

E-LETTER FOR PARTNERS OF ERA COMPANY

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ERA presented the VERA-NG simulator at IDEX and ADECS

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ERA BECAME THE HOST OF THE ICAS WORKSHOP IN PRAGUE



The 46th meeting of the ICAS group (International Cooperation on Airport Surveillance) was hosted by ERA company in Prague at the end of October. 48 ICAS member representatives participated in the workshop in total and presented their experience and new projects, including several ERA multilateration specialists.

The ICAS organization aims at providing a forum for industrial professionals in surve-

illance technologies from all over the world. It brings together project managers, engineers and air traffic and apron controllers to meet and discuss A-SMGCS issues. They exchange their experience with different technologies, procedures and infrastructural constraints.

ERA as a major player in the community of surveillance system developers, not only hosted the event but also sent several of its experts. > PAGE 3

ANOTHER 200 SQUIDS FOR TORONTO AIRPORT

The Greater Toronto Airports Authority (GTAA) selected ERA to supply another 200 vehicle-mounted SQUID transmitters as its



surface vehicle tracking system. The contract was awarded to ERA in cooperation with Fleetcom, inc. ERA has strengthened its dominant position in this field in Canada, with now over 700 SQUIDS functioning in all at Canadian airports: Toronto Pearson International Airport and Montréal–Mirabel International Airport.

"Another significant batch (200 pcs) of ERA vehicle transmitting units called SQUID goes to Canada to provide enhanced ATC and safety operations at the manoeuvring area of Toronto Pearson Airport. We are pleased to team-up with Fleetcom, inc. for this delivery," stated ERA head of sales Jakub Thomas.

The ERA-designed SQUID improves airport safety and overall situational awareness by continuously broadcasting the exact position of all ground vehicles and thus minimizing the risk of vehicle collisions, especially during low visibility conditions. > PAGE 5

VERA-NG JOINED MACE, COMBAT EXERCISE IN SLOVAKIA

ERA with its VERA-NG passive surveillance system participated in the MACE XIX international combat training exercise in Sliač and in the Lešť military training area in Slovakia.

The exercise, which was focused on training pilots and specialists in electronic warfare in the field of overcoming anti-aircraft defences, saw the first ever participation by Czech air forces.

Asides from VERA-NG, the event saw the



installation of anti-aircraft rocket systems and ground-based jammers. Czech Air Force planes such as JAS-39 Gripens from Čáslav, and CASA transport aircraft, flew overhead.

In total, fifty Czech specialists took part, with training flights also featuring electronic warfa-

re specialists from the Swedish Air Force.

Specialists from the 53rd Research and Electronic Warfare Regiment of the Czech Army tested the proper detection of aircraft utilising a passive surveillance system. In addition to gaining new training experience, such testing also assisted in providing a wealth of crucial data, which can be used to assist in planning and assessing resources and countermeasures.

A total of 450 soldiers from NATO member and partner states took part in the MACE XIX exercise, along with 22 items of aviation-based technology and also dozens of additional items of land-based technology.

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ERA WILL INSTALL ITS MLAT SYSTEM AT THE WARSAW AIRPORT IN POLAND

ERA has signed another significant contract award in Europe for the supplying, installation and commissioning of a surface multilateration system to the international Warsaw Chopin Airport in the Polish capital.



RA teamed-up with the local company GISS Sp. z o.o. and ERA-GISS consortium, was selected by Polish Air Navigation Services Agency (PANSA) as the winner in an international competitive tender. The proposed surface multilateration system will be implemented as part of the Advanced Surface Monitoring and Guidance System for Warsaw Chopin Airport and will significantly contribute to surveillance enhancement of

the airport and increasing the safety of ATC operations.

"ERA has attained its 30th airport reference in Europe by signing this important contract. Our strong position in Europe helps promote ERA's technologies in other global markets, since ATM standardization and legislation is defined by organizations within the EU," stated Jakub Thomas, Head of Sales at ERA. He added: "I am happy to see ERA's conti-

nuously increasing customer base as well as the expanding product portfolio for the ATM segment."

ERA-GISS consortium will deliver certified mature system NEO, the enhanced version of the multisensory surveillance system tried and tested by dozens of installations. This multi-solution system (MLAT, WAM, ADS-B, PRM, HMU) has a robust system design, enhanced signal detection, reduced power consumption and is international standards compliant.

ON WARSAW AIRPORT

Warsaw Frederic Chopin Airport (formerly known as Warsaw-Okecie Airport and renamed after the Polish composer Fryderyk Chopin in 2001) is an international airport located in the Włochy district of Warsaw. As Poland's largest and busiest airport, Warsaw Chopin handles 40% of the country's air passenger traffic, approximately 300 scheduled flights daily and an ever-rising number of charters. With its 16 million passengers in 2017, the airport is the busiest one in the newer EU member states.

ERA EXTENDS ITS PRESENCE IN HUNGARY BY SUPPLYING ADS-B SYSTEM FOR THE KŐRISHEGY AND PÜSPÖKLADÁNY REGIONS

RA, a provider of advanced surveillance systems both for military and civilian solutions, will deliver another system to HungaroControl, a Hungarian Air Navigation Service Provider.

ERA signed a contract with HungaroControl to deliver a surveillance system based on ADS-B technology for the Kőrishegy and Püspökladány region. The system provides enhancement to already existing radar coverage.

ADS-B represents dependent information on data from the aircraft's navigation system. ADS-B equipped aircraft broadcast their GNSS positions once per second. The information



received by the ADS-B ground station includes the aircraft's identification, altitude, speed, velocity, etc.

HungaroControl, the Hungarian Air Navigation Service Provider (ANSP), provides air



navigation services in the Hungarian airspace and as of 2014, on a NATO assignment, in the upper airspace over Kosovo. It trains air traffic control personnel and conducts air navigation research and development.



ERA PASSED THE SAT OF ITS WAM SYSTEM FOR OSH AIRPORT IN KYRGYZSTAN

ERA has successfully passed the Site Acceptance Tests and thus completed the installation of the new WAM system based on its reliable multilateration system NEO covering the Terminal Manoeuvring Area of Osh International Airport and two main flight corridors en-route towards the Kyrgyzstan border.



he customer, local ANSP Kyrkgyzaeronavigatsia, was pleased with the results of SAT and the project realization time: the contract was assigned in March 2017, the entire project was finished in 18 months. The ERA state of art technology replaced the out-of-lifecycle



Secondary Surveillance Radar with the aim of helping secure air traffic safety in the area. ERA, as the primary contractor in co-operation with the local company Asiainfo, delivered its NEO multi sensor surveillance systems, a composite solution of multilateration and ADS-B technologies. The delivered system consists of nine ground stations with the expectation of an extension in the nearest future.

The landlocked Kyrgyz Republic is geographically isolated by its highly mountainous terrain. Due to this fact, five of the ground stations had to be installed in an area about 2.900 metres above sea level. Osh International Airport is an important airport in the region serving the city of Osh, the second largest city in Kyrgyzstan after the capital Bishkek.

ERA BECAME THE HOST OF THE ICAS WORKSHOP IN PRAGUE

CONTINUED FROM PAGE 1:

Among lecturers were Jakub Thomas, the head of ERA Sales, and Marek Náhlík from ERA's Slovak subsidiary R-SYS, who lectured on ERIS by ERA - the system for ASMGC-S for medium size airports.

The participants appreciated both ERA's hospitality and the magnificence of Prague itself: "The organization process was smooth and professional. Everything was conveniently in walking distance," said Péter Szalóky, ATM Consultant of Hungarocontrol and ICAS conference chairman.

Apart from the Czech Republic, Slovakia, and Hungary, the participants were from 18



other countries: Poland, Germany, Canada, Egypt, France, Bulgaria, Romania, Malaysia, USA, Scandinavian countries, the Baltic states. etc.

"The organization process was smooth and professional. Everything was conveniently in walking distance."

> Péter Szalóky, ICAS conference chairman

A major part of the second day program involved a professional tour to Prague airport kindly provided by the Czech ANSP. The visitors had the possibility to visit the Control Tower, test TWR and Technical Room for a close look at the technologies and procedures used by Czech ATM controllers.

ICAS working groups meetings have been taking place three times a year. Surveillance experts of ERA frequently contribute and provide professional support to ICAS, but for the first time ERA proudly hosted its



workshop in its brand new branch office in the Prague city centre.

ICAS is a group of Airports, Air Navigation Service Providers (ANSPs) and Eurocontrol. The scope of the ICAS group is to support them and other organizations in the implementation, integration and exploitation of airport surveillance systems in an airport environment, covering all phases of ground movement. The group also dialogues with the regulatory authorities, R&D institutes and the industry.

ERA'S SQUID CONTRIBUTES SCOUT PROJECT

ERA's vehicle tracking system SQUID (ADS-B squitter beacon), functioned successfully during the testing of the newly introduced security system within the project called SCOUT. The main goal of the SCOUT project is the study, design and assessment of a security system based on multiple technologies to protect space control ground stations and satellite links against physical and cyber attacks.

The SCOUT (multitech security system for interconnected space control ground stations) project has focused on the use of multiple innovative and low impact technologies for the protection of space control ground stations and satellite links against physical and cyber-attacks.

The SCOUT project has been funded by the EC under the 7th framework programme for research and technological development. SCOUT was organized by a consortium of nine partners involving six nations and led by the RaSS (Radar and Surveillance systems) National Laboratory of CNIT (National, Inter-University Consortium for Telecommunications).



The SCOUT demonstration was carried out recently at the Spatial Geodesy Centre of the Italian Space Agency (ASI CGS) and its aim was to verify the system's capabilities and performance.

Since some of the radar sensors employed during the trials had a coarse angular resolution, the target position information, acquired by a GPS system, was needed in order to convert the radar data to geographical coordinates. The acquisition and transmission of the cooperative vehicle position data was obtained by using the SQUID device produced by ERA (usually implemented as vehicle tracking system - part of A-SMGCS).

The SCOUT system implements three main security functionalities through the use of three different subsystems: SENSNET for physical attack protection; CYBERSENS for cyber attack detection and countermeasures and RECOVER for automatic restoration and reconfiguration of the space control ground station network.

The trial activity was focused on surface monitoring for detecting authorized vehicles or people trying to access non-authorized areas. The surveillance inside the base was carried out by means of detection of moving objects and classification of detected targets such as terrestrial vehicles and humans.

200 SQUIDS: THE ERA STORY OF INCREASING SAFETY AT CANADIAN AIRPORTS CONTINUES

CONTINUED FROM PAGE 1:

ERA has delivered 700 pieces of this vehicle mounted squitter beacon to Canada since 2012 and over 7,000 SQUID units worldwide since 2004. SQUIDs predominate at some of the busiest airports around the world - to name a few: Frankfurt, Amsterdam Schiphol, Istanbul, Jakarta, Kuala Lumpur or Singapore.

As an important part of every advanced surface movement guidance and control system (A-SMGCS), SQUID fully supports the concept of "Area Management", i. e. it allows operators to define discrete boundaries out-



side of which the SQUID unit stops transmission. The design of this small and lightweight equipment ensures easy integration and interoperability with any multilateration or ADS-B system based on the Mode S Extended Squitter datalink.

ON TORONTO AIRPORT

Toronto Pearson International Airport is the largest airport in Canada, and the 30th busiest airport in the world in terms of passenger traffic, handling 47.1 million passengers in 2017.

It is located 22.5 km north-west of downtown Toronto, in the municipality of Mississauga, and serves the province of Ontario with 12 million inhabitants.

The airport is named in honour of Lester B. Pearson, Nobel Peace Prize laureate and 14th Prime Minister of Canada.



THE NEW CZECH JET AIRCRAFT L-39NG - THE **FUTURE FOR MILITARY PILOTS TRAINING**



he first L-39NG pre-series aircraft rolled out from the hangar at AERO Vodochody AEROSPACE, the leading Czech aerospace company, and has made its maiden flight at the end of last year.

The project of the new jet trainer is supported by OMNIPOL, ERA's parent company. "Omnipol very proudly joined the L-39NG Project in 2015 as the strategic partner and equal co-investor alongside our colleagues from Aero Vodochody," said Jiří Podpěra, President of OMNIPOL.

The L-39NG is a jet trainer and light attack cost effective platform. The L-39NG is a single-engine two-seater with staggered seating and an advanced cockpit design that includes full glass cockpit, a sophisticated on board virtual training system and a Helmet Mounted Display.

The L-39NG is a key component of an innovative training concept developed by Aero that includes state-of-the-art ground-based training devices, new learning methods and environment and extensive use of Virtual Reality and Artificial Intelligence technologies. The L-39NG has been designed as a maintenance-friendly aircraft in anticipation of many decades of service.

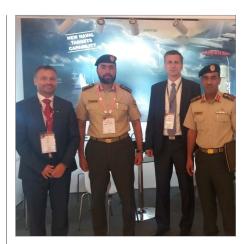


Current training fleets around the world are rapidly ending their lifetime and do not respond to the future needs of pilots training for the 4th and 5th generation fighters. The L-39NG is based on the aerodynamic concept of the current L-39, but utilizes the latest technologies and equipment. Power is provided by the modern FJ44-4M engine supplied with the TAP Blue engine support service to ensure unprecedented airworthiness. The aircraft also features a broad range of simulation technologies, including the integration into high-tech tactical simulation centres with the goal to increase training efficiency.

ERA EXPERTS PRESENT AT EW CONFERENCE IN ABU DHABI

ERA a. s. along with its parent company OMNIPOL attended the traditional conference and exhibition EW GCC 2018 held in Abu Dhabi, United Arab Emirates, on October 8 -10.

Special attention was paid to new Electronic Warfare and Cyber Security technologies presented during the conference. The exhibition was broadly supported by global players in the EW domain within the Gulf Cooperation Council (GCC) region where this field has its undisputable place. ERA experts Vojtěch Stejskal and Petr Bičík not only had an opportunity to discuss key regional topics directly with GCC customers, but were also able to participate in meeting groups of defence industry participants during the 25+ conference workshops.



According to the official statistics of the event, 30 exhibitors and over 600 attendees from 25 countries were present in all.

ERA SUBSIDIZES COMPETITIONS FOR IT STUDENTS



The Secondary School of Electrical Engineering based in ERA's hometown of Pardubice organized a competition in IT knowledge for school graduates. ERA, which is in constant search for young talented people, supported the event by providing the prizes. The students competed in three disciplines entitled PC expert, S-Robot and Electronics in a different perspective and obtained dozens of "motivating" prizes.



ERA PARTICIPATED IN MAJOR DEFENCE EXHIBITION IDEX IN UAE

RA along with the parent company OMNIPOL and its subsidiary MESIT, have presented a wide range of military products and services at the shared exhibition stand within the trade fair IDEX (International Defence Exhibition and Conference), held in Abu Dhabi, on February 17 – 21, 2019.

ERA has introduced brand new simulator for ESM systems – a training tool for its unique Passive ESM Tracker (PET) VERANG and other systems in this category. The training simulator serves two purposes: helping to train operators how to use the passive surveillance and EW systems, and also as a mission planning tool.

The managers discuss forms of future cooperation with representatives of official delegations and various institutions including a number of prominent personages such as Minister of Defence of the Czech Republic.



AS PART OF THE EXHIBITION THE OFFICIALS HAVE SIGNED THE AGREEMENT TO BECOME A MAIN PARTNER OF OTHER WELL-KNOWN DISPLAY OF THE CAPABILITIES OF DEFENCE AND SECURITY INDUSTRY KNOWN AS NATO DAYS.

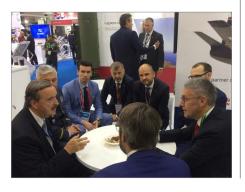
IDEX and NAVDEX held concurrently at Abu Dhabi National Exhibition Centre (ADNEC), the prestigious five-day events visited by around 1,200 companies from over 50 countries, are aimed at demonstrating technologies from the land, sea and air sectors of defence. The show included a military parade, a demonstration of anti-terrorist action, tank manoeuvres and flyovers of air-fighters.

The central location of the United Arab Emirates within the Middle East attracts visitors from each of the GCC (UAE, Oman, Bahrain, Kuwait, Saudi Arabia), North Africa and the Asian Subcontinent countries. There are also officials and decision makers from Europe, Americas and Australasia. The Official Delegations include individuals from Defence Ministers, Chiefs of Staff and Army, Navy and Airforce Commanders.

ERA, OMNIPOL AND MESIT EXHIBITED AT INDODEFENCE FAIR IN JAKARTA

The Indodefence EXPO & FORUM 2018, Indonesia's Tri-Service Defence exhibition, took place at Jakarta International Expo Kemayoran, Indonesia on 7 – 10 November 2018.

RA participated in the exhibition as part of the official Czech exhibition with its parent company OMNIPOL and its subsidiary MESIT. ERA introduced its unique passive surveillance system VERA-NG to a number of distinguished visitors including the Minister of Defence of the Czech Republic (see below),



who stopped by the Czech stand in order to learn about the ERA passive systems. Representatives of ERA and OMNIPOL also had the opportunity to conduct negotiations with several other national delegations.

The accompanying program consisted of conferences focused on air space safety as novelties in the aviation and maritime industries. The eighth Indodefence covered the complete spectrum of this sector, which includes airborne, land based & sea based platforms systems & equipment; command, control, communication & information.

Indodefence aerospace, helicopter and maritime fair is the largest event in the Asia-Pacific region; it takes place biannually and this year attracted over 25,000 visitors this year and more than 850 exhibitors from 55 countries.

ADECS 2019: ERA TO TRAIN ESM OPERATORS



RA exhibited its VERA-NG training simulator during the Association of Old Crows Electronic Warfare Asia conference and exhibition being held in Singapore 29 - 30 January.

The training simulator helps to train operators how to use the firm's VERA-NG passive radar system. In its latter role, the simulator can be used to assist the placement of the VERA-NG to ensure the user can exploit the system to its fullest effect.

While the simulator is programmed with all the appropriate parameters for the VERA-NG, it can also be programmed with the parameters of third-party passive radars and electronic support measures, for use both as a training and mission planning tool.



LIFE OF ERA COMMUNITY IN PHOTOS





ERA TOOK PART IN NATO DAYS, THE LARGEST DEFENCE AND SECURITY SHOW IN EUROPE. THE POPULAR EVENT AIMS AT PRESENTING A WIDE SPECTRUM OF THE RESOURCES OF THE CZECH REPUBLIC AND ITS ALLIES TO THE GENERAL PUBLIC.



ERA AND OMNIPOL OBTAINED THE TITUL MANAGER TEAM 2018 FROM THE MAGAZI-NE CDIS, THE PLATFORM OF DEFENCE AND SECURITY INDUSTRY ASSOCIATION.

ERA SIGNED THE AGRREEMENT OF COLLA-BORATION WITH CZECH TECHNICAL UNI-**VERSITY IN PRAGUE.**



ERA MANAGING DIRECTOR LECTURED AT CONFERENCE FOCUSED ON VISIONS AND **FUTURE OF TRANSPORTATION.**





ERA ADS-B SYSTEM IN GEORGIA WENT OPERATIONAL. IT COVERS THE EASTERN PART OF THE COUNTRY INCLUDING THE AIRPORT OF CAPITAL TBILISI.



THE PARTICIPANTS OF AERONAUTICAL SYSTEMS AND TECHNOLOGIES WORKING GROUP OF NATO VISITED ERA HEADQUARTERS IN OCTOBER. ERA EXPERTS PRESENTED ITS PORTFOLIO OF PASSIVE SURVEILLANCE AND C2 MILITARY SYSTEMS.

MEDIA COVERAGE - ERA IN NEWS



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traffic control history when deploying the first multilateration system and introducing gate-to-gate surveillance.