no more than one segment. For a company like Larsen & Toubro, which has been deeply involved in several areas of defence, this amounts to an unacceptable curtailment.

With little agreement between prospective strategic partners, Parrikar last year created five working sub-groups, headed by defence industry leaders, to submit recommendations. Four sub-groups recommended policy for appointing strategic partners for impending contracts relating to armoured fighting vehicles; aircraft and helicopters; submarines; and ammunition. A fifth sub-groups deliberated upon the policies and differentiators for selecting strategic partners.

Business Standard has reviewed the recommendations of the fifth sub-group, which, even while presented as a consensus, also serves to highlight the chasm between prospective strategic partners.

A key recommendation, which is based on a legal opinion affixed to the report, restricts all the companies in a single promoter group to just one segment in Group I. That means that big groups like the Tatas would be restricted to just one of the companies that they control. This is likely to be sharply contested.

As contentious is the recommendation on the minimum annual revenue needed to be a strategic partner. While the Aatre Task Force recommended a minimum turnover of ~4,000 crore for each of the last three financial years, there has been argument over whether companies like Tata Motors, which has a major share of its income from an overseas entity — Jaguar Land Rover — is entitled to count that consolidated turnover. The sub-group recommends that if the entity gets more than half its turnover from India, it could add the overseas income to its turnover, but not if more than half comes from abroad.

The report reflects the opinion across all stakeholders that many more segments need to be created: the fighter aircraft segment should be separated from transport aircraft; the helicopter segment should be split between

marine and landbased helicopters and armoured vehicles segment should be split between light and heavy vehicles.

Although more than six months have elapsed since these recommendations were presented to the defence ministry last June, the strategic partner policy is nowhere in sight. Meanwhile, uncertainty dogs a host of important overseas acquisitions like that of a singleengine fighter.

“We want to start cooperating with whoever the defence ministry nominates to build a singleengine fighter; and to start building aerospace components in India. But we can only do so when a company is nominated as the aerospace strategic partner”, says a senior Saab official, who hopes to build the Gripen E in India.



Thu, 26 Jan, 2017

Army Major, Five Others Die in J&K

By Hakeem Irfan

Police also rescued around 150 people in Gurez area

Six people, including four family members and an army major, died due to heavy snowfall and avalanches in Gurez and Sonamarg areas of north Kashmir.

Four family members in Badoo Aab village of Gurez, 140 km away from Srinagar in north Kashmir, died when their house collapsed due to heavy snowfall on wee hours of Wednesday .The deceased were identified as Habibullah Lone, 50, his wide Azizi, 48 and their children, Gulshan, 19 and Irfan 17. Only one member, Riyaz, 19 was rescued and is being treated.

J&K chief minister Mehbooba Mufti expressed grief over the death caused due to snow avalanches and house collapse incidents across the state. J&K police also rescued around 150 people in Gurez area .

“Their house collapsed due to heavy snowfall.Around six feet of snow has accumulated in the area, which has remained cut off from the district headquarter Bandipora since November,“ Masarat Hashim, Assistant Commissioner Bandipora, told ET. According to Srinagar-based defense spokesperson, one Army Major Amit Sagar of 115 Bn Ter ritorial Army died in the avalanche while all others were rescued from the spot.

In a separate incident, in Kupwara district, one person died while he was clearing snow from rooftop.



Thu, 26 Jan, 2017

Al Nahyan meets PM Modi: India, UAE ink key pacts, defence cooperation MoU

Calling the discussions “fruitful and productive”, Modi said convergence between the two countries can help stabilise the region and the economic partnership can be a source of regional and global prosperity.

In an attempt to deepen strategic cooperation, India and the UAE on Wednesday signed strategic partnership agreement and an MoU on defence cooperation as the visiting Crown Prince of Abu Dhabi Sheikh Mohammed bin Zayed Al Nahyan met Prime Minister Narendra Modi. However, the long-awaited MoU on \$75 billion investment fund — more than Rs 5 lakh crore — was not inked. Officials, who had expressed hope that the pact will be signed, said the talks are in an advanced stage.

Sources said the two sides were able to arrive at outcomes on four key pillars of the bilateral relationship: security and defence, trade and commerce, energy security, and the Indian community’s welfare. Ahead of delegation-level talks at Hyderabad House, Modi and Al Nahyan held a one-on-one meeting for nearly an hour

at the Prime Minister's official residence. Counter-terrorism and security situation in the region were among key issues understood to have been discussed.

Modi later said: "We have shaped an ambitious road map of engagement to make our comprehensive strategic partnership purposeful and action-oriented. The agreement exchanged just now has institutionalised this understanding." He said, "Security and defence cooperation have added growing new dimensions to our relationship. We have agreed to expand our useful cooperation in the field of defence to new areas, including in maritime domain. The MoU on defence cooperation, signed earlier today, will help steer our defence engagements in the right direction."

"We feel our growing engagement in countering violence and extremism is necessary for securing our societies," he said. Al Nahyan, who will be the chief guest at the Republic Day celebrations, said he is confident that bilateral ties will experience major transformation in the years to come. He said the agreements opened broad prospects for cooperation.

Calling the discussions "fruitful and productive", Modi said convergence between the two countries can help stabilise the region and the economic partnership can be a source of regional and global prosperity. "We exchanged views on developments in West Asia and the Gulf, where both countries have a shared interest in peace and stability," he said. "We also discussed developments in our region, including Afghanistan. Our shared concern on growing threat from radicalism and terrorism to the safety and security of our people is shaping our cooperation in this space."

He noted, "Moving forward, our cooperation stands poised for a major take-off." As they agreed to expand cooperation in the field of defence and maritime domain, Modi said the MoU on defence cooperation will help steer defence engagements in the right direction. Modi spoke about the trade and commerce aspect, another key pillar. Terming the UAE as "an important partner in India's growth story", and a close friend in an important region, he said he has conveyed the interest of Indian companies to be a partner in infrastructure projects for World EXPO 2020 in Dubai. The pacts signed included cooperation in defence manufacturing and technology with focus on armament and transfer of expertise, maritime transportation and economic activities, exchange of best practices in road transport and a pact dealing with working together in prevention and combating of human trafficking.



Thu, 26 Jan, 2017

India and the UAE: Envisioning a Partnership for the Future

Our joint commitment to open, multicultural societies will help us reshape the regional order

India and the UAE are linked by our common desire to build a resilient and modern strategic partnership.

This desire has become more manifest in the last two years. In this time, we have personally built a bond of friendship that has allowed us to shed the traditional approach of incremental progress.

Instead, we are using the springboard of our friendship to give our partnership a bold new vision that goes beyond our bilateral relations. We will contribute to a regional order that reflects our shared interest in stability, prosperity and tolerance. That is the promise that we have made to each other.

In this enterprise, we are fortunate to be able to draw on centuries of accumulated goodwill and understanding between our nations. The promise that HH Sheikh Zayed bin Nahyan, Father of the Nation of UAE so presciently foresaw in 1970, even before UAE's independence, is translating into purposive action today. He had said then while speaking in an interview: "Our relations go back some 4,000 years when we had flourishing trade and commerce with India; and now that we are about to be independent, we would like these bonds to be restored and strengthened in every possible way...there are boundless possibilities for trade, commerce, even joint projects" The Comprehensive Strategic Partnership we have committed our countries to builds upon the vision of the respected leader. It also builds on our extensive discussions in Abu Dhabi in

August 2015 and in New Delhi in February 2016. It sets out a clear roadmap to restore and strengthen our historic ties but also looks at several entirely new areas of cooperation.

As nations, UAE and India have grown to respect each other for our shared values of religious tolerance and the importance of building open, multicultural societies that are respectful of differences related to faith, ethnicity or language. We have been unequivocal in our rejection of religious extremism and the atmosphere of hate and terror that it has produced. We have been equally forthright in condemning terrorism in all its manifestations and in refusing to accept false justifications for terrorism in the name of religious or political objectives. We have denounced and opposed terrorism in all forms and manifestations, wherever committed and by whomever, calling on all states to reject and abandon the use of terrorism against other countries, dismantle terrorism infrastructures where they exist, and bring perpetrators of terrorism to justice. We believe that this approach is crucial for fostering an environment of peace, stability and prosperity in our region.

We have also strongly condemned the terrorist attacks in Kabul and Kandahar on 10 January , 2017 and the terrible loss of lives of the UAE and Afghan nationals in these attacks.

Our countries have decided to intensify our defence cooperation, expanding the scope of our training programmes, increasing our joint exercises and exploring opportunities for co-production of defence materials. The presence of a contingent from the UAE Air Force in Delhi, marching down Rajpath in step with their Indian counterparts as part of our Republic Day parade is a powerful visual symbol of cooperation.

We have also made strides in our economic engagement. India is UAE's largest trading partner and for India, UAE ranks third after US and China. The entrepreneurship of the Indian business community has long been recognised in UAE where they are present on a big scale; a relatively more recent phenomenon is the growing investments from UAE into the Indian economy in key areas like infrastructure, energy , healthcare, retail, hospitality and, real estate. These mutual flows are anticipated to increase and will constitute a dynamic pillar of our partnership.

India recognises that rapid development of infrastructure holds the key to meeting India's development aspirations. Some of UAE's largest companies are world leaders in this area and we hope to encourage greater participation by them in India's ambitious plans to develop highways, ports, airports and logistics hubs. We are also exploring innovative approaches in the equally important area of food security .

As a major exporter of crude oil, UAE has been a reliable partner in India's quest for energy security . But we are also looking beyond fossil fuels at the world that we want to bequeath to future generations. UAE's decision to establish MASDAR was a trend-setter for the world, and India has set up extremely ambitious targets for the share of renewable energy in its own energy-mix. UAE plans to join the Indo-French initiative to establish an International Solar Alliance and India is an ardent advocate and partner of the Abu Dhabi based International Renewable Energy Agency (IRENA).

The role of the 2.6 million strong Indian community in UAE is appreciated in both nations; for India, as a visible testament to the strength and success of our diaspora that enriches us in turn; for UAE, as a valuable contribution to its development and national life. The bonds of trade, investment, friendship and personal relations that have taken root between the UAE and India represent an especially strong bridge between our countries.

An eye on the future is also manifest in our dialogue on cooperation between the Indian Space Research Organisation and the UAE Space Agency . India is one of just four countries to have successfully sent a mission to Mars. The UAE also has an ambitious programme in this field. By working together, we intend to demonstrate that not even the sky is the limit for our cooperation. Today , we are moving towards a deeper, stronger and more intense engagement with each other. This rests on a strategic vision shared by us and on the extensive network of personal and people to people contacts between us.

We are confident that we have created strong and robust platforms and mechanisms to take our relationship to new heights. India and UAE are determined to fulfil the promise of our partnership for our people and our region. Narendra Modi is Prime Minister of India. Sheikh Mohamed bin Zayed Al Nahyan is Crown Prince of Abu Dhabi.

Thu, 26 Jan, 2017

Trump says India is a 'true friend', invites Modi to US

By Chidanand Rajghatta

US President Donald Trump has invited PM Narendra Modi for a visit sometime later this year. The invitation was made during a phone conversation between the two in which both pledged to stand "shoulder-to-shoulder" in the global fight against terrorism, the White House said on Tuesday .

A White House read-out on the call was largely anodyne, saying, "President Trump emphasised that the United States considers India a true friend and partner in addressing challenges around the world." The two discussed opportunities to strengthen the partnership between the US and India in broad areas such as the economy and defence, it added.

According to the White House, they also discussed security in south and central Asia, without explicitly mentioning any country , even as the Trump administration's withdrawal from the Trans-Pacific Partnership (TPP), its dissing of NATO, and its general disengagement from global affairs is unnerving many countries that see Washington ceding influence to China.

There was a cautious element to the read-out, which contained none of the gushing superlatives Trump plied on India and Modi during his campaign, and none of the comical hyperbole that was reported by Pakistan in Trump's conversation with Prime Minister Nawaz Sharif after Trump's win.

The White House did not elaborate on the precise nature of the discussion the read-out referred to on "strengthening the partnership... in broad areas such as the economy and defence", but it is obvious that there will be a lot on the table when the two sides meet -and it will look very different from what was on the table during the Bush-Obama years.

International Business Times

Tue, 24 Jan, 2017
(Online)

Pakistan tests new nuke-capable Ababeel ballistic missile designed to tear into Indian missile defence shield

Pakistan has flight-tested new surface-to-surface ballistic missile called Ababeel.

Pakistan announced on Tuesday that it has flight-tested a new nuclear-capable surface-to-surface ballistic missile, Ababeel, with a maximum range of 2,200km, according to a statement from its Army's media agency, Inter Services Public Relations (ISPR).

The test was "aimed at validating various design and technical parameters of the weapon system," claimed ISPR statement.

It also has the capability to carry multiple warheads with the infamous Multiple Independent Re-entry Vehicle (MIRV) technology, something that will unnerve many South Asia watchers.

It further noted that the development of "Ababeel weapon system was aimed at ensuring survivability of Pakistan's ballistic missiles in the growing regional Ballistic Missile Defence (BMD) environment."

The flight test of the missile is considered a "landmark achievement" for Pakistani armed forces.

Arms Race and Coming of the MIRVS in South Asia

Given the regularity in which Pakistan is testing new weapons- ballistic weapons or cruise, like Babur III that was recently fired from underwater platform empowering the country with a second strike capability.

The new missile, Ababeel, not only has the nuclear element but also the MIRV element, something India has not yet tested.

The test is bound to escalate the arms race in South Asia, which is already seeing a rise in missile tests. India recently tested Agni-IV and Agni-V. The country is also slated to test K-4- a submarine launched ballistic missile soon.

Though India does not currently have any operational MIRV in its inventory, it has been reported that India certainly has the capability for MIRV.

Reports on internet point towards India possibly including it in yet-to-be-developed Agni-VI missile. However the Defence Research and Development Organisation (DRDO) reportedly said that it is "validating technologies that will help India deploy MIRV on its missiles."

MIRV in a glimpse

US conceived MIRVs in 1960s as a counter to USSR during the Cold War. Soon, Russia had similar technology. But both the countries eventually signed several strategic agreements to reduce the number and weight of the warheads.

But in 2002, China successfully tested its first MIRV and over time bettered its delivery and number of warheads.

Will Ababeel missile render India BMD ineffective?

The new Pakistani missile has been designed to tackle Indian radars and its ambitious Ballistic Missile Defence (BMD) shield. India has a multi-layered BMD to shield itself from ballistic missile attacks.

In 2012, the then DRDO chief had said that India had initiated phase-I of the BMD. This included the capability to handle missiles with 2,000km targets. He had also claimed that the Phase-II to handle ballistic missiles with range of 5,000 km was expected to be ready by 2016.

Apart from this, India has also ordered 5 S-400 advanced air defence systems from Russia. This can provide defence from ballistic missiles of up to 3,500km range.

USA and China

When Pakistan launched the nuclear-capable Babur III missile, US had urged it to "exercise restraint regarding the use and testing of their nuclear capabilities" and encouraged it to "promote confidence building and stability with respect to those capabilities."

It will be interesting to see what the new Trump administration will have to say about the Pakistan's move.

Even more interesting would be the Chinese reaction. China had recently warned India to "maintain strategic balance in South Asia" when New Delhi tested Agni-V, an Inter Continental Ballistic Missile with over 5,000km range.

What does Ababeel even mean?

In the Quran, Ababeel are flock of birds sent by Allah against Abraha, the king of Yemen and Ethiopia who was attacking the Kaaba. The birds fiercely attacked Abraha and his army with stones that eventually killed the entire army.



अंतरिक्ष में हमारा डंका

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) अंतरिक्ष क्षेत्र में दिनोंदिन नए कीर्तिमान स्थापित कर रहा है। अब इसरो स्वदेशी उपग्रहों के साथ ही कई विदेशी उपग्रह भी एक साथ भेज रहा है। यह संभव हो रहा है स्वदेशी पोलर सेटेलाइट लांच व्हीकल (पीएसएलवी) के जरिए। इस उपलब्धि के कारण हम अन्य देशों से अंतरिक्ष के क्षेत्र में कई कदम आगे निकल गए हैं। पिछला साल इसरो के लिए काफी खास रहा। इस साल इसरो 103 उपग्रह एक साथ भेजकर एक और कीर्तिमान स्थापित करेगा।

79 विदेशी उपग्रह कर चुका लांच

26 मई, 1999 से 22 सितंबर, 2016 तक इसरो 79 विदेशी उपग्रह लांच कर चुका है। ये सभी उपग्रह भी पीएसएलवी से ही लांच किए गए। दिसंबर, 2016 तक 88 स्वदेशी उपग्रह भी लांच किए जा चुके हैं।

20 देश इसरो के मुरीद

इसरो की तकनीक के मुरीद 20 देश हैं। इनके नाम हैं - जर्मनी, दक्षिण कोरिया, बेल्जियम, इंडोनेशिया, अर्जेंटीना, इटली, इजरायल, कनाडा, जापान, नीदरलैंड, डेनमार्क, तुर्की, स्विट्जरलैंड, अल्जीरिया, सिंगापुर, लक्जमबर्ग, फ्रांस, ऑस्ट्रिया, ब्रिटेन और अमेरिका।

हमारे पीएसएलवी में है दम

यह इसरो का प्रमुख प्रक्षेपण यान है। यह एक्सपेंडेबल लांच सिस्टम है। इसमें एक के अधिक रॉकेट स्टेज हैं। इन्हें

ऊंचाई बढ़ने के साथ-साथ अलग किया जाता है। यह दूसरी प्रक्षेपण प्रणालियों से सस्ता है।



पीएसएलवी में चार स्टेज होते हैं। इन्हीं में पेलोड या उपग्रह रखे जाते हैं। 44 मीटर लंबा पीएसएलवी भू-स्थिर कक्षा तक 38 सौ किग्रा तक पेलोड ले जा सकता है। पहले यह तकनीक सिर्फ रूस के पास थी।

फरवरी में बनाएगा रिकॉर्ड

यह साल इसरो के लिए कई मायनों में अहम रहने वाला है। फरवरी में इसरो अपने पीएसएलवी प्रक्षेपण यान से एक साथ 103 उपग्रह भेजकर रिकॉर्ड बनाएगा। इसमें तीन स्वदेशी उपग्रह होंगे और सौ विदेशी। अभी तक सर्वाधिक संख्या में एक साथ उपग्रह भेजने का रिकॉर्ड रूस के नाम है। जून, 2014 में उसके डीएनईपीआर रॉकेट से एक साथ 37 उपग्रह भेजे गए थे। इस साल इसरो इस रिकॉर्ड को तोड़ देगा।

2016 में इसरो ने कई प्रमुख अभियानों को दिया अंजाम

- 28 अप्रैल : इसरो ने पीएसएलवी-सी 33 से आइआरएलएसएस-1जी उपग्रह भेजा। यह स्वदेशी नेवीगेशनल तकनीक स्थापित करने के लिए सातवां और अंतिम उपग्रह था। प्रणाली का नाम इंडियन रीजनल नेवीगेशन सेटेलाइट सिस्टम (आइआरएलएसएस) है।
- 22 जून : पीएसएलवी-सी34 से 17 विदेशी और तीन स्वदेशी उपग्रह भेजे (कुल वजन 1,288 किग्रा)।
- 28 अगस्त : इसरो ने हवा से ऑक्सीजन लेकर चलने वाले स्क्रेमजेट इंजन का परीक्षण किया। अमेरिका, रूस, यूरोपियन स्पेस एजेंसी के बाद भारत यह तकनीक वाला चौथा देश बना।
- 26 सितंबर : 3 स्वदेशी व 5 विदेशी उपग्रह भेजे। इसी लांच में इसरो ने पहली बार मल्टीपल बर्न टेक्नोलॉजी का परीक्षण किया। इसके तहत रॉकेट इंजनों को अलग-अलग कक्षा में बार-बार चलाया और बंद किया जाता है। इससे उसे भार के साथ आगे बढ़ने के लिए गति देने में मदद मिलती है।

