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Welcome to ILA 2018


The ILA Berlin Airshow 2018 offers a good opportunity for the German aerospace industry to present itself in an international competitive environment and to demonstrate its high performance to a wide audience.

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The German Air Force is prepared to provide additional military options and the EUROFIGHTER as a highly effective and reliable weapon system has become even more important.
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und Static Display
Once again in 2018, the German Army will host a presentation at the Innovation and Leadership in Aerospace (ILA) trade fair, with the army's contribution focusing on the operational-tactical aspects of air mobility and multi-nationality.

The German Army's presentation revolves around four thematic pillars, showcasing a static display, a flying display, the exhibition in Hall 3, and the HeliLounge forum. Furthermore, the Chief of the German Army, Lt.Gen. Jörg Vollmer, will give a keynote speech addressing the challenges the German Army is currently facing as well as potential solutions, ever mindful of the motto: “A force to be relied on, even in the third dimension!” The keynote will be given on Wednesday, 25 April, 1545-1600h (03:45-04:00PM), at the ILA Conference Center.

**Static Display**

At the static display, the German Army presents manned and unmanned aerial vehicles (UAV) as well as its aircraft engineering training program. The static display highlights the fact that, when it comes to the subject of air mobility, the infantry and the helicopter forces always need to be viewed within the same perspective. Items on display include Army Aviation aircraft and Army vehicles and drones, including two TIGER attack helicopters, two NH90 tactical transport helicopters in their Forward Air MedEvac and Chase versions, a Bell UH-1D used by the Bundeswehr for Search and Rescue (SAR) missions, an EC135 training helicopter, two EAGLE vehicles suited for use as command vehicles or for other functional roles and purposes, such as armoured reconnaissance, relay station, controlling and observation. Also on display are a FENNEK scout vehicle in its Joint Tactical Fire Support configuration, two of the airborne infantry’s armoured WIESEL 2 weapon carriers equipped with the OZELOT light air defence system, and four of the army's UAVs along with their associated technical components.

The Army's aircraft engineering training is presented at the Military Pavilion, where a Hera avionics plan table is on exhibit. Also present will be specialist staff of the International Helicopter Training Center's NH90 training workshop as well as experts from the Rotary Aircraft Systems Center representing its two main facilities: the Systems Support Center, whose responsibilities include avionics trouble analysis, software maintenance and software modifications as well as the training of NH90 and TIGER system engineers, system officers and system test officers; and the “Cooperative Model for Airframes” facility dealing with the development of Tiger and NH90 damage analysis and repair procedures.

**Flying Display**

The flying display is designed to provide impressions of the professionalism of Army soldiers and the performance capabilities of their equipment. The display's key element is a joint operation conducted by the army and the air force that affords an amazing perspective of their air mobility capabilities, quite in keeping with their motto: “A force to be relied on, even in the third dimension!” TIGER attack helicopters and NH90 tactical transport helicopters, along with German Air Force aircraft such as
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the CH53 medium transport helicopter, the AH645 light support helicopter and a C160 transport aircraft, are employed in support of soldiers of the Special Operations Forces Command and Parachute Regiment 31 as they conduct a hostage rescue operation.

The flying display also shows Army aircraft conducting an emergency relief operation as well as an air parade. The Tiger attack helicopter will demonstrate its capabilities in an individual presentation, and Bundeswehr service members are going to conduct a parachute jump from a PLZ M28 short-range transport aircraft.

**Exhibition in Hall 3**

In Hall 3, the German Army and its cooperative partners jointly present an exhibition titled “Training and Cooperation”. Cooperative aircraft engineering models are presented in cooperation with the German Aerospace Industry Association. The Air Maneuver Training Alliance (AMTA) exhibition stand provides insights into joint flight training, and a symposium will be held on the subject of simulation-based training.

On public visitor days, visitors may avail themselves of the opportunity to talk to service members and army aviation personnel in Hall 3 and at the HeliLounge. A service member will give a presentation on experiences gained during field missions, followed by a question-and-answer session. There will be a presentation of cooperative models – including a guided tour – and pilots, technicians and air traffic control personnel are on location to talk about their jobs and duties with interested members of the public. In addition, guided tours of the exhibition hall are offered all day long.

In Hall 3, the army also presents an NH90 procedural trainer from the International Helicopter Training Center as well as a simulation of infantry soldiers interacting with helicopters from the Air Mobility Training and Exercise Center based in Celle.

**HeliLounge Forum and Panel Discussion**

The HeliLounge is also located in Hall 3. On trade visitor days, briefings and panel meetings will be held to discuss major topics of present and future air mobility with renowned national and international military representatives as well as industrial and scientific experts.

The introductory briefing on “Aviation in the Multinational Environment” will be given by the Commander of the Army Concepts and Capabilities Development Center, Maj.Gen. Reinhard Wolski, on Wednesday, 25 April 2018, at 1100h (11:00 AM). Another briefing will be given by the Commander of German Army Elements Multinational Headquarters and Basic Military Organization with the German Army Headquarters, Lt.Gen. Frank Leidenberger, on Thursday, 26 April 2018, at 1100h (11:00 AM) on the topic of “How Land Forces Will Fight in the Future – With a Focus on the Air Mobility of Land Forces.”

Under the direction of the Army Concepts and Capabilities Development Center, five panel talks will be held on the three trade visitor days where national and international military, industrial and scientific experts will meet for discussions that are intended to underline the close cooperation of these experts and, in particular, to provide an outlook on future developments in different areas of air mobility.

**Individual Panel Topics**

- **Panel 1** (25 April, 12:00 - 12:45 pm): “Employment of Attack, Transport and Support Helicopters in Current and Future Missions, including Deep Operations”
- **Panel 2** (26 April, 12:00 - 12:45 pm): “Digitization and Interoperability of Helicopters in Land and Air Operations, including Manned-Unmanned Teaming (MUM-T)”
- **Panel 3** (26 April, 02:00 - 02:45 pm): “Training and Simulation for Air-based Missions”
- **Panel 4** (26 April, 04:00 - 04:45 pm): “Challenges Associated with the Establishment and Operation of Helicopter Fleets in View of PESCO and FNC”
- **Panel 5** (27 April, 04:00-04:45 pm): “Forward Air MedEvac and the Golden Hour. Requirements to be met by a Multinational Helicopter Unit”

The German Army would like to invite all trade visitors to engage in stimulating discussions with high-ranking guests, trusting that everybody in attendance will be offered an informed perspective on the future developments of air mobility.
MTU Aero Engines Presents Military Engines, Innovative Components and Technologies

In addition to debuting one of the world’s most eco-efficient engines, the PurePower PW1100G-JM geared turbofan engine powering the A320neo, which is built jointly by MTU Aero Engines and Pratt & Whitney, MTU showcases three military engines at MTU’s 250m²: the TP400-D6 for the A400M military transport aircraft, the EJ200 for the Eurofighter TYPHOON and the MTR390 for the TIGER helicopter.

MTU intends to play a key role also in the development of a new military engine for a future European fighter aircraft. The company presents its concept ideas for a “Next European Fighter Engine (NEFE)” in an interactive exhibit.

MTU’s exhibits are on display at its booth No. 301 in Hall 2, as well as at MTU’s chalet (No. 18/19) next to the runway. The company’s motto for the 2018 air show is: “Answering tomorrow’s challenges.”

One of Germany’s leading engine manufacturers also has a presence at the German Armed Force’s Military Support Center and showcases a cutaway model of the EJ200 engine. Soldiers and MTU staff are demonstrating how their cooperation to jointly maintain the aircraft of the German military in serviceable condition works. In the exhibition tent of US aircraft manufacturer Lockheed Martin a T400 can be seen. MTU has a workshare in this GE Aviation engine, which powers Sikorsky’s, a Lockheed Martin company, new CH-53K heavy transport helicopter. Production of the engine has been underway since the beginning of the year.

Digitalisation is playing an increasingly important role, also for MTU. As an example of the company’s activities in this area, simulation methods are presented which will transform development and production in the future. MTU uses a simulation screen to demonstrate where virtual development can help make processes faster, more efficient and more cost-effective. The aim is to achieve an improved design by mouse clicks instead of the conventional trial & error approach.

MTU is also contributing to the ILA Future Lab, an initiative of the German Federal Ministry for Economic Affairs and Energy and the German Aerospace Industries Association (BDLI). New materials and manufacturing processes are presented virtually.

MTU’s commercial maintenance sector will be presenting solutions on offer to MRO customers. A case in point is the V2500 drum repair. This procedure prevents fretting damage in the high-pressure compressor by incorporating damper wires with improved ends that MTU has developed. An innovative repair procedure is MTUPlus ERcoateco for application of a high-temperature-resistant erosion protection coating onto high-pressure compressor blades and vanes. Both repair solutions are being demonstrated on a V2500 high-pressure compressor.

At ILA Berlin 2018, MTU showcases technological highlights from all of its business sectors - commercial and military engine technologies and new maintenance procedures. (Image: MTU)
Late March, a USMC CH-53K heavy lift helicopter built by Sikorsky, a Lockheed Martin company, arrived in Holzdorf, Germany, ahead of its international debut at the ILA Berlin Air Show.

This is the first time a King STALLION helicopter has been loaded into a C-17 GLOBEMASTER and transported to the base of a European ally. “We are excited for the opportunity to showcase the capabilities of this all new CH-53K heavy lift helicopter to an international audience. This is the only true heavy lift helicopter in production,” said Sikorsky President Dan Schultz.

Sikorsky demonstrated the King STALLION’s strategic airlift capability during an exercise at the Sikorsky Development Flight Center in West Palm Beach, FL/USA, prior to the departure for Germany.

A trained Sikorsky crew partially disassembled the CH-53K helicopter, loaded it into the C-17 cabin and then unloaded the helicopter while representatives from Naval Air Systems Command and the US Marine Corps observed the exercise. As a result, the CH-53K programme achieved its Air Transportability Test Loading Activity certification from the US Air Force.

The CH-53K King STALLION test programme recently completed the following milestones: maximum weight single-point cargo hook sling load of 36,000lbs (16,329kg); forward flight speed of 200kt; 60-degrees angle of bank turns; 12-degree slope landings and takeoffs; external load auto-jettison; and gunfire testing. These milestones come just weeks ahead of Sikorsky delivering the first CH-53K helicopter to the US Marines.

On 12 April, flew its first flight on foreign soil at Holzdorf Air Base, Germany. The aircraft executed a flawless flight around the air base, as the Sikorsky team continued preparation for the King STALLION’s public international debut at ILA.

The helicopter remained at Holzdorf Air Base, a military airfield operated by the German Air Force (Luftwaffe), until the start of ILA. The CH-53K will showcase its capabilities, manoeuvrability and advanced fly-by-wire technology during demonstration flights at the air show.

The CH-53K aircraft is an all-new aircraft, using modern intelligent design. The rugged CH-53K is designed to ensure reliability, low maintenance, high availability and enhanced survivability in the most austere and remote forward operating bases.

**Bavarian Tigers Unveil GHOST TIGER EUROFIGHTER**

The German Air Force Fighter Wing 74’s 741 and 742 squadrons in Neuburg founded the Bavarian Tigers in 2013 and are showcasing their GHOST TIGER EUROFIGHTER at ILA 2018. They took over the Tiger Spirit from the disbanded 321 Squadron / Jagdbombergeschwader 32. The Bavarian Tigers will join the other Tiger Squadrons in the exercise NATO Tiger Meet 2018 at Poznan-Krzesiny AFB, Poland, 14-25 May.

In recent years, Fighter Wing 74 always painted amazing Tiger aircraft, and on 13 April, the Bavarian Tigers have unveiled the “Ghost Tiger,” an EUROFIGHTER (31-00) that has received a green-black tiger colour.
Boeing Showcases Market-Proven Solutions

At ILA Berlin 2018, Boeing showcases market-proven solutions and future trends in aviation. A series of Boeing aircraft are on static display and additional capabilities are featured in Hall 2 at the exhibition.

"ILA Berlin is an important venue for Boeing to discuss new trends in aviation and to showcase how we are shaping the future of aviation together with our industry partners in Germany," said Dr. Michael Haidinger, President, Boeing Germany. "Cutting edge technology and digital solutions that enhance the efficiency of our products and streamline operations for our customers will be in the spotlight of Boeing’s ILA presence."

Boeing also highlights market-proven capabilities and services expertise. Germany has a requirement for a new heavy lift helicopter, and with the H-47 CHINOOK, Boeing can provide a modern, proven, reliable platform at a very competitive cost. Boeing features the H-47 CHINOOK during ILA Berlin and provide information on the company’s expertise in performance-based logistics, ensuring the aircraft is ready to fly when needed.

The US Department of Defense is scheduled to display several Boeing platforms, including the H-47 CHINOOK heavy lift helicopter, the V-22 multirole tiltrotor, the AH-64 APACHE attack helicopter, the P-8A POSEIDON maritime patrol aircraft and the F-15 fighter.

The exhibit also includes Boeing’s new commercial airplane programmes and technology “Made in Germany” by the company’s established network of suppliers. A special focus will be on the 777X, as the first test airplane is currently going through production.

The Boeing Digital Aviation & Analytics Lab Frankfurt, established last year, and Boeing subsidiary Jeppesen provide a glance into the future, highlighting the benefits of digital solutions for aviation. Boeing Research & Technology informs about current trends and new developments in aerospace technology.
RUAG Aviation to Expand Aviation Business in Germany

The German Navy’s Naval Air Wing 3 (Marinefliegergeschwader 3 GRAF ZEPPELIN) stationed at Nordholz Air Base operates two Dornier 228/NG aircraft for pollution control. (Photo: Havariekommando)

Rapid expansion is predicted for the upgrade of both military and civilian aircraft, and companies are keen to exploit opportunities for commercial gain, while offering innovative services that are tailored to customer needs. At ILA 2018, RUAG Aviation showcases its advanced solutions and concepts to cope with this rigorous trend that is observable around the world. RUAG is one of Europe’s leading independent providers of one-stop shop services for both fixed-wing and rotary-wing aircraft – from line, base, and heavy maintenance check-ups to system upgrades, FBO (Fixed Base Operator), AOG (Aircraft on Ground), and specialised consulting.

The company has a heritage as a service provider of aircraft systems in service with Swiss Army, including the Boeing F/A-18 fighter jet and Airbus Helicopters’ H-135/EC635 and SUPER PUMA helicopters. That said, the Swiss Army developed as RUAG’s largest customer.

“High on our priority list is the ARAS principle,” says Volker Wallrodt, Senior Vice President Business Jets, Dornier 228 & Components at RUAG Aviation in Oberpfaffenhofen. With the prefix ARAS standing for Availability, Reliability, Affordability and Sustainability, the company is keen to offer its customers a maximum availability of their aircraft, while delivering low-cost solutions for the maintenance of complete helicopter fleets throughout their entire life cycle.

RUAG Aviation is ready for new opportunities in this field, with its facilities at Oberpfaffenhofen representing the focal point for RUAG’s aviation business in Germany. The significance of this stronghold lies in the maturity of the spectrum of activities for military and civilian customers: manufacturing of structures for passenger aircraft from Airbus and Bombardier; life-cycle support for private and business aircraft from Bombardier, Embraer, and Gulfstream; MRO (Maintenance, Repair & Overhaul) of fixed-wing and rotary-wing aircraft, including Bell UH-1D and NH90 transport helicopters of the Bundeswehr; and, as the company’s flagship, the assembly of the Dornier 228 STOL utility aircraft. For the latter, Oberpfaffenhofen also offers customised equipment installation, product conformity inspection, and aircraft delivery. Considering this unique background, Oberpfaffenhofen evolved as a central facility in Germany for all activities intimately associated with the Dornier 228, which, as a full-scale development of RUAG, attracts the interest of a growing number of military and civilian users, including police, law enforcement, and para-military organisations. RUAG Aviation noted that this twin-turboprop aircraft is going to have a far-reaching impact on future mission requirements. The company sees this robust and versatile aircraft as an all-round asset, enabling plenty of special missions at low operating cost – from monitoring of huge maritime environments to medical evacuation under adverse environmental conditions. The aircraft is also in use as a jump platform for parachute teams. A significant pay-off is its ability to land and take-off on relatively short runways, a capability that is not found in other similar aircraft, as well as its exceptional cross-wind stability and low altitude cruising.

At ILA 2018, RUAG Aviation showed off its complete portfolio of aircraft services (including static and flying display with the Dornier 228), both for the military and civilian customer. The company has strong confidence in its offerings based on an in-depth relationship with its customers and industry partners.

Stefan Nitschke

TruNet Provides Complete Control of Network Communications

At ILA 2018, Rockwell Collins presents TruNet, one of the first software defined network communications solutions encompassing airborne, ground and handheld SDRs, advanced networking waveforms, apps, ancillaries and services.

With this solution, according to the manufacturer, military forces will be able to benefit from significantly enhanced connectivity between ground and airborne elements. It enables the secure sharing of critical data, image, voice, and video communications across all domains in the modern battlespace. According to company representatives in Heidelberg, TruNet owns four premier advantages: more nodes (quadrupling nodes up to 140+ per network, connecting all combat elements with high throughput and no increased latency); low latency (less than 300msec latency in a data multi-hop topology lets forces receive mission-critical information sooner to make faster decisions); multi-hop technology (users can communicate beyond line-of-sight with TruNet’s auto-hopping networks and advanced IP waveforms); and more power. The latter quadruples the output power for a longer reach, enabling forces to engage the network earlier, and gaining early tactical situational awareness.

Visit Rockwell Collins Deutschland GmbH in Hall 2, Booth # 102

Stefan Nitschke
Long Term Development and Growth in the German Market
Elbit Systems strengthens existing interfaces, enhancing commercial co-operations and knowledge transfer

In combination with ILA Berlin Air Show and the opening of an office in the city, Bezhalel (Butzi) Machlis, President and CEO of Elbit Systems, is interviewed by MT and explains how the company intends to grow in this market, expand local development and manufacturing efforts, and how Elbit Systems intends to strengthen its presence in Germany.

ILA Show Dailies: What is Elbit Systems’ intention to open an office in Berlin, Germany?
B. Machlis: We have been successfully operating in Germany for more than a decade. We acquired Telefunken RACOMS, established strong cooperations with local companies, and we are involved in significant projects in the German defence industry in the fields of radio, electro-optics and aircraft protection systems. The political significance of Germany, its robust economy, its industrial and technological strength, and the leadership of the German defence forces (Bundeswehr) – make Germany an important target market for us. We intend to grow in this market, expand local development and manufacturing efforts, enhance the transfer of knowledge and deepen our commercial and industrial co-operations.

ILA Show Dailies: Curiously enough one may actually say that as far as technology is concerned, Elbit Systems German roots run deep. The physicist Emanuel Goldenberg, who headed the Photographic Department in the National Academy of Leipzig and later was one of the founders of Zeiss Icon, immigrated to Israel and established the Electro-optics Elop company, now part of Elbit Systems’ ISTAR division. We intend to build on this and keep growing in Germany.

ILA Show Dailies: Who will be employed at this office?
B. Machlis: Our office in Berlin will be led by senior industry officials. This new office is an important element in our overall plans to significantly strengthen our presence in Germany, expand our technological and industrial base in the country and broaden the cooperation with local industries.

ILA Show Dailies: What are some of the most important programmes in Germany for your company?
B. Machlis: Our subsidiary, Telefunken RACOMS, a long time supplier to the Bundeswehr, develops and supplies the German military with tactical radio systems and EO systems. Together with Diehl Defence, we develop and supply DIRCM systems for the German Air Force (Luftwaffe) and we are currently exploring additional cooperation with German industries.

“Elbit Systems is a global leader in this field, offering a portfolio of battle tested SDR systems, airborne radio communication solutions, SAR solutions, advanced C2 systems and cyber technology,” Elbit Systems President and CEO Bezhalel (Butzi) Machlis explains.
Shown: Elbit Systems MCTR 7200 software defined radio.
According to sources in the German procurement office, the BAAINBw, over 4,000 of the very light Telefunken RACOMS XACT mv33 micro NVG binocular (450g) were sold to the Bundeswehr.

I strongly believe that we are competitively positioned to take part in a wide range of programmes for the Bundeswehr, including radio, aircraft protection and electro-optics.

ILA Show Dailies: Will this affect or supplement your successful activities in Germany via your subsidiary Telefunken RACOMS?

B. Machlis: The acquisition of Telefunken RACOMS in 2004 established our operations in Germany on sound foundations in terms of local advanced technological development, top quality production and transfer of knowledge, and greatly contributed to our long-term relationship with the German defence establishment. In concert with our subsidiary, we enhance our position in the market through collaborations with other German companies, such as Diehl Defence. The opening of the office in Berlin will strengthen existing interfaces, enhance commercial co-operations and knowledge transfer that are necessary for a long term development and growth in the German market.

ILA Show Dailies: As Telefunken RACOMS has in the past won tenders with the Bundeswehr, will they now just focus on their speciality, i.e. RF, while with, e.g. EO/IR equipment, Elbit Systems will go ahead on their own?

B. Machlis: Telefunken RACOMS has advanced engineering and development capabilities in various fields including radio and EO as well as high quality production facilities. We intend to keep building on those capabilities, expand Telefunken RACOMS local technology development activity and augment it via knowledge transfers. It is worth mentioning that Telefunken RACOMS was recently awarded a project to supply thousands of latest generation NVGs for German infantry soldiers, a project which involves a powerful combination of local development and transfer of knowledge and top quality local production.

ILA Show Dailies: Please detail relationships with the German defence industry and transfer of technology,

B. Machlis: In addition to almost 15 years of successful work with our subsidiary Telefunken RACOMS, Elbit Systems developed a fruitful collaboration with Diehl Defence and is currently seeking additional co-operations with other German defence industries.

Our close relationship with the Israeli MoD, with the Israeli Embassy in Germany and with the Israeli MoD delegation, as well as with Israeli Defence Attache in Germany, all significantly contribute to our efforts to expand co-operations in Germany.

We identify several areas in which our technologically advanced and combat proven portfolio effectively meets the needs of the German market. The field of radio and communication is one example. Elbit Systems is a global leader in this field, offering a portfolio of battle tested SDR systems, airborne radio communication solutions, SAR solutions, advanced C2 systems and cyber technology.

Telefunken RACOMS spearheads our efforts in Germany in this field, while knowledge transfer in specific areas serves to further augment our radio activity. We plan to boost the knowledge transfer leveraging our experience in leading successful radio and C2 programmes in Australia, Switzerland1), Benelux, the UK, Finland and other European countries.

Advanced EO and aircraft protection systems are two other areas in which Elbit Systems has built a significant global competitive advantage. We uniquely offer a diverse portfolio of technologically superior and extensively operational ISTAR systems, DIRCM systems and electronic warfare (EW) solutions currently in use by customers in Israel, Europe, the USA and Asia Pacific countries. In EO Telefunken RACOMS plays a leading role as well, integrating advanced local development, knowledge transfer and top standard manufacturing to a powerful effect. Working closely with Diehl Defence we were selected to develop and produce protection suites for the Luftwaffe A400 transport aircraft.

“We uniquely offer a diverse portfolio of technologically superior and extensively operational ISTAR systems, DIRCM systems and electronic warfare (EW) solutions currently in use by customers in Israel, Europe, the USA and Asia Pacific countries,”

Mr. Machlis said. Shown is a land electronic warfare system.

1) In Switzerland, Elbit Systems has the role of prime contractor with overall responsibility, system design and development, system integration, HW equipment design, development and manufacture, management of sub-contractors, system training and assimilation, and large-scale field exercises planning and support for the Swiss Armed Forces’ artillery C2 system, called INTAFF. It is intended for controlling fire support at brigade level, down to battalion, battery level and gun level. It provides support for every stage of an operation. INTAFF was the first Command Information System of such a scale to be introduced into the Swiss ground forces. INTAFF achievements could be measured not only by its direct contribution to the Swiss artillery units, but is seen also as a source of extensive IP and know-how transfer to the Swiss Armed Forces. The system had been fielded during 2001 and is in full operational use of the Swiss Armed Forces from 2003. From 2003, Elbit Systems continues to support the Swiss Army by technology upgrading, maintaining, adding functionalities and interfacing to new systems. – The Editor
**ILA Show Dailies: Will the Berlin office act as a base for further European expansion?**

**B. Machlis:** Our office in Berlin will focus its efforts solely in Germany in order to best address the market's demands and to provide the best service to local customers and partners.

**ILA Show Dailies: Where in Europe do you see sales opportunities for which equipment?**

**B. Machlis:** In addition to Germany, Elbit Systems is consistently expanding its operations in key markets in Europe, as part of the company’s long term growth strategy. We were contracted to supply land based EW arrays for European customers; jointly with KBR, Elbit Systems UK built and operate the UK MFTS programme; we prime the Benelux Smart Vest programme and the Swiss HERMES 900 UAS programme; we were selected to provide self-protection systems for NATO’s A330s fleet, and to supply radio and SDR systems to various European countries including the UK, Finland and others; we participate in large scale projects in the field of unmanned weapons systems for AFVs, lead extensive upgrade programmes for airborne platforms and provide cyber solutions to customers in Switzerland and France. We believe that customers in Europe recognise our uniquely competitive portfolio and increasingly view our battle tested systems as their solution of choice.

**ILA Show Dailies: Please detail advanced systems for infantry soldiers in the Benelux countries as part of your $150 million contract from the Dutch MoD.**

**B. Machlis:** Delivery of pre-series systems for the SMARTVEST programme has been completed and we are progressing according to plans in full coordination with the customer. The system provides a digital integrated solution including load carriage & protections, communications and C2 capabilities. The main technology drivers of the digital soldier comprised of two combat proven and extensively tested elements: the PNR-1000 and the RAPTOR.

The PNR-1000 is an SDR that offers a no single point of failure ad-hoc MANET networking of up to 64 members and enables simultaneous voice, data and video communications.

The RAPTOR is a compact, rugged, wearable computer that hosts a C4I application and provides soldiers with full tactical situational awareness. The system enables soldiers to view a real-time common operational picture on an advanced display and enable them to share live target and mission data and manage all phases of combat including planning, briefing, execution and debriefing. Another important aspect of the solution we provide in the SMARTVEST programme is the connectivity with all in-service radios and the interoperability with external NATO and coalition systems.

**ILA Show Dailies: Has Switzerland asked to upgrade their HERMES 900, are they content with their systems?**

**B. Machlis:** The programme is progressing to the expressed satisfaction of the Swiss customer. According to the agreed schedule delivery will initiate in 2019.

**ILA Show Dailies: Please describe the experience, lessons learned and components necessary to develop and manufacture high technology for next-generation systems.**

**B. Machlis:** We combine several components in order to meet our customers' current and future requirements. It all starts with scientifically minded and field experienced employees who allow us to envision future concepts based on the close relationship with our customers. We then shift gears to the actual development process in which highly skilled engineers, from various technology disciplines across the entire Elbit Systems' portfolio, intensively brainstorm to design the optimal solution. Finally, working closely with our top notch manufacturing and service teams ensures timely delivery and support to the customer throughout the life cycle of the system. The true challenge is maintaining the balance between innovative ideas and the right time to market and of course cost effectiveness. As a leading defence high-tech company we are expected to offer the market solutions that are both highly advanced, robust and draw on our areas of activity.

**ILA Show Dailies: Thank you.**

**The Telefunken RACOMS HRM 7000 MANPACK is a portable radio that enables mobile user radio communication even under most difficult operational conditions. It is in operational use with the Bundeswehr.**
Photographic Recap of ILA 2018 Build-Up
Rohde & Schwarz (R&S) is expanding its successful R&S M3AR family of airborne radios with another high-end radio: the R&S SDAR software defined airborne radio. It offers secure, high data rate communications, flexible deployment and true independence for the customer. This radio can in be certified for civil and military use.

The R&S SDAR takes the latest generation software defined radios (SDR) and network enabled waveforms to the skies, the company states, combining the advantages of a high data rate, IP-based radio with the excellent technical performance customers have come to expect from the successful R&S M3AR family of airborne radios. More than 7,000 R&S M3ARs are in use on over 70 different airborne platforms worldwide, with first customer contracts for the new R&S SDAR currently being implemented. This was made possible by working closely with government customers and platform manufacturers during development to harmonise requirements.

“We are proud to launch the most advanced airborne radio for secure military communications,” Bosco Novak, R&S Executive Vice President, Secure Communications Division, comments. “With its outstanding technological features, the R&S SDAR offers many advantages for integrators and users. For Rohde & Schwarz, enabling our government customers to maintain sovereignty in the digital information space is at the core of the concept.”

“At the technological level, the R&S SDAR stands for information superiority in network centric operations and utmost flexibility in deployment.” Stefan Pleyer, Vice President, R&S Market Segment Avionics, adds. “A unique feature is the fact that Rohde & Schwarz airborne radios can be certified for civil use.”

R&S boasts the company being the only vendor to meet the civil certification regulations of the European Aviation Safety Agency (EASA). “Military aircraft can only be certified and deployed without restrictions, if they meet both military and civil standards. Two radios must usually be carried on board an aircraft to ensure failsafe performance. The R&S SDAR airborne radio can be used in both applications, delivering unprecedented efficiency in terms of logistics, integration, maintenance and training. It also simplifies integration and saves space and weight in the aircraft,” company literature reads.

As a state-of-the-art SDR, the R&S SDAR supports the porting of waveforms independent of the manufacturer to give customers additional flexibility. The R&S SDAR has been designed as an open platform based on the International Software Communications Architecture (SCA) standard, with a strict separation between the radio’s hardware and software/waveforms. That makes it possible to port SCA-based waveforms, including those from other manufacturers, as well as legacy waveforms to the radio, providing safety of investment along with backward compatibility with legacy radio systems. It also enables customers to create and modify embedded encryption along with the waveforms, allowing secure communications channels to be set up to provide interoperability between different branches of a country’s armed forces and between different nations. National data is protected, and information superiority in joint operations and combined missions can be achieved.

R&S has created a family of network enabled, high data rate waveforms to handle diverse mission requirements. The waveforms of the R&S HDR family can transmit data and up to two voice channels in parallel, at high speed and with different priorities. Users can select the waveform that best suits a given communications scenario in terms of range, data rate and jamming resistance. In addition, the R&S HDR waveforms integrate highly secure encryption algorithms to protect military communications.

The R&S SDTR vehicular tactical radio and the R&S SDHR handheld tactical radio already incorporate latest generation software defined radio technology and R&S HDR waveforms. The R&S SDAR adds airborne communications capability to ground-based radio networks.
How long should or can the TORNADO aircraft be operated and which platform(s) represent the likely successors? As might be expected the user nations are following different strategies for the future.

The first large European military cooperation program under the central management of the NATO Agency NAMMA (now NETMA) with Panavia as its counterpart on the industry side, delivered nearly 1,000 multirole aircraft in different variants between 1980 and 1998 to its core nations UK, GE and IT, as well to KSA. After nearly 40 years of extremely successful operation, encompassing a wide range of capabilities that are today still unique and indispensable to NATO in a variety of Air-to-Ground and Electronic Combat roles, the question naturally arises regarding the future and succession of this weapon system.

The UK has made the decision to take the battle-proven and reliable GR4 A/C out of service in March 2019 in order to concentrate combat operations on a reduced number of air vehicle types. However, the core Tornado fleet will be engaged in Counter Daesh operation practically up to the day of service withdrawal. The UK TYPHOON fleet has been designated to assume the major roles of TORNADO thereafter.

Italy's ECR and IDS fleet currently has an OSD planned for 2027 with the F-35 intending to take over the majority of capabilities. The Kingdom of Saudi Arabia is scheduling a 2030 OSD, with the TYPHOON remaining as the strongest candidate to assume the role of TORNADO. In mid-2016, based on facts and study results presented at this time, Germany decided to extend the operational usage of their IDS and ECR fleet to 2035. All necessary measures to enable this extension are presently being studied and defined. This includes a 'Capability Enhancement Roadmap' to be compliant with latest NATO requirements and to resolve projected obsolescence cases. The final report is due mid-2018 in time for the critical GE 'Quality Gate' review. However, the final OSD depends on a decision regarding the successor. Under evaluation are the F-35, F/A-18 E/F, F-15E and an adequately enhanced GE TYPHOON fleet as the European solution.

To enable this overall scenario a number of common international and national definition study initiatives have been launched to mitigate the possible impacts of the early RAF OSD. The initiatives were instigated to manage effectively TORNADO sustainment issues such as preservation of the supply chain, and engineering base and enhancements to the future In Service Support concepts. All fleets have been recently upgraded and capability sustainment programs are ongoing or planned.

The TORNADO, the weapon system of choice, robust, reliable and continuously modernised, thus still has a strong future and will deliver the operational capabilities pertinent to the level of ambition of the air forces in the next 10 to 15 years. Panavia and its partner companies Airbus, BAE Systems and Leonardo remain highly motivated and committed to delivering capability, sustainment, and support solutions to the customers in order to enable best operational use and appropriate flexibility in their future succession planning.

Next year, NETMA and the main contractor companies Turbounion and Panavia will celebrate their 50th anniversary.
Heading for the Future

Volker Paltzo, CEO of Eurofighter Jagdflugzeug GmbH, explains how Capability Enhancements and the Long-Term Evolution (LTE) will keep the combat aircraft relevant and capable for the next decades.

ILA Show Dailies: The Berlin Air Show (ILA 2018) is a highlight in the calendar of the international aerospace community. Many visitors are enthusiastic about the flying displays of commercial aircraft. However, some have doubts about the necessity of combat aircraft. What would you say to these critics?

Paltzo: My answer is clear and straightforward: We live in times of permanent changes and great uncertainties. Some observers even say that our world is in disorder and they are deeply concerned about the prospects for peace and stability around the globe. This year’s World Economic Forum in Davos called its central theme “Creating a shared future in a fractured world.” This gives you a rough indication how serious the perception of the current political and military developments is. I strongly believe that a country’s foreign and defence policy must be supported by a convincing military capability. Eurofighter Typhoon together with other defence systems is able to deliver significant contributions to the security and defence of its customer nations and I don’t see what should be wrong with that.

ILA Show Dailies: 2018 takes place in a period of geopolitical changes, economic challenges and terrorist threats around the world. Some politicians are worried about the role of Europe which seems to be weak in these days. How important is 2018 for Europe and the European defence industry?

Paltzo: 2018 will be a decisive year for Europe, the European Defence Union, the European defence industry and for Eurofighter. As a CEO of a European defence programme, I would like to highlight that Europe urgently needs more trust, fresh energy and vital dynamics to tackle all forthcoming challenges. In the critical discussions about the European Union we unfortunately forget that Europe has a tremendous potential in the future – politically, economically, industrially, technologically and in the area of defence.

"Eurofighter TYPHOON will be around until at least the 2050’s and will be part of this future,“
Volker Paltzo, CEO Eurofighter Jagdflugzeug GmbH, says in an interview. (Photo: Gaz West)

Therefore, I am very pleased that Europe is of greatest importance for the new Government in Germany. The so-called “Coalition Contract” signed by the CDU, CSU and SPD has three major headlines and Europe was mentioned at the very top. The first headline is a key priority for the new Government. It’s called “A new start for Europe”. This is very true! We really need to open a new chapter and start building on a strong and united Europe which is willing to play a more active role in world politics. Today, Europe is considered as an economic and industrial heavyweight. But in the future, Europe will also have to become a strong actor in the political arena. Industry will support such a revised “level of ambition” with continued support and innovative defence solutions.

ILA Show Dailies: Before we talk about the future in more detail, we would like to know how you evaluate the Eurofighter programme. What can you tell us about the current status?

Paltzo: I think the overall programme is in good shape. We have 9 customers, more than 500 deliveries and over 440,000 flying hours. We have 22 air force units which are spread across a range of operational locations. Our customers are satisfied with the aircraft because they operate a powerful and effective weapon system. Eurofighter’s safety record is unprecedented. These facts underline that Eurofighter is a mature and robust programme which our customers can rely on.

The aircraft gained extensive combat experiences during operations in Libya, Syria and Iraq, etc. It is therefore combat proven and considered as an effective weapon system. One example: The Royal Air Force (RAF) has flown more than 10,000 hours in numerous missions during Operation SHADER with a 100 % mission availability. This is an impressive figure.

I am convinced that Eurofighter TYPHOON will remain the trusted backbone of European air defence until 2050 and beyond. It is the primary Quick Reaction Alert (QRA) aircraft in Germany, Italy, Spain and the UK and our fighter is successful as part of the international coalition fighting against Daesh and in NATO’s air policing efforts over the Baltic states.

ILA Show Dailies: You have addressed the ongoing Capability Enhancements a couple of times. Did you make any substantial progress?

Paltzo: Yes, we did indeed! Our Capability Enhancements are all part of a well-planned Capability Roadmap which will significantly increase the operational performance of the Eurofighter Typhoon over the next few years. Due to its inherent growth potential from the very beginning of the design, additional capabilities can be easily integrated in the aircraft. Let me give you some details:

Phase 1 Enhancement (P1E) marked the first major milestone on this Capability Roadmap. In June 2014, we delivered the complete P1E package and with the integration of PAVEWAY IV we provided a full swing-role capability onto the Eurofighter TYPHOON.
Phase 2 Enhancement (P2E) we will introduce the deep-strike cruise missile Storm Shadow and the Beyond Visual Range (BVR) air-to-air missile METEOR onto the aircraft. P2E will also deliver a range of enhancements through the HMI (Human Machine Interface), MIDS (Multiple Information Distribution System) and DASS (Defensive Aids Sub-Systems) and other avionics systems, which will enhance the aircraft’s lethality and survivability across all roles.

Phase 3 Enhancement (P3E) will focus on the delivery of the BRIMSTONE missile. BRIMSTONE is a precision attack missile with proven capabilities against both static and moving targets. The initial fit for the BRIMSTONE will see two launchers fitted to the outboard pylons of the Eurofighter TYPHOON each carrying three BRIMSTONE 2 missiles. This weapons package, combined with the excellent performance of the platform and its super cruise capability, confirms Eurofighter TYPHOON as the most advanced swing-role combat aircraft available on the market.

ILA Show Dailies: Are you working on any other capabilities which will keep the aircraft relevant in the next few decades?
PALTZO: Yes, we have a couple of future capabilities (P4E and beyond) in the pipeline which are not yet contracted but in a definition phase with the customers. We are looking, for instance, at the integration of missile systems such as MARTE-ER and SPEAR – both powerful and effective missiles which will continue Eurofighter TYPHOON’s capability journey. MARTE-ER is a medium-range, lightweight anti-ship missile with an all-weather and a fire-and-forget capability. The SPEAR missile, a capability requirement for the UK’s F-35 aircraft, is also a possible option for Eurofighter TYPHOON. SPEAR will precisely engage long range, mobile, fleeting and re-locatable targets.

ILA Show Dailies: What about your E-SCAN radar? Have you achieved your milestones?
PALTZO: Our Eurofighter Partner Companies (EPC) and my team here is working very hard to achieve all major milestones. As you can imagine, this is quite a challenge for us. At present, I can confirm that the CAPTOR E (E-SCAN) radar development continues with a number of test-flights - both powered and unpowered - as part of the scheduled programme activity. The E-Scan radar equipment and Weapon System capability will be incrementally enhanced to enable the required capability (P3E standard). Our major goal is to deliver the first aircraft to the Kuwait Air Force in time.

ILA Show Dailies: We heard that you are also preparing a Long Term Evolution (LTE) plan. What can you tell us about that?
PALTZO: While the Capability Enhancements which I addressed a moment ago are in the process of implementation to satisfy short and medium requirements of our current customers, the Long Term Evolution (LTE) plan is focussed on a much longer perspective. At present, we are planning to implement several measures which are key pillars for potential capabilities in the future. Among them are:

- Future developments of the platform: This covers the optimization of the flight performance and increased range.
- Global deployability: For operations in all environmental conditions.
- Operations in multi-national Alliances: We are looking at the extension of mixed fleet operations.

This means that our Design and Development Departments will have lots of challenges to tackle and I can tell you that our engineers are keen and very motivated to manage them.

ILA Show Dailies: Looking at the global fighter market, it seems that Eurofighter is slowly improving after a few setbacks in various international campaigns. How would you evaluate the opportunities for Eurofighter to win more orders?
PALTZO: We can offer an extremely powerful and capable aircraft to the potential customers. Our EPCs continue to pursue a number of significant opportunities around the world and we are quite confident that we will sell more Eurofighter TYPHOONs internationally. It is not a secret when I tell you that we are currently running Export campaigns in Belgium,
Switzerland, Poland, Finland and in other parts of the world. And don’t forget, the 24 aircraft ordered by Qatar in 2017 and the 28 aircraft ordered by Kuwait in 2016 underline that Eurofighter is a strong competitor on the global market.

ILA Show Dailies: We have seen media articles reporting that Saudi Arabia plans to purchase 48 new Eurofighter TYPHOONs in addition to the 72 aircraft they already ordered. What’s your comment on that?

Paltzo: I am sure you will appreciate that is not something I can comment on, however what I can say is that the UK Government signed a Memorandum of Intent with the Kingdom of Saudi Arabia on 9 March 2018 with the aim to finalize discussions for the purchase of 48 TYPHOON aircraft.

ILA Show Dailies: Have you been approached by the German MoD regarding the Request for Information (RFI) they issued for the replacement of their ageing TORNADO fleet?

Paltzo: We can confirm that we have received the RFI and that we are confident that Eurofighter TYPHOON can provide a very smart and cost-effective solution for Germany, which delivers all the capabilities the German Air Force requires.

ILA Show Dailies: Let’s look at the future of the military aviation industry. How do you see Eurofighter TYPHOON’s role in the discussion about the Future Combat Air System (FCAS) and the Next Generation Weapon System?

Paltzo: Clearly, at some point, there will be a successor programme to TYPHOON. It is too early to say exactly what that will look like – and when. But it is good for Europe that we are having these discussions and good for the European aerospace and defence industry that we look to maintain our sovereign capabilities in this field. One thing is certain though: Eurofighter TYPHOON will be around until at least the 2050’s and will be part of this future.

ILA Show Dailies: Thank you.
TAURUS KEPD 350E
PERFORMANCE MATTERS!

F-15  JAS 39 GRIPEN  TORNADO  EF TYPHOON  F-18

www.taurus-systems.de
Sikorsky’s CH-53K King STALLION Makes International Debut

The CH-53K is a brand new heavy-lift helicopter which takes design cues from over 50 years of Sikorsky’s manufacturing and operational success with its CH-53A, CH-53D/G, and CH-53E predecessors, many of which are in service around the world, including Germany.

Germany’s CH-53GA/GS’s first entered service in the early 1970’s. These aircraft have been upgraded over the years and have served the country well, however they have aged to the point where a lack of spare parts, coupled with declining availability rates have become an issue. The German Air Force (Luftwaffe) is therefore pursuing its “Schwerer Transporthubschrauber” (STH) Programme, which seeks a replacement heavy-lift helicopter to be fielded in the early 2020s.

The same age-related issues are being experienced in the US, which led the US Marine Corps (USMC), the largest operator of the CH-53, to seek a replacement aircraft that retains the same basic footprint (wheelbase) while being able to lift more and have improved high/low capability. Additional requirements called for improved reliability, maintainability and survivability, while being designed to routinely operate in austere or remote locations. The USMC solution to all of these requirements is the Sikorsky CH-53K King STALLION.

Utilising operational feedback from the USMC and international customers, Sikorsky engineers designed the new CH-53K for the needs of modern net-centric battlefields. To the untrained eye the CH-53K appears to be a modernized CH-53E, but if one digs deeper, one quickly realizes that the helicopter is an entirely new aircraft with unmatched capability - namely a threefold increase in lift capability, full authority fly-by-wire flight controls, and a reduction in maintenance hours and costs. As part of the design, engineers incorporated composite materials and cutting-edge technologies like a highly advanced integrated vehicle health management (IVHM) capability which is meant to aid in platform diagnostics, thereby focusing maintenance in an intelligent manner which yields improved serviceability and reliability. When compared to earlier variants, immediate identifiers to the CH-53K are found in its large wrap-around cockpit windows, and the aircraft’s massive sponsons which house the main landing gear, fuel and other components.

The CH-53K King STALLION is powered by three GE38 engines, capable of producing over 19,000 horsepower. According to Sikorsky, the CH-53K has a maximum takeoff weight of 36,000lbs (16,329kg); forward flight speed of 200kt; 60 degrees angle of bank turns; 12 degree slope landings and takeoffs; external load auto-jettison; and gunfire testing. These milestones come just weeks ahead of Sikorsky delivering the first CH-53K helicopter to the USMC.
German Participation for CH-53K bid

During the airshow, Sikorsky will detail its plans for the long-term sustenance of the CH-53K by German aerospace industry. Leading that effort is the Rheinmetall Group which is Sikorsky’s exclusive partner for in-service support, training, simulation and technical publications. Other team members and their functions include: MTU: Engine overhaul and maintenance; ZF Luftfahrttechnik GmbH: Production, maintenance, repair and overhaul of dynamic components like gearboxes, rotor head, gear manufacturing and related equipment and systems; Autoflug: Crashworthy seats and auxiliary fuel tanks; Hendsoldt: Electronic warfare and degraded visual environment systems; HYDRO Systems KG: Ground support equipment; Jenoptik: Rescue hoists; Liebherr: Landing gear and actuators; Rockwell Collins Germany: Multi-function displays; and Rohde & Schwarz: German specific radios.

Sikorsky along with Rheinmetall, continue to identify additional German defence companies to contribute to the sustenance of the helicopter in Germany.

CH-53K Demo Routine Explained

The 2018 ILA Berlin Air Show marks the first time the CH-53K has gone abroad. Prior to arriving in Germany, the CH-53K had to be certified for transport aboard the C-17 GLOBEMASTER III. Speaking to this evolution was USMC LtCol Jonathan Morel, CH-53K Government Chief Test Pilot: "The CH-53K is designed to be transported aboard C-17, and that certification was done just prior to transporting the 53K to Germany. We have faith in our design so we basically loaded and unloaded it to ensure everything worked according to plan. That allowed us to achieve the Air Transportability Test Loading Activity certification. We then loaded it again the next day for the actual flight to Holzdorf, Germany."

LtCol Morel further noted: "The 53G's that the Germans fly are a generation before the 53E's that the Marine Corps flies today, and although the German 53G's have been upgraded, they are still a couple of generations behind the 53K. The 53K is designed from the outset for high/hot capability, so we have a lot of margin built at the beginning, and that's from lessons learned over years of combat. The rotor diameter is the same as the 53E but we get 30% more lift due to a wider chord and advanced geometry on them. It's literally night and day when compared to the performance of previous helicopters, and I think the Germans will see that when we demo there. Another aspect of the 53K is it's a fully marinized aircraft, so that's another huge advantage over the competition."

As LtCol Morel noted, the CH-53K will conduct its first ever aerial demonstration before the public at ILA Berlin. Speaking to this point, Mr. McCulley, who is the lead pilot flying demonstration flights at the airshow said: "The CH-53K is a full fly-by-wire aircraft which makes it very easy to fly when compared to a helicopter with a rate limited system. We cruise at 160 knots, so for such a big beast it’s very responsive and a lot of fun to fly. I think those who view the aerial display will be impressed with the power, manoeuvrability and precision we have, and will be able to see a huge difference in capability in comparison to the 53G."

Although subject to change, the planned CH-53K display has the following set of manoeuvres which are intended to demonstrate key attributes:

1. The CH-53K begins the display with a display of the main rotor that provides significant control power not expected from an aircraft of this size. The rapid climb and manoeuvring capability are essential in avoiding threats on the modern battlefield.
2. The CH-53K transitions from forward flight into a standard quick stop manoeuvre, demonstrating its ability to maintain speed until arriving at a Landing Zone where it rapidly decelerates to a normal approach. This is a typical manoeuvre performed by combat helicopter crews when landing in a threat environment.
3. The CH-53K next conducts a piroette manoeuvre while translating down the runway, demonstrating the capabilities of a full-authority fly-by-wire flight control system. Having established a linear translation down the runway, the pilot needs only step on the yaw control pedal to begin a series of 360 degree turns while the aircraft’s track remains constant. This maneuver would challenge the most seasoned pilot in a conventional helicopter but with fly-by-wire it requires a single control input.
4. The power generated by the CH-53K’s three engines translates to substantial climb performance as the 53K rockets up at over 4,000 feet per minute while maintaining cruising speed. This excess power guarantees the capability to perform its mission anywhere in the world.
5. Excess power is converted into airspeed as the CH-53K performs a high speed pass. The CH-53K has demonstrated level forward airspeeds over 180 knots, providing crews with the speed necessary to maintain the rapid pace of combat operations on the modern battlefield.
6. The CH-53K’s advanced flight control system has the capability to automatically fly the aircraft to an exact landing point regardless of environmental conditions such as darkness, brownout or whiteout. This ensures a perfectly safe landing on time and on target. In the final maneuver, the pilots are completely hands off the flight controls and just monitoring the progress of the aircraft to the hover.

The CH-53K King Stallion will be transported back to the United States after ILA Berlin.
In an interview Michael Hostetter is Director, Vertical Lift Programs, Germany, Boeing, informed MT about Boeing’s offering to the German Air Force’s heavy lift helicopter (“Schwerer Transporthubschrauber” - STH) programme.

With the German Air Force’s (Luftwaffe) effort to buy new heavy-lift helicopters in the STH programme, Boeing offers the CH-47F CHINOOK or the CH-47 CHINOOK Extended Range (ER, similar to what Canada has), a helicopter that is battle proven, low risk and, according to Michael Hostetter, Director, Vertical Lift Programs, Germany, Boeing, “the most affordable option to satisfy their STH requirements.”

As the Luftwaffe has not yet set an RfP, Boeing can not answer which BHINOOK would be the one for the air force. “We are waiting for the RfP to come out, to give us an idea which model would be best suited for the customer,” Mr. Hostetter explained. “We would offer either one.”

Ahead of ILA Berlin Air Show 2018, the industry executive said: “We will have on the CHINOOK on the tarmac from the Royal Air Force and the US Army, alongside a flying display.”

According to Mr. Hostetter, the German customer said multiple times that it would like an off-the-shelf solution, a ready solution, and Boeing has been focused on that particular topic. Having already issued contracts to two German companies to issue parts for CHINOOKs, last year, Boeing already offers to Germany is what the company offers to all of its customers – the opportunity to have a partnership with a proven track record (CHINOOK is a modern capability in operational use with 19 customers).

In June 2017, Boeing awarded COTESA GmbH a five-year contract to manufacture key components for the H-47 CHINOOK (manufacturing portions of the aircraft’s tunnel cover section, a honeycomb-like core that makes up parts of the helicopter’s external skin); and in November 2017, Boeing and Aircraft Philipp Group GmbH signed a five-year contract to manufacture machine parts for the global fleet of the H-47 at its facilities in Bavaria and Baden-Württemberg. That is for all CHINOOKs coming along the way.

“Our plan is to continue the footprint that we have in Germany, which, as you are aware, we have over 100 companies that Boeing does business with, both on the defence side, as well as on the commercial side,” the industry expert said. “It is our plan to sustain and train using German industries here in Germany. So, we plan to maintain the high availability rate that CHINOOK has by using local German industry to sustain the helicopter. We plan to continuing working with them for future CHINOOK sales. When it comes to sustainment activities there is potential that German industry may be able with other customers, as well.”

Adding additional aircraft/mission capability comes easy to Boeing. Looking at the company’s most recent customers, Canada with the Mk6s ERs alongside India and Singapore, each country invests in a way

**CH-47: An Extremely Modern Helicopter**

*A Proven Track Record of Delivering On Time or Earlier*

In an interview Michael Hostetter is Director, Vertical Lift Programs, Germany, Boeing, informed MT about Boeing’s offering to the German Air Force’s heavy lift helicopter (“Schwerer Transporthubschrauber” - STH) programme.

With the German Air Force’s (Luftwaffe) effort to buy new heavy-lift helicopters in the STH programme, Boeing offers the CH-47F CHINOOK or the CH-47 CHINOOK Extended Range (ER, similar to what Canada has), a helicopter that is battle proven, low risk and, according to Michael Hostetter, Director, Vertical Lift Programs, Germany, Boeing, “the most affordable option to satisfy their STH requirements.”

As the Luftwaffe has not yet set an RfP, Boeing can not answer which BHINOOK would be the one for the air force. “We are waiting for the RfP to come out, to give us an idea which model would be best suited for the customer,” Mr. Hostetter explained. “We would offer either one.”

Ahead of ILA Berlin Air Show 2018, the industry executive said: “We will have on the CHINOOK on the tarmac from the Royal Air Force and the US Army, alongside a flying display.”

According to Mr. Hostetter, the German customer said multiple times that it would like an off-the-shelf solution, a ready solution, and Boeing has been focused on that particular topic. Having already issued contracts to two German companies to issue parts for CHINOOKs, last year, Boeing already offers to Germany is what the company offers to all of its customers – the opportunity to have a partnership with a proven track record (CHINOOK is a modern capability in operational use with 19 customers).

In June 2017, Boeing awarded COTESA GmbH a five-year contract to manufacture key components for the H-47 CHINOOK (manufacturing portions of the aircraft’s tunnel cover section, a honeycomb-like core that makes up parts of the helicopter’s external skin); and in November 2017, Boeing and Aircraft Philipp Group GmbH signed a five-year contract to manufacture machine parts for the global fleet of the H-47 at its facilities in Bavaria and Baden-Württemberg. That is for all CHINOOKs coming along the way.

“Our plan is to continue the footprint that we have in Germany, which, as you are aware, we have over 100 companies that Boeing does business with, both on the defence side, as well as on the commercial side,” the industry expert said. “It is our plan to sustain and train using German industries here in Germany. So, we plan to maintain the high availability rate that CHINOOK has by using local German industry to sustain the helicopter. We plan to continuing working with them for future CHINOOK sales. When it comes to sustainment activities there is potential that German industry may be able with other customers, as well.”

Adding additional aircraft/mission capability comes easy to Boeing. Looking at the company’s most recent customers, Canada with the Mk6s ERs alongside India and Singapore, each country invests in a way

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**Boeing Vertical Lift at a Glance**

Boeing Vertical Lift, a division of Boeing Defense, Space & Security (BDS), has facilities in Pennsylvania and Arizona, USA, overseeing programme execution for a portfolio of cargo, tiltrotor and attack rotorcraft, including the AH-64 APACHE, H-47 CHINOOK, AH-6 LITTLE BIRD and V-22 OSPREY. A matrixed team of more than 8,000 employees and an international network of suppliers and partners are focused on advancing rotorcraft technology to meet the current and future needs of customers around the globe.

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that allows Boeing to provide future options for customers, including in Germany.

With a up and running CH-47 CHINOOK production line in Ridley Park, PA/USA, and bolstered by the US Army’s continued investment in F-models alongside orders from several international customers, the helicopter is experiencing its highest demand in 20 years. Having two lines open, “the continuing production line is a more off-the-shelf line and the special line is more unique. From our standpoint we are happy to integrate what customers requirements are into the production line,” Mr. Hostetter said.

It takes 40 months to produce and deliver a CHINOOK. “So, today, the German customer has, we believe, a contract award being awarded in 2020 with deliveries in 2023, and we’re the only ones who can meet that requirement. We have an active production line right now, producing three to four CHINOOKs per month for the US alongside two international customers,” he explained.

To critics who say the CHINOOK is an old aircraft, Mr. Hostetter comments: “So, the F-model is an all new aircraft that began production in the 2016/2017 timeframe. My point to the critics is very simple: the silhouette of the CHINOOK, the footprint, is the same, so you will not have to change hangars or anything like that. But actually the aircraft is all new. You have an additional advanced glass cockpit that is produced by Rockwell Collins, plus additional flight controls. The difference is, the F-model is battle proven and is being regularly produced. It is not a development programme. I would link this to the C-130, which was designed way back to the 1950s, but Lockheed Martin still delivers C-130s today. Do they call it an old aircraft?”

Delivering the aircraft to customer specifications, whatever they might be, is what Boeing can and will do, having, “a proven track record of delivering on time or earlier with our customers.”

With a modern backbone the CHINOOK is constantly being modernised, e.g. in the structural configuration of the aircraft, with mission systems, flight controls, landing gear, the use of composites, advanced composite blades on modern F models and the maturity on the transmission system. So, adding additional aircraft/mission capability can be easily done.

“It is really important for me to emphasise the fact that the F model, the Extended Range model, are really the latest off-the-shelf product they have,” Mr. Hostetter concludes. “There is the new flight control, they have a glass cockpit and those things provide create great situational awareness for the pilot. It has a advancements with the cargo loading system that is on board. It is an extremely modern helicopter. In fact, even the airframe is modernised. When we deliver the CHINOOK, you are not going to have to make changes to the CHINOOK. This helicopter is in service today, actually being flown in operations and in coalition operations. It is definitely a low-cost, high-availability aircraft. And it is proven.”

A View from Chile

On the heels of FIDAE 2018 and on behalf of the Mönch ILA Show Daily (ILA SD), Antonio Terol, Executive Publisher of TECNOLOGIA MILITAR, interviewed Comandante de Grupo (A) (the OF-4 equivalent rank to Wing Commander in the Chilean Air Force) Raúl Mera, who has been appointed as Executive Director for FIDAE 2020.

ILA Show Dailies: How do you rate the results of FIDAE 2018?
Comandante de Grupo (A) Raúl Mera: I think that hard work of preparation was fully reflected in the quality of the exhibitors and the number of professional visitors. FIDAE has established itself as the main commercial platform in the areas of aerospace, defence and security, and that is no coincidence. Since the fair began in 1980, it has been growing exponentially in a number of different directions, which today allow us to call it quite legitimately the reference for the region. For example, at FIDAE 2018, the American F-35 came to Latin America for the first time, demonstrating the importance given to the occasion and the confidence expressed by governmental and private entities in an exhibition that responds to the broadest spectrum of business needs. In general terms the air show, the number of military and civil aircraft, delegations and authorities and the quality of the conferences place FIDAE at the highest level worldwide; a status we hope to maintain and develop for the next edition in 2020.

ILA Show Dailies: What do you expect from your visit to ILA 2018 in Berlin and what will your message be for German companies?
Comandante de Grupo (A) Raúl Mera: The main objective is to make an evaluation of exactly how ILA 2018 evolves and to obtain feedback from the German and European companies that will gather there. Historically, we have had significant participation in FIDAE from German firms, whose interest covers the entire breadth of FIDAE’s elements and we believe that their continued presence is largely due to the work done by the organisation in customising and strengthening specific relationships.

ILA Show Dailies: What will your message be for German companies with a view to FIDAE 2020?
Comandante de Grupo (A) Raúl Mera: The message is clear enough. FIDAE will once again be a dynamic, technological event that will meet all your business expectations. We are already planning and developing a series of innovations that will allow us to integrate in a single location an effective series of meetings, specialised conferences in both civil and military fields and aircraft demonstrations, among other components. In summary, supply and demand. That is our distinguishing feature; that differentiates us from other exhibitions that present a single business area, while FIDAE is an integrated whole. That’s why we visit ILA, seeking to expand business links and strengthening those with organisations that have trusted us throughout our career.

ILA Show Dailies: Thank you.
As defence needs rise in response to growing threats around the globe, industry partnerships have increasingly become a strategic way to meet unique customer requirements. ILA Defence Show Dailies spoke to Thomas Gottschild, Managing Director of MBDA Deutschland and Frank A. St. John, Executive Vice President of Lockheed Martin Missiles and Fire Control, to discuss the defence companies’ decades long partnership and learn how they’re using their collective capabilities to strengthen defence solutions for the German customer.

ILA Show Dailies: Lockheed Martin and MBDA Deutschland have demonstrated an enduring partnership. Why has this partnership been so successful?

T. Gottschild: MBDA Deutschland and Lockheed Martin Missiles and Fire Control entered into partnership with primary responsibility to develop designs and technology for a new air and missile defence capability. We are now using the results and experiences from that effort to develop the MEADS-based TLVS, the most advanced air and missile defence system.

In many cases, we needed to invent solutions to ensure cooperation could take place. We knew if we succeeded as partners and employers, the program was going to succeed. But there was no template for having resident foreign nationals in classified US contractor facilities – or for Lockheed Martin personnel at MBDA. Could there be an industrial transatlantic classified data network?

The success of our partnership grew from being tested and overcoming obstacles. And we knew that if we wanted to have a program, we needed to champion it on both sides of the Atlantic and vocally reinforce our decision to pursue it cooperatively. We really got to know each other over the years, and in that time, we learned that we could truly depend on each other.

As a result, TLVS is the only proven networked, mobile, 360-degree air and missile defence system, and that system’s technology is what underpins the TLVS joint venture we announced in March. Working together, we are on a path to deliver requirements-driven, next-generation, integrated air and missile defence capabilities to the German customer that will address the threats of today, and tomorrow.

ILA Show Dailies: Lockheed Martin is one of the largest defence companies in the world. Why does partnership matter to you? One would think that your company has the capability to compete successfully without it.

F. A. St. John: Our world continues to change. Threats have multiplied, and no nation has the immediate capability to address every area of concern. To protect soldiers, citizens and infrastructure, governments need highly advanced integrated air and missile defence systems to defeat a range of threats.

Defence cooperation recognizes that western nations and allies can better protect themselves through interoperability and open system architectures. 360-degree missile defence is now an indispensable element of global security. The threat demands it.

Facing these changing dynamics, we have worked very hard to demonstrate that Lockheed Martin is a capable and reliable partner whenever countries have made an investment in their security. Our partnership with MBDA Deutschland exemplifies the benefits of such efforts. The power of teamwork is that we make each other more complete to provide even more value to our customer.

Partnership is not new for us. Lockheed Martin has had a long-term strategic partnership with the Federal Armed Forces, as well as the German aviation and defence industries, going back more than 50 years.

Our industry partners have played a critical role in the development of TLVS. Germany and Italy funded nearly half of the development costs required to establish the technical baseline for TLVS. That is significant, and it’s just one example of the kind of shared commitment that makes this industry partnership exemplary.

Today, TLVS is the only mobile, fully 360-degree capable system with an open network-centric architecture and the lethality of hit-to-kill accuracy. It will also be the first air and missile defence system that can take full advantage of PAC-3 MSE capability. TLVS represents an important next-generation product that will transform German industry, its defence capabilities and enable the NATO Framework Nation to set an important precedent in how neighboring nations address current and evolving threats for decades to come.
ILA Show Dailies: You recently formed a joint venture company for the TLVS programme. What is the significance of that announcement?

T. Gottschild: The German customer has expressed continued commitment to TLVS. Similarly, our joint venture represents our shared commitment to delivering TLVS. The joint venture is expected to act as the single prime contractor and focuses the resources of two industry leading defence companies to ensure the German customer receives the most advanced air and missile defence.

The joint venture legally solidifies the long-term history of transatlantic industrial cooperation between MBDA Deutschland and Lockheed Martin. Through it we will use the results and experiences from the MEADS program to secure a contract with BAAINBw and jointly pursue TLVS.

With Germany as our customer, it is important for the Ministry of Defence to rely on a strong industrial setup. Together with the MBDA Group, our shareholders and the entire Lockheed Martin organization, the joint venture has the depth and technological expertise to realize TLVS for Germany. We are prepared to receive and respond to the German government’s TLVS acquisition process as one team, and are committed to using our partnership, along with other German suppliers, to provide the much-needed capabilities of the TLVS system.

ILA Show Dailies: Why would the MoD want you to formalise your partnership through a joint venture?

F. A. St. John: The Federal Republic of Germany will benefit from this industrial arrangement. Because of the shared responsibility and combined management structure, the joint venture provides for more integrated decision-making and offers full access to the expertise and resources of Lockheed Martin and MBDA to support this critically important program. It also gives us direct access to the most advanced test and simulation facilities available and the largest team of Integrated Air and Missile Defence experts in the world. Similarly, the joint venture will help facilitate critical interactions with the U.S. government.

How will this joint venture support the local economy (jobs)? If so, what type of job growth should we expect to see in the local economy?

T. Gottschild: The joint venture aligns Lockheed Martin’s Air and Missile Defence capabilities with a strategic NATO Framework Nation to support significant high-tech job growth, while helping Germany meet its annual commitment to defence spending. We expect to add hundreds of jobs in Germany and the United States because of this joint venture.

ILA Show Dailies: Will the joint venture reduce the price of the offer?

F. A. St. John: We believe this joint venture will provide the best value to the German customer and we continue to make progress toward contract negotiations. We respect the complexity of the negotiations process and are committed to working with the Bundeswehr to meet Germany’s technical, industry and related requirements for TLVS. We believe the depth and scope of the joint venture and our industrial partnership will produce a competitive offering and beneficial synergies for MBDA Germany and Lockheed Martin. It will also positively benefit current and future organizations supporting subcontract work, once negotiations are finalized and a contract is awarded.

Our shared expertise will benefit local industry and deliver the defence capabilities required to address modern, evolving threats now and in the future. We are excited about taking our partnership with MBDA Germany to the next level and look forward to working together to transform Germany’s defence capabilities.

F. A. St. John: Thank you.
ESG GUARDION Protects ILA 2018 Against Drones

At ILA 2018, the modular GUARDION Counter-Drone system is integrated into the security architecture of police authorities, thus ensuring effective protection against the dangers of the unauthorised operation of drones.

GUARDION, the Counter-Unmanned Aerial Systems (UAS) solution of ESG and its cooperation partners Rohde & Schwarz and Diehl Defence is based on the mission-proven system used to secure major political events such as the G20 summit in Hamburg in 2017, the state visit of US President Barack Obama in June 2016 and the G7 summit in Elmau in 2015.

The ESG portfolio includes the selection and integration of high-performance sensors, the optimised operational picture and situation awareness via ESG’s Command & Control system TARANIS and the connection to existing IT networks and infrastructure. As a result, GUARDION offers scalable solutions adapted to the individual requirements of customers and scenarios for detecting and countering drones in stationary, mobile or deployable configuration.

One of these GUARDION Selected Suppliers is OpenWorks Engineering, which, with its SkyWall100 net launchers, extends the GUARDION system by a physical countermeasure deploying parachute-secured nets.

Further information about GUARDION can be obtained during ILA Berlin in Hall 2, Stand No. 225 as well as at ILA Plaza Display H4, Booth 001.

Japan’s P-1 Awaits New Service

What emerged as a surprise at ILA 2018 is the presence of a Japanese Maritime Self Defense Force (JMSDF) P-1 Maritime Patrol Aircraft (MPA). On display by the Japan Ministry of Defense, the aircraft is seen as a “real candidate” for a successor of Germany’s P-3 ORION MPAs. An indigenous design and development by Kawasaki, the jet-powered aircraft was identified as a possible replacement of the Lockheed P-3C ORION MPA in service with the German Naval Air Wing 3 ‘Graf Zeppelin’ (Marinefliegergeschwader 3) since their acquisition from the Netherlands in 2006. Germany received eight airframes from the Royal Netherlands Navy, which were subject to various costly upgrades in recent years.

Germany, similar to France, does have an imminent requirement for an MPA that allows for prolonged, extensive patrols of large maritime environments. Germany’s P-3Cs will not be able to cope with the operational needs of anticipated mission scenarios in the future. Kawasaki’s 2,500km range P-1 is described as the best-suited airframe able to fulfil the great majority of future long-range reconnaissance, surveillance, and targeting, as well as Anti-Submarine Warfare (ASW) requirements.

The P-1 differs from modern MPAs like Boeing’s P-8 Poseidon in that it was designed as a pure patrol aircraft. Representing a more costly alternative, however, the P-1 flies faster than the P-8 (cruising speed 833km/h vs 815km/h, maximum speed 996km/h vs 907km/h) and offers a comfortable payload capacity, with the payloads encompassing radar and electro-optical sensors, sonars, guided missiles, torpedoes, mines, and depth charges. Weapons can be carried on eight hard points, the P-8 has six external stations. What makes the P-1 a unique MPA, however, is its highly sophisticated ‘fly-by-light’ system, making it the first ever production aircraft utilising this flight control technology.

The P-1 made its first flight in 2009, and its induction into service with the JMSDF was initiated in 2013.

Stefan Nitschke

Powered by four IHI F7 turbofans, the P-1 MPA was designed as a replacement for approximately 100 US-manufactured P-3s in service with the JMSDF.

(Photos: DPM)
In an interview Anders Sjöberg, Head of Country Unit Germany, Saab, describes how Saab supports the German Armed Forces (Bundeswehr) in cooperation with German industry.

ILA Show Dailies: What is it about Saab’s key capabilities that make the level of achievement you have sustainable for the German military customer?

A. Sjöberg: Our unique broad offering being Europe’s only “full spectrum” supplier with systems in all domains gives us the possibility to give advanced and experienced support to the German customer. It could be solutions for the German customers’ needs as well as a partner to address complex problems. It could be anything from advanced combat systems integration of a surface ship to supporting the digitalisation of the Bundeswehr operational structure.

ILA Show Dailies: What is Saab’s core strength on offer as a prime contractor or a partner-supplier in Germany?

A. Sjöberg: Our main offer is “technology in partnership!” With that I mean supporting Bundeswehr with advanced systems and products in cooperation with German industry also creating local industrial benefits that also could have global reach. Some good examples of this is our cooperation with Diehl Defence with RBS15 and ground-based air defence together with MBDA Deutschland for the TAURUS missile. The main areas where Saab have unique strengths applicable for Germany are complex systems integration and C4I systems in all domains, Sensors (radar and EW), advanced weapon systems (such as RBS15, TAURUS and ground combat weapons), training & simulation, signature management, airborne surveillance (future NATO AWACS replacement), fighter platforms (future European fighter) and advanced mine counter measures (future MCM).

ILA Show Dailies: In terms of air defence systems where do you see Saab technology support the Bundeswehr?

A. Sjöberg: With our new family of AESA radars Saab was the first global defence company to showcase delivery-ready gallium nitride (GaN)-based radars. This is of course an area where Saab can give state of the art support for both the TLVS and the NNBS programmes. With Saab delivering the third generation of GBAD system of system concept to the Swedish Air Defence with standardised interfaces to all types of sensors, effectors and C2 nodes another area of support could be integration and command & control. For the mechanised battalions the RBS70 NG in a vehicle integration (for example BOXER) would provide a capable defence against the typical threats for such a unit in modern operational scenarios.

ILA Show Dailies: With the Luftwaffe looking at a TORNADO successor, would GRIPEN E be viable?

A. Sjöberg: With GRIPEN E Saab takes the step in providing the most modern fighter available. With the enhanced range, number of weapon stations, performance, sensor suite it is very capable of providing ground attack and reconnaissance capabilities. Hence it would be really suitable as a TORNADO successor and providing Germany with the perfect European alternative of course in close cooperation with local industry.

ILA Show Dailies: Are there some key messages to our readership that you would like to address?

A. Sjöberg: At ILA we meet our customers and partners under our theme “Bringing Ideas Together.” Around the world, Saab has a firm belief in investing in local businesses and industries. We believe in sharing our technology, our ideas and our thinking with our customers and partners for mutual benefit and better outcomes.

ILA Show Dailies: Thank you.

“GRIPEN E would be really suitable as a TORNADO successor and providing Germany with the perfect European alternative of course in close cooperation with local industry,” Anders Sjöberg, Head of Country Unit Germany, Saab, says in this interview.
Dassault Aviation Showcases Three Aircraft

With France being the guest of honour, Dassault Aviation fully supports ILA 2018 with three Dassault aircraft: two RAFALEs of the French Air Force, and a Falcon 2000LXS twin-jet aircraft.

Designed and manufactured by Dassault Aviation, the RAFALE combat aircraft is capable of performing all types of mission, both for air and naval air forces.

The FALCON business aircraft are also designed and manufactured by Dassault Aviation and are recognized for their handling characteristics, operational flexibility, low consumption and innovative features.

Dassault Aviation’s space in the French aerospace industries association GIFAS pavilion presents smaller models of other aircraft including the nEUROn, a stealth UCAV programme led by Dassault Aviation and conducted as part of a European cooperation to prepare the air combat systems of the future.

The dual nature of Dassault Aviation gives the group comprehensive knowledge of both defence and economic issues; Dassault Aviation produces its military and business aircraft out of the same design office and the same production units. The high technologies developed for defence activities therefore benefit its civil operations, which in return develop highly competitive industrial processes.

Playing a pivotal role in a strategic industrial fabric comprising hundreds of firms in France and internationally, Dassault Aviation is also the reference industrial shareholder of Thales Group.

Airbus Presents Latest Innovations

Airbus presents its extensive product portfolio and a number of innovations at ILA 2018. In addition to the commercial aircraft segment (A380, A350-900 MSN 2 and A340 BLADE), Airbus Defence & Space (DS) exhibits the C295 military transport aircraft and several Unmanned Aerial Vehicles (UAV). The Eurofighter TYPHOON is also on display. For the first time ever, visitors to ILA have the opportunity to view a 1:1 model of the future European UAV system MALE RPAS (Remotely Piloted Aircraft System).

An interactive presentation provides information on Airbus’ designs for future European combat aircraft systems. Furthermore, a live demonstration will be given of the HERON UAV, which is in operational use by the German Armed Forces (Bundeswehr). The successor model, the HERON TP UAV, can also be visited in the outdoor exhibition area. HERON’s OEM is Israel Aerospace Industries (IAI).

Airbus Aerial presents its data acquisition and processing solutions. It operates image processing services that bring together UAVs, satellite imagery and software solutions to enable more in-depth analyses for commercial customers. Airbus Aerial is exhibiting the ZEPHYR UAV: a very light UAV powered by electricity generated from its own solar cells, operating at an altitude of 20 kilometres, remaining over an observation area for more than 30 days.

Furthermore, Airbus presents its diverse space activities in the Space Pavilion. Under the banner ‘Space for Earth’, Airbus – together with the European Space Agency (ESA), the German Federal Ministry for Economic Affairs and Energy (BMWi), the German Aerospace Research Centre (DLR) and the German Aerospace Industries Association (BDLI) – is presenting the latest space missions and new technologies, discussing how Earth observation satellites, such as TerraSAR-X and MERLIN, help improve the quality of life on Earth and how they make essential contributions to environmental and climate protection.

Airbus Helicopters also have a significant presence at ILA ranging from successful military products to its next-generation rotorcraft. The state-of-the-art, multirole twin-engine helicopter H145M is one of the show’s highlights on the static and flying display. The H145M is the military version of the tried-and-tested, light twin-engine H145 civil helicopter. With a maximum take-off weight of 3.7t, the agile H145M can be used for a wide range of tasks, including transport, supply, surveillance, air rescue, armed reconnaissance and medical evacuation. In 2017, Airbus Helicopters delivered the 15th and final H145M multi-role helicopter to the Bundeswehr’s Special Forces after having completed the entire programme within the specified time schedule and budget.

Other exhibits include a full scale mock-up of the brand new H160 presented for the first time ever at ILA, with an example of an EMS cabin interior, a model of the unmanned surveillance rotorcraft VSR700 and an H135, the smallest member of Airbus Helicopters’ twin engine family.

Missile house MBDA, in which Airbus holds a 37.5% stake, teams up with Lockheed Martin to present the progress made in the development of the Tactical Air Defence System (TADS). The system comprises three vehicles with a command post, a launcher for the high-performance PAC 3 MSE guided missile and Diehl Defence’s IRIS-T SL launcher. MBDA also displays a modular system concept for short-range and very short-range defence against threats from the air. For the first time, this includes a new laser system that can be used on land and at sea. One of the most important tools in the area of battlefield engagement is the precise, light-weight and cost-effective ENFORCER small missile for use by the infantry and Special Forces. MBDA demonstrates the use of it in virtual reality at its booth, and also presents the METEOR, BRIMSTONE and Taurus guided missiles for arming aircraft as well as the new Franco-German European Modular Missile (EMM) guided missiles for arming helicopters.

The Airbus Pavilion is located in the western chalet row 6–9; the Airbus tent and the static aircraft display are set up in the display area. The Space Pavilion is located in Hall 4. Airbus also takes part in the exhibition in the Military Support Centre (Hall 3). The MBDA booth is located in Display G3 / 001, while the TLVS booth is located in Display H4 / 004.

Debuting at ILA is a 1:1 model of the future European UAV system MALE RPAS in a coop booth by Airbus, Leonardo and OCCAR.

(Photograph: DPM)

Two RAFALEs of the French Air Force at ILA 2018. (Photo: DPM)
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