



Click here or visit [www.epicos.com](http://www.epicos.com)

**Volume 9 Number 09** – Wednesday, 01 March 2017

**Part I:**      *A&D Industry Analysis of Selected Countries*

1. Switzerland: A&D Industrial Capabilities
2. Belgian Security and Defence Industry
3. Danish Defence Industry
4. Indian Defence Industry: Capabilities, Turnover and International Cooperative schemes
5. Epicos “Industrial Cooperation and Offset Projects”
6. Manufacturing of composite material and thermoforming parts and components for the aerospace and defense industry
7. Non-destructive Testing (NDT) apparatuses calibration services for the aerospace and defence industry

**Part II: Epicos Events**

1. 8th Annual Air Mission Planning and Support 2017, 5-6 April, London, United Kingdom
2. 12th Annual Military Space Situational Awareness 2017, 26-27 April, London, UK
3. Future Soldier Technology 2017, 13-14 March, London, United Kingdom
4. Defence Logistics Central and Eastern Europe 2017, 7-8 March, Prague, Czech Republic
5. Future Armoured Vehicles Situational Awareness 2017, 29-30 March, Copthorne Tara Hotel, Kensington, London, UK

## Switzerland: A&D Industrial Capabilities



The Swiss Aerospace and Defence (A&D) industrial base has a broad spectrum of capabilities, as local companies have the ability to develop and manufacture a range of equipment in the land, sea and air segments. Nevertheless, one should mention that their ability to manufacture advanced platforms and systems is rather limited at present. Currently, domestic industry's capabilities includes the development and

manufacturing of small arms, weapons and ammunition, armoured vehicles, C4I/STAR systems, encryption systems, optronic equipment and instruments, radar installations and IT security systems, as well as components and tools for the aerospace industry. Finally, Swiss companies are partners in many major international aerostructure and engine projects. The Swiss defence, aerospace and security industry is represented by SWISS "ASD" (Aeronautics, Security and Defence) division of Swissmem. SWISS "ASD" has approximately 50 member companies, which, according to the latest data, provide jobs to some 10,000 employees.

According to official estimations Swiss aerospace industry comprised of 500 companies. The vast majority of the Swiss aerospace companies are Small and Medium Sized Enterprises (SMEs), employing less than 260 employees. This structure is more or less the same as the one Swiss industry follows in general.

The core competencies of the industry lies on the development and construction of subsystems for space applications, software development and satellite navigation, as well as supplying of aircraft components. Additionally, the Maintenance, Repair and Overhaul (MRO) sector is a key business sector of the Swiss aerospace industry as the country is home of the two biggest independent MRO companies, SR Technics and Jet Aviation. SR Technics is a world leading MRO service provider for aircraft, engines and components along with engineering services and training. On the other hand Jet Aviation's maintenance facilities are approved by all major manufacturers and rated as jet aircraft repair stations by aviation authorities worldwide.

Pilatus is the jewel in the crown of the Swiss Aerospace Industry. With some 1900 employees and total sales reaching 1.122 billion Swiss Franc -CHF- (1.08 billion US dollars) in 2015, Pilatus is the only Swiss company to develop, produce and sell aircraft to customers around the world. Asia is the biggest market for Pilatus, as in 2015, 65% of the Swiss company sales were directed towards this region. Asia is followed by Americas (32.1% of total sales), Europe (7.7%), Oceania (2.1%) and Africa (2.1%).

Pilatus is the manufacturer of PC-21 a single-turboprop, low-wing swept monoplane advanced trainer which is currently in operation with 7 air forces around the world. More specifically, Swiss air force currently operates 8 PC-21 aircraft, the Republic of Singapore Air Force 19, UAEs Air Force 25, the Royal Saudi Air Force 55 and the Qatar Emiri Air Force 24. More on that, Australian Defence Forces has signed a contract for the purchase of 49 PC-21 in 2015. Deliveries are expected to commence in June 2017. The PC-21s are expected to form the backbone of future pilot training for the Australian Defence Force for the next 25 years. Finally, in 2016, the Royal Jordanian Air Force ordered 8 PC-21 aircraft.

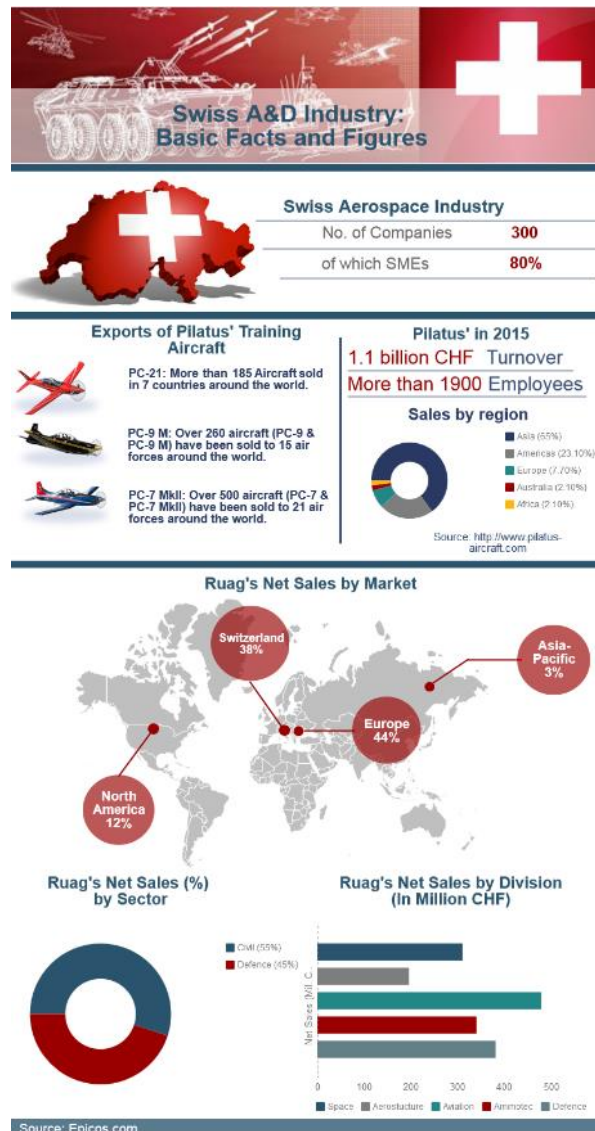


Another Pilatus aircraft with export successes is the PC-7, which among others have been exported to India. In May 2012, Indian Ministry of Defence has signed a contract with Pilatus for the delivery of 75 PC-7s. In November 2015 the last Pilatus PC-7 Aircraft was delivered to the Indian Air Force (IAF), closing a delivering process which began in February 2013.

Ruag is the leading defence company in Switzerland. With technological capabilities on the land, air and space sectors, Ruag currently employs 8,100 personnel at production locations in Switzerland, Germany, Sweden, Finland, France, Austria, Hungary, Australia and the USA. Among others, Ruag is specialized in maintaining and upgrading heavy weapon and communication systems, as well as virtual and live simulators. Additionally, its Ammotec division is a market leader in small-calibre ammunition, pyrotechnic elements and components for the Hunting & Sports and Defence & Law Enforcement sectors.

In 2015, Ruag's earnings before interest and taxes reached 137 million CHF (133.6 million US dollars) increased by approximately 21% compared to the previous year. Sales of civil products accounted for 55% of the company's net sales, while the remaining 45% was generated by the defence division of the company. The Federal Department of Defence, Civil Protection and Sport (DDPS) was the biggest customer of Ruag in 2015 as 32% of the company's sales were directed to the abovementioned department. Moreover, 62% of net sales were generated through exports. Europe was the biggest foreign market for Ruag, as it absorbed 44% of the company's net sales. Europe was followed by North America (12%) and the Asia/ Pacific region (3%).

Finally, one should mention that Ruag's expenditure on Research and Development (R&D) rose by 4.3% in 2015, compared to the previous year, totaling 146 million CHF (142.3 million US dollars) equivalent to 8% of the company's total sales.



## Belgian Security and Defence Industry

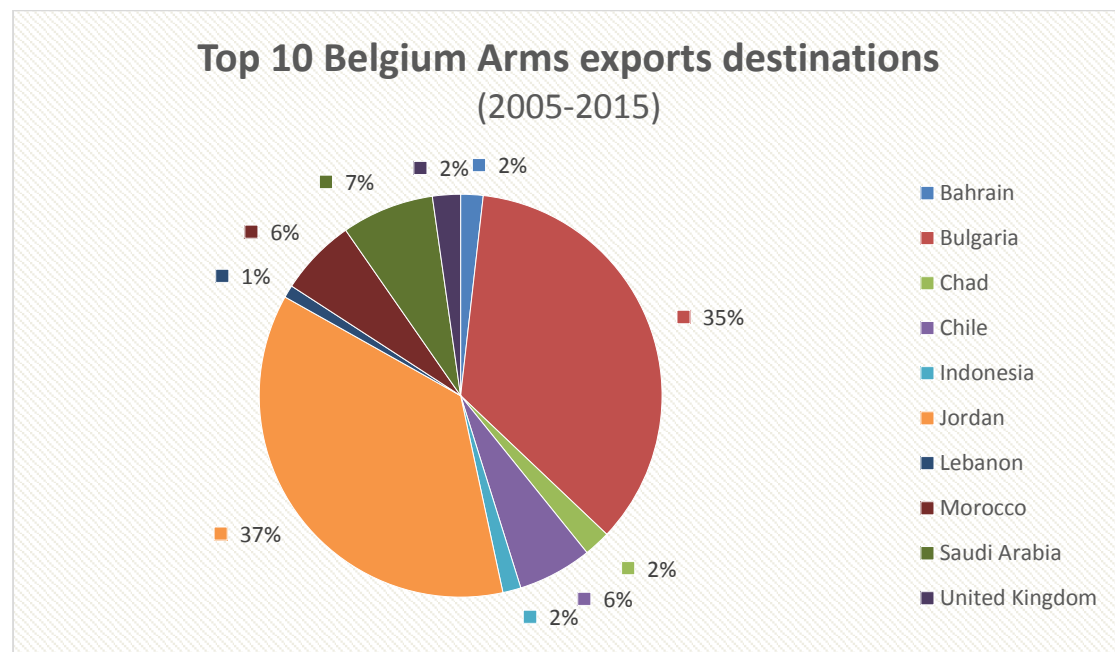


# DEFENSIE

The acquisition of the F16s in 1975, has a significant impact even today, to the country's Defence Sector. Under this collaborative-purchase (of Belgium, Denmark, Norway and the Netherlands) – which can be seen as one of the first “Pool & Share” initiatives, as well as offset programs worldwide-, technical and organisational skills were acquired, new markets were opened for the country's industrial sector, enabling Belgian companies to develop long-lasting relationships with European and American firms. In light of this, Belgian companies were selected for the development, manufacturing and after-sales services of spare parts and equipment for Airbus aircraft and Ariane (rocket family) projects. Since then, a series of projects, within the context of “Pool & Share”, have been realised by the Belgian Defence industrial sector, such as the A400M transport aircraft, where Belgian companies contribute as far as the landing gear doors, leading edges, flap supports and skins, resulting in a work-share in excess of €500 million for Belgium.

Under such initiatives, the Aerospace, Defence & Security sector of the country has evolved significantly in recent years, overriding other sectors of the Belgian Industry.

During the 2005-2015 decade, major Arms exports by the country included Ships, Aircraft and armoured vehicles, with the top exports' destinations being Jordan (37%), Bulgaria (35%), Chad (7%), Chile (6%) and Morocco (6%) .



Source: <http://armstrade.sipri.org/armstrade/page/values.php>

Moreover, it should not be omitted, that between only 2010 and 2012, the Belgian Defence sector signed contracts with national firms, of more than €950 million. Further, in 2015, turnover by the sector increased by 10.5%, while the ICT (Information Communication Technologies) sector followed, with only a 6.5% increase.

With the main objectives being the safeguarding and promotion of the member companies and their products, domestically and internationally, the Belgian Security and Defence Industry (BSDI) association, part of the AGORIA organisation, was created as per the request of Belgian authorities, the National Armaments Director (NAD) and all the Belgian Industries. Having a €1.5 billion turnover and with 90% of its production being exported, the BSDI companies employ today some 15,000 people.



Source: <http://www.agoria.be/en/bsdi>

The member companies' activities, consist in the development of telecommunication systems, aeronautical and space systems (such as metallic and composite structures, wiring assemblies and optical fibres, propulsion systems, avionics, satellite payloads and ground systems), protective equipment, weapons and ammunition, night vision systems, composite materials, armoured vehicles, flexible containers and software solutions. The high level of technology of its members -including Esterline, Sonaca, Safran, Thales, Simtech, FN Herstal and Asco- is favoured many times in international cooperation programs within Europe, as well as internationally.

It should be noted that the derived value of the Belgian Security & Defence Industry, can be measured also at the communal level (through employment and products manufacturing), as well as in indirect effects, resulting from the acquisition of cutting-edge technology, expertise and research. Considering the latter, local Defence Industry has always contributed to the progress in the fields of geology, environmental monitoring, fishing and education.



## Danish Defence Industry



Denmark has approximately 450 companies supplying products and services to the wider defence, security and aerospace industries. These companies are primarily subcontractors, specialised in niche markets. The annual turnover of the Danish Defence Industry, has fluctuated somewhere between €240 and €400 million over the last 5 years. In 2015, the total annual revenue of the Danish Defence Industry increased by some €36 million to €338 million, when compared to the 2014 results. Moreover, due to the projected large national procurements (as per above), associated revenues are expected to record further growth, in the next few years. As an example, as a result of the mid-2016 decision to replace the ageing F-16s with 27 state-of-the-art F-35 aircraft, the Danish government hopes that the eventual value in spin-off (industrial participation) contracts for the local industry, could exceed the total capital investment cost for the programme, of some US \$8.5 Billion.

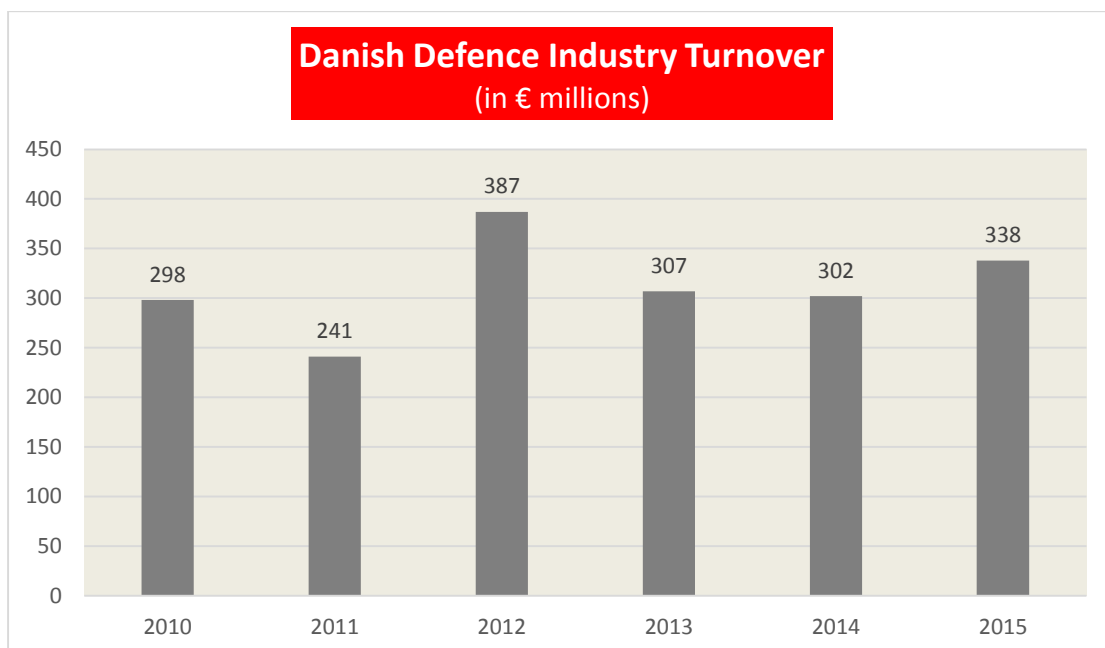


Chart Source:

<http://fad.di.dk/About%20FAD/Newsandpress/Pages/TurnoverofDanishdefenceindustry2015.aspx>

A large number of Danish Defence industry companies develop defence electronics, including software, command and control systems, surveillance and radar technology, as well as ammunition, ballistic protection solutions, minesweeping equipment, parts and systems for armoured vehicles and naval vessels.

In the Aerospace domain, Danish companies provide electronic and mechanical components for aircraft, helicopters and missiles, in addition to certification, support, maintenance and training services. In addition, in relation to space-based platforms, for commercial and/or

military purposes, Danish companies provide high-tech electronics for satellites and space rockets.

Danish defence companies rely heavily on exports to western allies, as about 80% of their products are sold abroad, while more specifically, about 50% of these exports are destined for the US and the other 50% for EU countries, mainly the UK, Sweden, Norway, France, Germany, Finland and Spain.

In the frame of the sizable on-going and future defence acquisitions by the country up to 2025 (as per in previous), export sales of the indigenous defence industry are expected to grow, especially in relation to parts, components and systems integrated in fighter aircraft, maritime helicopters, armoured personnel carriers, radars and communication systems, surveillance and cyber security solutions. To this end, and with the same horizon (i.e. up to 2025), the Danish Defence Ministry has foreseen some €6.3 billion, for capabilities' building.

FAD is the national organisation of the Danish defence, security, aerospace and space industry and the focal point of all matters relating to this, at a national and international level. Acting on behalf of the Danish Defence, Security and Aerospace industries, FAD is the forum for networking, cooperation and coordination in Denmark. In addition, FAD is actively involved in the development of policies affecting the aforementioned sectors, and represents the industry in EDA (European Defence Agency), ASD (Aerospace and Defence Industries Association of Europe), NIAG (NATO Industrial Advisory Group), NORDEFCO (Nordic Defence Cooperation) and other international organisations.

FAD is divided in in permanent industry groups, in which members can develop their business in a specific field of interest. Specifically, the following industry groups have been established under FAD:

- FAD Land (19 member companies)
- FAD Space (15 member companies)
- Danish Industry Fighter Aircraft Group (DIFAT) (17 member companies)
- Helicopter Group (10 members)
- Allied Ground Surveillance (AGS) Group (6 member companies)

There is a prevalent belief from both members of the Danish Armed Forces, as well as NATO's R&D community, that Denmark does not invest significant efforts or resources in R&D for Defence. To an extent this can be justified due to the small size of the Danish Armed Forces and the fact that Denmark has traditionally relied on COTS/MOTS technologies, but also in part as a conscious choice of this Scandinavian country. However, considering the new 'hybrid' risks that arise worldwide and the fact that Denmark has opted-out of the EU's CSDP (Common Security and Defence Policy), which as a result excludes the country from collaborating in EDA programmes, it seems imperative for Denmark to invest further in R&D for defence applications.

## Indian Defence Industry: Capabilities, Turnover and International Cooperative schemes



One of the main objectives of India, regarding defence equipment is the achievement of self-sufficiency in defence production. Currently the country is far from achieving this goal as according to estimations nearly 70% of the defence requirements are met through imports, with only 30% being met through domestic production. In order to achieve this, the Indian government has enhanced the services and products provided by the Ordnance Factories and Defence Public Sector Undertakings (DPSUs). The products manufactured include arms and ammunition, tanks, armoured vehicles, heavy vehicles, fighter aircraft and helicopters, warships, submarines, missiles, ammunition, electronic equipment, earth moving equipment, special alloys and special purpose steels.

Ordnance Factories is an industrial setup functioning under the Ministry of Defence. They include among others the following: 41 factories, 9 training institutes and 3 regional marketing centres. The 41 factories are geographically distributed as following:

Name of State/ Union Territory	Number of factories
Maharashtra	10
Uttar Pradesh	9
Madhya Pradesh	6
Tamil Nadu	6
West Bengal	4
Uttaranchal	2
Andhra Pradesh	1
Chandigarh	1
Orissa	1
Bihar	1

Source: <http://ofbindia.gov.in/>

Hindustan Aeronautics Limited (HAL) is the largest DPSU. HAL has established itself as a comprehensive solution provider to the Indian Armed Forces in the field of aviation, providing products such as fighter aircraft, trainer aircraft and helicopters. The Indian Army is the biggest customer of HAL, as the vast majority (97%) of the company's sales are destined to cover the needs of the local army. HAL has 20 Production Divisions, 11 R&D Centres and one Facility Management Division.

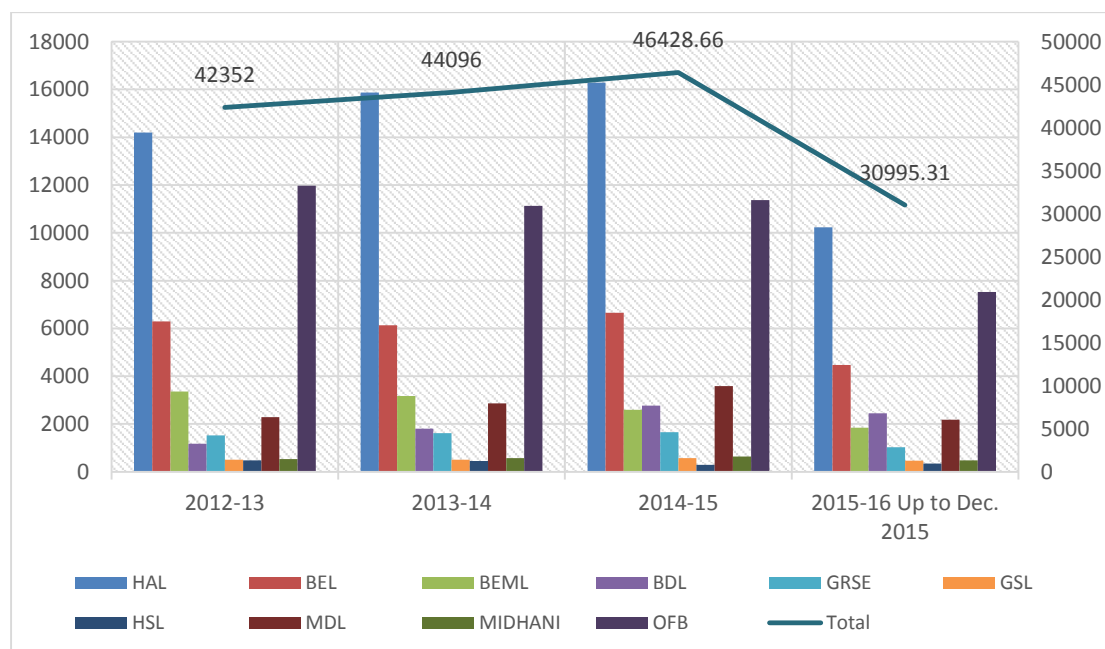
Other important DPSUs are the following:

- Bharat Electronics Limited (BEL)
- Bharat Dynamics Limited (BDL)
- BEML Limited (BEML)
- Mishra Dhatu Nigam Limited (MIDHANI)
- Mazagon Dock Limited (MDL)
- Garden Reach Shipbuilders & Engineers Limited (GRSE)
- Goa Shipyard Limited (GSL)
- Hindustan Shipyard Limited (HSL)



The value of production of Defence PSUs & Ordnance Factories for the fiscal year 2013-14 was 43745 ₹ Crore (6.4 billion US dollars), while in 2014-15 it reached 46428.66 ₹ Crore (6.8 billion US dollars).

Value of Production of Defence PSUs and OFB in ₹ Crore



	2012-13	2013-14	2014-15	2015-16 (up to Dec, 2015)
HAL	14202	15867	16289	10228
Bharat Electronics Limited (BEL)	6290	6127	6659	4466
BEML Limited (BEML)	3360	3165	2599	1840
Bharat Dynamics Limited (BDL)	1177	1804	2770	2446.7
Garden Reach Shipbuilders & Engineers Limited (GRSE)	1529	1611	1651.31	1030.95
Goa Shipyard Limited (GSL)	507	509	569.55	465.09
Hindustan Shipyard Limited (HSL)	484	453	294.16	340.16
Mazagon Dock Limited (MDL)	2291	2865	3592.6	2174.64
Mishra Dhatu Nigam Limited (MIDHANI)	537	572	640.04	477.77
Ordnance Factory Board (OFB)	11975	11123	11364	7526
Total	42352	44096	46428.66	30995.31

Source: Ministry of Defence, Government of India, Annual Report 2015-2016

The value of exports of all DPSUs and OFB for the FY 2015-16 (up to December 2015) was ₹ 1379.42 crore (202.8 million US dollars) as compared to ₹ 994.04 crore (146.2 million US dollars) in the FY 2014-15. Some of the major export destinations for Indian defence products in 2015 were Algeria, Afghanistan, Israel, Ecuador, Russia, UK, Indonesia, Nepal, Oman, Romania, Belgium, Vietnam, Myanmar, South Korea and Sudan. While the main defence products exported were Personal Protective Items, Offshore Patrol Vessels, Spares for Radar, Cheetal Helicopters, Turbo Chargers and Batteries, Electronic Systems (EOPOD ALH System) and Light Engineering Mechanical Parts.

As it is already mentioned, one of the main political and socioeconomic objectives of India, regarding defence, is the achievement of self-sufficiency in defence production. Offsets is one of the “tools” Indian government is currently using in order to develop the indigenous defence industry and in the long term to achieve self-sufficiency. Currently offsets in India are evolving into a more sophisticated tool reflecting the political decision of the Asian country to further enhance the local industry, so as to be able to efficiently equip the defence forces of the country and to establish a firm access to the global defence supply chain. Being one of the biggest buyers of defence equipment, India can draw immense benefits from implementing a concrete and meticulously targeted offset policy.

Additionally, it is worth mentioning that the opening of the strategic defence sector for private sector participation has already helped foreign Original Equipment Manufacturers (OEMs) to enter into strategic partnerships with Indian companies and leverage the domestic markets and also aim at global business. Besides helping build domestic capabilities, this will bolster exports in the long term. Some cases of OEMs investing in India’s defence industry are the following.

### **Airbus**

Airbus Group exceeded the US\$500 million annual procurement mark from India in 2015. Over 6,000 people at more than 45 suppliers, both public and private, are directly engaged in providing Engineering & IT Services, Aero-structures, Detail parts & Systems, Materials and Cabins to the Group for several of its leading platforms including A380, A350 XWB, A320 Family, A330, C295W, A400M, Eurofighter, Tiger and NH90. The Group has now set its sights on exceeding US\$2 billion in cumulative procurement, covering both civil and defence, in the five years up to 2020. Last year’s figures represent a 15% growth over 2014. Overall, Airbus Group’s procurement from India has grown 16 times in the last decade. Today, every Airbus commercial aircraft being produced is partly Made-in-India.

Hindustan Aeronautics Limited (HAL) makes half of the entire global production of the A320 Family forward passenger doors. Dynamatic Technologies makes flap track beams for the A320 Family on a global single source basis and was given the contract last year to manufacture them for the A330 Family. Flap track beams are the assemblies on which the wings extend and retract every time the aircraft takes-off and lands.

Companies such as Tata, Mahindra and AEQUS, manufacture sub-assemblies and detail parts across Airbus programmes. AEQUS recently inaugurated a dedicated machining facility in Belagavi, the largest of its kind in India, adding to a pre-existing sheet metal, assembly and forging facility and special process operations for Airbus commercial aircraft programmes.

Tata Advanced Materials Ltd. (TAML) provides composite parts for the wing for the A350 XWB and A320 programmes while another Tata Group company, TAL Manufacturing solutions, supplied over 500 sheet metal and machined parts and sub-assemblies for the A320 programme. In addition, Tata Advanced Systems Ltd. (TASL) will supply refuelling pods for the A330 MRTT to Airbus Defence and Space via Cobham.

Wipro has received technology transfer from an Airbus Defence and Space Joint Venture company in Spain to manufacture more than 8000 aerospace actuators per year, which are then used in platforms such as A400M, CN235 and C295W. Another Indian company, Tech Mahindra provides consulting services on Quality and Business Support.

### **SAAB**

Saab and the Indian company Tata Power Strategic Engineering Division (Tata Power SED) have started the process of manufacturing Self-Protection Systems for Land-based Platforms. The partnership will also involve joint development of the next generation Self-Protection System. The process of Transfer of Technology (ToT) and the production of initial orders for Saab's global customers have already started at the Indian company's facility in Bangalore.

### **Boeing**

Under the "Make in India" initiative, Boeing is developing an indigenous aerospace and defence ecosystem in India, focusing on capitalizing on India's competencies to build a supply-chain capability that will be globally competitive. This ecosystem will on the long run, support the production of a wide range of Boeing's aerospace and defence programs.

Recently, the US giant formed a Joint Venture (JV) with the Indian company Tata Advanced Systems Limited (TASL). The scope of the JV is for the two companies to collaborate in aerospace and defence manufacturing and potential integrated systems development opportunities, including unmanned aerial vehicles.

In September 2014, Dynamatic Technologies and Boeing inaugurated a plant to manufacture critical parts for the Chinook Heavy Lift Helicopters. Additionally, TAL Manufacturing Solutions Ltd. manufactures complex floor beams for the Boeing 787-9 Dreamliner and ground support equipment for the C-17.

Moreover, Dynamatic Technologies and Tata Advanced Materials Limited (TAML) have delivered P-8I power and mission equipment cabinets, and TAML is on contract to provide P-8I auxiliary power unit door fairings and composite tailcones for the P-8I. Avantel has delivered the mobile satellite systems for the P-8I and Maini. Cyient (formerly Infotech) currently provides design and stress support on the 747-8 Freighter and the 787-8 and 787-9.

Additionally, Bharat Electronics Limited (BEL) has delivered the Indian-designed Data Link II for the P-8I, the identification friend-or-foe interrogator, a battle management system that enables the aircraft to distinguish friendly aircraft and forces. Finally, BEL is on contract to provide F/A-18 flight deck cockpit panels, while Electronics Corporation of India (ECIL) has provided the speech secrecy systems for the P-8I.

Finally, Hindustan Aeronautics Ltd. (HAL) was the single-source producer of 757 overwing exit doors. HAL has also manufactured the 777 uplock boxes, F/A-18 gun bay doors, F/A-18 wire harnesses, P-8I weapons bay doors, and P-8I identification friend-or-foe transponders.

**BAE Systems**

Developing a supply chain in India is key to the company's vision to develop technologies and solutions in India for both the home market and for export. BAE Systems has been developing India as one of its five Home Markets since 2009, in addition to Australia, the Kingdom of Saudi Arabia, the United Kingdom and the United States.

Under this notion, Defence Land Systems India (DLSI), the company's joint venture with Mahindra & Mahindra, won an important order from the police in the Eastern state of Jharkhand for the company's mine protected vehicle. DLSI will use skills, technologies and knowledge transferred to the joint venture by BAE Systems South Africa. This is the first such vehicle to be indigenously designed and manufactured by a privately owned defence company in India.

**Lockheed Martin**

Today, Lockheed Martin's largest program in India is the C-130J Super Hercules, the first major military contract between the U.S. and India in more than 40 years. India has joined the growing list of first time C-130 operators with 72 countries now operating the aircraft. In addition, Lockheed Martin and Tata Advanced Systems Limited (TASL) have formed a joint venture company in India, for manufacturing airframe components for the C-130J.

**Israel Aerospace Industries (IAI)**

Israel Aerospace Industries (IAI) and India's Alpha Design Technologies have signed a teaming agreement for the production and marketing of mini-Unmanned Aerial Systems (UAS) in India. The IAI-Alpha cooperation includes IAI's Bird-Eye 400 and Bird-Eye 650 mini UAS as well as other mini-unmanned aerial systems, to accommodate the operational needs of Indian customers. Production of the systems will take place in India, while the marketing will be a joint effort of the two companies. Integration of additional applications and subsystems will be performed by Alpha in India with IAI's support.

## Epicos "Industrial Cooperation and Offset Projects"



Epicos "Industrial Cooperation and Offset Projects" provides a unique set of online tools enabling the structure, identification and implementation of comprehensive Offsets programs, through a searchable database. By introducing different offset projects and ideas proposed by local A&D industry it ensures the optimum cost for Prime Contractors and reassures that the priorities of local industry are fully met...

[For Further Information Press Here](#)

### Manufacturing of composite material and thermoforming parts and components for the aerospace and defense industry



A company with significant experience in manufacturing parts and components using composite material technology is proposing, in the frame of an offset program, cooperation with a Prime Contractor or lower tier companies, either locally or worldwide, for the

manufacturing of composite material parts and components, to be used in specific aerospace and defense programs.

[For Further Information Contact our ICO Department](#)

Mail at: [a-kintis@epicos.com](mailto:a-kintis@epicos.com)

### Non-destructive Testing (NDT) apparatuses calibration services for the aerospace and defence industry



A company specializing in the sales and servicing of non-destructive testing apparatuses, running a NAT-accredited MSZ EN ISO/IEC 17025:2005 calibrating laboratory, is proposing - in the frame of an offset program - collaboration with a prime contractor or a third party active within the NDT market, in order to provide its services, as a certified NDT apparatus calibration center for Eastern Europe.

[For Further Information Contact our ICO Department](#)

Mail at: [a-kintis@epicos.com](mailto:a-kintis@epicos.com)



## Epicos Events



### 8th Annual Air Mission Planning and Support 2017, 5-6 April, London, United Kingdom

Now in its 8th year, this highly focused event aims to uncover how leading nations are delivering their most advanced air mission planning and support systems to date. Exploring the strategies used to shape present and future structures of Air Forces around the world.

This year, boasts the most senior and international edition yet, covering key subjects like the F-35 Lighting II Joint Programme, improving interoperability between partner Air Forces and maximizing joint air capabilities to improve security and control across borders.

Be a part of this unique networking experience, where you will get an opportunity to meet and discuss with an elite speaker panel of 22 Commanding Officers and industry experts from: Canada, Czech Republic, France, Italy, Netherlands, Poland, UK and USA, at the forefront of air mission planning and support.

Reasons to attend:

- Hear updates on the F-35 Lighting II Joint Programme
- The only conference in Europe dedicated to air mission planning and support strategies
- 8 different nations speaking on their latest technology updates

Register by:

- 16th December to save £400
- 31st January to save £200
- 28th February to save £100

Register online at: [www.airmissionplanning.co.uk/epicos](http://www.airmissionplanning.co.uk/epicos)

**12th Annual Military Space Situational Awareness 2017, 26-27 April, London, UK**

This year's highly anticipated event will focus specifically on key situational awareness challenges in an increasingly contested, congested and competitive space.

Delegates will hear innovative presentations by leading industry and military figures, working with active projects aiming to enhance Space Domain Awareness for the international community, on their current requirements and capabilities within the armed forces. Covering solutions for the future and how to develop ways in which projects and programs can produce better results.

Key focuses:

- National updates on SSA
- Command and control
- Space weather
- Traffic management
- Optical and imaging sensors

Benefits of attending:

- Hear from new countries seeking to develop their space programmes such as Poland, Denmark, the Netherlands and many more
- Learn from leading nations such as USA, UK, France, Germany and Canada, on how they continue to enhance space security through Space Domain Awareness technologies
- Discuss key topics that affect space situational awareness; from space-borne sensors to effective information management systems
- Gain a unique insight in to the challenges we face beyond our atmosphere and how the armed forces and industry are striving to overcome them

Register by:

- 16th December to save £400
- 31st January to save £200
- 28th February to save £100

Register online at: [www.military-space.com/epicos](http://www.military-space.com/epicos)

**Future Soldier Technology 2017, 13-14 March, London, United Kingdom**

Soldier Modernisation remains a key priority for major defence forces around the world. How can dismounted soldiers have the most effective equipment that is as light as possible, protective and has sustainable power?

Future Soldier Technology 2017 is only conference solely dedicated to enhancing soldier modernisation programmes. With expert led presentations, from some of the world's leading authorities on future soldier systems, explore at this 2-day event, the greatest challenges and next generation solutions that are enabling infantry to conduct operations in today's and tomorrow's battlefields.

Key topics include: lightening the load and analysis of space for components, power and energy, body armour and night vision, communications and common integrated architecture.

There will also be 2 post conference workshops on:

- How to Do Business with the British Army for Soldier Modernisation
- Black Swans and Soldier Programme Management: A Look inside the US Army Technology and Equipment Acquisitions from Capability Setting To Procurement

Early Bird Discounts!

16th December to save £200

31st January to save £100

Register online at: [www.futuresoldiertechology.com/epicos](http://www.futuresoldiertechology.com/epicos)

**Defence Logistics Central and Eastern Europe 2017, 7-8 March, Prague, Czech Republic**

This conference will aim to share the challenges of new Logistic structures and how they are being overcome by national militaries and international institutions.

The key focus will be on specific aspects of logistics, with expert speakers covering their most pressing requirements such as: heavy-lift transport, supply chain management, demand forecasting and preparedness, MRO, lifecycle management, engineering support and much more.

**Event Highlights:**

- Leading Military Logisticians from the Czech Republic, Hungary, Slovakia, Sweden, Norway, Netherlands and Spain confirmed to attend, making this the most senior and focused logistics meeting in the region!
- Key topics to be focused on include: Transportation and Heavy Lift Capability, Logistics Command and Control, Fuel and Energy and Medical Support
- NEW for 2017 - a unique focus on NATO activities in the region and how individual nations are working together to support them
- Industry solutions will be showcased to leading military decision makers
- Plus there will be a half day, post-conference workshop on 'Supply Chain Management for the Modern Military', hosted by Brigadier (ret'd) Mark Dunn, Principal Consultant from Defence and Security PA Consulting

For more information please [press here](#)

**Future Armoured Vehicles Situational Awareness 2017, 29-30 March, Copthorne Tara Hotel, Kensington, London, UK**

SMi Group is thrilled to present the next annual conference in the sell-out portfolio of Armoured Vehicle events: Future Armoured Vehicles Situational Awareness 2017, taking place on 29th and 30th March, Central London, UK.

Firmly established as the leading conference for armoured vehicle experts focused on C2, C4i, sensors and optronics, the 2017 show invites not only the programme managers, capability directors and operational commanders from the armed forces, but will also provide a perfect platform for both operational users and industry to share their experiences in the enhancement of situational awareness, information gathering and information sharing.

Highlights will include a spotlight from combat vehicle market leaders such as Thales SAS, Leonardo and PSM, plus keynote from a global line-up of armed forces leading capability development including France, Germany, Israel, Netherlands, Norway, Spain, UK and USA.

The only conference of its kind exclusively dedicated to armoured vehicle situational awareness, will hone in on key topics surrounding vetronics architectures, sensor integration, CIS and battle management, plus much more!

**Featured Speakers Include:**

- Col Mike McCarthy, Chief, Land War Net Division, ARCIC, United States Army
- Col Manuel Jesus De Hoyos Sanchez, Head of the 8x8 Wheeled Combat Vehicle Programme, Spanish Army
- Maj Mick Lillie, SO2 Communication Vehicle Systems, Armoured Trials and Development Unit, British Army
- Maj Wouter Alexander Samson, Department of Defence, Manoeuvre Centre of Knowledge, Royal Netherlands Army
- Maj Eran Novak, Ground Forces Command, Weapons Department, C4I Project Officer, Israeli Defence Force
- Maj Ola Petter Odden, Development Officer, Combat Lab, Norwegian Army Land Warfare Centre
- Mr Stephane Chaigneau, Scorpion System of Systems Architect, Engineering Land Systems, DGA Land Systems, French MoD
- Mr Hans-Josef Maas, Armoured Fighting Vehicles Vetronics Project Leader, Federal Office of Bundeswehr Equipment and Information Technology, German MoD
- Mr Thierry Midavaine, Technical Director, Thales Optronique SAS
- Mr Guy Davies, Capability Manager, Vehicle Systems, Land and Naval Defence Electronics Division, Leonardo



· Mr Tobias Baumart, Project Manager, LAND 400 PUMA, PSM

"Last year's event saw over 120 like-minded individuals convene in London to realise this common goal, with General Dynamics Mission Systems, Rheinmetall, Defence Electronics, Selex-ES, Sagem, Thales, Saab, Nexter, Patria and IAI Elta being just some of the OEM technical leaders to lend their support." - Brigadier (ret) Ian Cameron-Mowat, Former Head of Force Protection, UK MoD, Director, IMP Castle Associates Limited

For further details or to register, visit <http://www.armouredvehicles-sa.com/EPICOS> or contact the team at Email / [events@smi-online.co.uk](mailto:events@smi-online.co.uk) | Tel: +44 (0)20 7827 6000