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Trivandrum
S. Radhakrishnan
E: mailradhakrishnan@gmail.com
Berlin, Germany
Detlef Becker
E: dw.becker@arcor.de
M: +49 170 626 053
Paris, France
Marie-Thérèse Bonfigli
E: mt.bonfigli@indavia.com
M: +33 (0)6 89 20 95 68
Moscow, Russia
George Smirnov
E: g.smirnov@yandex.ru
M: +7 (906)711-03-51 / (495)644-17-33
London
Ezhil Bharathi S.A.
E: ezhil.bharathi@aeromag.in

Sunny Jerome
Managing Editor
Praveeth M.
Associate Editor

Printed and Published by Sunny Jerome, Managing Editor, Aeromag Asia, Aeromount Media, Aeronautical Society of India Building, Suranjandas Road, Off Old Madras Road, Bangalore 560075, Karnataka, INDIA
Call: +91 94490 61925
Tel: +91 80 25284145 / 25604055
Email: info@aeromag.in
www.aeromag.in

Editorial

For Publishing Articles, Advertisements
Editor, Aeromag Asia
Aeronautical Society of India Building
Suranjandas Road, Off Old Madras Road,
Bangalore 560075, Karnataka, INDIA
Call: +91 94490 61925
Tel: +91 80 25284145 / 25604055
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Content

Take-off Time at MAKS-2017

Partnering for ‘Make in India’

A ir shows, exhibitions and conferences being held on the occasion provide a very efficient forum for showcasing advances in design, new products and technologies for buyers, industries, R&D and design organisations. Russian airshow is one such important opportunity. Russia has an enviable record for excellent achievements in the field of advanced technology civil and military aircraft, helicopters and engines. India has a strong and sustained relationship with Russia and Russian aircraft industries. Indian armed forces possess a sizeable number of MiGs and SU-30s as well AN-32 and other transport aircraft and several Russian helicopters. Technology transfer and license production of MiGs and SU-30 have been mutually beneficial and has established indigenous manufacture of aircraft, engines and their aggregates such as instruments, mechanical and electrical equipments. Setting up of a Joint Venture Company – ‘Indo Russian Aviation Ltd (IRAL)” between HAL and a group of Russian aerospace organisations have further strengthened the relationship. With revised Defense Procurement Policy and Prime Minister’s ‘Make in India’ mission, there are new opportunities for the Russian aerospace industries to invest in India in collaboration with defense public sector and with private sector industries including Small and Medium Enterprises (SMES).

Collaboration between Indian small and medium scale industries and the Tier-1 and Tier-2 industries in Russia for aerospace equipment will be mutually beneficial. The new projects such as multi-role transport aircraft, heavy lift helicopters, and future fighter aircraft are opportunities for continued partnership.

Society of Indian Aerospace Technologies and Industries (SIATI) with its mission of ‘Growth through partnership’, wish the delegates from India and the participants from Russia and other countries all the best to network for strategic collaboration by setting up design and manufacturing units in India for Indian and global requirements.
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ADMS is an ideal platform for meeting and sharing the capabilities and expectations of Indian industries, updating technologies and exploring opportunities in the ever-evolving Defence and Aerospace arena. Representatives from Defence PSUs, Defence and Civil Aviation Ministry, DRDO, private Industry, state governments, certifying authorities and Armed Forces will take part and interact in the event envisaged for creating a vibrant manufacturing industry in the country.
Prime Minister Narendra Modi has made a historic three-day visit to Israel during which seven agreements, including those on key sectors like space technology, industrial development, agriculture and water conservation, were signed. This was the first visit to Israel by an Indian Prime Minister.

Modi’s Israeli counterpart Benjamin Netanyahu stressed on “shared priorities” and a partnership that “can help global peace and stability.” Terming India and Israel “sister democracies” Netanyahu described the burgeoning cooperation between the two countries as a “match made in heaven.” “This is a marriage made in heaven, but we are implementing it here on earth,” Netanyahu said.

After extensive talks, India and Israel inked seven agreements in key sectors. “Our discussions focused on not just areas of bilateral opportunities but also how our cooperation can help the cause of global peace and stability,” said Modi.

Unveiling the seven Memorandums of Understanding (MOUs), Netanyahu said, “We are making history together with my friend Prime Minister Modi and this is deeply moving moment for me.”

The seven MOUs includes a bilateral Technology Innovation Fund worth $40 million for research in industrial development. India and Israel also decided to work together to reform water utility and the agriculture sector in India. “We agreed that efficiency of water and resource use; water conservation and its purification; productivity increases in agriculture are key areas in deepening our bilateral cooperation,” said the Indian Prime Minister.

Netanyahu and Modi also reiterated their commitment to combat the forces of terrorism and radicalisation on a regional as well as global scale.

Before flying to Israel on the historic visit, in a series of Facebook posts, Prime Minister Modi said: “I will be visiting Israel on 4-6 July, 2017 upon invitation of Prime Minister Benjamin Netanyahu. As the first Indian Prime Minister to do so, I am greatly looking forward to this unprecedented visit that will bring our two countries and people closer. This year, India and Israel are marking 25 years of our diplomatic relations. I will have in-depth talks with Prime Minister Benjamin Netanyahu on the full spectrum of our partnership and strengthening it in diverse fields for mutual benefit. We will also have the chance to discuss major common challenges like terrorism. I will meet President Reuven Rivlin - who I had the pleasure of receiving in New Delhi in November last year, as well as other senior leaders.

“My programme during the visit gives me an opportunity to engage with a cross-section of Israeli society. I am particularly looking forward to interacting with the large vibrant Indian diaspora in Israel that represents an enduring link between our two peoples.

“The economic side, I will join with leading Indian and Israeli CEOs and start-ups to discuss our shared priority
Prime Minister, Shri Narendra Modi and the Prime Minister of Israel, Mr. Benjamin Netanyahu visiting the Technology Exhibition.

of expanding business and investment collaboration on the ground. In addition, I hope to get insights into Israel’s accomplishments in technology and innovation through on-site visits.

“During my stay, I will visit the Yad Vashem Memorial Museum to honour the memory of the victims of the holocaust that counts among the greatest tragedies in human history. Later, I will also pay my respects to the courageous Indian soldiers who laid down their lives during the liberation of Haifa in 1918.”

Prime Minister Narendra Modi subsequently arrived at Ben Gurion Airport, Tel Aviv. As part of an elaborate official welcome ceremony, Prime Minister of Israel Benjamin Netanyahu received Modi on arrival. Prime Minister Modi inspected a ceremonial Guard of Honour.

Netanyahu began his speech with the Hindi words, He said the Prime Minister is welcomed with open arms and even the sky is not the limit for cooperation between the two countries. He described the Prime Minister as a great leader and a “world leader.”

Speaking on the occasion, Modi began with the Hebrew greeting “Shalom le’kulam.” He went on to add in Hebrew “I am delighted to be here in Israel.” He recalled the Israeli operation at Entebbe, exactly 41 years ago on the 4th of July, when Prime Minister Netanyahu’s elder brother had laid down his life while saving many Israeli hostages.

“In our path of sustained high growth, and all around development, India counts Israel among its important partners,” said the Prime Minister.

Alongside building a partnership for shared economic prosperity, we are also cooperating to secure our societies against common threats such as terrorism,” said Modi.

Expressing his keenness to meet the Indian diaspora in Israel, Modi said Jews of Indian origin have enriched both our societies.

“In our path of sustained high growth and all around development, India counts Israel among its important partners. The need to rely on science, technology, innovation, and higher technical education to overcome our developmental challenges is common to both of us. These domains also bring together the creative energy and ideas of the highly skilled youth and entrepreneurs of the two countries. Alongside building a partnership for shared economic prosperity, we are also cooperating to secure our societies against common threats such as terrorism,” said Modi.

“My visit marks a path-breaking journey of engagement. A journey that we are excited to undertake together for the good of our people and societies.
The Prime Minister, Shri Narendra Modi leaves for Haifa to pay homage to Indian soldiers at Haifa, liberated in WWI, in Israel on July 06, 2017. The Prime Minister of Israel, Mr. Benjamin Netanyahu is also seen.

As we march together, a strong and resilient partnership with Israel will be my intent and focus,” said the Indian Prime Minister.

Meanwhile, several MoUs were signed during Modi’s visit to Israel. Among them was a Strategic Teaming Agreement for Industrial Cooperation for UAV Systems signed by Israel Aerospace Industries (IAI) with Dynamatic Technologies and Elcom Systems in India. IAI and Wipro Enterprises (P) Limited entered into an agreement to collaborate in the manufacture of composite aero structures in India, including establishing a facility for this purpose. As part of India’s Prime Minister Narendra Modi’s Israel visit, executives from IAI and Kalyani Strategic Systems (KSSL), the defence arm of a Kalyani Group, signed an MoU addressed to expand the joint venture that the companies are establishing. The new MoU covers the establishment of a maintenance centre for selected advanced air defence systems in Hyderabad in the state of Telangana in India.

Strengthening the cultural ties between the two nations, Modi presented Netanyahu replicas of two sets of relics from Kerala that are regarded as key artifacts in the long Jewish history in India. They comprise two different sets of copper plates that are believed to have been inscribed in 9-10th century C.E.

The first set of copper plates is a cherished relic for the Cochini Jews in India. It is regarded as a charter describing the grant of hereditary royal privileges and prerogatives by the Hindu King, Cheraman Perumal to the Jewish leader Joseph Rabban. According to traditional Jewish accounts, Joseph Rabban was later crowned as the Prince of Shingli, a place in or equated with Cranganore. Cranganore is where Jews enjoyed religious and cultural autonomy for centuries, before they moved to Cochin and other places in Malabar.

The second set of copper plates is believed to be the earliest documentation of the history of Jewish trade with India. These plates describe the grant of land and tax privileges by the local Hindu ruler to a church and oversight of trade in Kollam to West Asian and Indian trading associations. West Asian association included Muslims, Christians, Zoroastrians, as also a group of Jews. In addition, Prime Minister also presented PM Netanyahu a Torah scroll donated by the Paradesi Jewish community in Kerala. Handwritten over a hundred years ago, the scroll had been dedicated to the Paradesi Synagogue in Kochi that had been built in 1568.

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Indian Prime Minister Narendra Modi and Russian President Vladimir Putin, during a recent meeting in St. Petersburg, agreed to push for “qualitatively higher level of military-to-military cooperation” within the framework of the ‘Special and Privileged Strategic Partnership’ between the two countries.

This is a continuation of the long history of strong and effective collaboration and cooperation in defence between the two great nations. In 2017, India and Russia are celebrating 70 years of diplomatic relations. The relations were established even before India’s Independence. During the Cold War, the stand-off between the camp led by the USA and that of the USSR influenced global policy, including the Soviet-Indian relations. India, as one of the founders and a tall leader of the Non-Aligned Movement, always stood against imperialism and became a natural ally of the USSR.

The Soviet Union soon became the biggest defence supplier to India. Defence cooperation, in fact, is an important aspect of the India-Russia strategic partnership. It is guided by the Programme for Military-Technical Cooperation signed between the two countries. It enshrines the interest of the two governments to further develop and strengthen the military and technical cooperation in the sphere of research and development, production and after-sales support of armament systems and various military equipment. The two sides also have periodic exchanges of armed forces personnel and military exercises. India and Russia have an institutionalised structure to oversee the complete range of issues of military-technical cooperation. The India-Russia Inter-Governmental Commission on Military-Technical Cooperation (IRIGC-MTC), set up in 2000, is at the apex of this structure. The Defence Ministers of the two countries meet annually, alternately in Russia and India, to discuss and review the status of ongoing projects and other issues of military-technical cooperation. There are two Working Groups and seven Sub-Groups under the IRIGC-MTC, which review and discuss an array of military technical issues. In 2008, a high-level committee called the High-Level Monitoring Committee (HLMC) was set up with Defence Secretary from the Ministry of Defence of India and Director of Federal Service for Military Technical Cooperation (FSMTC) from the Russian Federation as its co-chairs.

Over the years, cooperation in the military-technical sphere has evolved from a purely buyer-seller relationship to joint research, design development and production of state-of-the-art military platforms. Production of the BrahMos cruise missile is an example of this trend. The Indo-Russian Inter-Governmental Commission (IRIGC) is the main body...
After the break-up of the Soviet Union, Russia inherited the role of being the biggest defence supplier of India. In 1997, Russia and India signed a ten-year agreement for further military-technical cooperation. That agreement encompassed a wide range of activities, including the purchase of completed weaponry, joint development and production, and joint marketing of armaments and military technologies. Today, the cooperation is not limited to a buyer-seller relationship but includes joint research and development, training, service to service contacts, including joint exercises.

Earlier, a co-operation agreement was signed in December 1988. It resulted in the sale of a multitude of defence equipment to India and also the emergence of the countries as development partners. India and Russia have several major joint military programmes, including BrahMos cruise missile programme, 5th generation fighter jet programme, Sukhoi Su-30MKI programme, Ilyushin/HAL Tactical Transport Aircraft etc. Additionally, India has purchased/leased various military hardware from Russia: S-400 Triumf air defence systems; Kamov Ka-226 - 200 to be made in India under the Make in India initiative; T-90S Bhishma with over 1,000 to be built in India; Akula-II nuclear submarine; INS Vikramaditya aircraft carrier programme; Tu-22M3 bombers; US$900 million upgrade of MiG-29; Mil Mi-17 e, Ilyushin Il-76 Candid.

Both countries signed a defence deal worth $2.9 billion during President Putin’s visit to India in December 2012. The 42 new Sukhois, to be produced under licence by defence PSU Hindustan Aeronautics Limited, will add to the 230 Sukhois earlier contracted from Russia. Overall, the price tag for the 272 Sukhois stands at over $12 billion. The medium-lift Mi-17 V5 helicopters (59 for IAF and 12 for Home Ministry/BSF) will add to the 80 such choppers already being inducted under a $1.34 billion deal inked in 2008.

The biannual joint exercises between the two Armed Forces are held under the title ‘INDRA’. The word ‘INDRA’ is a portmanteau of the participants’ respective countries. Initially, the exercises involved only the Navies of both nations.

A vision document, issued after the talks between Prime Minister Modi and President Putin said: “We will upgrade and intensify this (military) cooperation, through joint manufacture, co-production and co-development of military hardware and military spares, with increasing reliance on the adoption and sharing of future technologies, in compliance with the obligations of the sides under the existing agreements on military-technical cooperation.”

The two countries said bilateral defence cooperation is built on strong mutual trust and it will grow further. “We will work towards a qualitatively higher level of military-to-military cooperation. We will continue holding regular joint land and sea military exercise, and training in each others’ military institutions,” the document said.

The two countries will hold first ever tri-services exercise ‘INDRA’ later this year. In one of the latest developments, India’s Defence Minister Arun Jaitley and his Russian counterpart Sergei Shoigu signed a military cooperation roadmap during the 17th meeting of the Russian-Indian Inter-Governmental Commission for Military-Technical Cooperation which took place in Moscow.

“We are determined to go ahead with building up cooperation in order to enhance the combat readiness of both countries’ armed forces and to exchange experience in various defence-related matters,” the Russian Defence Minister said after signing the deal.

The roadmap is to become the basic document in planning bilateral contacts. Shoigu also said that with India’s accession to the Shanghai Cooperation Organisation, new venues for cooperation will be possible.

“Over the past years, Russia and India have been able to develop particularly close friendly relations, consistent and trust based,” said the Russian Defence Minister.
India and Russia are also set to upgrade joint military exercises. "Military cooperation is a major component and platform of Russian-Indian strategic interaction. Joint military exercises are the most important aspect of this," said Shoigu.

"This year's iteration of the Indo-Russian INDRA bilateral military exercise will for the first time involve personnel from all three service branches from both countries. Russia and India have held the INDRA exercise since 2003," he said.

One of the major recent stumbling blocks to deeper Indo-Russian military ties remains defence industry cooperation. India-Russian defence relations had somewhat cooled over the last months with the cancellation of an aircraft deal and continuing disagreements over the co-development and production of the Sukhoi/HAL Fifth Generation Fighter Aircraft (FGFA), known in India as the Perspective Multi-role Fighter (PMF).

However, Jaitley made an effort to mend fences by encouraging Russian defence firms to continue to continue their engagement in India. "I invite Russian companies to come forward with proposals for technology transfer to Indian companies and facilitate manufacturing of more advanced components and subsystems. This can start with platforms of Russian origin where the requirement is in large numbers and is recurring in nature," he said. This is in the backdrop of India releasing a new policy that will allow private firms to enter into agreements as 'Strategic Partners' with non-Indian original equipment manufacturers (OEMs) for certain types of military systems including missiles, tanks, aircraft, and submarines as part of the Indian government's 'Make in India' initiative.

"Here again, Russia as India's largest, oldest and most trusted partner in defence hardware and equipment, would have a comparative advantage in partnering with Indian companies for realising 'Make in India' potential in defence production," said Jaitley.

Recent defence deals between Russia and India include signing an agreement for India to lease an inactive Akula-class multi-purpose nuclear submarine. Rosoboronexport, Russian Helicopters, and India's Hindustan Aeronautics Limited (HAL) have also agreed to create a joint venture for the production of Ka-226T helicopters.

Rosoboronexport, a member of Rostec, took part in the 17th meeting of the Indo-Russian Intergovernmental Commission on Military and Technical Cooperation. The meeting co-chaired by Defence Ministers S. Shoigu of Russia and Arun Jaitley of India took place in Moscow.

The permanent Indo-Russian Intergovernmental Commission on Military and Technical Cooperation is an effective tool for cooperation between the two countries. The fact that this platform is regularly used to discuss the most urgent issues on the agenda and the high level of co-chairs suggest unprecedented attention that Russia and India pay to such a sensitive area as military and technical cooperation.

"In effect, military and technical cooperation became one of the basic elements of the Indo-Russian ties long ago. And this is partnership in every sense of the word, for we have traditionally been transferring technologies for production of unique Russian military equipment within the scope of our contacts with India's facilities. Today's portfolio of orders of Rosoboronexport in India is worth way more than $4 billion. And this does not include documents pending signature. There is no doubt that in the next year or two the aggregate volume of contracts signed between India and Russia in line of military and technical cooperation since 1960 will breach the $70 billion barrier," said Director General of Rosoboronexport Alexander Mikheev.

Today's military and technical cooperation complies in every respect with India's Make-in-India policy aimed at developing the national defence industry of the country.

All military and technical cooperation planning that India and Russia do today is long-term. The current programme implemented by the partners covers the years 2011-2020. This succeeded the 2001-2010 programme.

Rosoboronexport’s Portfolio in India Exceeds $4 Billion
Take-off Time at MAKS-2017

The International Aviation and Space Show is held at the fly ground of Gromov Flight Research Institute, Zhukovsky, Moscow Region in Russia. The organizers of the event are the Ministry of Industry and Trade of the Russian Federation and Rostec Corporation. The official sponsor of the exhibition is Aviasalon JSC.

Earlier, Mr. Oleg Bocharov, Deputy Minister of Industry and Trade of the Russian Federation, Mr. Viktor Kladov, Director for International Cooperation and Regional Policy of Rostec State Corporation, and Mr. Alexander Levin, General Director of Aviasalon JSC, explained the preparations for the event. Mr. Bocharov said the current year would become a landmark for Russia’s aircraft construction. “We demonstrate our achievements pointedly, clearly, and unequivocally at the event,” he said. The Deputy Minister said that flight tests of passenger liner MS-21, multipurpose helicopter Ka-62, and fighter MiG-35 had been booked, while chalets were booked in full. “More than 770 participants have already applied, among them approximately 140 participants represent other countries, 30 in total,” he explained. Regarding the flight programme he said: “We are reviving the tradition of receiving foreign aerobatic teams of jet-propelled planes”, implying participation of the aerobatic team Al Forsan from UAE at MAKS-2017.

He said 84 aircraft in total are involved in the flight programme, while 116 more aircraft demonstrate on static stand. Eight aerobatic teams are showing their skills. Among the aircraft performing at the show is the wide-body Airbus A350-900 which is conducting demonstration flights. The liner has a unique livery, symbolizing the widespread use of composite materials in its design and is equipped with a passenger cabin.

The A350-900 represents a new generation of wide-body aircraft, which began commercial operation in January 2015. Now, 12 airlines have the A350-900 in their flying stock. The first company to order the A350-900 was Aeroflot – Russian Airlines. The total number of firm orders for aircraft of A350 family is 853.

As part of the MAKS air show, a protocol was signed on the participation of Al Forsan, the United Arab Emirates Air Force’s flight display team, as agreed during negotiations between Aviasalon JSC, the official organizer of the 13th International Aviation and Space Salon MAKS-2017, and the command of the aerobatics group. “It is a great honour for us to perform at MAKS-2017 together with the Swifts and the Russian Knights, legendary Russian aerobatic teams”, said Colonel Nasser Al Obaidli on the results of the negotiations. Al Forsan (The Knights) is the aerobatics demonstration team of the United Arab Emirates Air Force. The team, formed in 2010, flies seven Aermacchi MB-339 jet aircraft.

MAKS was organised by the Russian Ministry of Industry and Trade until 2009. The first show, Mosaeroshow-92, was held in 1992. Since 1993, the air show was renamed as MAKS and is held biennially on odd years. MAKS is an important event for Russian aviation. Although it started mainly as an entertainment event, the show soon became a marketplace where Russian aerospace companies could negotiate export contracts and Russian air carriers could make foreign contacts.

The air show’s history traces back to 1911, when one was held in Saint-Petersburg. The USSR held annual air shows on the Tushino airfield in Moscow 22 years later. Its history in Zhukovsky, however, began much later with the Engineering Show (TsAGI). The air show usually opens with the attendance of the President of Russia, followed by company talks, and concludes with aircraft demonstrations by aerobatic teams such as the Russian Knights, Swifts, and the foreign Patrouille de France as well as Freccia Tricolore.
Tula KBP (a part of High Precision Systems Holding) has developed Pantsir-ME, a naval missile and anti-aircraft artillery weapon system which the company says provides ultimate protection against modern air threats, including low-flying and small-size unmanned aerial vehicles. The naval weapon system Pantsir-ME and its forerunners Kashtan and Kashtan-M developed by the Tula KBP (part of the High Precision Systems Holding of Rostec State Corporation) are the only systems in the world that combine a powerful artillery armament, an effective multimode missile armament and an integrated radar-optical armament control system in a single turret mount. Equipped with two types of armaments, these systems have better characteristics of each individual armament type as compared to their analogues. The creation of the new weapon system Pantsir-ME provides reliable protection for ships against air threats with absolute probability virtually equal to 1, including protection against low-altitude anti-ship missiles and unmanned aerial vehicles. The key feature of the systems created by KBP is that they can first open fire on a target with missiles and then, in the dead zone of anti-aircraft missiles, use artillery armaments, if the target is not destroyed.

“One of the key imperatives in the strategy of Rostec weapons cluster is the development and creation of new weapons, including anti-aircraft missile systems. The development of the Pantsir-ME system is a consistent element in the implementation of this strategy. The creation of almost each primary system required brand-new high-tech solutions. As a result, the destructive potential of Pantsir-ME is 3-4 times higher than that of Kashtan-M,” said CEO of Rostec Sergey Chemezov. “Thus, the missile intercept zone has been increased from 10 to 20 km in length and from 3 to 15 km in height. All the stages of combat performance – from target search to firing –are performed in motion. The combined use of radar and optical control systems provides an all-weather 24/7 operation. All the system processes are automated, the crew ensures only supervision and control.”

High engagement effectiveness is determined by the new features implemented in the Pantsir-ME system. The modular design remains intact: One command module and up to four combat modules depending on ship type, which allows a flexible defence. The combined missile and artillery armaments ensure an effective engagement of all types of targets within the whole range of field conditions and counter-weapons with a potential for further development until 2020 – 2025.

The combat module of Pantsir-ME includes a multifunction radar station with a phased antenna and an intercept missile with an engagement range of 20 km, which ensures simultaneous engagement of four targets, as well as an engagement of new types, updated anti-ship missiles and small-size air threats and surface targets. The combat module can work autonomously and as part of a cell of four modules. The system can be installed on ships with a displacement of 300 tonnes and more.

Sergey Viktorovich Chemezov
CEO, Rostec Corporation, Chairman of the Union of Russian Mechanical Engineers

Defence System against Naval, Aircraft Threats
Making the World Fly to Bahrain

Your Excellency, with just more than a year for the Bahrain International Air Show (BIAS) 2018, one of the most elite global business-to-business events, could you tell us about the preparations, major participants etc?

Preparations for the show are well underway. Over the past six to eight months we have attended a number of trade shows including Aero India, IDEX Abu Dhabi, IDEF in Turkey, the Airport show in Dubai, EBACE in Geneva and most recently the International Paris Air Show.

Whilst at these events, we have met with a number of global aerospace businesses and can confirm that, since early May, Airbus Group, Bell Helicopters, Boeing, Leonardo, Lockheed Martin, Thales, Safran, Saab, Sikorsky, Sky Prime Aviation, Otokar, Roketsan and Turkish Aerospace Industries, CFM, Saudi GACA, Saudi Airlines, Rolls Royce and UAC Russian will be participating at the show.

At the Paris Air Show, we also met with Ilyushin, Volga Dnepr and Boom Supersonic and will be hosting further meetings at MAKS with Rosoboronexport, Russian Helicopters, Rostec and SMEs companies.

With the show still over a year away, chalets are already 70% sold and we are experiencing high interest for the exhibition hall; so far we have sold approximately 50% and we expect to see increased sales as we move closer to the show.

His Excellency Kamal bin Ahmed Mohammed is Minister of Transportation and Telecommunications in the Kingdom of Bahrain, which will be hosting the Bahrain International Air Show (BIAS) 2018 during November 14 to 16, 2018. He holds overall responsibility of Bahrain’s transport infrastructure covering policy, regulation and the development and delivery of projects. H.E. Kamal bin Ahmed Mohammed is also Chief Executive of the Economic Development Board, the public agency with overall responsibility of attracting inward investment into Bahrain and supporting initiatives that help enhance the investment climate in the country. He holds a Bachelors in Civil Engineering from the University of Bahrain and a Masters in International Project Management from Leeds University.

Whilst busy engaged in the preparations for BIAS 2018, the Honorable Minister spoke to Aeromag on various topics including the ongoing arrangements for the airshow, India-Bahrain trade relations, Make-in-India programme, influence of the airshow on the economy of GCC countries and the impact of investments in aerospace sector in the region.

Could you explain what would be the main highlights of BIAS 2018?

With the show still over a year away on the aviation calendar, we can’t yet determine any deal announcements or product launches; however, supersonic aircraft, airships, UAVs, next generation aircraft and new technologies all featured heavily at my recent visit to the Paris Air Show and we hope to see the latest developments in these areas on display at BIAS18.

In organising the event, business networking is very much top of the agenda and key to the success of the show. We are co-ordinating our efforts to ensure our participants meet their target audience whether through the delegations programme or the many other networking events planned for the show including the on-floor presentation theatres, the Meet the Buyer event or the Manama Air Power Symposium which takes place the day before the show.

We have also doubled the size of the exhibition feature hall allowing for more international participation from supply chain businesses in national pavilions. Kallman Worldwide is supporting a US Partnership Pavilion, ADS and the UK Department for International Trade will be bringing a UK Pavilion and the DRDO will also be setting up an Indian Pavilion.

In the last edition of BIAS, India’s Indigenous Light Combat Aircraft Tejas built by Hindustan Aeronautics Limited made its international début. That was a reflection of the strong relations between India and Bahrain. Could we expect more such initiatives in the next edition of BIAS which would strengthen the relationship between the two nations further?

We were delighted that HAL chose BIAS to debut the Light Combat Aircraft Tejas in 2016 and understand that its participation at the show did elicit some enquiries about the aircraft.

During the 2016 show India’s External Affairs Minister Sushma Swaraj also visited and met with HM King Hamad bin Isa Al Khalifa to discuss a range of bilateral ties and enjoy the flying display.

We are already planning India’s participation at the BIAS18 and at Aero India this year it was confirmed that HAL, DRDO and ADA will all participate in the 2018 show with the view to demonstrating their latest home-grown aircraft and other new technologies.

Following the previous BIAS, how has business-to-business cooperation between companies in India and Bahrain grown? Could you give some details in this regard?

Bahrain and India have always maintained a friendly and stable relationship with diplomatic relations established at an Ambassadorial level since 1971. Relations are also characterised by continuous and cordial political and cultural exchanges.

Leading Indian companies have established offices and facilities in Bahrain which include Ion Exchange - a leading Indian company and one of India’s largest environment solutions
providers, Electrosteel which launched its new $6.6m warehouse in Bahrain in 2016, and the Confederation of Indian Industry (CII) which has established an office in Bahrain in 2014. Moreover, several agreements and MoUs were signed following His Majesty the King of Bahrain’s state visit to India in 2014. The discussions were on bilateral, regional and multilateral issues of mutual interest. The two sides agreed to further broaden and deepen the bilateral engagement in diverse fields of mutual interest. There was agreement on further enhancing high-level political exchanges, defence and security cooperation, trade and economic relations and people-to-people linkages.

With ‘Make in India’, the Indian Government is promoting manufacturing in India alongside investments and transfer of technology from abroad. How does your Excellency view the programme? What has been the response to it in Bahrain?

India is renowned for its leading role in technology and Bahrain has always looked to form partnerships with Indian companies to utilise their expertise. I believe that ‘Make in India’ is a great initiative to spread more awareness about these capabilities and encourage more companies to benefit from them. We have been pleased over the past few years to have welcomed numerous Indian companies at BIAS who have showcased their technology in aviation and I hope to see this continue at our next show.

Prior to BIAS 2018, another major Air Show hosted by a Middle-Eastern country, Dubai Air Show, will be held in November 2017. Could you tell us how have both these events impacted the countries in the region – regarding investments, especially in the aviation sector; trade; creation of jobs; and even tourism?

The aerospace industry has grown rapidly over the past few decades in the Middle East, not just as a result of growth in the domestic travel market but because the Middle East is now a strategic location for both international passenger travel and cargo using the region as a springboard between the East and West. Worldwide, aviation supports some 62.7 million jobs and generates $2.7 trillion in GDP. In the Middle East this translates to 2.4 million jobs and contributes $157.2 billion to the region’s GDP.

All GCC nations are responding to this demand witnessed by the many new airports under development including our own in Bahrain. However, forecasts suggest that even further investment is needed, particularly in training, air traffic management and safety.

As the fastest growing air show in the Middle East, the Bahrain International Airshow reflects that the aerospace industry in the region is set to grow for years to come and as business facilitators the show will be integral to that growth.

A S Kiran Kumar
Secretary, Department of Space, Chairman, Space Commission & Chairman, ISRO

GSAT-17, Cartosat-2, GSAT-19 and GSAT-9 were put into orbit within weeks by India. While GSAT-17 was launched from Kourou, French Guiana, the other satellites were deployed from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota

Continuing its glittering record in the space arena, India successfully launched several crucial satellites one after the other recently. They included the country’s latest communication satellite GSAT-17 which was inducted into the INSAT/GSAT system from Kourou, French Guiana, by Ariane-5 VA-238 launch vehicle.

Weighing 3,477 kg at lift-off, GSAT-17 carries payloads in Normal C-band, Extended C-band and S-band to provide various communication services. GSAT-17 also carries equipment for meteorological data relay and satellite-based search and rescue services being provided by earlier INSAT satellites.

GSAT-17 is designed to provide continuity of services on operational satellites in C-band, Extended C-band and S-bands. GSAT-17 was launched into a Geosynchronous Transfer Orbit (GTO) by Ariane-5 VA-238. After its injection
into GTO, ISRO’s Master Control Facility (MCF) at Hassan took control of GSAT-17 and performed the initial orbit raising manoeuvres using the Liquid Apogee Motor (LAM) of the satellite, placing it in circular Geostationary Orbit.

The designed in-orbit operational life of GSAT-17 is about 15 years. GSAT-17 became India’s third communication satellite to successfully reach orbit in two months.

After its lift-off at 2.45 am IST on June 29, 2017 and a flight lasting about 39 minutes, GSAT-17 separated from the Ariane 5 upper stage in an elliptical GTO with a perigee (nearest point to Earth) of 249 km and an apogee (farthest point to Earth) of 35,920 km, inclined at an angle of three degrees to the equator.

Earlier, the Polar Satellite Launch Vehicle, in its 40th flight (PSLV-C38), launched the 712 kg Cartosat-2 series satellite for earth observation and 30 co-passenger satellites together weighing about 243 kg at lift-off into a 505 km polar Sun Synchronous Orbit (SSO). PSLV-C38 was launched from the First Launch Pad (FLP) of Satish Dhawan Space Centre (SDSC) SHAR, Sisarankota. This is the seventeenth flight of PSLV in ‘XL’ configuration (with the use of solid strap-on motors).

The co-passenger satellites comprise 29 Nano satellites from 14 countries namely, Austria, Belgium, Chile, Czech Republic, Finland, France, Germany, Italy, Japan, Latvia, Lithuania, Slovakia, United Kingdom and United States of America as well as one Nano satellite (NIUSAT) from India. The total weight of all these satellites carried onboard PSLV-C38 is about 953 kg. The 29 international customer Nano satellites were launched as part of the commercial arrangements between Antrix Corporation Limited (Antrix), a Government of India company under Department of Space (DOS) and the commercial arm of ISRO and the international customers.

The co-passenger satellites were launched by GSLV Mk III-D1 from the Second Launch Pad (SLP) at Satish Dhawan Space Centre. The Launch Mass was 3,136 kg and Mission Life: 10 years. The launch vehicle was GSU/Lk-III-D1/GSAT-19 Mission. It is a Communication Satellite. The orbit type is GEO. GSAT-19 satellite with a lift-off mass of 3,136 kg is configured around the ISRO’s standard I-3K bus. GSAT-19 carries Ka/Ku-band high throughput communication transponders. Besides, it carries a Geostationary Radiation Spectrometer (GRASP) payload to monitor and study the nature of charged particles and the influence of space radiation on satellites and their electronic components. GSAT-19 also features certain advanced spacecraft technologies including miniaturised heat pipe, fibre optic gyro, Micro Electro-Mechanical Systems (MEMS) accelerometer, Ku-band TTC transponder, as well an indigenous Lithium-ion Battery.

Yet another satellite launched is the South Asia Satellite GSAT-9, which is a Geostationary Communication satellite. The primary objective of GSAT-9 is to provide various communication applications in Ku-band with coverage over South Asian countries.

GSAT-9 is configured around the ISRO’s standard LAM and the international customers. PSLV-C38/Cartosat-2 Series Satellite Mission was launched on June 23, 2017. A few days ago, on June 5, GSAT-19 was launched by GSLV Mk III-D1 from the Second Launch Pad (SLP) at Satish Dhawan Space Centre. The Launch Mass was 3,136 kg and Mission Life: 10 years. The launch vehicle was GSU/Lk-III-D1/GSAT-19 Mission. It is a Communication Satellite. The orbit type is GEO. GSAT-19 satellite with a lift-off mass of 3,136 kg is configured around the ISRO’s standard LAM bus. GSAT-19 carries Ka/Ku-band high throughput communication transponders. Besides, it carries a Geostationary Radiation Spectrometer (GRASP) payload to monitor and study the nature of charged particles and the influence of space radiation on satellites and their electronic components. GSAT-19 also features certain advanced spacecraft technologies including miniaturised heat pipe, fibre optic gyro, Micro Electro-Mechanical Systems (MEMS) accelerometer, Ku-band TTC transponder, as well an indigenous Lithium-ion Battery.

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As part of Indian Prime Minister Narendra Modi’s visit to Israel, executives from Israel Aerospace Industries (IAI) and Kalyani Strategic Systems (KSSL), the defence arm of Kalyani Group, signed a Memorandum of Understanding (MoU) addressed to expand the joint venture that the companies are establishing.

The new MoU covers the establishment of a maintenance centre for selected advanced air defence systems at Hyderabad in Telangana in India. The two companies have also agreed on expanding their joint operations to development, manufacturing and marketing of precise ammunition systems. In February 2017, IAI inked an MoU with Kalyani Group on establishing a joint venture that will develop, build, market and manufacture selected Air Defence Systems and lightweight special purpose munitions, in accordance with the Indian Government’s ‘Make in India’ policy.

Joseph Weiss, IAI’s President and CEO said, “India has been IAI’s partner for many years as well as a key market for us. The Indian government’s ‘Make in India’ initiative requires international companies to rethink their operations in India. The changes in India have not gone unnoticed by IAI; we have been revamping all of our operations in India and believe that together with our partners Kalyani Group we will preserve our position in India for both countries’ continued growth.”

Baba Kalyani, Chairman and MD of Kalyani Group said: “In line with our Prime Minister’s idea of forging a technology-based partnership with Israel, this joint venture with IAI furthers the idea of Indian government’s ‘Make in India’ initiative and will provide world-class solutions including lifecycle support to Indian defence. I also consider that it augments the group’s efforts in developing and manufacturing state-of-the-art indigenous systems in niche technology areas of defence sector in India.”

Boaz Levi, Executive Vice President and General Manager of Systems, Missiles & Space Group said, “The MoU is a strategic agreement for us. Combining the development capabilities and the vast knowhow accumulated in IAI in air defence and missiles with Kalyani’s advanced production and excellent technological capabilities would help us offer the most advanced systems to India’s defence forces. The establishment of a local maintenance centre will offer the best technical and operational support to our customers in India while implementing the ‘Make in India’ initiative. We look forward to investing more in air defence and missiles with Kalyani Group, our partner in India.”

Rajinder Singh Bhatia, President and CEO - Defence, Kalyani Group, said: “The joint venture company will combine IAI’s knowledge and experience as a developer of high-technology selected missile systems, with the engineering excellence and manufacturing capabilities of Kalyani Group.”
At AMB SCHUNK will present an extensive line of system components for automated loading of machining centers.

The toolholder and tool are coupled by the tool presetting device and stored in the database via the data matrix code as a digital twin with all required data.

Networked intelligence: the employee scans the data matrix code before the tool is mounted in or removed from a machine. The toolholder is scanned whenever it is mounted into or removed from a machine.

Toolholder ID as the basis for transparent tool management in Industry 4.0

Transparent tool management is the key issue in the development toward networked production for Industry 4.0. The competence leader for clamping technology and gripping systems SCHUNK intends to push the development with the capability of unique toolholder identification by means of a data matrix code. Individual laser coding of all SCHUNK toolholders is already possible today. As part of its Industry 4.0 initiative, SCHUNK even offers the data matrix code free of charge with the TIBOS® Polygonal clamping components and TENDO hydraulic expansion holders.

The data matrix code can be defined individually according to the particular documentation system in use or it can be generated by SCHUNK based on a neutral numbering system.

“Intelligent grippers will give us the opportunity to detect errors directly at the workpiece and to optimize the production process in coordination with the higher level control technology and clamping devices in real time, in addition to processing workpiece variants based on a schedule or continuing production on a different machine.” This should enable highly efficient automated production even of very small batch sizes in the future.

"The data matrix code is already possible today. As part of its Industry 4.0 initiative, SCHUNK even offers the data matrix code free of charge with the TIBOS® Polygonal clamping components and TENDO hydraulic expansion holders. It will also be possible to define wear limits for the replacement of tools and inspection of toolholders. At the SCHUNK Tec-Center in Lauffen, SCHUNK demonstrates the process in combination with a tool management system that is already available on the market: the data matrix code of the SCHUNK toolholder is scanned by the tool presetting device and the toolholder is coupled both physically and virtually with a tool.

This generates a digital twin in the database, for storage of all related data during the course of its use. The toolholder is scanned whenever it is mounted into or removed from a machine. The employee proceeds in the same manner for tool presetting. During the scanning process, the essential tool data needed for machining, such as tool type, combination with data from the higher level cloud, users can then obtain precise information on locations, the tools used and their tool life, the machining parameters and the overall life cycle of the toolholder in order to assess the efficiency of the single components. This increases transparency significantly in comparison with conventional solutions. The data matrix code can be defined individually according to the particular documentation system in use or it can be generated by SCHUNK based on a neutral numbering system,” explains Heinrich Kostner, Head of Product & Portfolio Management for Clamping Technology at SCHUNK in Lauffen. “It is permanently applied to the toolholder by a laser, with no effect on the balancing grade.”

Process knowledge on the rise

The advantages of the unique ID are convincing it eliminates the possibility of the loss or mix-up of paper labels containing tool settings, in addition to typographical errors when data is transferred. It also reduces the time spent at the machine and the tool presetting device. “The important thing is that the generated data increases the users’ knowledge of the process,” Kostner emphasizes. The clamping technology specialist adds: “It is possible to document and evaluate the entire life cycle of all tools and toolholders. This provides very precise information on the cost effectiveness of the single cutting edges and holders.” It will also be possible to define wear limits for the replacement of tools and inspection of toolholders.

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The toolholder and tool are coupled by the tool presetting device and stored in the database via the data matrix code as a digital twin with all required data.

Networked intelligence: the employee scans the data matrix code before the toolholder is used in the tool magazine of the machine. The tool presetting data is then automatically sent from the database to the machine control system.
Pratt & Whitney debuts ‘Go Beyond’, its new brand platform, at the Paris Air Show, with advertising strategically placed throughout the show sharing the company’s belief that flight is an engine for human progress. ‘Go Beyond’ represents both the company’s long-standing commitment to accelerating the technology of modern flight, and the ‘never-stop-solving’ mindset of its employees. Pratt & Whitney’s new advertising focuses on the core missions of connecting people, growing economies and helping to protect the world.

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GO BEYOND

A UTC TECHNOLOGY COMPANY

Pratt & Whitney’s new advertising focuses on the core missions of connecting people, growing economies and helping to protect the world.

Of being selected on many new aircraft programs is what continues to give us purpose. Our brand platform reflects that shared purpose and mission of everyone at Pratt & Whitney, and it also reflects the result of our intent – the fact that we are the engine of choice not just today, but in the future, and we will continue to go beyond for our customers, whether it is in data analytics for better predictive maintenance or developing the next suite of services.”

ETOPS Certification for PurePower® Engine for Airbus A320neo
Pratt & Whitney’s PurePower PW1100G-JM engine has been granted 180-minute Extended Range Operations (ETOPS) eligibility by the European Aviation Safety Agency. The US Federal Aviation Administration had approved ETOPS for the engine in December 2016. The ETOPS certification sets the maximum allowed amount of single-engine flying time that an aircraft can be from the nearest suitable airport. The PW1100G-JM engine powers the A320neo. Pratt & Whitney is a division of United Technologies Corp. (NYSE:UTX).

MoU on IL-114-100 Regional Aircraft Program Restart
Pratt & Whitney Canada (P&W) signed a Memorandum of Understanding (MoU) with Ilyushin Joint Stock Company of Russia to explore the restart of the IL-114-100 regional turboprop aircraft program with PW127H engines.

Under the MoU, signed during the 2017 Paris Air Show, P&W will support the initial program restart by providing two PW127H engines for IL-114-100 regional turboprop aircraft. Both companies will also cooperate in reaching a new, long-term agreement regarding future regional turboprop programs for Russian and international regions.

“This agreement marks a milestone in Pratt & Whitney Canada’s involvement in the Russian aerospace industry,” said Fredric Lebovics, vice-president, Marketing, P&W. “We look forward to working closely with Ilyushin to make the restart of this highly efficient passenger aircraft a success.”

PW127H and Ilyushin, a member of Russia’s United Aircraft Corporation, originally worked together on the IL-114-100 regional aircraft at the end of the 1990s and early 2000s. The first flight of the IL-114-100, powered by two PW127H turboprop engines, took place in January 1999 and the aircraft obtained a type certificate from the Aviation Register of the Interstate Aviation Committee at the end of that year.

Embraer Defense & Security, Savis, Bradar and Thales executives at Paris Air Show
Savis and Bradar, affiliated companies to Embraer Defense & Security, and Thales announced at the Paris Air Show a cooperation agreement to jointly evaluate business opportunities in air traffic control (ATC) radar and systems in civil and military worldwide markets.

According to the agreement, Savis, Bradar and Thales – as well as its affiliated company Omnisys – will cooperate to compose new air traffic control radar solutions with existing portfolio synergies for domestic and international markets. The companies will jointly identify, pursue and capture new business opportunities for their mutual benefits as well as to better serve their customers.

“This initiative will allow us to take advantage of existing synergies and complementarities in terms of products and technologies, with a view to developing joint solutions to meet the current and future demands of the Brazilian and international markets, specifically in the area of radar solutions for air traffic control,” said Jackson Schneider, President and CEO, Embraer Defense & Security. “This partnership confirms Thales’ commitment to keep developing and producing high technology in Brazil for the worldwide market. By leveraging both companies’ competences and technologies, we will be in a better position to keep excelling in serving our customers with innovative solutions,” said Ruben Lazo, Thales Vice-President, Latin America.
Boeing to Continue Support of Indian Navy P-8I Fleet

Boeing (NYSE: BA) has received a three-year contract to continue support of the Indian Navy’s fleet of P-8I maritime patrol aircraft.

In addition to field and logistics service representatives, the contract includes engineering, support and planning. The scope will also include robust material support, including a 737-based material support, which will be executed in conjunction with Boeing Commercial Aviation Services’ Fleet Services division.

“Our Boeing Defence India (BDI) team remains focused on executing on our commitments to customers on schedule and cost,” said Pratyush Kumar, president of Boeing India and vice-president of Boeing International. “With this contract, the Indian Navy can be assured of achieving exceptional operational capability and readiness of the P-8I fleet.”

The contract continues the service Boeing provides under the programme’s current initial production contract, scheduled to expire in October.

“This contract will substantially bolster Boeing’s performance-based support to the Indian Navy and should maintain or increase the operational capability of the eight aircraft fleet,” said Stephen Schmidt, P-8I sustainment programme manager. The Indian Navy operates eight P-8I long-range maritime reconnaissance and anti-submarine warfare aircraft at INS Rajali. Boeing is also contracted to deliver four additional P-8 I aircraft to the Indian Navy. Deliveries will begin in 2020.

Since 2009, Boeing has played a key role in enhancing India’s defence capabilities and partnering with military customers on their mission requirements with the C-17 Globemaster III, P-8I and the soon-to-be-delivered AH-64 Apache and the CH-47 Chinook.

Recently, Boeing announced the establishment of BDI, a local operating entity to drive the company’s future growth strategies in India by being responsive to customer needs and growing indigenous engineers, sourcing, manufacturing and lifecycle management capabilities. BDI is the local services delivery vehicle of the soon-to-be-operational Boeing Global Services unit, a new dedicated services business focused on the needs of global defence, space and commercial customers.

Boeing Launches Larger Capacity 737 MAX 10

Boeing [NYSE: BA] announced the launch of the 737 MAX 10 as the newest member of the 737 MAX family at the 2017 Paris Air Show. The 737 MAX 10 will have the lowest seat-mile cost of any single-aisle aircraft ever produced. The airplane has gained wide market acceptance with more than 240 orders and commitments secured from more than 10 customers worldwide. Customers will be announcing order details throughout the week.

“The 737 MAX 10 extends the competitive advantage of the 737 MAX family and we’re honoured that so many customers across the world have embraced the outstanding value it will bring to their fleets,” said Boeing Commercial Airplanes President and CEO Kevin McAllister. “Airlines wanted a larger, better option in the large single-aisle segment with the operating advantages of the 737 MAX family. Adding the 737 MAX 10 gives our customers the most flexibility in the market, providing their fleets the range capability, fuel efficiency and unsurpassed reliability that the 737 MAX family is widely known for.”

The 737 MAX 10 continues the MAX family’s range advantage over competing models and will deliver five per cent lower trip costs and five per cent lower seat-mile costs. Design changes for the 737 MAX 10 include a fuselage stretch of 66 inches compared to the 737 MAX 9 and levered main landing gear. The airplane has the capacity to carry up to 230 passengers. Other changes include a variable exit door, lighter flaps, lighter landing gear and a minimalist wing design for low speed drag reduction.

Like Boeing’s other 737 MAX models, the 737 MAX 10 incorporates the latest technology CFM International LEAP-1B engines, Advanced Technology winglets, Boeing Sky Interior, large flight deck displays, and other improvements to deliver the highest efficiency, reliability and passenger comfort in the single-aisle market. The 737 MAX continues to be the fastest-selling airplane in Boeing history, accumulating more than 3,700 orders to date.

Complete Cabin Solutions for Select VIP Aircraft

Rockwell Collins has signed a letter of intent with Comlux, a leader in services for VIP aircraft, to provide complete cabin solutions for a number of select VIP aircraft under a global cooperation agreement. The deal, signed at the Paris Air Show, includes Rockwell Collins’ Venue™ cabin management system, VIP seating, divans, Nano 3X™ in-flight entertainment and the option for Inmarsat Jet Connex® (IX) service for Wi-Fi connectivity.

The VIP completion represents the first programme that combines the products and services from the company’s Commercial Systems, Information Management Services and new Interior Systems businesses, the latter formed as the result of the acquisition of B/E Aerospace in April 2017. With this new business, Rockwell Collins is now also a world leader in designing, developing and manufacturing cabin interior products and services. “Comlux will be among the first to experience a comprehensive cabin solution from Rockwell Collins that features innovative comfort, entertainment and connectivity solutions all from one source,” said Scott Gurnum, vice-president, Commercial Systems Sales, Marketing and Customer Support, Commercial Systems for Rockwell Collins. “As a result, VIP passengers will see a new level of productivity and enjoyment wherever their travels take them.”

Comlux, approved to equip Airbus ACJ, Boeing BBJ, Sukhoi Superjet 100 and Bombardier Business Aircraft, is one of the leaders in customised VIP aircraft completions for integrating engineered and luxurious cabin interiors. “This cooperation is driven by our commitment to deliver engineering luxury and the best VIP cabin in all aircraft types,” said Richard Gaona, Chairman & CEO Comlux. The signing between Rockwell Collins and Comlux further the cooperation between the two companies as they look to expand business within the VIP aviation market through innovative, high-integrity solutions.

ATR Selects Liebherr-Aerospace for New Gen Air Management System

ATR has selected Liebherr-Aerospace to develop, manufacture and supply a new generation air management system for the ATR 42 and the ATR 72 aircraft programmes. The system will be developed and produced by Liebherr-Aerospace Toulouse SAS, Toulouse (France), Liebherr’s centre of excellence for air management systems. ATR awarded Liebherr-Aerospace for the design, production and service of a new generation air management system for ATR’s 42/72 aircraft family. The air management system includes the bleed, air conditioning and cabin pressure control subsystems, together with an optional cooling system that provides supplemental cooling capacity when the aircraft is on ground.

Liebherr-Aerospace leveraged its unique experience in air management systems for turboprop and jet engine regional aircraft to design a highly reliable system of low weight that is adapted to the aircraft’s particular operating conditions. The new generation air management system will generate an enhanced on-board comfort for passengers and crews both in flight and on the ground, while substantially reducing the cost of operations for the airlines.

This new contract is proof of the confidence that ATR has gained through several decades of collaboration with Liebherr since the early years of the ATR 42/72 family. David Brigante, ATR’s SVP Procurement, said: “We need to make sure passengers are always comfortable, from the moment they step into the aircraft right up until they step out at their destination. Our new air conditioning management system will strongly contribute to further enhance the passenger experience, while substantially minimising maintenance costs and needs.”

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Firing Trial of LORA a Success

Israel Aerospace Industries (IAI) has successfully completed a firing trial with LORA (Long-Range Artillery weapon system) as the conclusive stage of several deals that involve the system. The experiment consisted of launching a long-range LORA missile to a pre-planned target at sea. IAI’s LORA weapon system was in display at Paris Air Show 2017.

LORA is an artillery weapon system which consists of a long-range tactical ground-to-ground missile developed by IAI’s MALAM division. It is intended for strike scenarios with a range of up to 400 km and boasts precision range of 10 metres or better. The LORA missile weighs approximately 1,600 kg. During the trial the ground version of the artillery weapon system was positioned on a naval vessel far out in the sea, in compliance with safety requirements for trials of this kind. The missile was launched from an operational system that consists of a command trailer and ground launcher. Following the launch, the missile navigated its course to the target, striking the designated target with high precision. Both the weapon system and the missile successfully met all objectives.

Joseph Weiss, IAI president and CEO, said, “This trial has demonstrated the advanced capabilities of LORA, the weapon system developed by IAI. LORA complements the range of missile system developed by IAI to round up our fulfilment of our customers’ needs.”

Boaz Levi, Executive Vice President and General Manager of Systems, Missiles & Space Group said: “This was one of the most complex trials we held over the past few years and a technological breakthrough for IAI’s missile development operations. The trial was held according to a full operational outline, including an assessment of the system’s manoeuvring, assault and precision capabilities. The impressive results attest for the system’s maturity and advanced capabilities.”

Levi added, “I would like to thank Israel’s navy, air force, SIBAT and Ministry of Defence for the unusual collaboration which was reflected in the outstanding system performance in this trial.”

KLA’s Complete Line-up of Aircraft in Paris

Aero-engine manufacturer Rolls-Royce plc has selected Liebherr-Aerospace for the design, manufacture and service of a key pneumatic component, the high-pressure non-return valve, for the Trent 7000 engine. In this first contract, Liebherr-Aerospace has received from Rolls-Royce, the company will supply the high-pressure non-return valve for the new Trent 7000 engine. This engine will exclusively power the Airbus A330neo aircraft. The valve will be designed and manufactured by Liebherr-Aerospace Toulouse SAS, Toulouse (France), Liebherr’s centre of excellence for air management systems. The valve’s technology will benefit from Liebherr’s outstanding experience in designing, producing and servicing high-temperature and high-pressure pneumatic valves which have been integrated into the engine bleed air systems of most of the world’s major commercial aircraft programmes.

Liebherr-Aerospace’s First Contract from Rolls-Royce

Yury Slyusar President of PJSC UAC, Mr. Demchenko Oleg Fedorovich, Director, UAC at Paris Airshow.

As part of the Paris Air Show, President of the KLA Yuri Slyusar held negotiations with the Chairman and Managing Director of Hindustan Aeronautics Limited (HAL) T Sunvana Raju and CEO of CityJet, the airline operating the SSJ100, Patrick Byrne. In addition, Yuri Slyusar met Director of FSMTC Russia Dmitry Shugaeva and Commander of the UAE Air Force and Air Vice Marshal Ibrahim Nasser Mohammed Al-Alawi.

Russian equipment aroused the interest of foreign partners at the International Paris Air Show 2017. For the first time, United Aircraft Corporation introduced a complete line-up of aircraft in all key segments of civil aviation.

At a press conference, president of the Russian KLA delegation Yuri Slyusar spoke about the key priorities of the Corporation, one of which was the increase of civilian products and gain a substantial share of the world market.

According to the estimates and forecasts of the KLA from other manufacturing partners, the global demand for new commercial airplanes over the next 20 years will exceed 40,000 units. The most popular are the segments of medium and long-haul wide-body aircraft. "It is in these niches KLA is creating highly competitive products - MS-21 medium-range and long-range wide-body aircraft of the new generation. These projects are the result of joint mutually beneficial work with our foreign partners," said Yuri Slyusar.

Recently, KLA with Chinese partners COMAC opened an office operator (CRAIC) programme of wide-body long-haul aircraft in Shanghai with a high proportion of composites. Engineering and development of the new generation aircraft will be in
HAL Aims Rs 17,900 Cr Revenue in 2017-18

HAL has signed the Memorandum of Understanding (MoU) for the financial year 2017-18 with Ministry of Defence (MoD) in New Delhi. The annual MoU was signed by Ashok Kumar Gupta, Secretary, Department of Defence Production and Mr T Suvana Raju, CMD-HAL. The MoU outlines targets on various performance parameters of the company during the year 2017-18. The revenue from operations has been targeted at Rs. 17,900 crore, the highest ever. HAL has also laid specific emphasis on capacity-building, modernisation, and solar power plants, aiming to achieve capital expenditure of Rs 1,300 crore.

The company’s thrust is on Make-in-India projects such as Hindustan Turboprop Trainer-40 (HTT-40), Light Combat Helicopter (LCH) and Light Utility Helicopter (LUH). Among the important milestones targeted to be achieved include clearance by DGCA for civil version of Do-228 aircraft, Jaguar DARRN-III Upgrade and Mirage 2000 Upgrade. HAL also aims to achieve 35% increase in indigenous content through Make-in-India initiatives.

Russia and the production and after-sales service infrastructure in China. According to the President of the KLA, this arrangement is based on economic feasibility.

The new Russian airliner MS-21 made its first flight on the eve of the air show. According to its flight performance and efficiency MS-21 is superior to the competition. MS-21’s key innovation is the highest proportion of composites in its class - more than 30%. The new composite wing improves the aerodynamics of the aircraft, which, in turn, significantly reduces fuel consumption.

Yuri Slusar said for the creation of the Russian know-how about 10 billion rubles was invested. MS-21 will allow carriers to reduce operating costs by 12-15% compared to aircraft of similar class and by 6-7% in comparison with their upgraded versions. President of the Irkut Corporation Oleg Demchenko spoke about the advantages of the MS-21 airliner and production plans taking into account the potential needs of the market. On the opening day of the Paris Air Show in Le Bourget MS-21 made its maiden flight with landing gear retracted. “We have taken an important step forward. This allows starting testing of new, more complex modes of flight tests,” said Oleg Demchenko.

Now, among the urgent tasks of the KLA is to increase market share in the 60-120 seats segment in which the Corporation introduced in the global market the SSJ100. Already around 100 aircraft are in service. Among commercial projects the SSJ100 Irish Airline flies to 15 European cities (Brussels, Copenhagen, Geneva, Vienna, Krakow, Berlin, Paris and others). Foreign airlines operate 30% of SSJ100 fleet. On this platform, KLA fulfills all the key elements - from sales, financing schemes under the different needs of customers to after-sales service in accordance with the standards of western producers. Vice-president of KLA civil aviation and President of Sukhoi Civil Aircraft Company Vladislav Masalov said it is planned to further develop the SSJ100 platform, focusing on middleware development, creating fueling depots, introduction of modern information systems to accelerate and optimise the aircraft maintenance process in the interests of airlines. There are also plans to create an extended version of the aircraft with 130 seats. The implementation of the project depends on the availability of the engine, negotiations for which are underway with French partners. During the Paris Air Show, negotiations were held with airlines from Europe, Africa and the Middle East for the supply of SSJ100 aircraft.

Lockheed Martin, Tata Announce F-16 India Partnership

Lockheed Martin (NYSE: LMT) and Tata Advanced Systems Limited (TASL) signed a landmark agreement affirming the companies’ intent to join hands to produce the F-16 Block 70 in India. The F-16 Block 70 is ideally suited to meet the Indian Air Force’s single engine fighter needs and this unmatched U.S.-Indian industry partnership directly supports India’s initiative to develop private aerospace and defence manufacturing capacity in India.

This unprecedented F-16 production partnership between the world’s largest defence contractor and India’s premier industrial house provides India the opportunity to produce, operate and export F-16 Block 70 aircraft, the newest and most advanced version of the world’s most successful, combat-proven multi-role fighter. F-16 production in India supports thousands of Lockheed Martin and F-16 supplier jobs in the U.S., creates new manufacturing jobs in India, and positions Indian industry at the centre of the most extensive fighter aircraft supply ecosystem in the world.

“This agreement builds on the already established joint venture between Lockheed Martin and Tata and underscores the relationship and commitment between the two companies,” said Mr. N. Chandrasekaran, chairman of Tata Sons. “Lockheed Martin is honoured to partner with Indian defence and aerospace leader Tata Advanced Systems Limited on the F-16 programme,” said Orlando Carvalho, executive vice-president of Lockheed Martin Aeronautics. “Our partnership significantly strengthens the F-16 Make in India offer, creates and maintains numerous new job opportunities in India and the U.S. and brings the world’s most combat-proven multi-role fighter aircraft to India,” he said.

The Lockheed Martin-TASL F-16 partnering agreement builds on TASL’s proven performance manufacturing airframe components for the C-130J airlifter and the S-92 helicopter. With more than 4,500 produced and approximately 3,200 operational aircraft worldwide, the F-16 remains the world’s most successful, combat-proven multirole fighter ever produced. The F-16 Block 70 is the newest and most technologically advanced F-16 ever offered.
Naval cooperation between India, US and Japan epitomises the strong and resilient relationship between the three democracies. The MALABAR series of exercises, initiated in 1992 between the Indian and US Navies, have steadily grown in scope, complexity and participation into a multifaceted exercise with the participation of Japanese Maritime Self-Defense Force (JMSDF).

The 21st edition of the exercise, MALABAR-17, was conducted in the Bay of Bengal from July 10 to 17, 2017. The primary aim of this exercise is to increase interoperability amongst the three navies as well as develop common understanding and procedures for maritime security operations. The scope of MALABAR-17 included wide-ranging professional interactions during the Harbour Phase at Chennai from July 10 to 13 and a diverse range of operational activities at sea during the Sea Phase from July 14 to 17. The thrust of exercises at sea this year was on Aircraft Carrier operations, Air Defence, Anti-Submarine Warfare (ASW), Surface Warfare, Visit Board Search and Seizure (VBSS), Search and Rescue, Joint Manoeuvres and Tactical procedures. In addition, officials from the three countries were flown onboard the ships at sea on July 15.

The Indian Navy was represented by the aircraft carrier INS Vikramaditya with its air wing, guided missile destroyer Ranvir, indigenous stealth frigates Shivalik and Sahyadri, indigenous ASW corvette Kamorta, missile corvettes Kora and Kirpan, one Sindhughosh class submarine, fleet tanker INS Jyoti and Long Range Maritime Patrol Aircraft P8I. The US Navy was represented by the ships from the Nimitz Carrier Strike Group and other units from the US 7th Fleet. The US Navy forces included the Nimitz-class aircraft carrier Nimitz with its air wing, Ticonderoga-class cruiser Princeton, Arleigh Burke-class destroyers Kidd, Howard and Shoup along with integral helicopters, a Los Angeles-class attack submarine and one Long Range Maritime Patrol Aircraft P8A.

The JMSDF was represented by JS Izumo, a helicopter carrier with SH 60K helicopters and JS Sazanami, a missile destroyer with SH 60K integral helicopter.

MALABAR-17 was another milestone with the participation of 16 ships, two submarines and more than 95 aircraft, towards strengthening mutual confidence and inter-operability as well as sharing of best practices between the Indian, Japanese and US Navies. The exercise was a demonstration of the joint commitment of all three nations to address common maritime challenges across the spectrum of operations and will go a long way in enhancing maritime security in the Indo-Pacific region for the benefit of the global maritime community.
Thales, Reliance Defence

Forming JV

Leveraging Thales’ offset commitment as part of Rafale Contract, the JV is to develop Indian capabilities to integrate and maintain radar and electronic warfare sensors. The JV will develop skills and activity in the Special Economic Zone of Mihan-Nagpur together with an Indian supply chain for the manufacturing of microwave technologies and high performance airborne electronics.

Set up with a long-term strategy to serve the Indian needs, this partnership between Thales and Reliance Defence Limited will strengthen the Prime Minister Narendra Modi’s ‘Make in India’ vision.

Patrice Caine, Chairman and CEO, Thales, said: “We are delighted to seal this strategic collaboration with Reliance Defence Limited. This JV resonates with our strategy to strengthen our industrial footprint in the country by building collaborations with the Indian industry. It reaffirms our commitment to India, and our active contribution to ‘Make in India’.

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Elbit Bags $20 m Contract to Supply DIRCM Systems for VIP Aircraft

Elbit Systems Ltd. (NASDAQ: ESLT and TASE: ESLT) (“Elbit Systems”) has announced that it was awarded a more than $20 million contract by an African-based customer to equip a VIP Gulfstream G650 aircraft with J-MUSIC Directed Infrared Countermeasure (DIRCM) systems. The contract will be executed over a one-year period.

Having accumulated more than 30,000 hours of operation, Elbit Systems’ MUSIC™ family of DIRCM systems is in use by many customers worldwide on a wide range of small, medium and large aircraft platforms.

“Being selected to install J-MUSIC on a VIP Gulfstream G650 aircraft is another vote of confidence and an indication of the strong demand for our high quality, high reliability DIRCM systems”, said Elad Aharonson, General Manager of Elbit Systems’ ISTAR Division. “We are proud to add Gulfstream to the growing range of aircraft platforms that are protected against IR-seeking weapons by our MUSIC systems. Given the constantly growing MANPADS threat for aviation, we are confident that more customers will follow in choosing our thoroughly-tested and qualified DIRCM solutions.”

Airbus Recognises Rockwell Collins as a Top Performer

Rockwell Collins

Rockwell Collins has been named by Airbus as one of the top performing suppliers in support of Airbus and its customer lines. The company received an Excellent In-Service Performance award and was honoured at a special ceremony at the Paris Air Show.

Out of the 41 suppliers rated in the supplier furnished equipment category, Rockwell Collins came in second after Airbus Avionics. The award followed Airbus’ supplier support rating process, which drew in-service feedback on product, service, support and cost from more than 150 Airbus customers worldwide. “Our team has worked hard to understand what it takes to create a winning relationship with Airbus and their airline customers so they can feel confident in our systems on a daily basis,” said Scott Gunnufson, vice president of Sales, Marketing and Customer Support, Commercial Systems for Rockwell Collins. “We are honoured to once again be recognised by Airbus. The award is a testament to the great work carried out by our dedicated customer support team as well as all our employees around the world.” This marks the 10th year in a row that Rockwell Collins has been in the top five suppliers as recognized by Airbus.
CONTROP’s Helicopter EO/IR Payloads for Israeli Police

CONTROP Precision Technologies Ltd. - a world leader in EO/IR surveillance, defence and homeland security solutions - is selling iSky-20HD (formerly SHAPO-HD) and iSky-50HD (formerly DSP-HD) EO/IR payloads to the Israeli Police, to be installed on new helicopters and integrated with Churchill Navigation Mission Systems. CONTROP displayed the iSky family of six multi-spectral, highly stabilized, low-weight airborne payloads at the Paris Air Show.

VP Marketing Mr. Hagay Azani said: “We are very proud that the iSky payloads were chosen for Israeli Police helicopters.

In addition, in recent months CONTROP has also sold several iSky-30HD and iSky-50HD systems to a variety of customers in North America, Asia-Pacific and Africa, for installation on helicopters, fixed wing aircraft and other platforms. We are proud to be one of a selected and prestigious group of companies that can boast a truly comprehensive line of small, medium and large EO/IR solutions for modern air/land/maritime security, defence and coastal/border surveillance challenges. Incorporating the most advanced technologies in this field, the iSky is expected to draw a lot of attention and interest from military and paramilitary integrators as well as relevant end users.”

CONTROP’s line of six medium and long-range aerial payloads (iSky-20, 20HD, 30, 30HD, 40 and 50HD) was uniquely developed for the challenging and often turbulent aerial environment and they provide solutions for most medium and long-range aerial surveillance platforms. Features include a continuous optical zoom lens in the day (or high definition-HD) and thermal imaging (SD/HD) cameras, gyro-stabilized gimbals and multi sensor options including Eyesafe Laser Range Finder (ELRF) and/or Laser Pointer, all of which provide outstanding capabilities. The iSky systems can be installed on helicopters, fixed wing aircraft and unmanned aerial systems and may be integrated with the platforms’ systems. Ideal for manned or unmanned airborne platforms, all of the iSky systems include real-time image enhancement features, built-in INS, automatic target tracking and are successfully operated, fully integrated and deployed by search and rescue, border surveillance, law enforcement, special operations, maritime patrol and force protection units.

“With decades of worldwide operational airborne experience on five continents and on a large variety of platforms, we are confident that the iSky line will strengthen our position as a tri-sector world leader in this field,” said Azani.

Website: www.controp.com

Siemens Set up Centres of Excellence in Karnataka

Siemens Industry Software India Pvt. Ltd, 100% owned subsidiary of Siemens Industry Software, USA, has signed a Memorandum of Understanding with Government Tool Room and Training Centre (Government of Karnataka) and Designtech Systems Limited to establish four Centres of Excellence (COEs) across Karnataka. Siemens’ product lifecycle management (PLM) software offerings form crucial components of the integrated technology solutions provided by Siemens in India in the space of automation and digitalisation.

The partnership paves the way for a world-class integrated skill development infrastructure and benchmarked technical education curriculum with core focus on Industry 4.0, Automation, Mechatronics and Internet of Things (IoT) infrastructure.

The four COEs will address diverse industry segments like Automotive, Industrial Machinery, Industrial automation, Renewable Energy and Aerospace and Defence. “With Indian industry increasingly adopting automation and digitalisation, it also requires a highly-skilled workforce trained in future-ready technologies and processes. Siemens is committed to supporting the Indian economy to enable it to gain competitive advantage by improving its efficiency, productivity, quality and speed. The World is yet another step in this journey of modernisation,” said Sunil Mathur, Managing Director and Chief Executive Officer, Siemens Limited.

Suman Bose, Managing Director and Executive Officer, Siemens Industry Software India Pvt. Ltd, said, “We aim to build sustainable communities by leveraging Siemens’ competencies and manufacturing expertise in the physical world of product development, manufacturing and the Internet of things (IoT). The COEs will be equipped with the latest PLM software solutions from Siemens, such as NX software for digital product design and engineering, Tecnomatix software for digital lifecycle management and the Tecnomatix portfolio for digital manufacturing. They will also feature state-of-the-art industrial automation equipment from Siemens, as well as the latest computer numerical controllers (CNC), programmable logic controllers (PLC), and state-of-the-art manufacturing machinery including CNC milling and turning machines, industrial application robotics cells, Renewable Energy Training Systems, Coordinate Measuring Machines (CMM), Quality Assurance Tools and Gauges, and rapid prototyping machines.

Website: www.controp.com
Mitutoyo South Asia Pvt. Ltd. organised a seminar on 'The recent advances in Aerospace Metrology', bringing together aerospace giants and dimensional metrology experts under one forum, in association with the National Centre for Aerospace Innovation & Research (NCAIR) at The Lalit in Bengaluru.

NCAIR, modelled after the University of Sheffield Advanced Manufacturing Research Centre (AMRC) in collaboration with Boeing UK, a centre of industry and academia in UK, is a collaborative association of the Indian manufacturing industries providing technological support to its members with a vision to create a world-class aerospace ecosystem in India. NCAIR continues to offer technological assistance and R&D to numerous companies in the Indian aerospace sector.

Mitutoyo, with its quality products and innovative solutions, has been connected with the aerospace players globally and consistent in providing solutions for measurement of complex components and applications, thereby fulfilling the industry’s necessity to manufacture parts with precision measurement and high quality inspection at a faster pace. Its association with NCAIR has successfully brought together academics with quality-based industry requirements.

Various experts from across the globe including Mr Ashwani Bhargava, Director, Supplier Management of Boeing India, who was the chief guest for the evening, participated in the conference. The prominent guest speakers included Mr Nick Orchard, retired Quality Head and aerospace metrology expert with Rolls-Royce, UK for 35 years; Prof. Asim Tewari, professor in-charge at NCAIR & faculty; Prof. Ramesh Kumar Singh, Associate Professor in Mechanical Engineering Department at IIT Bombay; Mr. Aaron Johnson from IAMPL (International Aerospace Manufacturing Pvt. Ltd., a JV between Rolls-Royce & Hindustan Aeronautics Limited); and technology experts from Mitutoyo Corporation Japan & Mitutoyo South Asia Pvt. Ltd. The audience included specialists from aerospace OEMs, component manufacturers and vendors.

Mitutoyo’s engineering expert Mr Daisuke Sakata with his rich experience in the UK also focused on aerospace parts measurement requirements and solutions and the latest trends in precision manufacturing.

Mr Harrish Bajaj, Director, Mitutoyo South Asia, assured Mitutoyo’s constant involvement in innovating its systems and technology to meet its partners’ requirements with its highly skilled engineers and by leveraging Mitutoyo expertise in the aerospace sector globally.

A panel discussion with the aerospace experts concluded the seminar. Mr Nairinder Bajaj, Managing Director, Mitutoyo South Asia, proposed a special vote of thanks to the chief guest and the attendees.

Interesting Insights into Aerospace Metrology
A world’s first laser communications link from Moon soon

Astrobotic and ATLAS Space Operations Inc. announce at the Paris Air Show that they have entered into a partnership to deliver and operate the world’s first ever laser communications terminal on Astrobotic’s upcoming mission to the Moon. Through this tie-up with ATLAS, Astrobotic is now able to offer up to one gigabit per second of data to its customers. This is an historic, thousand-fold increase of bandwidth for Astrobotic’s lunar mission.

Astrobotic, which is making the Moon accessible to the world, and ATLAS Space Operations Inc., the US leader in cloud-based satellite management and control services, announced at the Paris Air Show that they have signed a payload reservation and partnership to deliver and operate the first-ever laser communications terminal on Astrobotic’s upcoming mission to the Moon. This brings the total number of deals in place for Astrobotic’s mission to eleven.

Through this partnership with ATLAS, Astrobotic is now able to offer up to one gigabit per second of data to its customers. This is an historic, thousand-fold increase of bandwidth for Astrobotic’s lunar mission. “Astrobotic is thrilled to add this new breakthrough capability to our lunar delivery service,” said John Thornton, CEO of Astrobotic. “Laser communications have been sought after by planetary missions for years. ATLAS and Astrobotic are now making this capability a reality. Laser communications on the Moon will expand payload capabilities dramatically, enabling beautiful high definition video, ground breaking data-intensive experiments, and even virtual reality experiences from the Moon. No doubt this is a foundational capability for building our future on the Moon,” said Thornton.

“ATLAS is the future for space communications, and we’re thrilled that Astrobotic has given us the opportunity to showcase what we can do,” said Sean McDaniel, CEO of ATLAS. “This partnership between Astrobotic and ATLAS is a real game changer for lunar communications.”

Sean explained, “to date, communications for lunar missions have had no collaboration or continuity in efforts, meaning each time another mission launches, there needs to be a new communications solution. But our optical communications terminal provides Astrobotic’s customers with a turnkey solution for strong and reliable communications for the foreseeable future, between lunar missions and earth.”

“This new deal is further acknowledgement by the space community that Astrobotic is the technical and programmatic leader in the commercial lunar services market,” said Thornton.

Six major aerospace companies have confirmed their support for the next edition of the Bahrain International Air Show (BIAS), which is to be held from November 14 to 16, 2018.

A shot of Astrobotic’s Peregrine Lunar Lander, unveiled at the Paris Air Show

Tom Callam, President & CEO, Callman Worldwide Inc., Amanda Stainer, Commercial Director for Farnborough International, Younis Mohammed Mahmoud, Director of Bahrain International Airshow Group also signed.

Bahrain's Minister for Transportation and Telecommunications, His Excellency Engineer Kamal bin Ahmed Mohammed in US Pavilion at Paris Airshow. Tom Callam, President of Astrobotic and CEO, Callman Worldwide Inc., Amanda Stainer, Commercial Director for Farnborough International, Younis Mohammed Mahmoud, Director of Bahrain International Airshow Group also seen.

A Bahrain Minister of Transportation and Telecommunications, His Excellency Engineer Kamal bin Ahmed Mohammed was at the show to meet with various aerospace businesses and host a business briefing at the Callman USA Partnership Pavilion, said: “The continued participation of these major players adds further weight to the growing importance of the Bahrain International Air Show. These companies see the Gulf region as an important strategic location and the high-level meetings they are able to hold via our civil and military delegations programme make the show invaluable to them.”

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These signings come in addition to other recent agreements at EBACE and IDEF with companies including Sky Prime Aviation, Otokar, Roketsan and Turkish Aerospace Industries, meaning that the show is now 70% sold or reserved. Amanda Stainer, Commercial Director for Farnborough International, co-organisers of the show, said, “With the show still 18 months away, the commitments from these major international businesses are a testament to the strength of the show for both the commercial and military aerospace businesses.”

The Bahrain International Air Show has gained a reputation as an important business event for the Middle East, with many companies choosing the show to make significant announcements. In 2016, the event saw the international debut of the Tejas Light Combat Aircraft from the DRDO, and Leonardo (formerly Finmecanica) chose the show to make its first appearance as a single organisation demonstrating capabilities from all divisions including Helicopters, Airborne & Space Systems, Land & Naval Defence Electronics and Security & Information Systems.

The Manama Air Power Symposium is also to take place on November 15, 2018, which is being organised by SEGMA and supported by the Royal Bahraini Air Force and the Ministry of Transportation and Telecommunications.
Strata earns zero-findings accreditation on NADCAP NDT audit

Strata Manufacturing PJSC (Strata), the advanced composite aero-structures manufacturing facility wholly owned by Mubadala Investment Company has completed the (Nadcap) periodic Audit for Non-Destructive Testing with Zero Findings for the fifth time in a row.

Strata was awarded the Nadcap accreditation on NDT after successfully completing the auditing process that evaluates the systematic compliance of equipment and personnel in-line with international standards found within the aerospace industry. Strata applies NDT methods such as Ultrasonic Inspection and Real Time Radioscopy to ensure that all parts manufactured at its premises are defect free.

Commenting on the company’s achievement, Strata CEO Ismail Ali Abdulla said: “Receiving the Nadcap Accreditation with zero findings for the fifth time in a row is a tremendous achievement for Strata. Not only does it demonstrate our investment in meeting stringent industry and customer requirements, it also proves to the industry and to our clients that we are committed to quality and safety. For such a young company to achieve this so quickly and consistently is a testament to the tireless efforts of every single Strata employee towards building a world-class, competitive aerospace industry in Abu Dhabi and the UAE. I am incredibly proud of my colleagues.”

Nadcap is one of the leading worldwide cooperative program of major companies designed to provide a standardized approach to special processes and products. The aim of the program is to assess process capability for compliance to industry standards and customer requirements. It is administered by The Performance Review Institute, a US-based not-for-profit trade association.

“Achieving Nadcap accreditation is not easy: it is one of the ways in which the aerospace industry identifies those who excel at manufacturing quality product through superior special processes. Companies such as Strata work hard to obtain this status and they should be justifiably proud of it,” said Joe Pinto, Executive Vice President and Chief Operating Officer at the Performance Review Institute. “PRI is proud to support continual improvement in the aerospace industry by helping companies such as Strata be successful and we look forward to continuing to assist the industry moving forward.”

Strata Manufacturing PJSC (STRATA) is a composite aero-structures manufacturing facility based in the heart of Nibras Al Ain Aerospace, Al Ain, United Arab Emirates. The company was established in 2009, with production beginning in 2010. Strata has partnerships with the world’s leading aircraft manufacturers such as Airbus, Boeing and Leonardo-Finmeccanica. The company is committed to the continuous improvement of its processes and products to comply with international standards and customer requirements.

S.A.B.C.A.

Strata is wholly owned by Mubadala Investment Company PJSC (Mubadala), the Abu Dhabi-based investment and development company and is part of the Aerospace & Engineering Services platform that aims to advance the development of a leading aerospace hub in Abu Dhabi.

Strata manufactures various parts on Airbus, Boeing and ATR aircrafts: Airbus A380 family Flap Track Fairings; Airbus A340 family Ailerons; Airbus A330 family Spoilers; Airbus A350 – 900 family Flap Support Fairings; Airbus A350 – 1000 family Flap Support Fairings; Airbus A330 family Fairing Track Fairings; ATR 42/72 Rudders; ATR 42/72 Vertical Fin; Boeing B777 Empennage Ribs; and Boeing B787 Vertical Fin Ribs. Strata is administered by the not-for-profit Performance Review Institute. PRI is a global provider of customer-focused solutions designed to improve process and product quality by adding value, reducing total cost and promoting collaboration among stakeholders in industries where safety and quality are shared goals. PRI works closely with industry to understand their emerging needs and offers customized solutions in response. Learn more at www.p-r-i.org or contact PRI at PRI@p-r-i.org.
New Delhi Hosts First Edition of WINGS-2017

The event brought together the key stakeholders of the aviation sector such as states, Tourism Departments and tour operators as a group representing airline consumers to facilitate interaction with various airlines, airport operators, cargo operators and other ecosystem players at a common forum. The notable outcomes expected are identification, marketing of new routes, destinations and most importantly making flying accessible to the citizens across the country.

The first edition of WINGS-2017 – ‘Sab Uden, Sab Juden’ – Expanding Regional Connectivity was hosted in New Delhi by the Ministry of Civil Aviation. The inaugural session was chaired by Union Minister of Civil Aviation Shri P. Ashok Gajapathi Raju. Union Minister of State for Civil Aviation Shri Jayant Sinha was also present on the occasion.

Three hundred and thirty-eight delegates from Government and Civil Aviation sector participated in the first edition of WINGS-2017. The event brought together the key stakeholders of the aviation sector such as states, Tourism Departments and tour operators as a group representing airline consumers to facilitate interaction with various airlines, airport operators, cargo operators and other ecosystem players at a common forum.

The event saw participation from 28 States and Union Territories, of whom 19 states and Union Territory made presentations emphasising the incentives or special packages to the airlines other than the support offered by Government of India under RCS-UDAN.

During WINGS-2017, interactive sessions with stakeholders of the entire ecosystem such as Tourism Departments, tour operators, airport operators, cargo operators, aircraft manufacturers, engine manufacturers and other players in the value chain were convened. The states enthusiastically capitalised on the unique platform provided by the ministry, wherein they had 112 one-to-one discussions (2G8 meetings) with the airlines operators in an attempt to showcase their destinations and routes as viable business market for the airlines.

The closed room discussion broadly entailed incentives to the airlines operators such as underwriting of seats, reducing the tax on ATF, additional VGF, night parking, concessional electricity and water charges, infrastructural support etc. and routes & airport-wise benefits.

The state governments being one of the key stakeholders in the aviation market who are keen to develop aviation sector and enhance air connectivity in their region and beyond, the event proved to be an ideal platform for states to project themselves as a viable aviation market and showcase the strength and opportunities in the aviation sector to the potential airlines.

WINGS-2017 lived up to the expectations and served as a unique outcome-oriented platform for the stakeholders of the entire ecosystem in the Civil Aviation sector. Some notable outcomes expected from the forum are identification, marketing of new routes, destinations and most importantly making flying accessible to the citizens across the country.

Secretary, MoCA Shri Rajiv Nayan Choubey; Director General of Civil Aviation Shri B R Bhullar; Chairman, Airports Authority of India Dr. Gunuprasad Mahapatra; Joint Secretary, Ministry of Civil Aviation Ms. Usha Padhee; and Chairman, FICCI National Aviation Committee Mr. Pratyush Kumar also attended the sessions.

India is currently the ninth largest civil aviation market in the world and it is projected to be the third largest by 2020. The 33 unserved airports are likely to be revived and operationalised around 50 airports in India over the next two years to improve regional and remote air connectivity.

SIATI invite overseas aerospace companies and organizations to become its member. SIATI could be an important link between you and other Indian Entrepreneurs / Industries / institutions, various regulatory agencies and policy makers to establish collaborations and development of technology and business. In the present scenario there is considerable potential for the growth of Indian Aerospace Industries and opportunities exists for collaboration in Research, Design, Technology development, Joint Venture, Co-operation and partnership in Offset / Counter Trade Programs.

SIATI has mutual cooperation agreement with similar aerospace societies like Groupeement des Industries Francaises Aeronautiques et Spatiales (GIFAS), Aerospace and Defence Industries Programmes (ASD), Belgium, German Aerospace Industries Association, (BDLI), Aerospace Industries Association of Canada (AIAC) Aviation Aerospace Australia (AAA), Skywin, Belgium, Berlin, France, Society of British Aerospace Companies (SBAC), UK and North West Aerospace Alliance (NWAAS), SKYWIN, Belgium, to forge co-operation between SIATI and its members and their counter parts in other countries. SIATI have showcased “India Pavilion” in the major Air Shows.

SIATI is the only sector specific organization serving the Aerospace Industry of India for over two decades, with the patronage from major aerospace organizations. SIATI is managed by a Council consists of eminent professionals and leaders from noted organizations like HAL, ISRO, ADA, NAL, Airworthiness agencies and private industries. For more information, please contact:

Vg Cdr Venugopal Menon, Senior Executive Officer,
Tel : +91-80-25219951 / 25275262, Fax: +91-80-25292440 ,
E-mail: office@siati.org / v.menon@siati.org Web: www.siati.org

Industries, institutions and organizations in Aerospace domain are invited to join SIATI, utilize the opportunities and enjoy benefits. Let us work towards making India the most favored Aerospace manufacturing hub of the world.
Israel Aerospace Industries (IAI) has introduced the new naval application of the Green Dragon, a member of its family of Loitering Munitions. In order to address the unique requirements of the naval arena and vessels, adjustments to the Green Dragon canister and communication antenna were made.

Recently, the tactical land version of the Green Dragon was successfully demonstrated in a series of trials in a full operational scenario end to end. IAI’s loitering munitions were in focus at 2017 Paris Air Show.

IAI’s family of loitering munitions includes the Green Dragon - a tactical, low-cost solution, designed to provide significant situational awareness and firepower in a compact envelope to Combat Ships, Offshore Patrol Vessels and Patrol Boats. Green Dragon is a silent, all electric Electro-Optically guided munition with 90 minutes of loitering time, during which its operator can collect visual intelligence of surrounding areas – especially in congested waters and shore targets, in a range of up to 40 km.

The Green Dragon can provide ISR service to the launching platforms, then surveys, locates, acquires and finally destroys the operator-selected target. Green Dragon has up to 3 kg warhead and extremely high accuracy. It is launched by a small rocket assist motor from a sealed, marine approved canister - quickly clearing the ship’s deck area. As many as 12 units can be carried even on a small vessel and launched upon request.

The operator uses a small, tablet-sized control panel and a tactical low-power data-link to operate and control the weapon. The Green Dragon has a built-in ‘abort and go around’ capability to prevent unnecessary collateral damage and mistaken targeting. The unique combination of small footprint on deck, wide launch envelope, silent operation, long mission endurance, long-range communication and pinpoint accuracy, coupled with safer ‘in canister’ logistics, makes the Green Dragon an ideal ‘sensor to shooter’ cost-effective weapon to naval vessels.

Boaz Levi, Executive Vice President and General Manager of Systems, Missiles & Space Group said: “IAI’s advanced loitering munitions offer an operational solution to the complex naval arena with a special emphasis to the asymmetrical warfare that navies experience today. The new adjustments made to the Green Dragon provide an excellent tactical solution for Combat Ships, Offshore Patrol Vessels and Patrol Boats. The unique organic independent capabilities provide an operational flexibility to the naval commanding level, both at the intelligence level and at the operational level”.

“The recent trials in the Green Dragon fully demonstrate its advanced technological capabilities, efficiency and accuracy as well as its operational advantages”, Levi added.

IAI’s family of loitering munitions includes the Harpy, Harpy NG, Harop, Rotem and Green Dragon.

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IAI’s family of loitering munitions includes the Harpy, Harpy NG, Harop, Rotem and Green Dragon.
Alpha, Elbit to Expand Existing JVC

Alpha Design Technologies Pvt. Ltd., a leading Bengaluru-based manufacturer and technological services provider in India’s defence and paramilitary markets, has announced the inking of an agreement with Elbit Security Systems Ltd (ELSEC), Israel for expansion of the existing JVC ‘Alpha-Elsec Defence & Aerospace Systems Pvt Ltd’. The agreement was inked as part of Prime Minister Shri. Narendra Modi’s visit to Israel.

The inking of this agreement enhances the scope of operation of the JVC into niche technological areas such as new generation thermal imaging equipment, state-of-art fire control systems, unmanned aerial systems (UAS) under the mini, medium-sized UAV category, in addition to night vision devices, laser range finders, laser pointers, reflex sights, among others.

Mr. Elad Aharonson, Executive Vice President and General Manager – ELBIT – ISTAR Division, said, “Together with Alpha Design, we have successfully completed two major contracts for the upgradation of armoured vehicles - thermal imaging sighting kit – 969 sets for the BMP-2 and thermal imaging-based fire control systems – 1,000 sets for the T-72, including providing installation and lifecycle support for these systems to the Indian Defence Forces. This success has given a big boost to our partnership and the expanded JVC platform would combine the development capabilities accumulated within Elbit in the opto-electronic and the mini, medium-sized UAV segment with Alpha Design’s advanced production and technological capabilities to offer the most advanced systems to India’s Defence Forces.”

Col. H.S. Shankar, VSM (Retd), Chairman & Managing Director, Alpha Design Technologies, said, “The agreement is a major milestone for a private sector company in the MSME segment to form a strategic partnership with a global leader like Elbit. This JVC would combine the excellent technological capabilities of Elbit with the young and talented manpower resources of Alpha Design to form a centre of excellence in thermal imager technology. In addition to meeting the Indian defence market demands, the JVC’s focus would be to cater to the exports business opportunity of minimum 50%. This platform would bring FDI into the country and also generate employment for engineers, technologists, skilled technicians and other related staff functions.”
Pratt & Whitney’s F119 Clocks 500,000 Engine Flight Hours

The F119 engine powers Lockheed Martin’s F-22 Raptor. There are nearly 200 F119-powered F-22 Raptors currently in service with the U.S. Air Force. The F119 features a combination of stealth technologies and a unique thrust-vectoring nozzle that allows unprecedented speed, agility, precision and situational awareness.

The F119 program’s achievement of exceeding 500,000 engine flight hours powering the F-22 Raptor is a testament to the Pratt & Whitney team and our proven fifth generation engine technology,” said Amanda Glode, F19 Program Director at Pratt & Whitney. “We look forward to continuing to support our U.S. Air Force customer and the F-22 fleet for many more years and milestones ahead,” said Ms. Glode. While the final production F119 engine was delivered in January 2013, Pratt & Whitney anticipates a 30 to 40-year sustainment period to keep the F-22 Raptor flying. Two F119 engines power the F-22 Raptor, delivering unparalleled aircraft maneuverability and operational capability. The F119 features a combination of stealth technologies and a unique thrust-vectoring nozzle that allows unprecedented speed, agility, precision and situational awareness. Additionally, the F-22’s ability to operate at supersonic speeds without afterburner, known as supercruising, gives the aircraft exceptional combat performance without compromising mission range.

There are nearly 200 F119-powered F-22 Raptors currently in service with the U.S. Air Force, operating from Joint Base Langley-Eustis, Virginia; Edwards AFB, California; Nellis AFB, Nevada; Tyndall AFB, Florida; Joint Base Pearl Harbor-Hickam, Hawaii; and Joint Base Elmendorf-Richardson, Alaska. Since entering service in December 2005, the F119 propulsion system has demonstrated an exceptional track record in terms of safety, reliability and performance over the course of more than 200,000 flights. The F119 shares similar core components with the F135 engine, the only engine powering the fifth generation F-35 Lightning II. The common technology derived from the F119 continues to offer a significant advantage to the F135 with respect to maturity and single engine safety. “As the only propulsion system provider for the F-22 Raptor, delivering unparalleled engine performance, the system supplied by Altran and Luciad provides a functional and intuitive user interface. ‘LuciadLightspeed’, takes into account every one of our data formats. Furthermore, this product offers 2D, 3D and 4D capabilities. Its performance, the system supplied by Altran and Luciad was a determining factor in the decision to deploy it among our development teams for uploading to mission calculators. A product with great added value that was tailored to their environment and needs, we were able to stand out together,” added Fabrice Mariaud, Director, Program Management & Innovation, Altran France. “We are now partners with Altran. Together, we are able to tackle our client’s most crucial projects, which require both cutting-edge technology and functional solutions that is tailored to their needs, while simultaneously managing its integration and adaptation within their existing software ecology,” said Jérôme Lutz, Director of Luciad France.

Altran, Luciad On Board with Dassault Aviation for OPERA

In search of an innovative technological solution that would be precise, comprehensive and tailored to its constraints, Dassault Aviation has chosen to work with Altran and Luciad in order to design its Mission Preparation System, known as OPERA, for its RAFALE and Mirage 2000 fighter jets.

The relevance and accuracy of geographic information is a key component for mission success. OPERA is a user-friendly system, dedicated to the preparation of training or combat missions. Firstly, it makes it possible to prepare a mission by supplying pilots with all necessary information (aerial photographs, satellite coverage of terrain, aeronautical charts, 2D/3D topography, targets, allied and enemy troops and so on...). OPERA allows the mission to be rehearsed in order to validate tactical choices. Once this stage is completed, data are converted to a dedicated format for uploading to mission calculators. In addition to its outstanding software performance, the system supplied by Altran and Luciad provides a functional and intuitive user interface. ‘LuciadLightspeed’, takes into account every one of our data formats. Furthermore, this product offers 2D, 3D and 4D capabilities. Its performance, the system supplied by Altran and Luciad was a determining factor in the decision to deploy it among our development teams for uploading to mission calculators. A product with great added value that was tailored to their environment and needs, we were able to stand out together,” added Fabrice Mariaud, Director, Program Management & Innovation, Altran France. “We are now partners with Altran. Together, we are able to tackle our client’s most crucial projects, which require both cutting-edge technology and functional solutions that is tailored to their needs, while simultaneously managing its integration and adaptation within their existing software ecology,” said Jérôme Lutz, Director of Luciad France.

Liebherr-Aerospace Bags Airbus Helicopters’ Supplier Awards

Liebherr-Aerospace has received two Supplier Awards from Airbus Helicopters during a ceremony at their plant in Dugny near Le Bourget, Paris (France).

Matthew Louvet, SVP Support & Services of Airbus Helicopters (left), and Jean-Luc Maingé, Managing Director of Liebherr-Aerospace Toulouse SAS with the Award ‘Best Performer 2016 – Silver’ in Customer Support & Services

NEW DIRECTOR FOR CAIR

Manimozhi Theodore, Scientist G, has been appointed Director of Centre for Artificial Intelligence and Robotics (CAIR), a prestigious establishment under DRDO. She has taken over the charge from Athithan, Distinguished scientist and Director General (MED) who was holding the Additional charge as Director after the voluntary retirement of Sanjay Burman, Distinguished scientist and former Director. Manimozhi Theodore joined LRDRE, DRDO in 1984 and later CAIR, DRDO in 2000. She graduated from the prestigious institute of I ISc, Bangalore in Robotics in the year 1991. In her stint at both LRDE and CAIR, she has contributed and led projects in the field of Net Centric C3I systems, Communication Systems and System Quality Assurance. She was awarded the DRDO Performance Excellence Award (2007) and Scientist of the Year Award (2010). Armed with her expertise and leadership skills she is poised to take CAIR to greater heights with meaningful user interactions and focus on delivery to the nation at large.
Aerostructures: Cyclone, Mahindra to Collaborate

Mr. Arvind Mehra, Executive Director & CEO, Mahindra Aerospace; Mr. S P Shukla, Chairman, Mahindra Aerospace, and Group President-Aerospace & Defence, Mahindra Group; Mr. Yoram Shmuely, Executive Vice President & GM, Aerospace Division, Elbit Systems; Mr. David Vidan, General Manager, Elbit Systems-Cyclone; and Mr. Eitan Cohen, VP, Business Development & Programs, Elbit Systems-Cyclone at the signing of the MoU.

Under the arrangement, Elbit Systems–Cyclone of Israel will source content for their existing work packages from Mahindra Aerostructures of India, and the two companies will also team up on new work opportunities, leveraging each other’s strengths, capacities and capabilities. The MoU signed between the two companies also addresses the Make in India initiatives of the Indian Government.

A Memorandum of Understanding (MoU) to collaborate on the production of aerostructures parts and assemblies was signed at the Paris Air Show between Elbit Systems–Cyclone (‘Cyclone’) of Israel and Mahindra Aerostructures (‘Mahindra’) of India.

Under this arrangement, Cyclone will source content for their existing work packages from Mahindra, and the two companies will also team up on new work opportunities, leveraging each other’s strengths, capacities and capabilities. Mahindra currently operates a large aerostructures manufacturing facility near Bengaluru. The plant produces parts for its global customer base, which includes reputed OEMs and Tier 1s, and is also exporting primary structural assemblies for the Mahindra Airvan II aircraft.

Cyclone, a wholly-owned subsidiary of Elbit Systems Ltd., serves as Elbit Systems’ design and manufacturing centre for composite and metal structural aircraft assemblies and parts for leading aerospace companies and OEMs. Cyclone’s prestigious customer base includes Boeing (commercial and military), Bombardier, Lockheed Martin, Northrop Grumman, Spirit Aerosystems, Sikorsky, Textron Aviation, Triumph and others. Over the last five decades, Cyclone has designed and produced unique assemblies for civil and military aircraft. Mr. S P Shukla, Chairman, Mahindra Aerospace and Group President-Aerospace & Defence, Mahindra Group, observed that, “Both entities are part of large business houses with diversified yet complementary interests in Aerospace & Defence. With this first step of collaboration, we expect to offer robust and cost-effective options for global customers, and also address the Make in India initiatives of the Indian Government.”

“Mahindra Aerospace has always believed in the power of collaboration within the industry to provide our customers with best-cost solutions that creatively combine our capabilities and technical strengths,” said Mr. Arvind Mehra, Executive Director & CEO of Mahindra Aerospace (parent of Mahindra Aerostructures). “Cyclone and Mahindra have a lot to offer to each other, and we are bullish on the potential of our journey together” he added.

Mr. Yoram Shmuely, Executive Vice President and General Manager of the Aerospace Division, Elbit Systems, commented: “We are focused on satisfying our customers, and we strongly believe that this cooperation will provide solutions of optimal affordability”. “Cyclone has worked continuously to expand its footprint in new markets to meet its growth goals. The agreement with Mahindra is a step forward in that direction, and we are eager to build upon this partnership to provide more value to our combined customer base. With this collaboration, we anticipate expanding our activity in India” explained Mr. David Vidan, General Manager of Elbit Systems-Cyclone.

AEROSPACE & DEFENCE CLUSTERS IN INDIA

Society of Indian Aerospace Technologies and Industries (SIATI) with support of Defence PSUs, DRDO, ISRO, NAL and armed forces has been able to create a large number of aerospace and defence clusters in different regions of India. Several individuals and entrepreneurs have taken initiatives to develop industry clusters with small and medium scale industries in different regions with support of local authorities. These industry clusters of small and medium scale industries have emerged as cost effective supply chain partners for Indian and foreign aerospace industries. Some have excellent R&D Capabilities.

SIATI invites overseas industries particularly aerospace industries of Russia and the aircraft engines and aggregate manufacturers to find partners from India’s large number of SIATI member industries.

For a detailed listing of the Aerospace & Defence industries and their capabilities, please refer to the Aerospace & Defence Directory.

Geographical distribution of these clusters are shown in the map.

For connecting with SIATI, please contact:
Wg Cdr Venugopal Menon, Senior Executive Officer, Tele : +91-80-25219951 / 25275262, Fax: +91-80-25292440, E-mail: office@siati.org / v.menon@siati.org
Web: www.siati.org
Israel Aerospace Industries Ltd. (IAI), Dynamic Technologies Ltd (DTL) and Elcom Systems Private Limited have announced their cooperation to jointly address the needs of the Indian UAV market. This announcement followed the signing by the companies of a teaming agreement regarding the production, assembly and support of UAVs in India, during the visit of India’s Prime Minister Narendra Modi to Israel. The cooperation agreement supports the existing infrastructure in India for current MRO (Maintenance Repair and Overhaul) programmes, while advancing the Indian government’s ‘Make in India’ initiative as well. The cooperation between the three companies will provide the best solution for the Indian armed forces, based on the transfer of state-of-the-art UAV technology and production capabilities from IAI to DTL and Elcom, in order to enable indigenous capability for UAV systems.

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Address for Communication

Aeromag Asia,
Aeronautical Society of India Building, Suranjandas Road, Off Old Madras Road,
Bengaluru 560075, Karnataka, INDIA.
Tel +91 948447509, +91 80 -25284145
Email: editor@aeromag.in / www.aeromag.in
When NASA made history by launching the X-43A, automatically-generated flight code was at the controls for the vehicle’s propulsion and stability systems. Engineers developed the autopilot within a radically reduced timeframe using Model-Based Design and Simulink. To learn more, go to mathworks.in/mbd

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