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Israeli Engineering Industry



Israel has a broad and multi-faceted engineering sector with multi-disciplinary capabilities/applications, covering the entire range of engineering disciplines from process design, to mechanical and equipment design, civil and structural engineering, piping energy and power, electrical design and computer aided engineering and turn-key projects. Additionally, Israeli companies offer a broad range of services including: engineering consulting; feasibility studies and industrial surveys; project management; multi-disciplinary engineering design; construction management; procurement services; advanced process control; computerized plant information systems; engineering software projects and support; and plant start-up and commissioning.

The wide range of applications/capabilities the Israeli engineering industry has is also highlighted by the wide range of installations that the firms have planned and built in both Israel and overseas including: oil refinery production units; continuous and batch operation chemical plants; pharmaceutical bulk and batch plants; plant utilities; waste treatments facilities; and laboratories. Israeli companies also specialize in high-tech R&D and manufacturing facilities including micro-electronics and semiconductors facilities and installations for electro-optics, biotechnology, the laser industry, surgery clean facilities, clean rooms up to class 10 cleanliness level and micro-vibration free facilities.



Another sector in which Israeli engineering companies has expertise is in environmental projects/applications such as solid waste management landfills, incineration of organic and hazardous waste, water systems and industrial and municipal waste and sewage systems. Israeli engineering companies also specialize in power and energy projects such as small and medium-size power stations, co-generation (heat and power) systems, steam generation systems using coal, oil and non-conventional fuels, energy recovery systems; and organic media heat transfer plants. Israeli engineering companies are committed in maintaining their leading position in their field, something that is emphasized by the on-going major investment they do in R&D ensuring the continued improvement of existing products and the development of new and innovative technologies.

Apart from R&D the large pool of qualified personnel that Israel has is another reason why the country is performing well in advanced technologies including the engineering industry. It is indicative that more than 20% of the country's workforce is university graduates.

Kyriazis Vasileios
Epicos Newsletter Head Editor

Interview with Mr. Nir Eldar, Marketing & B.D Manager of MTC Industries and Research Company



Mr. Nir Eldar, Marketing & B.D Manager of MTC Industries and Research Company, gave an exclusive interview to Epicos, regarding the position of the company in the international and national markets. Among others, he stated that: "It is important to point out that our most-

sought-after products are mounted into UAV, which, as you know, is a market in full expansion and not limited to Defence. These products are mainly our Servo Actuators and our Vertical Gyroscopes, specifically developed for UAV".

1. Could you please describe the current place of MTC Industries and Research in the national and international market?

We are one of the leading industries in Israel to supply electro-mechanical sub-assemblies and sub-systems to local Defence Industries, such as IAI, Rafael and Elbit Systems. Our reputation for high accuracy and quality has reached overseas and therefore our products are shipped in four different continents, and hopefully we will soon begin to provide the same solutions in new emerging markets, such as Australia and South America.

2. Could you please briefly describe the history of the company?

Established in 1977 near Haifa, the MTC team started by developing much needed, and not easily obtained elsewhere, gyroscopes for immediate defence requirements. Building on this success, the company soon became sub-contractor to all main Missile and UAV industries in Israel; this accelerated diversification forced MTC to master a wide range of technologies in a short time; our latest addition are miniature fuel pumps.

3. Could you please describe the main products the company provides?

It is important to point out that our most-sought-after products are mounted into UAV, which, as you know, is a market in full expansion and not limited to Defence. These products are mainly our Servo Actuators and our Vertical Gyroscopes, specifically developed for UAV.

MTC's additional capabilities lay in multi-circuit slip-rings, also called rotary joints or electric swivels, in fuel manifolds with pumps, in position sensors such as resolvers, LVDT and RVDT and in small electric motors. We also have expertise in development & manufacture of free and rate gyroscopes, wing-actuation steering units, solenoid valves, and for the majority of any electro-mechanics required inside larger platforms for either the civil or the military sector. We also apply thermal coatings to any mechanical part if required.

4. Could you please name the main customers of MTC Industries and Research Carmiel Ltd.?

For obvious reasons, we are not allowed to do so, but suffice it to say we are ship-to-stock suppliers to all our above mentioned customers in Israel, and supply unique products to well-known global European and American firms and other friendly governments.

5. Is the company currently investing in a new technology?

In MTC we heavily invest in new technologies by intensifying our R&D efforts so as to be able to offer in the near future a range of MEMS gyros. We consider this to become a strategic field for MTC.



6. What is the relative advantage of MTC as an electromechanical manufacturer?

I would say two:

1) MTC provides a complete solution: although electromechanical sub-systems are extremely complex products to develop and manufacture, we pride ourselves on conducting the entire process in-house, from the stage of design up to the final product.

2) MTC's products are field-tested and mission-proven: MTC products have proven their reliability in the field and have fulfilled their intended mission during thousands of operating hours.

For further information please visit the company's website: www.mtcind.com

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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](#)

New gateway enabling mobile subscribers to transfer audio/video calls from a mobile phone to home TV over broadband IP network



A leading company in the design and development of advanced real time data exchange solutions for several demanding military and civil communication applications, is proposing the utilization of a new technology mobile-to-IP gateway in order to provide extremely affordable high quality video and audio transfer, from mobile users, to home TV systems. The proposed concept utilizes 3 main innovations: routing of a mobile call from Bluetooth enabled mobile phones to an SIP network (V2oIP Session Initiation Protocol); addition of a high quality video (displayed on a home TV screen) to the call, while on the SIP network; and, extremely optimized usage of computational resources allowing the SW to be embedded even in low-end home devices (such as a DVD).

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

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Provision of an advanced Thermal Imaging Camera with Zoom Lenses for Electro-Optical (EO) system manufacturer and integrators



A company specializing in the development and production of Electro-Optical and Precision Motion Control Systems for the aeronautical and military industry, is proposing to Aerospace and Defense (A&D) primes or lower tier companies, an existing and fielded product of the company, a Thermal Imaging Camera (FLIR), with Zoom Lenses. The Thermal Imaging Camera can be used either as a stand-alone system, or be integrated in advanced Electro-Optical (EO) Surveillance systems/suites, weapon posts, or sites under development.

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

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IAI Reveals its New Helicopter Safety Technology



Israel Aerospace Industries (IAI) reveals its innovative Helicopter safety technology, which enables helicopter flight in Degraded Visual Environments (DVE), under all weather conditions. Today's helicopter military and paramilitary operational missions typically

involve flight over environments with a variety of ground obstacles. Such missions are often hampered by a combination of low-altitude obstacles and poor visibility, which may result in accidents and casualties. IAI's technology was developed to provide a safe and affordable solution to such operational requirements.

The system features innovative staring radar, advanced processing algorithms and cockpit multi-functional display integration. The technology allows for low-altitude flight under all weather conditions or lighting and visibility, and for safe landing in brown-out conditions by alerting the pilot of electrical power lines and other ground obstacles.

The system generates a synthetic image of the terrain, highlighting flight obstacles such as power lines and their supporting poles or towers. The system achieves a very high probability of 95% for detection of power lines, comprises two compact 30 x 40 cm antennas, requires only 250 W of power, and weighs 30 kg. The system has successfully undergone flight tests and is available for performing real-time demonstration flights.

Yosef Melamed, General Manager of IAI's LAHAV Division said: "IAI's new helicopter safety technology is life-saving. It presents a unique business opportunity with potential markets worldwide. We are examining the possibilities for further development and marketing of the product, including cooperation with strategic partners."

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SMARTair Gets Selected to Protect Upscale Retirement Home



Balancing the needs of a building, its security and convenience to its residents can be a daunting task without the right solution. When building engineers for Achuzat Beit Ra'nana, an upscale residential complex, sought an access control solution, they needed to consider more than just security. Convenience for residents and a solution that could be deployed without any preparation or infrastructure was called for.

That's where SMARTair came in. It's an electromechanical access control solution that met all the requirements of the building, including aesthetics and more.

To learn more about how SMARTair was able to meet the needs of the retirement home sector, read the full case study [here](#).



Airbus nets \$25bn of Farnborough plane orders

European aircraft maker Airbus won orders for its passenger planes from leasing companies worth about \$25 billion at the Farnborough airshow on Tuesday, far outpacing its US rival Boeing.

Airbus won memoranda of understanding for its new long-haul A330-900neo, which was launched at Farnborough on Monday, as well as a major contract from Japanese aircraft leasing company SMBC Aviation Capital.

It sealed a sale also with a Bank of China leasing company -- helping to bring Airbus' total orders for the day to about \$25 billion (18.5 billion euros).

Among Boeing's orders was a \$3.9 billion deal to sell planes to US group Air Lease Corporation.

SMBC Aviation Capital meanwhile said it had signed an order for 115 single-aisle A320 Airbus planes costing \$11.7 billion.

"This new order is the industry's largest ever single firm order by a worldwide leasing company for single-aisle aircraft," SMBC said in a statement.

"This is a landmark order for SMBC Aviation Capital and indeed for the wider aircraft leasing industry, and I am delighted to be continuing the close and long-standing relationship that our business enjoys with Airbus," said SMBC chief executive Peter Barrett.

- China on radar -

BOC Aviation, the Singapore-based aircraft leasing subsidiary of Bank of China, announced an order for 43 A320 planes worth \$4.1 billion at Farnborough.

"It's great to see one of the world's leading lessors, BOC Aviation, based in the fast growing Asian market, continuing to invest in our market leading A320 family," said Airbus president Fabrice Bregier.

US leasing company CIT said it planned to buy 15 A330-900neo planes and five short-haul A321 jets for a combined value of \$4.67 billion.

"These new aircraft will allow CIT to maintain one of the youngest and most technologically advanced fleets in the industry, while providing fuel efficient aircraft solutions to our

customers through a range of sizes and categories of aircraft," said Jeff Knittel, president of CIT Transportation and International Finance.

Dublin-based leasing company Avolon said it had signed a Memorandum of Understanding for 15 A330neo aircraft worth \$4.12 billion.

On Monday, Airbus had launched the eagerly-awaited upgrade of its long-haul A330 passenger jet -- the A330neo -- to meet rising demand for cheaper, more fuel-efficient travel.

The decision to upgrade the A330 with new Rolls-Royce engines was announced on the first day of the Farnborough airshow, a key biennial event in the aviation calendar held near London.

Also on Monday, US-based Air Lease Corporation announced a firm order for 60 single-aisle Airbus A321neo planes worth \$7.23 billion at list prices.

- Leasing firms buy Boeing -

On Tuesday, Boeing said that Air Lease had ordered 26 of its passenger jets in a deal worth \$3.9 billion.

Air Lease is buying six long-haul 777-300ER jets and has confirmed an order for 20 single-aisle 737 MAX 8 planes.

"Additional 777-300ER and 737 MAX airplanes in our portfolio provide the economics and passenger-pleasing experiences our airline customers require," said Air Lease chief executive Steven Udvar-Hazy.

"The 777 has maintained a broad customer base and will continue to do so well into the future. The 737 MAX represents game changing efficiencies and improvements for the environment in the single-aisle market," he added.

Boeing also said that US leasing company Intrepid Aviation had ordered six 777-300ERs valued at \$1.9 billion and has an option to buy four more.

Brazilian group Embraer, the world's third largest commercial planemaker, has won an order worth \$2.4 billion for 50 regional jets from US airlines-owner Trans States Holdings during the Farnborough show.

Source: 2014 AFP, Agence France-Presse (AFP)

Boeing wins plane orders from US leasing groups

US aircraft maker Boeing said on Tuesday that it had won a number of orders for its passenger planes from American leasing companies potentially worth a total of about \$10.0 billion.

Air Lease Corporation has ordered 26 Boeing jets in a deal valued at \$3.9 billion (2.9 billion euros), the companies announced on the second day of the Farnborough airshow near London.

Air Lease is buying six long-haul 777-300ER jets and has confirmed an order for 20 single-aisle 737 MAX 8 planes.

"Additional 777-300ER and 737 MAX airplanes in our portfolio provide the economics and passenger-pleasing experiences our airline customers require," said Air Lease chief executive Steven Udvar-Hazy.

"The 777 has maintained a broad customer base and will continue to do so well into the future. The 737 MAX represents game changing efficiencies and improvements for the environment in the single-aisle market," he added.

Boeing added that US lessor CIT had ordered 10 787-9 Dreamliners, valued at \$2.5 billion at current list prices.

"These aircraft will add to our growing fleet of fuel efficient aircraft that remain in high demand from our airline customers, who also seek state-of-the-art aircraft that provide increased comfort and convenience for the travelling public," said Jeff Knittel, president of CIT Transportation & International Finance.

Intrepid Aviation meanwhile ordered six 777-300ERs and has an option to buy four more in a deal totalling about \$3.2 billion, Boeing said on Tuesday.

Source: 2014 AFP, Agence France-Presse (AFP)

UK boosts investment in military surveillance

British Prime Minister David Cameron on Monday announced an investment of £1.1 billion (1.38 billion euros, \$1.88 billion) into the armed forces, the bulk of it on intelligence and surveillance equipment.

The money comes from savings made in the past two years at the Ministry of Defence, which has cut thousands of armed forces jobs as part of the government's austerity programme.

Some £800 million will be invested in intelligence, surveillance, target acquisition and reconnaissance, including special forces capabilities to address terror threats overseas including in the Horn of Africa.

"This money will help keep our country safe and stop terrorism at source before it reaches our country," Cameron said as he toured the Farnborough air show near London, a key biennial event in the aviation sector calendar.

The remaining £300 million will be invested in existing capabilities such as next generation radars for Typhoon combat jets, as well as the purchase of an ice patrol ship, officials said.

Source: 2014 AFP, Agence France-Presse (AFP)

Japan calls for summit with China's Xi at APEC

Japan called Friday for summit talks between Prime Minister Shinzo Abe and Chinese President Xi Jinping during a regional meeting in Beijing later this year, as diplomatic tensions sour relations between the neighbours.

Chief Cabinet Secretary Yoshihide Suga, Abe's right-hand man and the Japanese government's top spokesman, said it was "natural" for the two leaders to meet on the sidelines of the Asia-Pacific Economic Cooperation (APEC) forum, slated for November.

"At APEC, world leaders will convene. Having talks, I think, is a natural practice in the international community," he told the Foreign Correspondents' Club of Japan.

Tokyo and Beijing "have to share responsibility for peace and prosperity in the Asia Pacific and the international community", he added.

Suga's comments came as Tokyo and Beijing remain at loggerheads over ownership of islands in the East China Sea. Rising tensions have seen Chinese ships routinely sail into waters near the disputed archipelago while Japan has scrambled fighter jets to chase off intrusions near its airspace.

Despite a major trading relationship between the two countries, Abe and Xi, both strong nationalists, have not held a bilateral summit meeting since they both came to power in the last year and a half.

Tensions over the bitter memories of Japan's militarism in the first half of the 20th century have also weighed on relations.

Last week, China lashed out at Japan's move to loosen the bonds on its powerful military, casting it as a threat to Asian security, as Beijing beefs up its own forces and claims much of the South China Sea, causing friction with other regional nations including the Philippines and Vietnam.

On Friday, Suga also said Tokyo's "top priority" was to resolve a long-running spat with North Korea over the Cold War kidnapping of Japanese nationals.

Last week, Tokyo said it would revoke some of its unilateral sanctions on North Korea, after Pyongyang promised to investigate what happened to the dozens -- or even hundreds -- of people Japan says were snatched by North Korean spies to train their agents in language and customs during the 1970s and 1980s.

Source: 2014 AFP, Agence France-Presse (AFP)

Boeing, Avolon Announce Commitment for 787 Dreamliners, Additional 737 MAXs

Boeing and Avolon announced the leasing company's commitment for six 787-9 Dreamliners and five additional 737 MAX 9 airplanes, valued at more than \$2 billion at current list prices. This commitment marks Avolon's first order for the efficient 787 Dreamliner and will increase the lessor's 737 MAX portfolio to 20 airplanes. When finalized, the order will be posted on the Boeing Orders & Deliveries website.

"Our investment strategy is focused on building a portfolio of young, modern and fuel-efficient commercial aircraft. This order for six Boeing 787-9 aircraft, when combined with our ongoing sale and leaseback investments in the 787 family, reflects our commitment to our customers to have a product offering built around the latest and most technically advanced aircraft available in the market," said Domhnal Slattery, CEO of Avolon.

"We are also pleased to reconfirm our commitment to purchase five Boeing 737 MAX 9 aircraft. The 737 has proven itself a hugely popular aircraft with airlines, investors and financiers worldwide," said Slattery. "Avolon was one of the first three lessors to order the 737 MAX when we announced our original commitment in July 2012 and we are delighted to increase that commitment now, reflecting our confidence in the asset and our customers' need to operate the most technologically advanced and fuel-efficient aircraft."

"We are thrilled that Avolon is committing to order the 787-9 Dreamliner and additional 737 MAXs," said Boeing Commercial Airplanes president and CEO Ray Conner. "This addition to its portfolio reflects Avolon's important role in the leasing industry and the market popularity of both the Dreamliner and 737 MAX."

The Boeing 787-9 Dreamliner is the second member of the super-efficient 787 family. Both the 787-8 and 787-9 bring the economics of large jets to the middle of the market, with 20 percent less fuel use and 20 percent fewer emissions than similarly sized airplanes and passenger-pleasing features. At 20 feet (6 meters) longer than the 787-8, the 787-9 extends the family in capacity and range, flying more passengers and more cargo farther.

The 737 MAX has surpassed 2,000 orders from 42 customers worldwide, the most successful launch in Boeing history. The 737 MAX incorporates the latest-technology CFM International LEAP-1B engines to deliver the highest efficiency, reliability and passenger comfort in the single-aisle market. The largest in the 737 MAX family, the 737 MAX 9 offers the best fuel-efficiency per seat and will be 7 percent per trip less expensive to operate than its competitor, the A321neo.

About Avolon

Headquartered in Ireland, with offices in Stamford CT, China, Singapore and Dubai, Avolon provides aircraft leasing and lease management services. Avolon has an owned, managed and committed fleet of 207 aircraft serving 48 customers in 27 countries. See www.avolon.aero

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