ERANEWS

We SEE, we KNOW, we are **MULTILATERATION!** Not only exhibitions proven.

ERA and Airbus have signed partnership agreement

Airbus Defence and Space and ERA announced the signing of a Framework Cooperation Agreement for air defence. This partnership aims to enhance Airbus' existing command and control (C2) solutions and strengthen its offerings in the field of Integrated Air and Missile Defence (IAMD).

With over three decades of experience, the Czech company ERA has unrivalled experience in passive surveillance sensor development. As a leading company in multilateration, multistatic surveillance and reconnaissance technology, ERA´s passive ESM tracker (PET) and its 5th generation VERA-NG provide an unmatched ability to "see without being seen". These technologies have a long history of innovation for leading defence and security forces around the world.

Airbus provides C2 capabilities used in air surveillance, air battle management and ground-based air defence. Fortion® 1 SkyControl forms the core of the most advanced AirC2 system currently fielded within NATO and used by the German Air Force. Fortion® SAMOC allows several defence forces to optimise their firepower by selecting the most appropriate surface-based missile defence system (SBAMD) to eliminate threats. Fortion® IBMS provides C2 for multiple SBAMD systems, most notably the IRIS-T SLM from Diehl Defence.

„Partnering with ERA allows us to investigate options for true IAMD and see how full integration of passive surveillance with our C2 solutions can make a difference", says Jens Reynders, Head of Defence Digital Germany & International at Airbus Defence and Space GmbH.

"Passive surveillance systems are recognized as an important part of air defence operations. We are proud to become a partner of Airbus, working together on new capabilities", says Ondřej Chlost, CEO of ERA.

The Framework Cooperation Agreement aims to explore future cooperation opportunities between both companies in the field of IAMD, including possibilities of enhancing their respective products. ▪

ERA won a tender and delivers its ATM system ERIS to PRAHA/Vodochody Airport

AERO Vodochody AEROSPACE a.s., has placed its trust in the ERA system to provide Air Traffic Control functions for its mid-size private international airport. As the winner of a competitive tender, ERA (a member of OMNIPOL Group) has signed a contract to deliver its ERIS-ATM system to the end user – PRAHA/Vodochody Airport, located north-west of Prague.

The contract was signed by the customer AERO Vodochody in November 2024, and the supply of the system involves a challenging timeframe. It should be installed and go operational at the Q1 of next year. The ERIS-ATM system will be used to control the aircraft in the vicinity of the airport, terminal manoeuvring areas and temporary reserved areas.

"We consider this new ATM system being supplied by ERA to be up-to-date technology, meeting our operational needs for the upcoming decade or so," stated Michal Lněnička, Accountable manager and Director of PRAHA/Vodochody Airport.

The ERIS-ATM system will be installed in Vodochody Airport's control tower and will provide air traffic picture based on reception of surveillance data and other information from the Czech ANSP. The ATC simulator for the training of ATC controllers is an integral part of the whole solution.

The ERIS system has been developed recently in close cooperation between ERA specialists from the Strakonice branch and ERA's Slovak subsidiary R-SYS. The system has already been in use in Greece, Sri Lanka, Iraq and Bhutan.

About the ERIS-ATM system

ERIS Air Traffic Management (ERIS-ATM) is an information system for radar and procedural air traffic management and control developed for all types of ATC centres. Its modularity and open architecture enables it to be easily tailored into the existing ATC environment. Its integrated situational picture is based on a multi-sensor data fusion and tracker, supplemented by electronic flight strips, monitoring aids and safety nets. ▪

EW-EDMT - Data Management Toolkit for Electromagnetic Warfare

The new ERA product, showcased within EW Live in Tartu, is called EW-EDMT (an abbreviation for the Electromagnetic Warfare ERA Data Management Toolkit). It is a comprehensive tool for processing ELINT/ESM data throughout the entire intelligence cycle with an emphasis on post-mission analysis. Its main purpose is to determine identification of targets such as the platform, emitter and emitter mode.

EW-EDMT works with all kinds of incoming data from the ESM (Electronic Support Measure) systems. The system user tries to extract as much information from the collected data as possible and then converts, processes, filters, identifies and stores them. The identification can be assigned manually based on user knowledge or automatically based on a comparison of the parameters with the reference database.

During the live operations. it is impossible to fully extract all the available information, therefore

post-mission analysis is needed. The aim of such an analysis is to build and expand the reference database to improve target identification and therefore further increase automation of the process.

The typical end users of the EW-EDMT application are mission planners, intel analysts, signal analysts and the database administrators responsible for the creation and management of the national ESM database, and last but not least platform operators as an additional source of information to support target/signal identification.

The application consists of four Tools, where each is designed to perform specific tasks:

Emitter Tool - is used for managing and updating reference databases used in signal identification. It ensures consistent, accurate emitter data for ESM/ELINT systems.

Data Mining Tool - is used for post-mission

analysis to store, process and evaluate data collected by ESM/ELINT systems in order to identify new emitters and their modes.

Mission Tool – is used to maintain situational awareness of detected priority targets during missions and support the creation of regular activity reports within the area of interest.

Target Tool - is used to provide detailed information on military platforms, emitters, weapon systems, and their deployment across countries. ▪
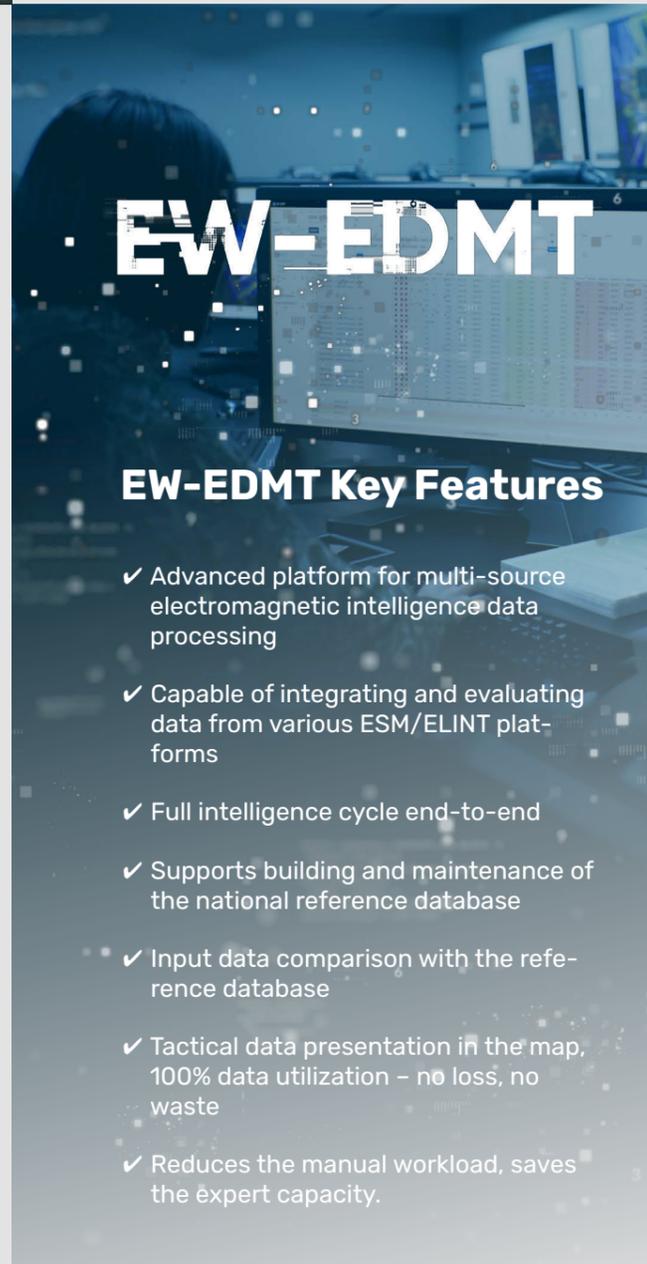
EW-EDMT Key Features

✔ Advanced platform for multi-source electromagnetic intelligence data processing

✔ Capable of integrating and evaluating data from various ESM/ELINT platforms

✔ Full intelligence cycle end-to-end

✔ Supports building and maintenance of the national reference database

✔ Input data comparison with the reference database

✔ Tactical data presentation in the map, 100% data utilization – no loss, no waste

✔ Reduces the manual workload, saves the expert capacity.

ERA R&D representatives took part in Radar Conf´25 in Krakow

In the beginning of October two ERA experts from the Research and Analysis Department attended the 2025 IEEE Radar Conference (so called Radar Conf´25), held in Krakow, Poland. The event offered an intensive program designed to provide participants with a comprehensive overview of the foundational concepts and the latest trends in radar technology.

The Radar Conf´25 brought together researchers and industry professionals from around the world, and it allowed them to deepen understanding of practical applications in the field. The conference program featured a diverse range of technical sessions, keynote speeches, and networking events.

"Our goal was to absorb new knowledge, explore innovative ideas, and establish valuable contacts within the international radar community. Our participation has enriched our expertise and inspired us to bring fresh perspectives back to our daily work, supporting the continuous development process in ERA company," observed one of ERA participating specialists Pavel Protiva. ▪

ERA took part in the exhibition MSPO Kielce, a key event for defence industry in central Europe

In September ERA exhibited its passive surveillance systems at Targi Kielce Exhibition & Congress Centre in Poland, in cooperation with its trusted partner, Polish company GISS. ERA team did its best to introduce the portfolio of military products to many visitors coming to GISS – ERA joined stand, where both partner companies have been exhibiting their latest defence and security solutions.

Among the VIPs taking interest in passive sensors was Krzysztof Bosak, the Deputy Speaker of the Sejm – Parliament of the Republic of Poland.

MSPO (Miedzynarodowy Salon Przemyslu Obronnego – International Defence Industry Exhibition) in its 33rd year brought together leading companies, institutions and delegations from dozens of countries. MSPO is recognized as the 3rd largest display of defence means in Europe after Eurosatory in Paris and DSEI in London. ▪

ERA joined annual AOC conference in Washington

ERA expert of Strategy Department Vojtěch Stejskal participated in the International Symposium and Convention 2025 organized by the Association of Old Crows (AOC). The major event of EW community was held at the National Harbor in Washington, Maryland, USA, on December 9 – 11.

The theme of this year´s edition of conference was Charting a Path to 2035: Navigating the Future of Electromagnetic Spectrum Operations. The theme addresses the evolving landscape of electromagnetic warfare (EW) amidst significant political, strategic, economic, and technological changes.

„Shifts in geopolitics have altered the focus and strategic objectives of all members of the international community. They must explore the roadmap for achieving electromagnetic spectrum (EMS) superiority and the latest advancements from industry to achieve the 2035 vision," stated the organizers.

One of the keynote speeches was given by the prominent US congressman Don Bacon: He underlined his long-standing push for greater investment in electronic warfare (EW) capabilities and protested that Russia was being underplayed in the current U.S. National Security Strategy.

The exhibition taking place simultaneously featured breakthrough technologies and solutions from leading defence contractors, emerging tech companies, and research institutions, driving the future of EW capabilities. Rewarding AOC Prestige Awards and Military Awards were also part of the programme. ▪
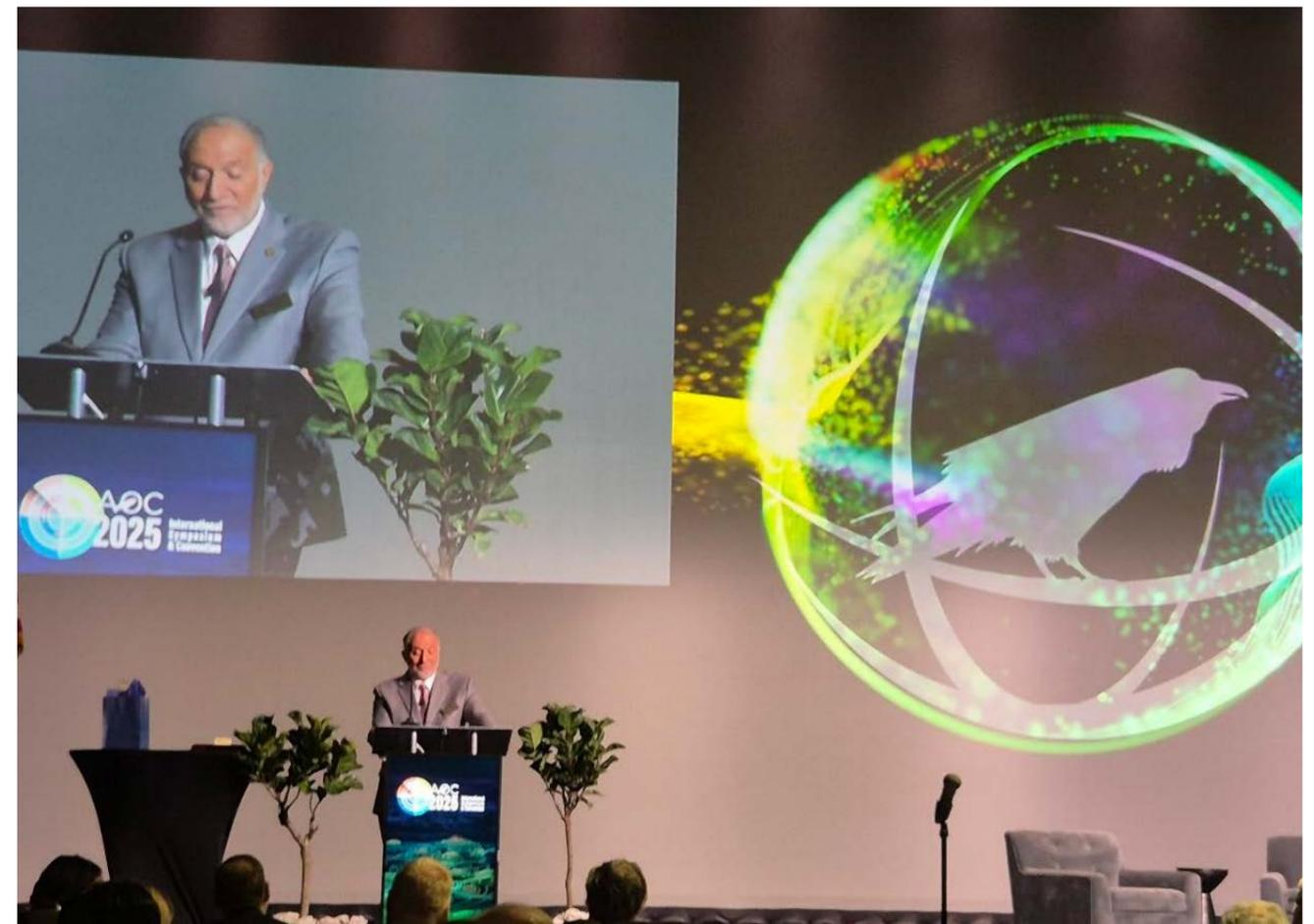
EW Live Tartu, a lively exercise: ERA presented its passive surveillance systems. In the most active way possible!

"Where signals speak and you understand their language!" ERA introduced its unique passive surveil-lance and reconnaissance systems as part of the iconic event for the Electronic Warfare community "EW Live 2025" in Tartu, Estonia, in September. The ERA team focused on a live demonstration of its latest product EW-EDMT - Data Management Toolkit for Electromagnetic Warfare.

This year's demo days EW Live brought together 44 companies and 38 NATO/allied military delegations, all sharing the latest in cutting-edge EW technologies. The ERA team presented its passive surveillance solutions to a number of foreign delegations at the ERA exhibition stand and in the Live Demo tent at Tartu Airfield and in focused lectures in the classroom of the Estonian Aviation Academy.

ERA views EW LIVE as a truly special event and provided its visitors with several highlights:

1 Live demonstration of the new ERA product called EW-EDMT (Electromagnetic Warfare ERA Data Management Toolkit) for management of ESM databases and automated data processing – read more on the page 4.

2 Remote live operations of ERA passive sensors VERA-NG and PLESS:
• **VERA-NG:** an iconic Passive ESM Tracker (PET), broadly recognised worldwide
• **PLESS** (Passive Long-range ESM Surveillance System): an Over-the-Horizon Direction Finder, intended for signal detection hundreds of kilometres from the emitter.

The demo companies and exhibitors delivered live demonstrations and created new opportunities for collaboration and Innovation between producers and end-users. The event was concluded with a gala dinner at the Estonian National Museum and Estonia's Defence Minister Hanno Pevkur reminded the participants of the urgency facing the defence community: *"We do not want to be in a situation where solutions arrive in ten years. In electronic warfare, we need capabilities now and we have to maintain the pace."* ▪

"We at ERA believe that: 'Seeing is believing and that is exactly why we absolutely love EW Live. All the delegations, having come to Tartu, had a unique opportunity to witness a live demonstration of ERA land-based passive surveillance sensors, namely VERA-NG and PLESS. We also presented our new SW tools in support of the Electro-magnetic Support Operation (EMSO), especially EW-EDMT by ERA."

**Jakub Thomas
ERA Commercial Director**
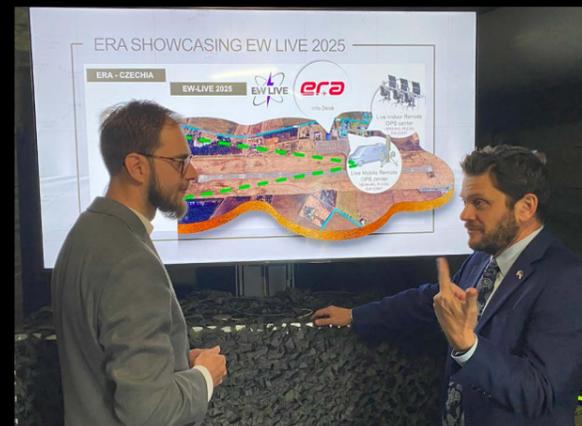
Not just „One night in Bangkok"! ERA exhibited its defence solutions in Thailand

„One night in Bangkok", a hit song sung by Murray Head, made famous Broadway musical Chess. ERA spent several nights and days in Bangkok to get itself more famous in this corner of world. ERA

joined the Defence & Security 2025 trade fair held in the capital of Thailand and exhibited its passive surveillance systems VERA-NG and PLESS as part of the Czech official exhibition stand and welcomed many delegations ASEAN countries´ partners and other guests.

The Czech national exposition was jointly organized by the Ministry of Defence of the Czech Republic, Ministry of Industry and Trade of the Czech Republic, AOBP (Defence and Security Industry Association of the Czech Republic), and the Ministry of Foreign Affairs of the Czech Republic. Together with Czech industrial companies (including ERA and its sister company MESIT) created a strong platform for Czech innovators to engage with more than 400 official delegations and representatives from 60 countries.

The fair brought together 500+ companies from around the world and presented the latest technologies in land, air, naval and cyber defense, under the auspices of the Royal Thai Armed Forces. ▪

ERA shared its knowledge of passive surveillance technologies with the Dubai Airshow´s participants

This year of Dubai Airshow, held in UAE in November, featured hundreds of the innovative military and civil products and aviation technologies and offered a load of flying displays to visitors. ERA team along presented the passive surveillance solutions for modern defence concept and civil Air Traffic Management to its well-established partners in Middle East.

Dubai World Central airport was packed with onlookers enjoying the breath-taking programme for five days. In the meantime, OMNIPOL Group stand becomes one beehive of excited visitors interested in aviation and related technologies presented by ERA and its sister companies, remarkable Czech producers MESIT, Aircraft Industries and Aero Vodochody.

Dubai Airshow is a biennial exhibition and trade fair held in cooperation with Dubai Civil Aviation Authority, Dubai Airports, Dubai World Central and the UAE Armed Forces.

In 2025 year edition achieved a record-breaking turnout, with attendance figures reported at 248 thousand visitors, over 1,500 exhibitors, 490+ delegations and 200+ aircraft, solidifying its status as a major global aviation event. ▪

ERA exhibited for the first time at SIDEC 2025 (Slovenian International Defence Exhibition and Conference) held in Celje, Slovenia, in cooperation with its local partner Panna.
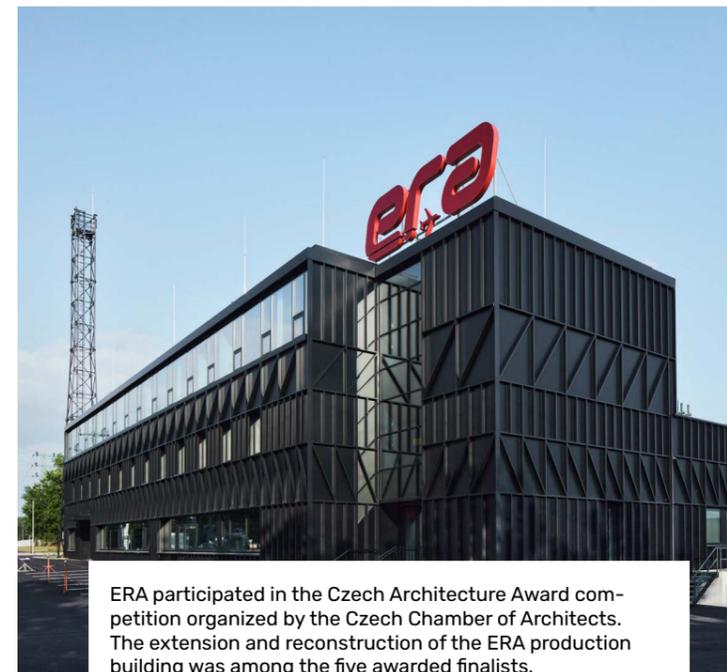
ERA participated in the Czech Architecture Award competition organized by the Czech Chamber of Architects. The extension and reconstruction of the ERA production building was among the five awarded finalists.

ERA has exhibited its passive surveillance solutions for air defence and Electronic Warfare at Seoul ADEX 2025 (Aerospace & Defence Exhibition) in the capital of South Korea.

ERA was a partner of the NATO Days & Czech Air Force Days event. The largest presentation of defense solutions in Central Europe took place at Leoš Janáček Airport in Ostrava and attracted more than 150,000 visitors.

ERA has scored again in the Czech Elite ranking! Two years ago, it was 49th, last year ERA took 30th position and this year as part of the OMNIPOL Group earned the 13th place.

In November, experts from the Subgroup on Passive Surveillance Systems of ESSI (European Sky Shield Initiative) met at the headquarters of the 25th Anti-Aircraft Missile Regiment „Tobruk" of the Czech Army in Strakonice.

Where Multilateration Was Born: the Godfather of the Technology

Ivan Uhlir of Czech ANSP and the history of multilateration in its birth country, the Czech Republic.

Multiple surface MLAT and WAM projects are in progress throughout the world, but the story of this technology began in the Czech Republic. Only a handful of insiders knew what multilateration was 30 years ago. Ivan Uhlir, surveillance expert and the former head of the ANS CR Development and Planning Division, was one of the key people at the time and a multilateration ambassador. His pioneering approach and the bold decisions to adopt it in practice early on, helped the multilateration systems spread in use worldwide.

"It wasn't called multilateration back then, it was simply known as passive radiolocation, a unique technology invented by Czech engineers. At the time, many of my colleagues at the airport dismissed it as pseudoscience," Ivan Uhlir recalled.

Thanks to Ivan Uhlir, Air Navigation Services of the Czech Republic (ANS CR) was the first air navigation service provider (ANSP) to implement a WAM system, used operationally from 2003. The accuracy and stability of the system allowed the Czech Civil Aviation Authority to reduce traffic separation in the terminal area of Ostrava airport. The Ostrava

project was followed by a surface MLAT at Prague airport as an element of A-SMGGS in 2004. The Czech company ERA, the founder of the technology and the first developer of multilateration systems (since 1994), was the equipment supplier in both cases.

> *"We started with a local WAM system near Ostrava airport, with a coverage of 40 nautical miles. We have been using it as a complementary system with radar, because it compensates for disadvantages with SSR in mountainous terrain."*
>
> **Ivan Uhlir**

Uhlir himself, along with ERA experts, used to participate with EUROCAE to standardize MLAT as a substitute for SSR, but acknowledges that radar remains a crucial element of ATC. *"A mix of technologies: radars, ADS-B, and multilateration has its advantages. This strategy has been followed in a number of countries including CR, where nationwide MLAT coverage complements radars."*

ANS-CR currently uses a belt and braces approach at all three major Czech airports ensuring triple security: primary radar, secondary radar and multilateration. Maintainability is a major advantage for MLAT, as maintenance requirements are 90% software-based, whereas radars are 60-70% hardware-based. *"The MLAT hardware is configured to be reliable, which means that 99% of the problems are software related, and these issues can be rectified off-site. We also benefit from a high level of bult-in redundancy. Failure of one or two receivers doesn't cause the entire system to fail,"* Ivan Uhlir added. ▪

Surface MLAT system installed at Prague airport (2004).

Vehicle Tracking System - Squitter Beacon „Shark Fin".

WAM system surrounding Ostrava airport (2003).

Multilateration (MLAT) employs multiple ground stations placed at strategic locations (either around an airport, in the local terminal area or dispersed across a wider geographical area). These ground stations receive position data from aircraft equipped with Mode A, Mode C, or Mode S transponders, plus an Automatic Dependent Surveillance Broadcast (ADS-B).

The aircraft position is determined based on the time difference of the arrival of the replies. MLAT is flexible enough for multiple concepts of use. It is often integrated with an advanced surface movement guidance and control system (A-SMGCS). The technology can be used for approach control around airports in hilly terrain, which cannot be covered by radar.

ERA IN NEWS

About ERA:

ERA (a member of OMNIPOL group) is a leading company in multilateration, multistatic surveillance, and reconnaissance technology. Unrivalled experience in passive surveillance sensor development provides ERA with unique know-how to deliver comprehensive solutions for global markets. We develop, manufacture and implement mission-critical systems for military and civil purposes.

ERA made air traffic control history when deploying the first multilateration system and introducing gate-to-gate surveillance. ERA has brought to the world a novel passive medium range surveillance sensor category called Passive ESM Tracker (PET) for defence and electronic warfare purposes - which is today in its 5th generation known as VERA-NG - tailored for air, maritime and land target surveillance and reconnaissance. The company heritage and global experience in passive ESM/ELINT helped ERA introduce another category of the Over the Horizon Direction Finding (OTH DF) long-range sensor, in its 2nd generation known as PLESS.

The above-mentioned sensors make possible a broad ecosystem consisting of sensor performance prediction and evaluation tools and data mining tools together with a full virtual EW scene simulator to help military intelligence.

Over the last 3 decades, ERA has reached a number of more than 180 installations, deployed in over 71 countries on 5 continents with 24/7 operations fulfilling demanding customer requirements. More important, however, than the given number of references is the experience we have achieved and lessons learnt during implementation of our solutions. We intend to continue introducing new technologies to adapt to tomorrow's challenges.