

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

1. South Korea: Defence Industry
2. Polish Aerospace and Defence Industry
3. Canadian Aerospace and Defence Industry: Output, Orientation and Main Products
4. Slovenian Defence Industry
5. Singapore Aerospace and Defence Industry: Current Capabilities
6. Epicos “Industrial Cooperation and Offset Projects”
7. Development of a fully networked autonomous, unattended trailer, equipped with surveillance sensors for homeland security applications and military camps protection
8. EMP/HPM protected system cabinets for Military and Homeland Security

Part II: Epicos Events

1. 7th Annual MilSatCom Asia Pacific 2017, 15-16 May, Grand Copthorne Waterfront Hotel, Singapore
2. 10th Annual Mobile Deployable Communications 2017, 2-3 February, Warsaw, Poland
3. 8th Annual Land Forces Simulation and Training 2017, 13-14 February, Central London, United Kingdom
4. 10th annual Border Security Conference 2017, 15-16 February, Rome, Italy
5. Network Enabled Capability Technology 2017, 1-2 February, Crowne Plaza Rome, St Peter’s, Rome, Italy

South Korea: Defence Industry



Ministry of National Defense
Republic of Korea

South Korea’s Aerospace and Defence (A&D) industry has a wide span of technological competencies and a broad portfolio of associated

products. Korean authorities have heavily relied on the country’s large industrial entities for the development of the domestic defence industry. Amongst them, Doosan Corporation Mottrol manufactures electro-hydraulic and drive systems for armoured personnel carriers (APCs) and Main Battle Tanks (MBT), as well as naval and aerospace assets; Hyundai Rotem produces state-of-the-art ground weapon systems, such as Main Battle Tanks (MBT) and Infantry Fighting Vehicles (IFVs); LIG Nex1 offers NCW (Network Centric Warfare) products, precise guided munitions, surveillance and reconnaissance as well as other weapon systems; Hanwha Techwin has capabilities in the manufacturing ,as well as in the Repair and Overhaul (R&O) of gas turbines installed in aircraft fighters, helicopters and marine vessels and in the development of artillery systems; Hyundai Heavy Industries has the technology to design and build submarines and naval vessels of various hull sizes and forms and finally Korea Aerospace Industries (KAI) develops, manufactures and maintains, advanced fixed wing and rotorcraft aircraft, UAVs and even space destined vehicles/satellites.

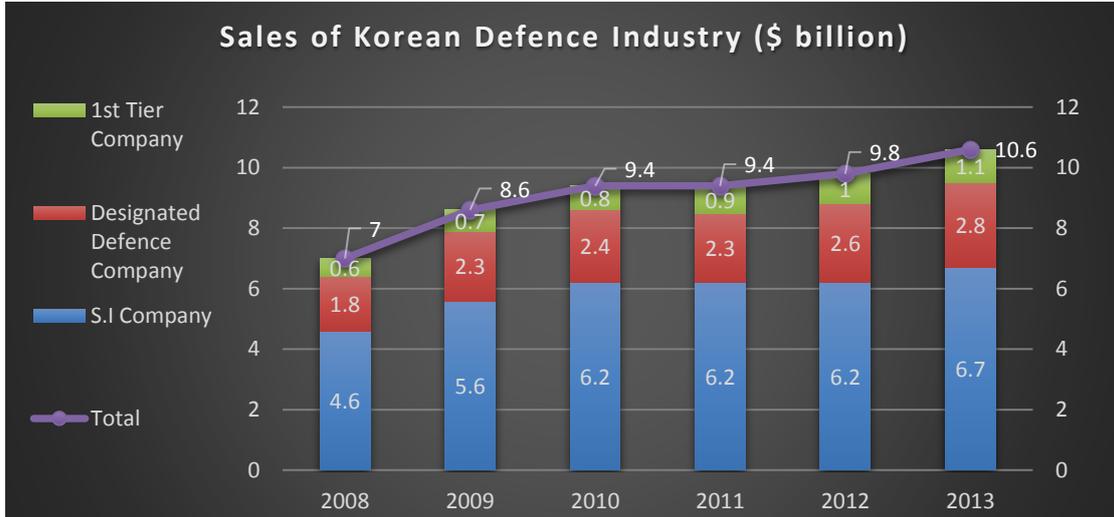
According to a report prepared by the Korean Institute for Industrial Economics and Trade (KIET), the vast majority of Korean defence companies, are 1st Tier companies, whereas only a relatively small proportion, varying from 5% in 2011, to 4.1% in 2013, were “System Integration” (S.I.) companies.



Type	Definition
*System Integration (S.I.) Company	Large defence company that mainly produces weapon systems registered with the Government, Defence Acquisition Program Administration (DAPA)
*Designated Defence Company	Defence company that mainly produces components registered with the Government, Defence Acquisition Program Administration (DAPA)
*1 st Tier Company	Small and Medium Enterprises that mainly produce associated parts, as a 1 st Tier supplier to Designated Defence Companies and 2 nd Tier supplier to S.I. companies

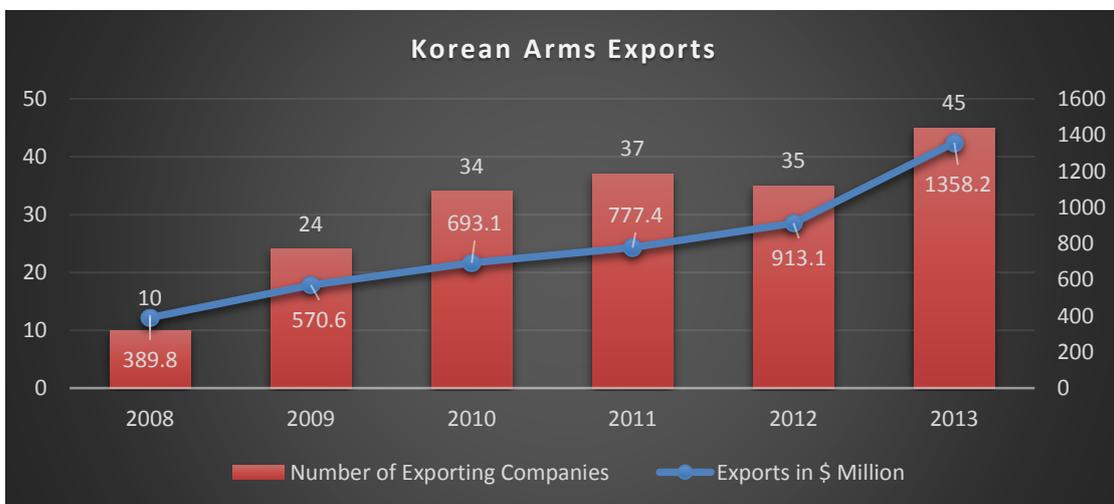
Source: The Korean Defence Industry 2014: Current Status and its Policy Implications, Korean Institute for Industrial Economics and Trade

The sales of the Korean defence industry totalled \$10.6 billion in 2013, an 8.2% increase compared to 2012. Defence S.I. companies accounted for 63.1% (\$6.7 bn) of the total related sales, while Designated Defence companies and 1st Tier companies combined, generated a total of \$3.9 bn in revenues from associated sales (36.9%). By type of weapon system, artillery's sales in 2013 ranked highest with \$3.2 billion (30%). Military aircraft and military vehicles ranked 2nd and 3rd, with \$2.3 billion (22%) and \$2.0 billion (19%), respectively.



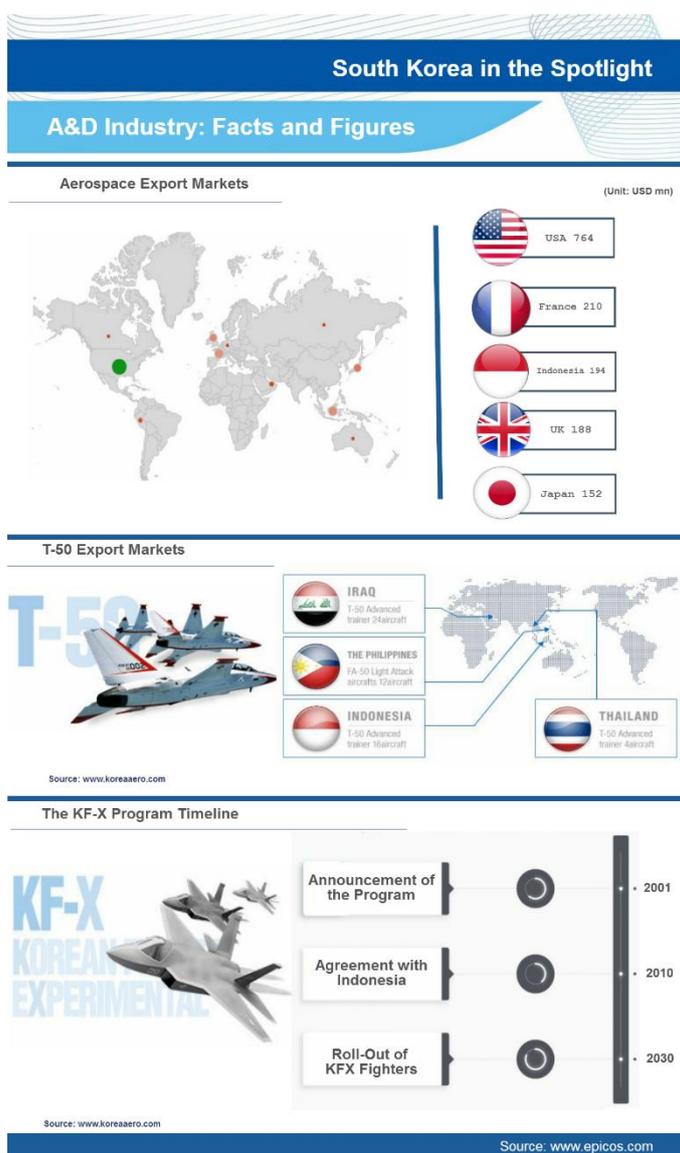
Source: The Korean Defence Industry 2014: Current Status and its Policy Implications, Korean Institute for Industrial Economics and Trade

Regarding exports, the Korean defence industry, in 2013, recorded total orders worth some \$1.36 billion, increased by 3.5 times, when compared to the amount of \$0.39 billion, recorded in 2008. Additionally, it is worth noting that 45 Korean companies exported defence equipment in 2013. Moreover, the arms export ratio, as a % of total sales, reached the 12.8% mark. Military aircraft were the predominant area of associated exports in 2013, with a total value of \$660 US m. (or 48.5% of total exports). The 2nd most important export direction was that of artillery equipment, with \$413 million (30.4% of total exports), whereas the 3rd most important direction was that of military vehicles, with \$184 million (13.5% of total exports).



Source: The Korean Defence Industry 2014: Current Status and its Policy Implications, Korean Institute for Industrial Economics and Trade

In 2013, the total amount invested by arms manufacturers in the Republic of Korea, was \$548 million, an increase of 28.1% compared to 2012. Moreover, the amount invested in R&D and equipment was \$235 million and \$313 million respectively.



Regarding the total number of employees engaged in the domestic defence sector, these amounted to 33,162 in 2013, an increase of 5.6%, compared to the previous year. Finally, R&D personnel at 24.2%, constituted a notably high proportion of the total staff employed in the Korean defence industry, while production personnel amounted to 50.5% and support personnel to 25.3%.

On the other hand, the Korean aerospace industry, employed 11,100 people and recorded a total production of 3.6 billion US dollars in 2013, increased by 34% compared to the previous year. Growth was mainly fuelled by the growing exports of civil aircraft parts to Boeing and Airbus and the increased

production of KAIs T-50 aircraft. More on that, exports reached their highest level in 2013, recording a three-year Compound Annual Growth Rate (CAGR) of 19.5%. The associated main export markets were the US (46%), Europe (25%), Indonesia (12%), Japan (9%), Peru (3%) and the UAE (2%).

The local aerospace industry has the ability to develop, test and evaluate the whole spectrum of fixed and rotary wing aircraft, with perhaps the exception of advanced 5th generation stealth fighters and large commercial/passenger aircraft. Additionally, it is worth noting that the Korean aerospace sector depends heavily on the military segment, with a military to civil business ratio of around 55% to 45%.

Furthermore, it ought to be stressed that through the effective use of industrial cooperation and offset programs, the South Korean Aerospace Industry has managed over time, to develop complete new products and reach the level of competing internationally against

other leading Prime contractors. This process began when Korea procured the first F-16s under the “Peace Bridge” program. Korean industry built forty centre fuselages for this program. Besides coproduction, offset programs resulted in the transfer of related technologies and training for Korean engineers. After the “Peace Bridge”, the “Korea Fighter Program” (“Peace Bridge II”) expanded on the established relationship, to develop indigenous aircraft capabilities. The first phase of the program involved the purchase of twelve F-16s, which were built at the Lockheed Martin facility in Fort Worth, Texas. The second phase of the program involved the assembly of thirty-six F-16s in Korea. The third and final phase of the initial program, involved the full production of seventy-two F-16s in Korea. As part of these programs, more than 600 Korean engineers were trained in the United States and F-16 technical data were transferred to Korea through a series of technical assistance agreements.

One of the offsets projects for the KF-16 program consisted in market assessments, feasibility studies, and preliminary design of a new advanced jet trainer. The design project was known as KTX-2. The Republic of Korea’s Air Force (ROKAF) recognized the potential of such a program and gave its approval for its realization. A \$2.1 billion full-scale development program was initiated. Seventy percent (70%) of the program was borne by the Korean government, seventeen percent (17%) by Korea Aircraft Industries, and thirteen percent (13%) by Lockheed Martin. In February 2000, the program name was changed from KTX-2 to T-50, to commemorate the 50th anniversary of the ROKAF. The rollout ceremony for the first T-50 took place at KAI’s plant in Sacheon in October 2001.

To date, more than 100 aircraft have been built and delivered to the ROKAF. A second variant called the FA-50 light combat aircraft is currently in production. From the beginning, the T-50 was envisioned to be exported to other countries. In 2011, this vision became a reality when Indonesia ordered sixteen aircraft, in the T-50i configuration. All Indonesian aircraft have already been delivered.

Another country that chose the T-50, is the Philippines. The Philippine Air Force procured 12 KAI TA-50 aircraft to fulfill its requirement for a light attack and lead-in fighter trainer aircraft. The Department of National Defense (DND) announced the selection of the type, in August 2012.

Furthermore, in December 2013, it was announced that Iraq signed a contract on the acquisition of 24 aircraft of the T-50IQ variant, plus additional equipment and pilot training over the next 20 years.

Finally, in September 2015, the Thai government chose the KAI T-50 for its Air Force, over the Chinese made L-15, to replace its aging L-39 Albatros trainers. Deliveries are scheduled to be completed by March 2018.

In order to further build on the aforementioned success of the local A&D industry, Korean authorities have promoted the creation of cooperative schemes with foreign partners/countries. Under this notion, South Korea in cooperation with Indonesia are currently developing an advanced multirole fighter aircraft (known as the “KF-X” program). The work load and program costs are split 80/20 between South Korea and Indonesia. The

project was first announced by South Korean President Mr. Kim Dae-Jung in March 2001, and it is expected that South Korea will begin building KF-X fighters, by the beginning of the 2030s.

Kyriazis Vasileios,
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Polish Aerospace & Defence Industry



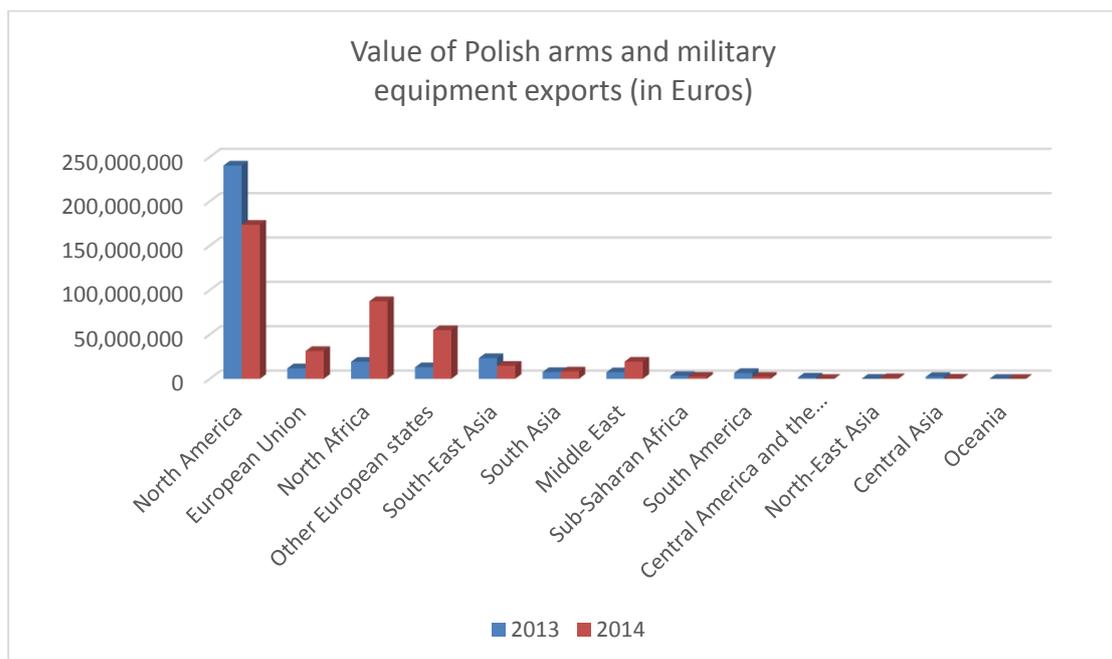
Ministry of National Defence Republic of Poland

The Polish Aerospace and Defence (A&D) industry has a wide span of technological competencies and a broad portfolio of

products, ranging from air defence systems, radars, Unmanned Air Vehicles (UAVs), armoured personnel carriers, artillery systems and assault rifles, to electronic systems, sensors and training equipment. Additionally, the Polish defence industry exhibits competences in the fields of design, construction, and the equipping of military vessels, in the production and overhaul of aircraft (agricultural, training, etc.) as well as in modernising and maintaining vehicles, fixed-wing aerial platforms and various types of helicopters.

After the fall of the communist regime, the Polish defence industry had to adjust to a completely different environment, as it lost its main trade partners and had to serve different geostrategic needs. Local defence industry was structured with the aim of covering the demands of armed forces, designed for a high intensity war, while after the 1990s this possibility diminished, until it eventually vanished. Therefore, the defence industry had to adjust its production output to the shifting needs of the new environment, to search for new sales markets, and to orient a part of the production towards the civil sector, since orders for arms and military equipment dropped dramatically.

In Poland, defence industrial ‘reconstruction’, began latter that in other countries of the Eastern Bloc, as only at the end of the 90s, local authorities initiated related initiatives. However, this initiative had limited success and the government adopted a new strategy in the beginning of the new millennium, aimed at completely transforming the structure of the local defence industrial base. Currently, the indigenous defence industry is dominated by the Polska Grupa Zbrojeniowa - Polish Armament Group (PGZ SA), under the umbrella of which reside some 60 companies, with 17,500 employees and an annual turnover of 5 billion Polish Zloty -PLN- (approximately 1.2 billion US dollars).



	Value of arms and military equipment exports in 2013 (in Millions of Euros)	Value of arms and military equipment exports in 2014 (in Millions of Euros)
North America	240.4	173.5
European Union	11.9	31.3
North Africa	19.2	87.4
Other European states	13.1	54.8
South-East Asia	23.3	14.7
South Asia	7.7	8.3
Middle East	7.4	19.4
Sub-Saharan Africa	3.2	2.4
South America	6.5	2.3
Central America and the Caribbean	1.4	0.0
North-East Asia	0.1	0.7
Central Asia	2.2	0.2
Oceania	0.0	0.0
Total	336.4	395

Source: www.mfa.gov.pl

In 2014, Polish defence exports were significantly (17.4%) increased in relation to 2013, reaching 395 million Euros. Traditionally, aircraft and related equipment generate the largest export value. In 2014, the abovementioned category's export values amounted to 294.7 million Euros, including sales of equipment from the army's stock and re-exports. Regarding the geographical dispersion of Polish defence exports, North America held the lion's share in 2014, with a total exported value of 173.5 million Euros. Nevertheless, it should be noted that exports to North America dropped significantly, mainly due to the fact that the volume of exports to the US decreased. In other words, exports to Canada remained more or less at the same level. North America, was followed by North Africa (87.4 billion Euros), in terms of absolute figures, mainly due to the exports to Algeria increasing significantly, resulting in the African country being the second largest importer of Polish arms for the year.

Since its accession to the European Union, Poland has actively engaged in EDA's (European Defence Agency) programs, such as the Research & Technology Joint Investment Programme (JIP) on RPAS ("Remotely Piloted Aircraft Systems"), that was launched in November of 2013. Additionally, Poland has been part of the "Modular Lightweight Minesweeping" (MLM) project, which is a part of the EDA's Defence Research and Technology Programme "European Unmanned Maritime Systems (UMS) for Mine-Counter-Measures and other Naval Applications".

The defence industry is regarded by local authorities as an important 'catalyst' to the Polish economy. Towards this direction, Polish authorities have promoted the creation of cooperative schemes with foreign partners, as a tool for further promoting the local defence industry. Under this context, in September of 2016, Leonardo-Finmeccanica and PGZ signed a Letter of Intent (LoI) for a long term strategic partnership in the Defence and Security market. Under the LoI, a significant technology transfer to PGZ will take place. In the same month, PGZ signed a second LoI with Lockheed Martin, which actually paves the way for the

Polish company to be involved in the manufacture of satellite systems, aircraft, helicopters, weapons and combat systems, training devices and simulators.

Moreover in August 2016, PGZ MESKO and THALES announced that they will work together for manufacturing induction rockets in Poland, for both potential domestic and export markets. The Induction Rocket System (IRS) is a new generation of intelligence rocket systems, using electronics and wireless technology. Production will take place at MESKO's plant.

Additionally, Poland has a rather developed aerospace industry, as according to a report released by PwC, the country is the 5th best investment destination for aerospace manufacturing projects in Europe, and 8th in the world. The main 'strengths' of the local aerospace industry, lie in the high quality of products delivered, as well as the competitive associated labour costs. Currently there are some 200 aerospace and aerospace-related companies in the country, the majority of which are small and medium-sized enterprises (SMEs). Overall, the Polish aerospace industry employs more than 30,000 people and its annual sales amount to some 1.3 billion Euros, while 90% of aviation-related production is exported to countries such as the US, Italy, Canada, China, Ukraine, Australia, the UK, France and Germany. Around 80% of aerospace production plants of the country are located in the South-Eastern Poland.

Kyriazis Vasileios,

Epicos Newsletter Head Editor

Canadian Aerospace and Defence Industry: Output, Orientation and Main Products

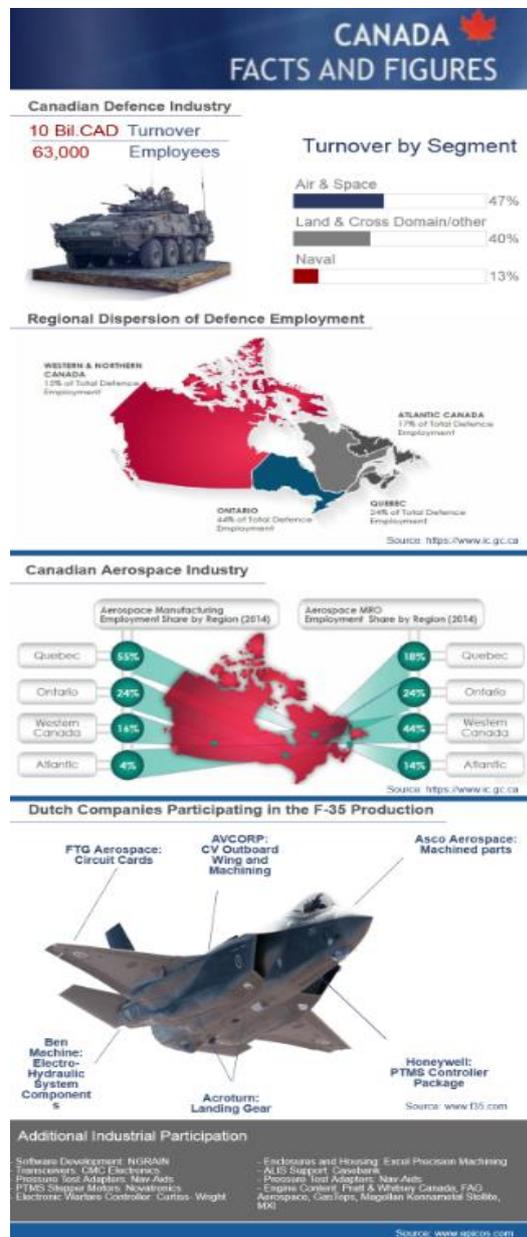


Canada’s aerospace and defence industry has a long history of innovation and success. Canada is a global market leader in producing regional aircraft, avionics, business jets, commercial helicopters, aircraft engines, flight simulators, landing gear systems, space systems and in providing Maintenance Repair and Overhaul (MRO) expertise. Additionally, it is worth

mentioning that leading aerospace companies from around the world choose to perform their manufacturing as well as Research and Development (R&D) activities in Canada.

Regarding the defence sector, Canada provides products and services which among others include the following: military aircraft and naval ship MRO services, development and manufacturing of combat vehicles, airborne sensors, fire control, warning & countermeasures systems, firearms, ammunition, missiles, rockets, and other munitions & weapons, as well C4ISR, avionics and simulation systems.

Canada’s defence industry has approximately 640 companies that sold almost 10 billion Canadian Dollars (CAD) in defence goods and services, in 2014. The defence industry, directly and indirectly contributed about 6.7 billion CAD to the country’s Gross Domestic Product (GDP) and close to 63,000 to employment. Local defence industry is export intensive as almost 60% of the total production is exported. Local production capabilities cover a broad range of products and services. In 2014, the “air and space” sector accounted for 47% of the total sales and 48% of the total exports of the defence industry. The air and space sector was followed by the “land and cross-domain” sector which accounted for 40% and 42% of total sales and total exports respectively, while the naval sector accounted for 13% of total sales and 10% of total exports.



Product and service wise, the aircraft fabrication, structures, components and MRO category captures the biggest percentage (31%) of defence sales and is followed by combat vehicles and related MRO services (28%), C4ISR, avionics, simulation systems and other electronics (25%), naval ship fabrication, structures, components and related MRO services (9%), firearms, ammunition, missiles, rockets and other munitions and weapons products (4%), troop support services (2%) and live personnel and combat training services (1%). Regional wise Canadian defence industry is mainly concentrated in the Ontario region, which accounts for 44% of total defence employment, followed by Quebec (24% of total defence employment), Atlantic Canada (17%) and Western and Northern Canada (15%).

On the other hand local aerospace industry generated 29.8 billion CAD in revenues, 89000 in direct employment and 13.3 billion CAD in direct GDP in 2015. Aerospace manufacturing crated revenues, which amounted to 22,179 million CAD, while MRO's revenues amounted to 7659 CAD, significantly increased (258 million CAD) when compared to 2014. Central Canada accounts for the majority of the aerospace manufacturing activity, while Western and Atlantic Canada captures close to 60% of the national MRO activity. It is indicative that the Quebec region accounts for 55% of the people employed in the aerospace manufacturing sector, while Western Canada accounts for 44% of the people employed in the MRO sector. The majority of aerospace sales were related to civil/commercial activities (80%).

Canadian aerospace industry economic activities breakdown, 2010-2015							
		2010	2011	2012	2013	2014	2015
GDP (\$ Million)	Aerospace Manufacturing	8,493	8,610	8,974	9,485	9,976	9,461
	Aerospace MRO	3,048	3,266	3,348	3,322	3,520	3,800
	Aerospace total	11,541	11,876	12,322	12,807	13,496	13,261
Employment (persons)	Aerospace Manufacturing	52,801	54,067	56,648	58,079	60,139	57,663
	Aerospace MRO	24,837	27,050	28,542	28,695	30,242	31,298
	Aerospace Total	77,638	81,117	85,190	86,774	90,381	88,961
Revenues (\$ Million)	Aerospace Manufacturing	13,953	16,147	15,860	17,926	20,310	22,179
	Aerospace MRO	6,078	6,620	6,985	7,022	7,401	7,659
	Aerospace Total	20,031	22,767	22,845	24,948	27,711	29,838
R&D (\$ Million)	Aerospace Total	1,552	1,662	1,837	1,988	1,936	1,914

Source: <https://www.ic.gc.ca>

In 2015, the vast majority of the aerospace manufacturing production (80%) was exported, while it should be noticed that 55% of the sectors' exports were supply chain related. United States is the key aerospace export market for Canada, while exports to Asia Pacific are growing at a fast pace (up 105%) and account for close to 12% of the overall export volumes of Canada. Additionally, airplanes and rotorcraft category is the biggest contributor (43%) to the exports' volumes of the country, followed by engines (27%), other parts (11%), avionics (9%), landing gear (7%) and simulators (3%). With more than 31,200 employees and a

leadership position in global markets, Bombardier Aerospace is the leading aerospace company in Canada. Bombardier, designs and manufactures aviation products for the business, commercial, specialized and amphibious aircraft markets. Among others Bombardier provides the following products and services: business aircraft (learjet-Challenger and Global aircraft families), commercial aircraft (new C Series program, CRJ Series and Q Series aircraft families), aerostructures & engineering services (aircraft structures, component repair and other services), specialized aircraft solutions and finally aircraft services and training (aircraft parts, maintenance, comprehensive training, technical support and publications, and online services).

While the continued success of the Canadian aerospace and defence industry cannot be guaranteed, the strong base upon which it is built and the help provided by the Canadian authorities will definitely foster its future development. The country's authorities help the companies through attractive investment fundamentals; leading-edge knowledge infrastructure; risk-sharing investments in technology development; commitment to investing in skills and research; and new business opportunities.

Additionally, the Canadian A&D sector is involved in the development and production of the F-35 fighter aircraft, as the North America country is a key contributor to the development, production, and sustainment of the F-35 program. Currently, there are more than 110 companies that have been awarded contracts valuing in total 750 million dollars and it is expected that Canadian industry will gain approximately 11 billion dollars in business opportunities in the future.

Under this context, in May 2016, Avcorp Industries Inc., has been awarded a contract extension with Lockheed Martin. This follow-on contract complements Avcorp's assembly of the F-35 Carrier Variant ("CV") Outboard Wing ("OBW"). Additionally, the Canadian company NGRain has developed critical software for the Low Observable Health Assessment System (LOHAS) which helps maintain the F-35 outer skin during operations. Moreover, Magellan Aerospace, a Canadian company that has been in the F-35 program since the concept demonstration phase in 1998, has been awarded a contract in October 2016 to produce F-35 Lightning II horizontal tail components.

Kyriazis Vasileios,
Epicos Newsletter Head Editor

Slovenian Defence Industry



Taking into consideration the limited demand of the Slovenian forces, one can understand that it would be rather difficult and not economically viable for the country to form a defence industry in a full blown scale.

Nevertheless, there are some companies that produce defence products ranging from soldier equipment, handguns and light arm parts, ammunition, explosives storage and manipulation systems, Chemical, Biological, Radiological and Nuclear (CBRN) equipment, battlefield management and border control systems to telecommunication equipment and unmanned systems.

In order to strengthen local defence industry Slovenian authorities have promoted the creation of cooperative schemes with foreign partners. This policy is starting to produce results, as international defence companies have started to seek partnerships with Slovenian defence equipment manufacturers. One such example is the purchase of a major stake in C-Astral by the Swiss company UMS AERO GROUP.

C-Astral is an aerospace solutions provider, which is specialised in the development and manufacturing of fixed wing small Unmanned Aircraft Systems (UAS) with a specific focus on high productivity, endurance, surveying and remote sensing. The company's clientele include commercial UAS operators, larger institutional networks, scientific users as well as government entities. Currently, there are six entities in the field of force protection, border protection, fire control and surveillance operations that use C-Astral products.

Towards this direction, and in order to further stimulate the development of the indigenous defence industry, local authorities collaborates with Slovenian scientific institutions and professional associations structuring research projects. Additionally, Slovenian universities and R&D institutions create strategic synergies through cooperation with foreign universities for promoting scientific research. One such cooperation was formalized with the signing of an agreement between the rectors of the Serbian University of Defence and the University of Maribor. The agreement provides a starting point for establishing a relationship between the two higher education institutions.

A special reference should be also made in the country's space sector, as in July 2016, the Slovenian Minister of Economic Development and Technology Mr. Zdravko Počivalšek and the Director General of European Space Agency (ESA) Mr. Johann-Dietrich Woerner signed an association agreement, allowing the country to become an ESA associate member. Mr. Počivalšek during the signing ceremony stated that currently there are approximately 40 companies in Slovenia that are involved in high technology projects and a few institutions that have already expressed a strong interest in Slovenia joining the ESA.

Kyriazis Vasileios,
Epicos Newsletter Head Editor

Singapore Aerospace and Defence Industry: Current Capabilities



The Aerospace and Defence (A&D) industries of Singapore have developed several capabilities. More specifically, the country's defence industry has developed a strong set of core competencies in developing high technology defence materiel. Currently, there are more than 200 companies, supplying products and/or services ranging from biometrics, maritime and aviation security solutions to fire safety, weapon systems and land and naval vessels. On the other hand Singapore is the home of more than 120 aerospace companies, recording an average rate of 10% in the last two decades and employing approximately 19,900 people. In 2012, the local aerospace industry generated a record output of 8.7 billion Singapore dollars (6.1 billion US dollars). According to a study provided by the Association of Aerospace Industries Singapore (AAIS), the country is considered to be Asia's most effective and competitive Maintenance, Repair and Overhaul (MRO) hub, based on the breadth and depth of its collective supply base, its logistics strengths and the business environment. It is indicative that the ASEAN state has captured approximately a quarter of the Asian MRO market.

In order to further strengthen Singapore's position as an aviation hub, local authorities have developed an ambitious plan to create a world-class Aerospace Park in Seletar. In 2012, eight companies including Rolls-Royce, Bell Helicopter, Cessna Aircraft, Fokker Services Asia and Hawker Pacific have opened new facilities in the Park. The 320 hectare park will host an integrated cluster of the following activities:

- Maintenance, Repair & Overhaul of aircraft and components
- Manufacturing and assembly of aircraft engines and components
- Business and general aviation
- Training and Research & Development

ST Engineering is the jewel in the crown of the Singapore Aerospace and Defence Industry. ST Engineering is a global integrated engineering group with capabilities in aerospace, marine and land systems. According to the Stockholm International Peace Research Institute (SIPRI), ST Engineering is ranked 51 amongst the world's largest defence firms in 2014, with arms sales of 2010 million US dollars. Reflecting its successful broad diversification into the civilian sector however, this represents 39% of its total sales for 2014.

Additionally, it is worth mentioning that in some other cases, Singapore's authorities develop unique solutions in cooperation with the local defence industry. One such example was the Terrex Infantry Carrier Vehicle and the Independence-class Littoral Mission Vessel. The Terrex Infantry Carrier Vehicle (ICV) is an armoured fighting vehicle developed by ST Engineering and Timoney Technology Ltd. The Terrex vehicle is network-centric, highly mobile and survivable. The platform offers great flexibility in adopting any protection solutions, weapon configurations and vehicular customisation.

The Independence-class Littoral Mission Vessel is a class of eight surface platforms that are selected to replace Fearless-class patrol vessel currently in operation with Singapore's navy. The new vessels measures 80m in length and beam at 12m with displacement of 1,250 tonnes, being 2.5 times larger than the Fearless-class patrol vessels. Additionally, they possess better sea-keeping capabilities to operate in higher sea state conditions. In January 2013, the Ministry of Defence awarded Singapore Technologies Engineering Ltd (ST Engineering) a contract for the design and build of eight new vessels. The manufacturing of the vessel will be implemented by Singapore Technologies Marine Ltd (ST Marine), the marine arm of ST Engineering. Deliveries of the vessels started in 2016.

Additionally, a special notice must be placed in the symbiotic relationship Singapore Armed Forces (SAF) has built with the defence research and development sector, as a number of SAF officers have been trained as engineers and then they have helped the Singaporean companies with their experience. Thus, most of the times, the army plays the role of a "big school" providing valuable information and/or training that it is then used by the local defence industry, in order to further enhance the country's defence industrial base.

Kyriazis Vasileios,

Epicos Newsletter Head Editor

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](#)

Development of a fully networked autonomous, unattended trailer, equipped with surveillance sensors for homeland security applications and military camps protection



An experienced company is willing to cooperate with a Prime Contractor and/or a third party, for the development of a lightweight autonomous trailer, which when equipped with appropriate surveillance and detection sensors, will be able to support several homeland security and peace keeping operations, all over the world. The trailer will be equipped with an IP based communication radio link, in order to transmit high quality video to the command centre, located in a different area. The trailer will be unattended, fully remote-controlled and will act as a smart communication/surveillance/detection and reconnaissance node, used for several defence related applications.

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

Mail at: a-kintis@epicos.com

EMP/HPM protected system cabinets for Military and Homeland Security



A leading company in EMP protection, designing, building, and maintaining radio and telecommunication networks, in product development and electrical assembly, is proposing the design and development of EMP protected cabinets to house critical communications and other sensitive electrical equipment.

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

Mail at: a-kintis@epicos.com

Epicos Events



7th Annual MilSatCom Asia Pacific 2017, 15-16 May, Grand Copthorne Waterfront Hotel, Singapore

With the utility of space as a medium for war growing exponentially across the globe, the Asia-Pacific region is an area where rapid development and growth is particularly evident. This year's conference will provide national updates from key regional nations on their space and MilSatCom programmes.

Our unrivalled speaker line up will provide critical programme updates to look at how SatCom is utilised to gain the upper hand in the frontier that is crucial for future combat. In addition, this year's conference will look at other key topics including the management of space debris and the critical importance of space-based assets and satellite capabilities in assisting emergency communications and disaster response in the region.

Key nations you can expect to hear from include leading Asia Pacific militaries as well as the vital perspectives of strategic partners such as the USA and Canada. With military budgets being restricted globally, cooperation and interoperability between nations over key MilSatCom assets is more important than ever to ensure individual nations are able to satisfy national and regional.

Benefits of Attending:

- Meet, network and hear from the Singapore Armed Forces and surrounding nations
- Hear the latest developments in national MilSatCom and space programmes from leading Asia Pacific nations
- Explore how key nations such as the US and Canada are assisting the growth of MilSatCom programmes in the Asia-Pacific region
- Discuss and develop partnerships with allied nations to improve and enhance cooperation to effectively accomplish common goals

Hear from Republic of Korea Armed Forces, Indian Armed Forces, Hughes Network Systems, US Air Force, New Zealand Defence Force, Maritime Forces Pacific Headquarters, ASEAN Chief Information Officer Association, S. Rajaratnam School of International Studies, Ministry of Defence of the Republic of Indonesia, Indonesia Institute for Maritime Studies and much more...

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10th Annual Mobile Deployable Communications 2017, 2-3 February, Warsaw, Poland

SMi Group's 10th annual Mobile Deployable Communications conference will take place in Warsaw, Poland on 2nd-3rd February 2017 with the full support of the Polish Armed Forces. With growing external threats to national and regional security, the Polish Armed Forces are modernising their systems and enhancing capabilities, and this includes tactical communications, making it the ideal location for this event.

Along with strong support from the host nation, there will also be neighbouring and regional speakers providing updates on their tactical CIS capabilities, programmes and war fighting requirements.

The unrivalled expert speaker line up for 2017 includes: Polish Armed Forces, DGA France, DISA Europe, Belgian Defence, Netherlands MoD, Spanish MoD, Multinational Corps North East, EU Military Staff, U.S Army Europe, European Defence Agency, NATO Force Integration Unit Poland, General Dynamics Mission Systems, Thales and many more!

Proudly sponsored by General Dynamics Mission Systems, Tampa Microwave and Thales, the event is expected to attract over 100 attendees, so you can expect to meet the following:

- Heads of CIS
- Tactical Communications Programme Managers
- Heads of J6
- Heads of Signals
- Heads of Communications

Benefits of attending:

- Meet and network with the Polish Armed Forces and discuss procurement opportunities and key developments in national communication capabilities
- Hear national updates on CIS capabilities and tactical communication programmes and learn how you can adapt your solutions
- Discuss the future of tactical CIS capabilities, from higher frequencies and faster rates to broadband access in remote locations
- Analyse the latest products and solutions and discuss how they are going to transform tactical communication capabilities.

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8th Annual Land Forces Simulation and Training 2017, 13-14 February, Central London, United Kingdom

With combat environments becoming more diverse and complex, the demand for realism in training is crucial for land forces wanting to create a robust representation of the physical, mental and ethical challenges on the battlefield.

SMi Group's 8th annual Land Forces Simulation and Training conference will focus on the growing importance to optimise virtual training solutions as a safe and viable alternative to live fire drills. Exploring the effectiveness, cost, efficiency and interoperability of training for individual nations and their allies. Covering all areas of land forces, such as: the dismounted soldier, manned and unmanned vehicles, fire support, synthetic training, multinational exercises and simulation systems.

2017's unrivalled expert speaker line-up will include senior representatives from leading military nations: UK, USA, Germany, NATO, Czech Republic, Belgium and Poland and many more TBA!

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10th annual Border Security Conference 2017, 15-16 February, Rome, Italy

The 2017 conference will possibly be the most relevant and topical event to date as we enter our 10th successive year. With the rise of cross border terrorism, the current migrant crisis growing in the Mediterranean and across Europe, Brexit raising questions over the security of the UK's border and the uncertainty involved with heightened security around the US Border, this will guarantee to be an event not to be missed as we respond to extremely topical issues.

Following on from the success of our 2016 meeting, SMi's annual Border Security conference will bring together senior law enforcement personnel and industry experts who will explore the strategies and technologies required to develop next generation capability in this vital area of national defence.

Hear from Austrian Army, Italian Coast Guard, French Customs, European Maritime Safety Agency, US Citizenship and Immigration Services, Finnish Customs, Department of Homeland Security (DHS), NATO, Guardia di Finanza, International Organisation for Migration (IOM), European Union Satellite Center, SITA and many more...

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Network Enabled Capability Technology 2017, 1-2 February, Crowne Plaza Rome, St Peter's, Rome, Italy

As the only meeting of its kind in the Europe, the conference will draw on the experience and ongoing work of senior military experts leading and developing their NEC capabilities. With a dedicated focus on the Forza NEC programme, this conference will enable participants to help shape, develop and deliver digitization of information, equipment and maximize operational and common logistics platforms throughout the land domain.

The conference will also feature regional high-level military officers who will deliberate how various network enabled capability programmes can impact operational effectiveness and help optimise the future of tactical warfare. In addition, programme managers will also discuss requirements and updates for key programmes. Our expert speaker lineup include the Italian Army, US Army Europe, US EUCOM, NATO, SHAPE, Norwegian Army, Royal Dutch Army, and more.

Register at www.networkenabledcapability.com/epicos

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