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Following are the key developments from the Defense space that we track for the week of 2-8 January, 2017.

Political Developments:

- Defense Ministry defers Military's demand to create new commands
- India, Portugal sign Defence and 6 other pacts

Industry & Other Developments:

- Cheetah, Chetak choppers to retire after string of crashes
- Extension for Nirbhay, panel to identify flaws
- Indigenously developed protective covering for T-72 Tanks of Indian Army
- Government wants to incentivize home-made light weight body armour
- Frontline Bengal Air Base likely to House Rafale Squadron
- India's next western origin fighter Jet- US F-16 or Sweden's Gripen?
- Indian Navy to induct INS Kalvari only when fully operational
- India to buy C-295s for Coast Guard
- Tejas inches closer to FOC; crucial trials coming up
- Critical India-Russia pact to improve fighter Aircraft availability
- ISRO to launch 103 Satellites in 1 shot
- \$ 14bn worth Defense offsets to be discharged: Subhash R Bhamre
- DCNS and MDL propose 3 more Scorpine class Submarines to Indian Navy
- India to make Stealth Fighter
- India supplying warships to 16 countries
- India targets Defense exports of \$ 2bn by 2019, says Manohar Parrikar
- Govt-Govt deals leading to quicker Defense procurement vs global tenders
- Parrikar bypasses Rifle tender Quicksand
- Rs 50bn Made-In-India Howitzer to get nod from Modi

Corporate News:

- Center clears 26% strategic sale in BEML
- Premier Explosives receives order from ISRO for Motor used in PSLV

Upcoming Defense Bids& Opportunities:

- Bids invited for Active Electronically Scanned Array (AESA) radars
- RFI to purchase 15,000 NVDs for rocket launchers, 5,000 NVDs for medium machine guns, over 125,000 for other small handheld arm
- Quotes requested from 7 global payers for electronic warfare (EW) self-protection suites

Political Developments:

■ Defense Ministry defers Military's demand to create new commands

Indian government has deferred Armed Forces long pending demand to create 3 new commands to deal with Cyber, Space and Special Forces, asking them to first create capabilities and structures for such operations before going in for expansion. To deal with these issues, Defense Ministry has created 3 special cells, under Major General rank officers under the tri-services Integrated defense Staff. *(Source)*

■ India, Portugal sign Defense and 6 other pacts

India and Portugal inked 7 pacts to expand Bilateral engagement in wide range of areas including Defense and Security, IT and Renewable Energy even as they took a veiled dig at China for blocking New Delhi's move at UN to list JeM Chief Masood Azhar as global terrorist.

In wide-ranging talks between PM Narendra Modi and his Portuguese counterpart Antonio Costa, agreed to deepen the ties, also called for tough global action against terror networks and states harbouring them. "Recognising the importance of Central role of UN in combating terrorism, they exhorted the international community to effectively implement measures enumerated by 1267 UN Sanctions Committee," a joint statement issued after the talks said.

Modi also thanked Costa for Portugal's support to India's membership of Missile Technology Control Regime (MTCR), and for its continued support for India's membership of the Nuclear Suppliers Group (NSG). MoU on Defense envisages cooperation meeting security challenges, including in the maritime domain and defence industries. *(Source)*

Industry & Other Developments:

■ Cheetah, Chetak choppers to retire after string of crashes

Indian Army has firmed its plans to retire its oldest Light-Utility Helicopters (LUH), pushing the panic button, as string of recent crashes has blemished safety record of these machines. Sources from South Block said that the early variants of Cheetah and Chetak fleet will be replaced by locally-made Advanced Light Helicopter (ALH), known as Dhruv. It is likely that Army's aviation wing would replace 41 Cheetahs and Chetaks with helicopters from the "ALH reserve stock" and proposal would be sent to Cabinet committee on security approval soon.

Kamov-226T Light Utility Choppers, to be built with Russia, are to replace these helicopters. However, the \$ 1bn program is yet to kick off and the military may have to wait years for them. Russia will supply 60 helicopters in flyaway condition, while remaining 140 will be manufactured in India. Manufacturing line of the ALH is quite stable and machines are coming out at pretty steady rate. Kamovs will take some time to come. Army operates mix of 150 Cheetahs and Chetaks.

Design of these helicopters is >50 years old and their airworthiness is being questioned after 9 personnel were killed in 6 accidents during 2012-15. HAL has licence-produced 625 Cheetah and Chetak helicopters. It no longer builds them but is responsible for their maintenance and repair, a cause for concern.

■ Extension for Nirbhay, panel to identify flaws

Nirbhay, India's own cruise missile project has got 18 months extension. Launched in 2004, projected date of completion was Dec-2016. Ministry of Defence has asked Nirbhay team to deliver their best by Jun-2018. Under developmental trial since 2013, this missile is yet to perform as per expectations. Of the 4 tests in as many years, this indigenously developed weapon had failed 3 times though it could cover intended range once in 2014.

An independent technical committee has been formed to identify faults in system that led to failure of its missile during its 4th trial on Dec-21, 2016. *(Source)*

■ Indigenously developed protective covering for T-72 Tanks of Indian Army

As many as 2,500 T-72 tanks of Indian Army will be equipped with an indigenously developed protective covering to ensure safety from enemy tank fire. These tanks will be equipped with advanced version of Explosive Reactive Armour (ERA) Mk-II for effective protection. Currently, T-72 tanks are fitted with ERA Mk I. To get better protection for tanks, Indian Army had put its demand for advanced version of the ERA in 2010 to the DRDO.

Development of ERA Mk-II was thus undertaken by DRDO in 2011 with High Energy Materials Research Laboratory as nodal lab in association with Combat Vehicles Research and Develop. Establishment and Defense Metallurgical Research Laboratory.

DRDO officials said user trials of ERA Mk-II were carried out in 4 phases from Nov-2015 to Jan-2016. During these trials, ERA Mk-II was evaluated against 84mm heat, 125mm heat, Milan warhead and AMK- 339 ammunition. Officials informed, "with improved explosive properties and armor materials, performance of ERA Mk-II against shaped charge warheads and kinetic energy projectiles was excellent and better than ERA Mk- I."

Interestingly, this protective is adaptable to all 3 Tanks used by Indian Army, namely, T-72, T-90 and Arjun MK-II.

■ Government wants to incentivize home-made light weight body armour

Government is looking at possibility of encouraging home-made light weight body Armour to provide comfort to Army and Para-military personnel while fighting terrorists and extremists. PMO has asked NITI Aayog to prepare road map for "incentivizing" manufacturing of light weight body armors within India. NITI Aayog has consulted stakeholders like industries which are engaged in research as well as para military forces and armed forces.

This idea has been mooted apparently because bullet proof vests and helmets in-use currently by Indian forces are heavy, causing a lot of discomfort and leaving the personnel at a disadvantage during an encounter with heavily- armed terrorists.

Indian companies, Kanpur-based MKU and Tata Advanced Materials export body armour to armed forces globally. If the light weight bullet proof vests and helmets are produced in bulk within country, it will ensure low cost supplies and end to endless wait for foreign vendors to supply the equipment. As per media reports, India exports bullet proof vests and helmets to British, German, Spanish and French armies, and police forces from Japan to the U.S.

■ Frontline Bengal Air Base likely to House Rafale Squadron

Frontline Indian Air Force base in Hasimara, West Bengal is likely to be one of the bases for Rafale squadron. The first squadron is likely to be based at the Sarsawa base in U.P. One more base for the third squadron is to be identified. Each of these IAF squadrons will have 12 Rafale fighter jets. Hasimara houses 2 squadrons of MiG 27, which would phase out in few years. This base also hosts Akash missile systems.

IAF has 33 combat squadrons against sanctioned strength of 39.5 (sought to be raised to 42).

■ India's next western origin fighter- Jet- US F-16 or Sweden's Gripen?

India has sent requests to US and Sweden, asking for details of single engine fighter jets in service which can be offered for a technology transfer project, to Lockheed Martin (F 16) and SAAB Gripen.

In Aug-2016, Lockheed offered India to move its lone production line of latest version of the F 16- Block 70 to India from Texas to meet the Indian and global requirement. Mr. Parrikar said new production line for another single engine fighter jet, besides Tejas Light Combat Aircraft (LCA), will be started in India. This will be done under Ministry of Defense's cornerstone 'Make in India' policy, under the Strategic Partnership (SP) model, expected to be finalized in Jan-2017. As per the model, Government would select private firms to exclusively manufacture critical military equipments such as Aircrafts, Warships and Armoured Vehicles for a specified period. Mr. Parrikar disclosed that the government would first select Indian private company that would partner with Western Aerospace co. to produce much needed replacements for MiG 21 fleet. Indian company will be identified through Aatre committee

model. Parrikar said the criteria for selection would be the amount of technology transfer that the western partner is willing to provide and financial package on offer. He said once the product is shortlisted, an intergovernmental agreement would also be signed.

India already has single engine fighter aircraft, Tejas Light Combat Aircraft (LCA) inducted in Indian Air Force (IAF). A production line with 8 aircrafts is manufactured every year and the capacity is likely to be increased to 16 a year.

■ Indian Navy to induct INS Kalvari only when fully operational

Against earlier trend of inducting incomplete warships, Defence Ministry now plans to induct first Scorpene-class submarine, INS Kalvari only when it's full ready for operations. Accordingly, Mazagon Dockyards Ltd, DCNS (French co.) have been asked to complete all trials (inc. sensors and weapon fitment), before handing over to Navy.

INS Kalvari is first of 6 Scorpene-class submarines being built by MDL in Mumbai with DCNS under Rs 230bn project (delayed by 4 years, due to issues related to make in India equipment for the vessels). This would lead to wait of few more months before Navy gets to lay its hands on the first new conventional submarine to be inducted after gap of almost two decades. 'Kalvari' (Tiger Shark) was planned to be inducted by 2016-end. *(Source)*

■ India to buy C-295s for Coast Guard

India is likely to sign contract with Airbus Defence and Space for 56 C-295 military transports within 6 months. Meanwhile, Indian Ministry of Defence has cleared separate acquisition of 6 C-295s for Indian Coast Guard. Both orders will be delivered by Tata-Airbus partnership that is India's first-ever private sector aircraft development enterprise.

Evaluation of C-295 bid for IAF is complete and contract negotiations would start soon. Since benchmarking and other issues [of the aircraft] are known, we do not expect the process to take longer time.

The Airbus-Tata partnership will deliver the C-295s for Coast Guard in "raw" condition to DRDO, which will integrate an indigenous mission system. DRDO could likely use a surface-scanning radar that could be coupled with transponders on boats, an imperative for the Coast Guard. The mission system could be a derivative of the multisensor airborne early warning and control (AEW&C) system developed by Center for Airborne System (CABS) with DRDO for Embraer 145 platform. *(Source)*

■ Tejas inches closer to FOC; crucial trials coming up

Light Combat Aircraft (LCA) Tejas program is heading towards Final Operational Clearance (FOC) phase scheduled to be achieved by June-2017. As per sources involved, Derby missile will be fired in guided mode during first quarter of the year, clearing a key FOC parameter.

Indian Air Force (IAF) now operates 3 Tejas fighters from Bangalore.

Software up gradation would happen after the FOC. Already integration with the air-to-air-refuelling-probe on LSP-8 is done, with trials to start soon. Flight envelope checks are being done to see any variations in the aerodynamics performance. Russian gun (Gsh-23) is already integrated on LSP-7 for ground butt firing trials at Nasik. This will be followed by flight trials in the second quarter of the year.

The envelope expansion (8G) has already been achieved at the Bahrain International Air Show last year.

■ Critical India-Russia pact to improve fighter Aircraft availability

India and Russia are at an advanced stage of signing long-term arrangement that includes the manufacture of some spares of Russian-made aircraft being assembled in India. Talks are ongoing to set-up a logistics hub for its lethal combat aircraft, Su-30MKI, at HAL facilities in Bangalore.

Delegation level talks are scheduled in Mar-2017 to sign contract for improving spare parts availability, inc. manufacturing some of them in India. Meanwhile, a significant improvement has witnessed in availability of Sukhoi-30 fighter aircraft in last 2 years.

Indian Air Force (IAF) has finalized long-term repair agreement with Russian OEMs to improve the availability of aircraft for operational use. It takes up to 18 months to deliver spare parts from Russia, due to cumbersome bureaucratic process and extensive documentation.

Currently IAF has >200 Su-30MKI fighters in its fleet and is expected to receive more by 2019. India has contracted for the delivery of 272 Su-30MKI with Russia. 75% of operational fighter aircraft in IAF are of Russian origin. This includes MiG-21, MiG-27, MiG-29 and Su-30MKI fighter aircraft.

Parrikar also asked Russia to speed up supply of technical equipment for an aircraft carrier, currently under construction at Cochin shipyard, so that it's not much behind schedule. Due to delay in supply of some critical components, carrier's delivery schedule has been revised from Dec-2010 to Dec-2018. The original cost of \$ 490mn has been revised to \$ 2.9bn. The delay is impairing India's maritime capabilities in Indo-Pacific Region. India currently has lone Russian-made aircraft carrier in service whereas it needs a total of 3.

■ ISRO to launch 103 Satellites in 1 shot

Indian Space Research Organization (ISRO) has decided to launch 103 satellites in a single mission in Feb-2017 with hope that resultant publicity will give it a bigger slice of world's \$5.4 bn satellite launch market. ISRO's commercial arm Antrix Corporation will launch satellites of international customers through Polar Satellite Launch Vehicle (PSLV) C37 from Satish Dhawan Space Centre in Sriharikota.

"We are making a century by launching over 100 satellites at one go. There will be 100 micro-small satellites, which will be launched using a PSLV. The weight of the payload will be 1,350 kgs, of which 500-600 kgs will be satellite's weight," said S. Somnath, Director of ISRO's Liquid Propulsion Systems Center.

Sources told Sputnik that the international customers from Germany, Israel, Kazakhstan, the Netherlands, Switzerland and the US have contacted Antrix for activities related to mission studies, satellite interface analysis and several other technical/ programmatic aspects. Earlier, ISRO had planned a launch of 83 satellites in January but the interest shown by several other customers persuaded to change the launch configuration and the date.

To-date, ISRO has launched 79 satellites from 21 countries on-board the PSLV. Among major foreign companies whose satellites were launched are MDA of Canada, Airbus Defense & Space, OHB System of Germany, IAI of Israel, Terra Bella, USA and Planet Labs, USA.

■ \$ 14bn worth Defense offsets to be discharged: Subhash R Bhamre

Nearly \$14 bn worth of defence offset obligations would be discharged in India by foreign OEMs by 2028, MoS for Defence Subhash R Bhamre said. Defense Ministry spokesperson, said that Govt. intends to reduce its expenditure on a/c of defence imports by 50% through indigenous manufacturing. He also said "the DPSUs (Defence Public Sector Undertakings) and private sector should also put in place a system to share capability and capacity to support overseas sales, servicing and maintenance throughout the life of the product".

■ DCNS and MDL propose 3 more Scorpene class Submarines to Indian Navy

As per media sources, French shipbuilder DCNS and Indian partner Mazagon Docks Ltd. (MDL) have made an unsolicited "repeat order" offer for 3 Scorpene-class submarines to the Indian Navy. Maiden sea trial of 1st P75 Scorpene Submarine, INS Kalvari was on May 1st 2016.

6 submarines of P75 project are being built by MDL through technology transfers from DCNS for Indian Navy. "Kalvari", first Scorpene class diesel-electric submarine (SSK) was launched on 28th Oct-2015. It started sea trials in May-2016. The sea trials campaign went well and left Indian submariners with a very good impression. "Khanderi", the 2nd submarine in the series, is set to be launched this month.

Repeat order proposal for 3 more submarines would include an Air Independent Propulsion (AIP) system developed by India's DRDO. An AIP system allows submarines to stay underwater for longer durations. Last 2 of 6 Scorpene submarines initial order (P75 project) were set to be fitted with this DRDO AIP system but the decision was reverted late last year. According to Indian media, the DRDO missed the deadline.

In Oct-2014, India launched P75I project, follow-on to Project P75. Under this project, the Indian Navy intends to acquire 6 diesel-electric submarines with AIP for endurance and a vertical launch system (VLS) to enable them to carry multiple Brahmos supersonic cruise missiles. All 6 submarines are set to be constructed in Indian shipyards in accordance with government's Make in India initiative. Likely designs bidding for P75I are Germany's (TKMS) Type 214, Russia's (Rubin design bureau) Amur-class, Sweden's (SAAB) A26 and France's (DCNS) Scorpene.

■ India to make Stealth Fighter

With the induction of light combat aircraft (LCA) Tejas into the Indian Air Force this year, the Aeronautical Development Agency (ADA) which has jointly developed the fourth generation aircraft with HAL, is now ready to develop the stealth fighter aircraft. "The concept and feasibility study for Advanced Medium Combat Aircraft (AMCA) is complete and is submitted to government. We are awaiting government's approval to develop prototype vehicles (PVs)," P.Ramachandra, Director, Admin and Planning, Aeronautical Development Agency (ADA) told this newspaper on the sidelines of the Indian Science Congress. It is designed to be the 25th class aircraft, whereas Tejas is weighing only about 10tn. It will have the range of 2,800 km. "The aircraft will have stealth features for evading radars. The weapons and antennas will not be visible from outside. This makes the aircraft heavy and it will have twin-engines," he said.

Indian Air Force ordered 40 Tejas aircraft and 83 LCA Mark-1A aircraft with the HAL. Air Force also wanted better specifications for LCA Mark-1A like mid-air refuelling and advanced electronic warfare suit. "We are going to carry out the changes very soon," he added.

HAL is expected to deliver 10 combat aircraft per year in initial period and it can be expanded up to 16 aircraft per year. The LCA's naval version also is currently undergoing various tests at Shore Based Test Facility at Goa. Some of the foreign fighter jets which are competing with AMCA are Boeing F/A-18E/F Super Hornet, Dassault Rafale, Eurofighter Typhoon, Lockheed Martin F-16 Fighting Falcon, Mikoyan MiG-35, and SAAB JAS 39 Gripen.

■ India supplying warships to 16 countries

At least 16-17 countries are in discussion with Indian shipyards to acquire warship from India inc. Vietnam, Bangladesh UAE, Mr. Parrikar said in brief interaction with media on sidelines of an event in the national capital. On exporting BrahMos supersonic missile to Vietnam, Mr. Parrikar said, "we are willing to give BrahMos missile to any friendly nation and Vietnam is a friend." Parrikar also said that India has already decided to give training to Vietnam Air Force for their newly inducted Sukhoi fighter jets.

■ India targets Defense exports of \$ 2bn by 2019, says Manohar Parrikar

Indian defence exports will touch \$ 2bn- 6x the current export of Defense Equipments by 2019, Mr. Parrikar said at the DRDO. India exported Rs 11bn worth of Defense Equipment in 2013-14, Rs 15.82bn in 2014-15. In 2016, Indian Defense Equipment exports stood at Rs 20.6bn.

India is looking at countries like Vietnam, Mauritius, Bangladesh, Philippines, Afghanistan and Oman to export Defense Equipment. The items that India is looking to export include bridging equipment, missiles, warships, Off-Shore Patrol Vessels (OPVs), Self Propelled Artillery Guns (SP Guns), Defense Minister said adding that Oman is keen to export border fencing equipment from India. Indian-made OPVs are already guarding Mauritian waters and it is in process of finalizing sale of warships to Vietnam. Asked whether India will export Brahmos (the supersonic cruise missiles) to Vietnam, the defence minister said. "Vietnam is a friend, I will not confirm the nature of the missiles to be exported. We are, however, helping build capabilities," he said. Earlier, Vietnam has shown keen interest in buying the Brahmos from India.

"India has developed a lot of equipment and technologies but no one really applied their mind to export them," the defence minister said. "The private sector has developed artillery guns and once need of the Indian Army is met, these can be exported." The rise in export of defense equipments is despite the list of items included in the "defence equipment list" being cropped. It is "only one third of the original list," Parrikar said. The push in defence exports is accompanied by increased production of the Ordnance Factory Boards (OFB) and the Defence

Public Sector Units (DPSU). In the last two years, production in the OFBs and DPSUs has shot up by over 25%.

■ Govt-Govt deals leading to quicker Defense procurement vs global tenders

Indian MoD has shown preference for govt.-to-govt. (G2G) deals instead of direct commercial negotiations with companies producing armaments over the last 2 years. Some of these major G2G deals include procurement from France, US, Japan and Russia. Key agreements signed in Oct-2016 include deals under which India would procure Russian S-400 Triumf missile systems that can be used against Aerial targets within a 400km range, joint manufacture of Russian Kamov 226T helicopters, and procurement of 4 11356 frigates for Indian Armed Forces. India in Dec-2016 signed \$ 750mn Foreign Military Sales contract for importing 145 BAE Systems' M777 lightweight Howitzers from US.

India signed contract to procure 245 Stringer air-to-air missiles as well as launchers and related engineering support services from Raytheon as part of wider FMS agreement between India and the US, worth \$ 3.1bn, which included combat helicopters, weapons, radars and electronic warfare suites in Mar-2016. India also requested US government to supply 22 Harpoon missiles for \$ 81mn from Boeing under FMS program in Sep-2016. Boeing also agreed to offer KC-46 aerial tanker through FMS route.

India signed € 7.87bn contract with France for 36 Rafale fighter in Sep-2016. Indian government is likely to choose G2G path for acquisition of 12 Japanese US-2 amphibious aircraft for the Navy for US\$ 1.4bn.

■ Parrikar bypasses Rifle tender Quicksand

Perturbed by repeated failure to purchase 44,000 close quarter battle (CQB) carbines, a crucial weapon for Indian Army for its counter-terrorism operations in Kashmir Valley, Mr. Parrikar-led Ministry of Defence (MoD) has decided to directly buy them instead of opting for global tendering process. For last 2 decades, Army has been battling to replace its British-era carbines, sub-machine gun or sten gun, which were retired long ago. But each time the selection process gets stuck on allegations of corruption and favoritism.

“With repeated failure to procure it through the global tendering process, the ministry has to go for direct government-to-government sale for buying the weapon. It will speed up the acquisition process and will rule out allegations of corruption,” a top ministry official said. MoD has proposed an agreement under foreign military sales with a country for buying 10,000 such carbines directly. Remaining lot can be manufactured here with production license to meet Army's requirement.

In 2008, Army had issued global tender to replace 1944 vintage CQB, original request was sent to 28 companies. 5 responded. After 8 years of deliberations and trials, the competition boiled down to Italian Beretta and Israeli Weapon Industry.

■ Rs 50bn Made-In-India Howitzer to get nod from Modi

PM Modi-led Cabinet Committee on Security is expected to discuss Rs 50bn proposal to acquire 100 Made-in-India Vajra self-propelled artillery howitzers for Indian Army. All formalities related to the procurement have been completed.

K9 Vajra-T, the 155-mm/52-caliber self-propelled howitzer, has been co-developed by L&T and Samsung, and had cleared the evaluation trials and completed the contract negotiations in 2016. Last howitzers India procured was in 1980s during Rajiv Gandhi government which was marred by Bofors scam and kickbacks paid for bagging the contract. After the scam, several attempts by Army to procure any artillery gun failed for various reasons over last 3 decades. But now, the Corps of Artillery in Army is set for major modernization as they are set to induct as many as 360 howitzers in next 3-4 years.

Corporate News:

■ Center clears 26% strategic sale in BEML

Cabinet has given in-principle approval to sell 26% stake for strategic disinvestment in Defense Equipment manufacturer BEML. This strategic disinvestment at closing price of Rs 1,000/share would fetch the exchequer over Rs 10bn.

On completion of such strategic divestment, Government of India's stake would decline from 54.03% to 28.03%. The BSE Filing by the company says that "the said shareholding would be sold to strategic buyer/s to be identified by Government of India by following the due procedure.

Established in May-1964, BEML operates across 3 business verticals- Mining and Construction Equipment, Rail and Metro and Defense and Aerospace. BEML is under the administrative control of Defense Ministry and provides equipment support to Indian Army and other Defense forces by manufacturing variants of Tatra vehicle for all-terrain operations. It also supports Aerospace operations by supplying ground support equipment, such as, Aircraft Towing Tractor, Multi-Purpose Weapon Loader, and Crash Fire Tender.

Our View:

We see this development to be positive for BEML in long-run, as the strategic investor would look at BEML investment to fill gaps in their product offerings, diversify and scale their business. Strategic investor would also look for areas to bring operational efficiencies in to the business.

In the backdrop of such divestment, strategic investor would look at the following challenges/ need clarity on: (1) Management control, (2) resistance from BEML trade unions, and (3) acquisition price.

We are of view that it could be tough for strategic Defense player willing to invest in BEML, as the company just gets ~11% of its revenues (as of FY2016; exc. Defense spare parts) from Defense segment. Considering that Construction & Mining Equipment industry is already crowded and all major players in Metro and Rail Coach Space are already in India, only a highly diversified player with long-term vision could look at this strategic acquisition.

Unless more clarity emerges on this new strategic investor, their long-term vision and role within the organization, we expect stock to remain volatile.

■ Premier Explosives receives order from ISRO for Motor used in PSLV

Premier Explosives Ltd (PEL) received an order on Jan 04, 2017, from ISRO (Indian Space Research Organization) for the production of PSOM-XL Developmental Motor for use in the Polar Satellite Launch Vehicle (PSLV). On receipt of this order, PEL has forayed into the niche-Space sector, which is a significant development.

Our View:

PEL at 2QFY2016-end reported OB of Rs 2.7bn (OB/LTM sales ratio at 1.3x). Since, then PEL has reported 2 order wins worth Rs 609.7mn. These order wins include, (1) Rs 277.9mn order from Bharat Dynamics Ltd, (2) Rs 331.8mn order from Ministry of Defense. These order new wins give improved visibility about the revenue growth prospects of the company.

Upcoming Defense Bids:

■ Bids invited for Active Electronically Scanned Array (AESA) radars

Under Ministry of Defense's directions, India's sole combat aircraft manufacturer, Hindustan Aeronautics Ltd. (HAL), released global Requests for Quotations (RFQ) for procurement of state-of-the-art electronically scanned array radars and electronic warfare self-protection jammer pods for forthcoming modified version of the indigenously developed Light Combat Aircraft Mark-1A aircraft.

Under fast-track program, ~100 Active Electronically Scanned Array (AESA) radars will be bought at cost of \$1.85bn, and bids have been issued to Elta (Israel), Raytheon and Northrop Grumman (US), SAAB (Sweden), Thales (France) and Rosoboronoexport (Russia).

In addition, 100 electronic-warfare jammer pods will be procured from overseas at cost of \$200mn, and bids have been sent to Elta, Raytheon, Northrop Grumman, SAAB, Thales, Rosoboronoexport, Indra (Spain) and Leonardo-subsiary Finmeccanica (Italy).

All global bids will be asked to submit price quotations before Feb. 15, and the final selection of 2 systems will be made before April, 2017.

■ **RFI to purchase 15,000 night vision devices (NVDs) for rocket launchers, 5,000 NVDs for medium machine guns, over 125,000 for other small handheld arm**

Indian Army plans to soon place Request for Information (RFI) for the purchase of 15,000 night vision devices (NVDs) for rocket launchers, 5,000 NVDs for medium machine guns and more than 125,000 for other small handheld arms. Indian Army is expected to spend approx. \$3.2bn for the purchases.

In the early part of Dec-2016, Indian Army had already invited global bids for NVDs for long range LMGs and 1,400 Uncooled Thermal Imager based Driver's Night Sight (DNS) with fusion technology for Russian-origin T-90 tanks. Army requires range of detection of human target at minimum 1,000m.

These recently floated RFIs are being considered as highly ambitious, as this technology is not available in India. Ordnance Factory Board (OFB) claims to manufacture Image Intensification night sights for LMGs, whereas Indian Army is seeking thermal image based technology. RFI's clearly tell that DNS as form-fit replacement for existing Image Intensifier Sights currently used in the T-90 tanks. Defense experts point out that, possibly the RFI is over optimistic and at the RFP stage some changes with downward range could be made.

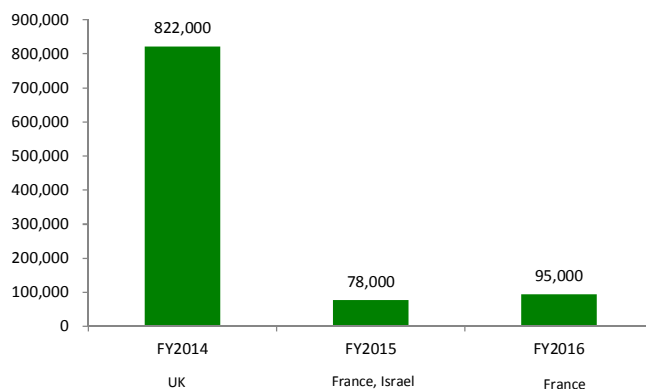
Market Opportunity: In Nov-2016, Indian government approved the army to purchase 464 T-90 main battle tanks from Russia at cost of over \$2.1bn. The T-90 is the premier battle tank of the Indian Army, which plans to have over 2,000 of these by 2020. The tanks will mostly be manufactured at India's OFB, which also produces other Russian tanks like, T-72. The T-90, is currently the most modern tank in the Russian Ground Forces, and will replace Indian Army's ageing fleet of T-72s.

■ **Quotes requested from 7 payers for Electronic Warfare (EW) self-protection suites**

Bids have been invited from 7 Global players, Elbit Systems and Elta Systems (both Israel), Saab (Sweden), Thales (France), Elettronica.p.a (Italy), Raytheon (US) and Indra Systems (Spain). This is after India asked the Russian vendor (Rosoboronexport) to quote for AESA radars but overlooked it while asking for participation in the tender for EW self-protection jammer pods. Value of EW systems tender is worth \$ 200mn and the bid winner would be selected by April-2017.

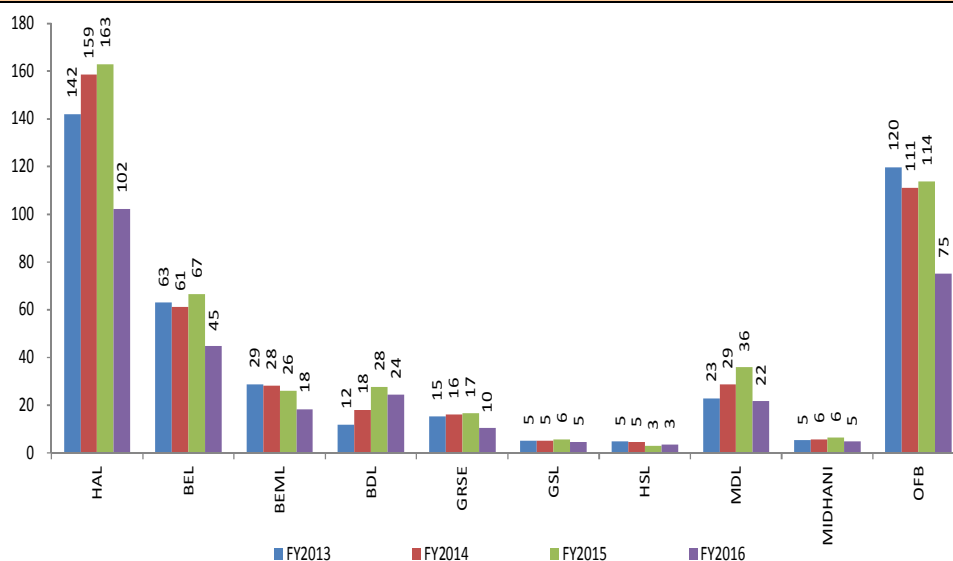
Hindustan Aeronautics Limited (HAL), the designated local assembler of Tejas, will purchase a total of 83 EW suites for series production that is expected to start from 2019. The tender has strict conditions for transfer of technology and local manufacturing. India has also sought exclusive worldwide sales and product support rights for the LCA MK1A aircraft or its variants fitted with the EW suite. It will also have the right to use the suite or its adapted versions on any other airborne platform designed or produced by HAL for use by Indian defense customers.

FDI flow in Defense (in \$)



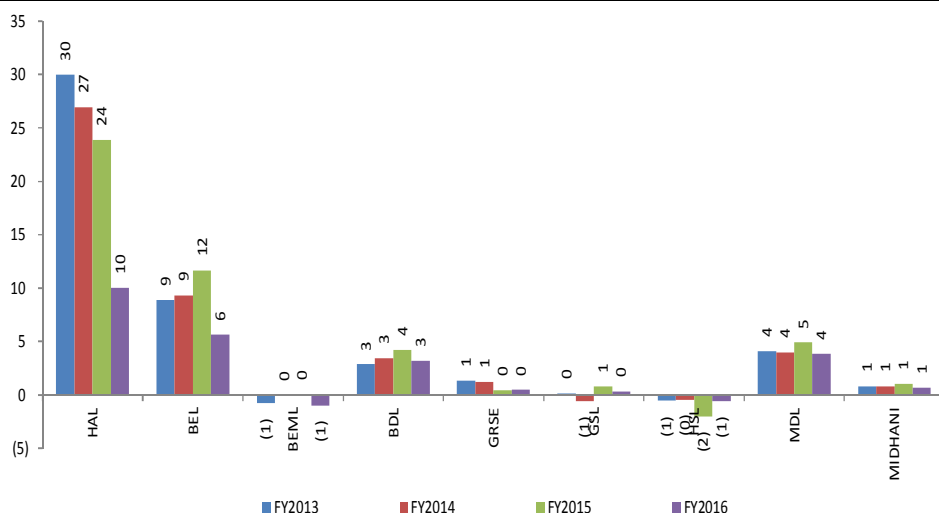
Source: IndiaNivesh Research, MOD

DPSU's - Value of Production (Rs bn)



Source: IndiaNivesh Research

DPSU's - PAT (Rs bn)



Source: IndiaNivesh Research

Benefits of Off-set Clauses likely to flow from FY2018E onwards

Sl.No.	Project Details	Country	Off-set Clause
1	Rafale Deal (deal value- Rs 600bn)	France	50% offset clause to be implemented (value at Rs 300bn)
2	145 M777 Howitzer Guns (deal value- Rs 50bn)	USA	To the extent of \$200mn (i.e. at ~Rs 14bn)

Source: IndiaNivesh Research

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