

E-LETTER FOR PARTNERS OF ERA COMPANY

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ERANEWS

era

PLESS:
BREAK THE HORIZON!



Bhutan: 67th country to the list
of ERA partners



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ERA DELIVERS AN ADS-B SYSTEM MONITORING AIR TRAFFIC OVER THE KINGDOM OF BHUTAN

THE CONTRACT WAS ASSIGNED BY MINISTRY OF INFORMATION & COMMUNICATIONS OF ROYAL GOVERNMENT OF BHUTAN, AS A RESULT OF AN INTERNATIONAL TENDER. ERA IS PROUD TO ADD BHUTAN AS THE 67TH COUNTRY TO THE LIST OF ITS PARTNERS.

ERA will supply a network of seven ADS-B stations as a Wide Area Surveillance solution covering almost the entire airspace of the mountainous country of Bhutan and partly as the Air Traffic Control solution for all four of the Bhutan airports: Paro, Bumthang, Gelephu, Yonphula. "ERA scored the highest on the defined evaluation criteria thanks to its experience in the

deployment of a similar surveillance system in Nepal in 2019. The references for the systems functioning successfully in neighbouring states India and China also helped", stated Ondřej Chlost, ERA Sales Director.

One of the priorities of Bhutan has been to cover a major part of their air space with up-to-date technology to provide surveillance coverage throughout the country (roughly half of its area) and obtain control of air traffic in TMAs of the four important airports including the Paro International Airport serving the Bhutan capital Thimphu. To meet this challenge, ERA will deliver its multi-sensor surveillance system NEO by ERA and will cooperate with the local company SAI TRADING PARTNER. The ERA-Bhutan team has chosen the suitable locations for the ADS-B ground stations, with most of them planned to be installed as high as 2,500 – 3,500 metres above sea level and the one on the mountain pass Chelela to be placed at 4,100 m.

ERA HAS BEEN TRUSTED TO PROLONG THE PERFORMANCE OF ITS WAM SYSTEM AT FUJAIRAH AIRPORT

THE WIDE AREA MULTILATERATION SYSTEM DEPLOYED AT FUJAIRAH INTERNATIONAL AIRPORT IN THE UNITED ARAB EMIRATES HAS RECENTLY BEEN BACKED UP BY A NEWLY SIGNED CONTRACT OF THE MASTERCARE PROGRAM OF ADVANCED ASSURANCE SERVICES.

The ERA WAM system for Fujairah Airport has been the first certified WAM system in the Middle East for ATC separation services in terminal and on-route airspace (went operational in 2014). The ERA system has been chosen for the United Arab Emirates thanks to its ability to endure the severe weather conditions of the dusty environment and high outdoor temperature. The current implementation of the MasterCare program should ensure the top performance of the WAM Fujairah system under all operational capacities.

The Multi-sensor Surveillance System (MSS) for Fujairah WAM is based on distributed time architecture with GPS synchronization and its main goal has been to enhance the surveillance coverage of the airport Control Terminal Region up to 60 nautical miles.

ERA's MSS ground station architecture is built to perform under harsh outdoor conditions, particularly high temperatures. The

stations are also completely dust proof in order to withstand the typical local environment of hot dry deserts. All the electronic units are housed in metallic cabinets with an outstanding protection level which meet the IP67 protection standards.



ERA IS ABOUT TO COVER THE ENTIRE AIRSPACE OF THE BALTIC STATE OF LATVIA

ERA HAS SIGNED A CONTRACT TO PROVIDE SURVEILLANCE OF AIR TRAFFIC OVER LATVIA AND BEYOND ITS BORDERS (+30NM BUFFER ZONE) WITH THE NEWLY INSTALLED WIDE AREA MULTILATERATION SYSTEM LATVIA THUS JOINS THE COUNTRIES, WHICH BENEFIT FROM WHOLE-COUNTRY COVERAGE THANKS TO THE SURVEILLANCE SYSTEM BY ERA BASED ON MULTILATERATION TECHNOLOGY.

ERA was assigned the contract with State Joint Stock Company "Latvijas gaisa satiksme" (LGS), the Latvian Air Navigation Service Provider, in January 2021. The new system WAM FIR Latvia is an extensive extension of the previously deployed ERA system WAM RIX for Riga TMA in the surroundings of Riga's International Airport and Riga TMA in 2008-2011. ERA as the primary contractor will now deliver 23 stations of the multi-sensor surveillance system, a composite solution of multilateration and ADS-B.

"The ERA system providing Riga TMA coverage proved to be a very liable ATC solution. ERA's experience in the deployment of WAM systems in many areas, in accordance with the references from other ANSPs, was also one of the key factors in selecting them for this project", stated Aleksejs Javorskis, Chief of Radar Division, LGS.

According to nearly 2,000 pages of detailed contract specifications, the system will be responsible for providing data for the entire Riga FIR (Flight Information Region) and up to 30 Nautical Miles (NM), which means covering the entire state's airspace plus the outskirts beyond the Latvian border, including part of the Baltic seashore. "This award is also a sign of the long-term relationship between LGS and ERA" stated Ondřej Chlost, ERA Sales Director.

There are also two other Latvian airports/airfields: the international airport Liepāja (EVLA) and military airfield Lielvarde (EVGA) will have possibility to benefit from extended and accurate coverage provided by the new WAM FIR Latvia system and will use it to

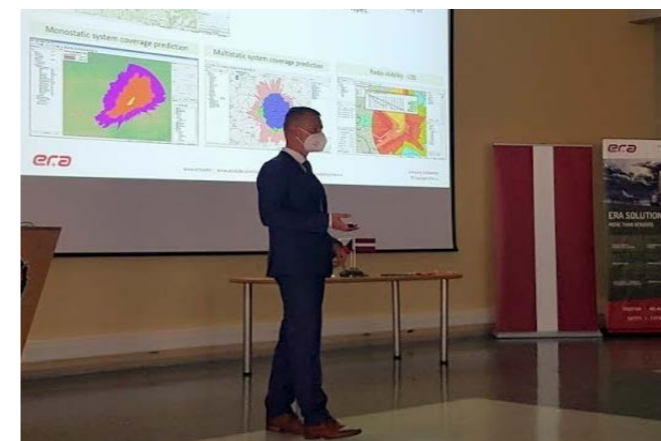


optimize the process of approaching aircraft in their corresponding airspaces.

The WAM FIR Latvia system will also back-up the performance of the network of primary and secondary radars during their planned modernization and the upgrade in the immediate future.

ERA will supply its well experienced and tested NEO generation multilateration system, which will consist of 23 new ground stations (complementing the current six stations of WAM RIX), with coverage divided into five clusters. The final acceptance and completion of the WAM FIR Latvia system implementation, followed by the final Site Acceptance Tests, is planned for the end of 2022 – early start of 2023.

ERA ORGANIZED WORKSHOP FOCUSED ON PASSIVE SURVEILLANCE SYSTEMS IN RIGA, LATVIA



ERA arranged a technological workshop focused on Passive Surveillance Systems for the Latvian National Armed Forces and Latvian Ministry of Defence representatives. The event was held in the Latvian National Armed Forces Joint Headquarters in the capital Riga at the end of June. Its main goal was to present and demonstrate the newest innovations and trends in the field of passive surveillance, radioemitters geolocating, Electronic Support Measure (ESM) technology and data mining.

ERA as a world leader in multilateration, multistatic surveillance, and reconnaissance technology has been long-term authority in this field. ERA has developed the VERA-NG, unique passive surveillance system, that defines the new sensor category DPET (Deployable Passive ESM Tracker).

ERA PROVIDES AN EXTENSION OF ITS SURVEILLANCE SYSTEM FOR MUNICH AIRPORT

ERA HAS SIGNED CONTRACTS TO EXTEND ITS PREVIOUS MLAT SYSTEM WITH SEVEN NEW GROUND-BASED STATIONS (GS) FOR SURFACE GUIDANCE AT THE MUNICH INTERNATIONAL AIRPORT IN GERMANY. CURRENTLY THERE ARE 40 ERA MSS (MULTI-SENSOR SURVEILLANCE) GS IN OPERATION AND 310 PIECES OF SQUID VEHICLE TRACKING UNITS TO ENSURE SAFETY AT THE BAVARIAN AIR TRAFFIC HUB.

ERA was awarded the contracts for the supply of the two extensions of its previous system in May 2020; two contracts were assigned by the end user. The need for yet another extensions of the system, originally installed in 2006 and extended in 2012, came about as a result of rapid passenger growth in recent years. ERA as prime contractor proposed its next-gen solution: the NEO system including hardware delivery and project services for the extensions to enhance surveillance coverage of the terminal extension, the new apron plus optimization deployment due to further construction.

After the installation, the system at Munich Airport will consist of 47 ground stations and will be the second largest system of its kind in the world. The Central Processing Station has already been completely modernized and upgraded last year. The solution will fuse the highly accurate positional data from ERA's ground-based stations and ADS-B squitter beacons SQUID by ERA (310 pieces in operation at present) with radar data in one consistent traffic presentation.

Munich Airport is planning to start operations in the new T-shaped terminal extension by 2022. ERA experts have already



surveyed the site last spring, remotely and in teleconference consultations due to the coronavirus situation and closed borders. The help of Munich airport technicians was much appreciated. The final round of testing SAT is planned for the first quarter of the year 2022.

There are also several ERA surface systems functioning at other airports in Germany, specifically: Munich, Hamburg, Braunschweig, Cologne, Bonn, Düsseldorf and Berlin.

ERA AMONG TRADE-MARKS AWARDED SUPERBRANDS 2021



ERA received the prestigious title of trade brands Superbrands, also called the "seal of excellence". It obtained the certificate in the category B2B (business to business) and became one of the business brands awarded the title CZECH BUSINESS SUPERBRANDS 2021. The nomination is based on a database of registered trade-mark brands of the Industrial Property Office. The Brand Council, the committee of professionals in business, marketing and media has the final say in awarding Superbrands titles.

ERA REPORTS RECORD PROFITS FOR THE 2020, DESPITE THE PANDEMIC

ERA had a record profit of ca 380 million Czech crowns last year with total revenues of 1.3 billion CZK. The impressive economic results have been achieved in the most difficult period in the company's history impacted by the unprecedented drop in air traffic, closed borders and quarantines due to the pandemic and the counter-measures taken by governments worldwide.

The company reported revenues to a total amount of € 50,615 thousand and an accounting profit to an amount of before taxes € 14,700 thousand for the financial year 2020. This consists of a new record for profit in a row of similarly successful years 2016-2019. ERA kept moving thanks to new installations under contracts from the previous year and the amount of extensions and upgrades of systems worldwide, which after 10 or more years of flawless functioning required sophisticated services to prolong their life cycle. ERA experts were in touch with their foreign counterparts and sustained the cooperation using tools of non-personal communication, for instance Skype calls, Teams meetings or teleconferences.

BREAK THE HORIZON! ERA LAUNCHES ITS NEW PASSIVE LONG-RANGE SURVEILLANCE SYSTEM

ERA INTRODUCED ITS NEWEST SYSTEM PLESS WITHIN THE NATO DAYS AIRSHOW IN SEPTEMBER. BY PRESENTING THIS OVER THE HORIZON DIRECTION FINDING SYSTEM ERA NOT JUST ADD THE NOVELTY TO ITS FAMILY OF PASSIVE SYSTEMS BUT HAS DEFINED NEW CATEGORY FOR LONG-RANGE SURVEILLANCE.

KEY FEATURES:

- Passive – using the signals emitted by the target itself
- Long-range – use of the tropospheric reflectivity properties
- Direction Finding (AoA) supported by multilateration (TDOA)
- 2D localization and tracking in case of multistatic deployment
- Pulsed and Continuous Wave (CW) signal processing and analysis
- Contribution to Emitter Database (EDB)
- ELINT features (classification, recognition and identification)
- Long-term Area of Interest (AoI) survey and early warnings
- Shared ecosystems with VERA-NG Passive ESM Tracker (PET)



PLESS is a passive Over The Horizon (OTH) Direction Finding (DF) system developed by ERA. This direction finding system can detect, locate, identify and track air, land and naval targets with a focus on slow-moving or stationary platforms. The system processes signals from radars, jammers and datalinks emitting in a frequency band from 100 MHz to 18 GHz.

Using the unique passive detection technology by ERA, the PLESS direction finding system provides a covert mode of operation, ideal for long-term cross-border and maritime surveillance. Thanks to the utilization of tropospheric reflectivity properties, the PLESS direction finding system can see targets located even beyond the radio horizon.

R-SYS SUCCESSFULLY DEPLOYED A "MYDRONESPACE" SYSTEM FOR DRONE PILOTS IN HUNGARY

THE SLOVAK COMPANY R-SYS LTD., A SUBSIDIARY OF ERA, COMPLETED THE PROCESS OF DEVELOPMENT AND DEPLOYMENT OF THE MYDRONESPACE ATM SYSTEM FOR HUNGARIAN AIR NAVIGATION SERVICES HUNGAROCONTROL.



The Mydronespace solution represents a solid basis for the future U-Space (UTM) system which should fully integrate unmanned aerial vehicles into the ATC environment. Mydronespace was developed for and delivered to HungaroControl for

its operational use and service provision. With Mydronespace, HungaroControl can provide essential support to UAS pilots: Mydronespace supports the situational awareness of drone pilots in accordance with the legislation in force.

"Thanks to the excellent cooperation of HungaroControl and R-SYS, the Mydronespace design has been tailored to the customer's requirements. SW was successfully implemented and field tested to be finally put into full operations as of 1 January 2021, on the day when Commission Implementing Regulation (EU) 2019/947 on the rules and procedures for the operations of unmanned aircraft became effective in the EU", stated Marek Nählik, CEO of R-SYS.

R-SYS Ltd thus becomes one of the few producers within the EU having in its portfolio a UTM solution providing drone pilot registration and UAS flight management, and Hungary becomes one of the first EU countries operating such a solution and providing UTM services to drone pilots.

ERA ORGANISED TESTING TRIALS FOR THE PASSIVE SYSTEM'S ABILITY TO DETECT UAS

THE EXTENSIVE TESTING CALLED CW TRIAL HAS HAD AN AMBITION TO VERIFY, THAT THE PASSIVE ESM TRACKER, E.G. VERA-NG BY ERA, HAS A CAPABILITY TO DETECT AND TRACK UNMANNED AIRCRAFT SYSTEMS (UAS) BROADCASTING CONTINUOUS WAVE (CW) SIGNALS.



The CW Trial was held at Czech military ranges in April and its goal was approval of previous tests of VERA-NG's CW capability, newly implemented in Passive ESM Tracker (PET). The ability "to see" and track drones from a distance of dozens

of kilometres results from ERA intensive development in the domain of multistatic surveillance systems.

There were several UAS operating in the Czech Armed Forces used as targets in an actual trial and the results in detecting their signals fully approved the previous testing and justified the expectations. They were flying separately and also in parallel times in order to be distinguished the one from another. All UAS including UAV (drones) were "spotted" at once and tracked for the whole flying period.

ERA is aware that developing Counter-Unmanned Aerial Systems (C-UAS) is one of the greatest technological challenges for air defence solutions at present. The risk of misuse of UAS in conflict has been increasing recently and the Czech Armed Forces experts consider early warning detection of such threats as the key advantage in effectively opposing them.

PET technology has now undoubtedly established itself as a perspective solution to UAS surveillance considering tracking capability for the mini-class UAV category more than 100 kilometres and micro-class UAV category up to 40 kilometres, where modern 3D active radars provides effective coverage up to 10 kilometres.

ERA PRESENTED ITS PET SYSTEM VERA-NG WITHIN THE DEFENCE EXHIBITION IDEX IN ABU DHABI, UAE

ERA, ALONG WITH OMNIPOL, MESIT AND THE AERO VODOCHODY HAVE PRESENTED A WIDE RANGE OF MILITARY PRODUCTS AT THE SHARED EXHIBITION STAND WITHIN THE TRADE FAIR IDEX, HELD AT FAIR CENTRE ADNEC IN ABU DHABI, IN FEBRUARY, 2021

ERA has introduced new functionalities of its proven PET systems VERA-NG, AERO and OMNIPOL focused on new training jet plane L-39NG and MESIT presented its tactical communication systems. Their presentations were part of the official stand and programme of Czech delegation, led by Deputy Minister of Defence. Politicians and sales managers discussed forms of future cooperation with representatives of foreign official delegations and various institutions (among others from Morocco and Uzbekistan) including several prominent

personages such as Minister of Defence of the Slovak Republic.

The exhibition and conference event IDEX is the prestigious five-day events, greatest of its kind in the Middle East Region. This year it was visited by around 900 companies and 62 thousand visitors from 59 countries. Its main aim is 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. It attracts visitors from Oman, Bahrain, Kuwait, Saudi Arabia and North Africa.



LIFE OF ERA COMMUNITY IN PHOTOS



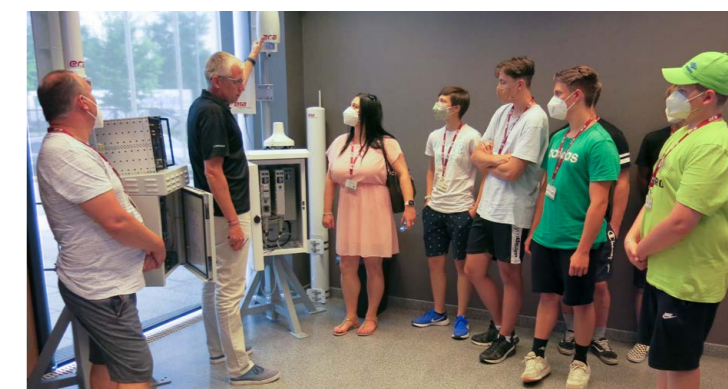
ERA has started the overall reconstruction of the building for its „production lines“, there will be also two brand new wings and the reconstructed hall for FAT testing.



ERA received an award for its contribution to the development of a school for children with special teaching needs.



ERA continued to introduce its newest products and solutions even in Covid-19 era by organizing workshops online.



ERA has devoted itself to the popularization of ATM technologies by numerous excursions held for students of technical schools..

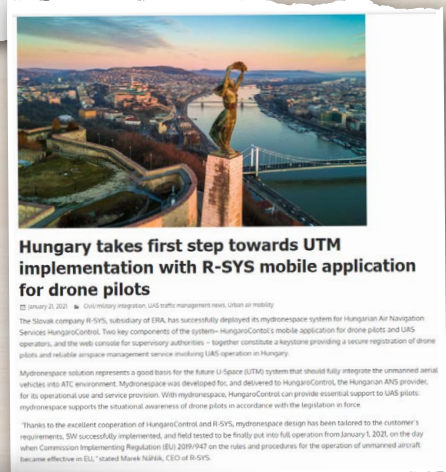
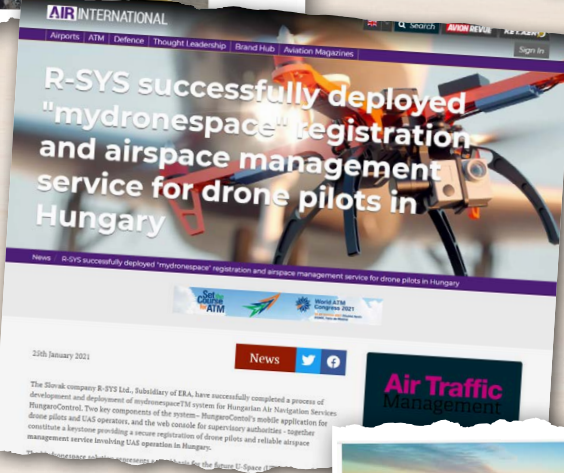
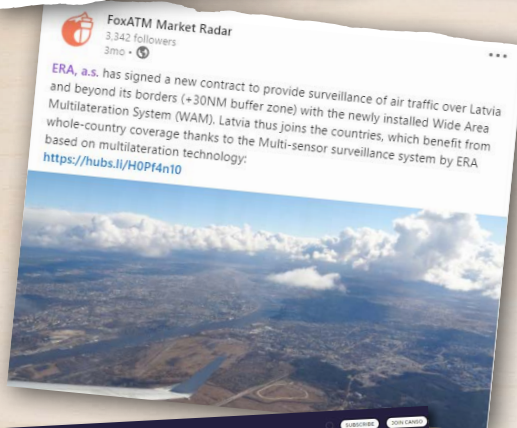
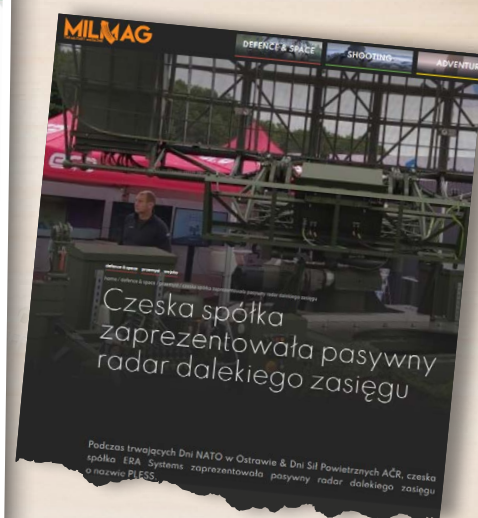


ERA employees joined the Czech challenge „Bike to Work“: created teams, signed up for competition and regularly travel to work on a bike, inlines, a skateboard, or on foot.



EH. E. Hideo Suzuki, the Japanese ambassador to the Czech Republic, visited ERA headquarters.

ERA IN NEWS



ABOUT ERA:

ERA is a leading company in multilateration, multistatic surveillance, and reconnaissance technology. We develop, manufacture and implement mission-critical systems for military and civil purposes. Over last 2 decades, ERA has reached number of more than 130 installations, deployed in 67 countries on 5 continents with 24/7 operations fulfilling demanding customer requirements.

ERA has developed unique passive surveillance system VERA-NG tailored for air, maritime and land target surveillance and reconnaissance for defence and electronic warfare purposes. In parallel, ERA made air traffic control history when deploying the first multilateration system and introducing gate-to-gate surveillance.



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