

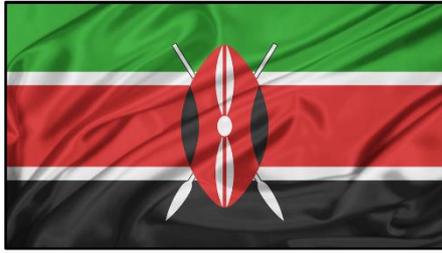
**Part I:** *A&D Industry Analysis of Selected Countries*

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## Kenya: Defence Industry, Technological Level and International Cooperation



Kenya does not have a defence industry in its full and proper sense. Nevertheless, Kenya has domestic capacity to produce small arms and ammunition. Kenya Ordnance Factories Corporation (KOFC), an ISO 9001:2008 certified manufacturer of small arms and ammunition, is a State Corporation under the auspices of the Ministry of Defence. Additionally, the Kenyan air force has launched several initiatives with the cooperation of Defence Forces Training College (DEFTEC) and Jomo Kenya University of Agriculture and technology to improve local defence manufacturing and R&D capabilities.

In order to further enhance the technological level of the local defence industry Kenyan authorities have promoted the creation of cooperative schemes with foreign partners. Under this context in 2012, BAE Systems Land Systems South Africa has teamed with Kenyan company, Rongai Workshop, to provide Military and Technical Services (M&TS) support in Africa. This partnership was planned to cater to the United Nations' (UN) regional missions and the peacekeeping efforts of the African Union and South Africa.

The Ministry of Defence, when procuring defence equipment, among others seeks to establish a viable defence industrial base by insisting on transfer of technology. Leonardo - Finmeccanica has rolled out a project that actually fulfils this requirement as the Italian group has deployed a strategic plan to sustain growth in Kenya, by contributing to developing local industries and by hiring local staff.

In order to further assist the establishment of a viable defence industry, Kenya is deliberately trying to intensify its R&D efforts and to link them with commercial opportunities as well as with the needs of the local armed forces. Thus, the R&D efforts is extensively oriented towards the development of concrete products and/or services that could be used by the Kenyan armed forces and in the future could have the potential to be exported.

Kyriazis Vasileios

Epicos Newsletter Head Editor

Philippines: Aerospace & Defence Industry



Philippine Aerospace and Defence (A&D) Industry is rather “embryonic” in terms of technological level. Nevertheless, the country has domestic capacity to produce small arms and ammunition, through the state company “Government Arsenal (GA)”. Another part of the A&D industry which receives increased interest, is the aerospace sector. In 2014, the Aerospace Industry

Association of the Philippines (AIAP), published a roadmap indicating that the local aerospace industry is capable to generate up to \$10.3bn in cumulative revenues between 2013 and 2022. Additionally, AIAP projected that in 2022, the aerospace industry will employ approximately 8200 personnel.



Source: THE PHILIPPINE AEROSPACE INDUSTRIES ROADMAP

Currently, Philippine aerospace companies mainly provide primary and secondary flight controls for Boeing 787 and Airbus A350XWB and galley equipment.

Realising the importance aerospace sector may have in the development of the local economy, President Benigno Aquino stated in his October 2012 speech during the inauguration of the B/E aerospace facility in Tanauan: “This is an important project because it marks a new kind of manufacturing. We are moving up the value chain, and today marks the foothold we have secured in the aerospace supply sector.”

In order to further enhance the technological level of the local defence industry Philippine authorities have promoted the creation of cooperative schemes with foreign partners. Under this context Asian Armoured Technologies Corporation (AATC) assembled under license provided by GKN defence Ltd. a number of Simba Armoured Personnel Carriers. Out of the 150 vehicles Philippine armed forces procured, eight were delivered in complete kit form, two in knocked-down kit form, and the remainder were assembled in Philippines by AATC. The company started with the assembly of kits, progressed to importing some parts and manufacturing others, and finished up producing the whole vehicle.

Philippine armed forces have to procure the biggest part of their equipment from foreign suppliers. Through this process the country seeks to boost its domestic military industrial capabilities (mainly through offsets/IC). If this process is successfully implemented the local defence industry can be further developed in order to offer employment opportunities and to improve the low level of Philippine technological expertise.

Towards this direction, Philippines should intensify its R&D efforts and to link them with commercial opportunities as well as with the needs of the local armed forces, as well as to invest in integrating systems from diverse sources and tailoring them to specific local requirements.

Kyriazis Vasileios,  
Epicos Newsletter Head Editor

## Thailand: Defence Industry Current Capabilities and International Synergies



According to Thai authorities defence industry is one of the sectors that could be further developed in order to both boost national stability and economy. The Defence Technology Institute (DTI) will lead the efforts of the Thai government for modernising the local defence industry. The scope is to locally design and develop new weapon systems and to link them with commercial opportunities as well as with the needs of the local armed forces. Towards this direction, DTI carried out more than 20 Research and Development projects in 2015. Additionally, Thai authorities have repeatedly invited private sector entities to participate in the state-run effort to localize the development of military equipment.

Today, Thailand has several companies that provide goods and/or services for the defence industry. Marsun Company Limited, a shipyard located near Bangkok at Samutprakarn is one of them. Marsun has delivered over 260 various types of vessels, including Fast Patrol Craft, Fast Attack Missile Craft, Crew and Supply Vessels, Ferries, Motor Yachts, Oil Spill Recovery Vessels and Multi-Purpose Craft. Another shipbuilding company, is the Bangkok Dock Company Limited, which operates as a state enterprise under the oversight of the Royal Thai Navy.

Additionally, several Thai governments provide Maintenance Repair and Overhaul (MRO) services. Thai Aviation Industries (TAI) and THAI's Maintenance Centre are the most noteworthy of them. TAI is the country's military aircraft repair and maintenance service center. The government approved the TAI's establishment on 23 September 2003, while TAI started operating on 29 January 2004. THAI's Maintenance Centre provides a full range of maintenance services including certified Heavy Maintenance (D-checks) or complete aircraft overhaul, for a big variety of civil aircraft, including B747, B777, A330B4, A310, A300-600, A330, B737, ATR42, ATR72 and BAE146.

Finally, AVIA Group was established in 1992 and is one of the few Thai companies to place high importance in the R&D of electronic defence products. Avia Group, develops among others, telecommunication and military surveillance systems.

In order to further enhance the technological level of the local defence industry Thai authorities have promoted the creation of cooperative schemes with foreign partners. Under this context Saab has entered into a joint venture with the Thai company AVIA Group. More on that Saab has agreed to transfer 100 man-years of advanced aerospace technologies to Thailand, with the aim to transfer technology, through long-term partnerships with local companies and institutions. The transfer will also provide partnership for the local industry in future development programs including the Gripen program.

Additionally, Honeywell is present in Thailand for more than 20 years. Since 1987, Honeywell Systems (Thailand) has been providing local customers with automation and control systems

and products for industrial complexes and building solutions. Currently, the US based company has three subsidiaries in the country: Honeywell Systems (Thailand) based in Bangkok and Rayong, Honeywell Electronic Material (Thailand) base in Chonburi and Honeywell Holdings Thailand, employing more than 400 employees.

Moreover Singapore Technologies Engineering Ltd (ST Engineering), has set up a wholly owned subsidiary, ST Electronics (Thailand) Limited, in Thailand with a paid up capital of Thai Baht 120,000,000 (about S\$4.8m). ST Electronics Thailand provides transportation and advanced electronics solutions.

Finally, on 29 January 2016, BAE Systems signed a new contract with Bangkok Dock to assist in the licensed construction of a 90 metre OPV. Under the agreement BAE will provide engineering support and advice during construction of the vessel in Thailand.

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](#)

### Network Documentation System for military optical fiber networks



A company specializing on high-precision optical passive devices, equipment and fiber optic network systems, in the frame of an offset program, is proposing its Advanced Network Documentation System for implementation within military optical fiber networks. This system may be of interest to Defense organizations or companies active in the development and maintenance of such networks.

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

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

### Provision of external source for on-board equipment tests and turbine start-up



A company with international references in the production and commercialization of GPUs is proposing the provision of its static Ground Power Unit (GPU), designed for aircraft, as an external source for on-board equipment tests and turbine start-up, to address the international market.

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

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

## News from our A&amp;D Business Network

**DCNS and Onera Sign a Framework Agreement for Innovative and Cooperative R&D**

On Monday 20 June, at DCNS's headquarters in Paris, Hervé Guillou, Chairman and CEO of DCNS, and Bruno Sainjon, Chairman and CEO of ONERA, signed a framework agreement aimed at developing their synergies and proposing joint R&D projects in the naval and maritime domains, including weapon systems of the future. After several collaborations in the principal areas of Mistral bridge aerology, L'Adroit integrated mast and the detection of abnormal behaviour at sea, DCNS and ONERA have decided to strengthen their collaboration to increase the proportion of cooperative R&D.

The objectives are twofold: the proposal of both French and European joint research projects, and the realisation of joint studies on the following themes:

- Aerodynamics/hydrodynamics
- Materials (damage, fatigue, non-destructive testing...)
- Navigation (including gravimetry)
- Above-surface detection
- Drones/robotics
- Prospective studies

On this occasion, Hervé Guillou, Chairman and CEO of DCNS, underlined: "We are very pleased of this cooperation with ONERA which will allow the sharing of our expertise and resources to promote and accelerate the development of innovations that will bring our clients operational superiority at sea". For his part, Bruno Sainjon, Chairman and CEO of ONERA declared: "We are particularly satisfied with this agreement, which will allow us to combine DCNS's naval and defence expertise with our own aeronautic technology know-how and our knowledge of the weapons systems environment".

**About ONERA**

ONERA, a central actor of aeronautics and space research, employs about 2,000 persons. Placed under the authority of the ministry of defence, it has a budget of €230 million, of which more than half originates from commercial contracts. ONERA provides the state with expertise and prepares the defence of tomorrow, responds to future aeronautics and space challenges and contributes to the competitiveness of aerospace industries. It is knowledgeable in all disciplines and technologies in its field. All major civil and military aerospace programmes in France and Europe comprise a part of ONERA's DNA: Ariane, Airbus, Falcon, Rafale, missiles, helicopters, engines, radars. ONERA has Carnot certification for research/enterprise partnerships. Internationally renowned and often the recipient of awards, its researchers supervise numerous PhD students. [www.onera.fr](http://www.onera.fr)

For Further Information [Click Here](#)

### New Agreement for Leonardo-Finmeccanica's Helicopters in Russia



Leonardo-Finmeccanica, Russian Helicopters and Rosneft have announced the signing of an agreement for the future sale of additional twenty AgustaWestland AW189 commercial helicopters to RN-Aircraft, a subsidiary of the oil company Rosneft. The new helicopters will be used for transportation purposes.

Aircraft deliveries are expected to start in 2018 with three units to be assembled in Italy and seventeen at the HeliVert joint venture's plant headquartered in Tomilino, Moscow region. These helicopters will add to the previous order by RN-Aircraft for ten AW189s signed in July 2015. Moreover, as already set out in the framework agreement signed in December 2014 and with the involvement of Russian Helicopters, a subsidiary of Rostec corporation, Rosneft plans to order further helicopters by 2025, for a total of up to 160 units.

The parties also reached an agreement in 2015 for the progressive restructuring of HeliVert, an originally 50-50 joint venture with Russian Helicopters, which foresaw the participation of Rosneft, worth 30% of the shares. Subsequently, shares in HeliVert will be redistributed as follows: 40% to Leonardo Helicopters, 30% to Russian Helicopters, 30% to Rosneft. With Rosneft joining HeliVert, Finmeccanica aims at strengthening its industrial collaboration with its Russian partners and its commercial presence, by introducing a new product into the Russian market, which has already proven extremely successful globally.

For Further Information [Click Here](#)



## Russian Helicopters sign Strategic Partnership Development Agreement with Rosneft and Leonardo-Finmeccanica

Russian Helicopters, part of State Corporation Rostec, signed a trilateral Strategic Partnership Development Agreement with Rosneft and Leonardo-Finmeccanica (formerly Agusta Westland) at the St. Petersburg International Economic Forum (SPIEF 2016). The document was signed in the presence of Russian President Vladimir Putin by Russian Helicopters CEO Alexander Mikheev, Leonardo-Finmeccanica S.p.A. CEO Mauro Moretti and Rosneft Chief Executive Officer Igor Sechin.

The parties agreed to continue their cooperation aimed at deep localization of the AW189 helicopter manufacturing in Russia. The sides intend to gradually bring manufacturing localization level to 70% and completely localize production by 2025.

The agreement signed today confirms our intentions to strengthen mutually beneficial cooperation in joint manufacturing of new aircrafts and technology transfer. The beginning of production of AW189 in Russia will give a fresh push to the development of the civil helicopter industry, Russian Helicopters CEO Alexander Mikheev said.

Assembling, maintenance and training of crew and technicians for AW189 will be performed at the JV's HeliVert plant in Tomilino, Moscow region. Under the agreement, Leonardo-Finmeccanica will supply 30 helicopters to Rosneft. Per the document, 17 aircrafts will be produced by HeliVert joint venture's plant and 13 helicopters will be made in Italy. The agreement specifies that the supply of helicopters to Rosneft will be completed in 2018.

Today, the HeliVert joint venture provides comprehensive service support and ensures maintenance of various modifications of the AW139 helicopters, both Russian and Italian-made. Additionally, HeliVert has gained the right to perform maintenance and repairs of Italian and Russian-made AW189 helicopters based on the aircraft operator program.

The medium multirole AW189 produced by Italian Agusta Westland is used for offshore flights, search and rescue operations, as well as for cargo, passenger and other transportation. Its maximum takeoff weight is 8.3 tonnes. Cruising speed is 287 kmph and maximum flight range (with additional tanks) is 600 nautical miles.

Russian Helicopters, (part of State Corporation Rostec), is one of the global leaders in helicopter production and the only helicopter design and production powerhouse in Russia. Russian Helicopters was founded in 2007 and is headquartered in Moscow. The company comprises five helicopter production facilities, two design bureaus, a spare parts production and repair facility, as well as an aftersale service branch responsible for maintenance and repair in Russia and all over the world. Its helicopters are popular among Russian ministries and state authorities (Ministry of Defence, Ministry of Internal Affairs, Emergency Control

Ministry), operators (Gazpromavia, UTair), major Russian corporations. In 2015 its IFRS revenues increased 29,5% to RUB 220,0 billion. Deliveries reached 212 helicopters.

State Corporation Rostec is a Russian corporation founded in 2007 for the purpose of promoting the development, production and export of hi-tech civilian and military industry products. It comprises 700 organisations, nine of which have now been formed as holding companies of the military-industrial complex, five of them are involved in civil industries and 22 are directly controlled. Rostec's portfolio includes recognised brands such as Avtovaz, Kamaz, Russian Helicopters, and VSMPO-AVISMA. Rostec's organisations are located in 60 constituent entities of the Russian Federation and supply their products to the markets of more than 70 countries. The revenue of Rostec in 2014 amounted to RUB 964.5 billion. The tax deductions into the treasuries at all levels exceeded RUB 147.8 billion.

For Further Information [Click Here](#)

**Source:** Epicos, Russian Helicopters

### **Australian Shipbuilding Wins 2 New Export Orders**

Reflecting renewed confidence and growing opportunity in the international commercial ferry market, Austal Limited is pleased to announce two new contracts for three commercial passenger ferries with a total value of approximately AU\$30million.

Firstly, Austal has been awarded a contract for the construction of a 50 metre high speed passenger catamaran for Seasprovill Co. Ltd, which operates a number of high speed ferries on multiple domestic routes in South Korea.

With a contract value of approximately AU\$16million, Austal will construct the catamaran to an Incat Crowther design that has capacity to carry up to 450 passengers, at speeds of up to 40 knots.

As many South Korean passenger ferry operators seek proven international shipbuilders to help deliver a generational update of the country's passenger ferry fleets, Seasprovill has selected Austal to build their new ship; based on continued satisfaction with their pre-owned 48 metre high speed catamaran, Seastar 3, built by Austal in 1998. This vessel continues to impress and is performing well with a high quality, robust construction and practical design.

The new 50 metre high speed catamaran will be constructed by Austal Philippines in Balamban, Cebu with delivery anticipated in June 2017.

Austal has also been awarded a contract from Supercat Fast Ferry Corporation (SFFC) of the Philippines, for two 30 metre passenger catamaran ferries. A subsidiary of leading Philippines transportation and logistics company 2Go Group Inc (PSE:2GO), SFFC has awarded Austal a AU\$13million contract which includes the provision of spares.

Transporting up to 300 passengers each at up to 25 knots, the two catamarans will join SFFC's popular 'Supercat' fast ferry fleet operating between 10 ports throughout the Philippines Archipelago.

Construction of the two Incat-Crowther designed vessels will also take place at Austal Philippines and delivery is scheduled for June 2017.

Announcing the contracts, Austal Chief Executive Officer David Singleton said the two contracts were significant in many ways, with the two SFFC vessels representing Austal Philippines' first new build program for the Philippines domestic market and the Seaspo vill contract Austal's first new build for South Korea.

"Once again Australian ship design and reputation for performance and quality wins out in the highly competitive international ship building market. Austal has a world class reputation for high speed ferries and naval vessels which continues to be recognised and brings quality work to the business. We are seeing a resurgence in the passenger ferry market worldwide which Austal is well placed to win" Mr Singleton added.

Since 2013 Austal Philippines has constructed 9 ships and collaborated with Austal Australia on a further 2 ship programs; deliveries have included wind farm vessels, high speed offshore crew transfer vessels and the largest ever vehicle passenger ferry built in the Philippines - the 80 metre Aremiti Ferry 2 for SNC Aremiti Ferry of French Polynesia.

For Further Information [Click Here](#)

**Source:** Epicos, Austal

### General Dynamics Bath Iron Works Christens Future USS Michael Monsoor

On Saturday, June 18, General Dynamics Bath Iron Works christened the U.S. Navy's newest guided-missile destroyer, Michael Monsoor (DDG 1001). The ship is named for Petty Officer 2nd Class Michael Monsoor, who was deployed to Iraq in Operation Iraqi Freedom and was killed Sept. 29, 2006, in Ar Ramadi, Iraq.

The Saturday morning christening ceremony took place at Bath Iron Works' shipyard. Featured speakers included the Hon. Janine Davidson, Under Secretary of the Navy, and retired Vice Adm. Joseph Maguire, president and chief executive officer of the Special Operations Warrior Foundation. Sally Monsoor, Petty Officer Monsoor's mother, the ship's sponsor, officially christened the ship by breaking a bottle of champagne against the ship's bow.

Fred Harris, president of General Dynamics Bath Iron Works, said "We all understand the importance of what we do – building ships that will protect our sailors and marines, providing them the best possible tools to do their jobs safely. We are proud to build ships that serve our nation and honor the sacrifices of American heroes like Petty Officer 2nd Class Michael Monsoor."

The keel for Michael Monsoor, the second ship in the Zumwalt class, was laid on May 23, 2013.

Guided-missile destroyers are multi-mission surface combatants capable of conducting Anti-Air Warfare (AAW), Anti-Submarine Warfare (ASW), and Anti-Surface Warfare (ASUW). Destroyers can operate independently or as part of carrier strike groups, surface action groups, amphibious ready groups, and underway replenishment groups.

More information about General Dynamics Bath Iron Works, a business unit of General Dynamics (NYSE: GD), can be found at [www.gdbiw.com](http://www.gdbiw.com).

**Source:** Epicos, General Dynamics Bath Iron Works

## **Bombardier Announces a Definitive Agreement for the Sale of its Amphibious Aircraft Program to Viking Air Limited**

Bombardier announced today that it has reached a definitive agreement for the sale of its Amphibious Aircraft program to British Columbia-based Viking Air Limited. The agreement covers the Type Certificates for all variants of the aircraft, the CL-215, the CL-215T and the Bombardier 415 aircraft as well as after-market services.

The completion of this transaction is subject to the approval of all required governmental and regulatory authorities and the fulfillment of other customary closing conditions. The transaction is expected to close in the next few months.

“This transaction supports our goal of rebuilding a clear path to profitable earnings growth and cash generation,” said Alain Bellemare, President and Chief Executive Officer, Bombardier Inc. “While the Amphibious Aircraft program is part of our long history, this divestiture positions Bombardier to better focus on our core, higher growth businesses; business jets, commercial aircraft and rail transportation.”

No amphibious aircraft have been produced since December 2015 after Bombardier paused the program. The decision to sell the Amphibious Aircraft program was made after careful deliberation and a rigorous analysis. Viking Air, a long-standing Bombardier collaborator, is the perfect successor to continue to build the value and reputation of the program while ensuring the sustainability of the fleet. Viking Air will provide the right customer support to operators who, given the aircraft’s unique firefighting capabilities, play an essential role in the protection of communities, environment, resources and wildlife.

Bombardier’s amphibious aircraft are emblematic of Canada and are the backbone of many firefighting operations around the world. The Bombardier 415 was launched in 1994 and drew on the success of the earlier CL-215 and CL-215T versions to establish itself as the only purposely built and best firefighting aircraft in the world. Close to 170 Bombardier amphibious aircraft are in service worldwide.

Plans are underway to transfer the 50 Amphibious Aircraft program employees to other parts of the Bombardier organization following the completion of an orderly transition of the business.

### About Viking Air Limited

Headquartered in Victoria, BC, Viking is the global leader of utility aircraft, support and services, and manufacturer of the world-renowned Twin Otter. Incorporated in 1970, Viking initially focused on flying boats before developing a repair and modification business in 1983 when de Havilland Inc. selected Viking as its exclusive spare parts manufacturer and distributor for the de Havilland DHC-2 Mk I Beaver, Mk III Turbo Beaver, and DHC-3 Single Otter aircraft. This transformation culminated in 2006, when Viking acquired the Original

Type Certificates (manufacturing rights) for all out-of-production de Havilland aircraft from the DHC-1 Chipmunk through to the DASH-7 50 passenger STOL regional airliner.

In 2007 Viking launched the Twin Otter Series 400 production program, and to date over 100 aircraft have been sold to 29 countries worldwide. With a current production rate averaging one new aircraft delivered every 15 business days, the Twin Otter Series 400 is the best-selling next generation 19-passenger aircraft available today.

For Further Information [Click Here](#)

**Source:** Epicos, Bombardier

### Ryanair cofounder eyes Argentina for next low-cost airline

One of the founders of Ireland's budget airline Ryanair is eyeing Argentina as the next market for his brand of low-cost flying, following startups in Mexico and Colombia.

"It's just a question of time," Declan Ryan told the Spanish-language Argentine daily La Nacion on Monday.

"For 10 years, we've had VivaAerobus in Mexico and four years with VivaColombia. If life is good to us and we have a bit of Irish luck, we hope to see Viva operating in many Latin American countries, including in Argentina next year."

Budget airlines are increasingly moving into Latin America after becoming strongly established in Europe and the United States, where they have undercut traditional carriers.

Ryan and his family started what is now one of Europe's top low-cost companies, Ryanair, in 1985. In 2003, less than a decade after it went public, he quit as director.

He is managing partner in the Ryan family's investment company Irelandia Aviation, a group that has replicated the model of Ryanair, of which it remains a shareholder.

La Nacion said Irelandia Aviation was in talks to buy a small local firm to kick off its low-cost Viva operation in Argentina in 2017.

Aviation in the country is currently dominated by the flag carrier Aerolineas Argentinas.

Ryan told the daily that the biggest challenge faced in the South American country was not its regulations but airport taxes.

One group, Aeropuertos Argentina 2000, "manages 35 of the 38 airports in the country, and that doesn't seem very fair to me," he said, adding that he had raised that point with Argentine authorities.

Irelandia Aviation invested in VivaAerobus in Mexico in 2006 with a local bus company, Grupo IAMSA, as its partner. That no-frills airline has 19 aircraft and Ryan sits on its board.

VivoColombia, of which Ryan is chairman, was launched along the same lines in 2012, and has nine aircraft.

**Source:** 2016 AFP, Agence France-Presse (AFP)