

# Research Institute of Industrial Chemistry Celebrates the 60<sup>th</sup> Anniversary

*Research Institute of Industrial Chemistry (VÚPCH) with its seat in Pardubice-Semtin was established by the Ministry of Defence Decree of November 2<sup>nd</sup>, 1953 to January 1<sup>st</sup> 1954 as a state administration facility with the scope of activities - research and development of explosives. VÚPCH was entitled to administrate research workplaces of national enterprise Synthesia, and experts were centralized there from the original research department, the so-called Central Laboratories of the company, and technological groups of the former Explosia. The activity of VÚPCH continuously linked up to the activity of departments R and X that had been entrusted with research, development and testing within the framework of Explosia a.s. since 1923.*

By the Ministry of Chemical Industry Decree of December 30<sup>th</sup>, 1958 VÚPCH was abolished as an independent budgetary organization and to the date of January 1<sup>st</sup>, 1959 transferred into administration of national enterprise East Bohemian Chemical Works Synthesia. Within the framework of Synthesia there were, however, some changes in actual organizational incorporation of VÚPCH, especially in connexion with establishing the position of Deputy for Special Produc-

tion in the 1970s, and the Plant 05 Special Production in the 1980s. VÚPCH, however, managed to keep relatively high proportion of economic independence for the whole of that time, if considered practically 100 % state financial backing.

Since 2002 VÚPCH has been the part of Explosia a.s. Research and development activity of VÚPCH is very closely connected with building of armament industry in the 1950s. VÚPCH employees participated practically in all development projects not only in the field of propellants and military explosives and ammunition, but also in implementation of production technologies both in the today's Explosia a.s. and in other companies and abroad.

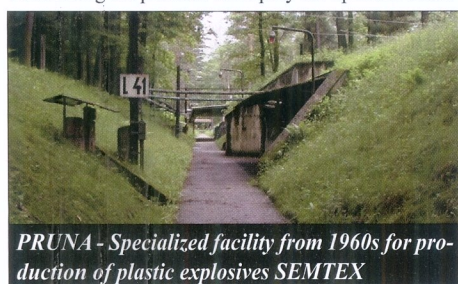
Main part of present Explosia a.s. production scope in the assortment of explosives, propellants and ammunition and also production technologies used and their know-how has been developed in VÚPCH namely in cooperation with other departments of EXPLOSIA a.s. and SYNTHESIA a.s., or with other companies.

Activities of VÚPCH are primarily aimed at research and development of production technologies for propellants, explosives and combustible masses, and also at loading of charges and ammunition, short-run production of propellants and explosives and related application techniques, as e.g. production of components for aircraft rescue systems, special blasting and demolition works, assessment of detectors of explosives according to users' requirements etc.

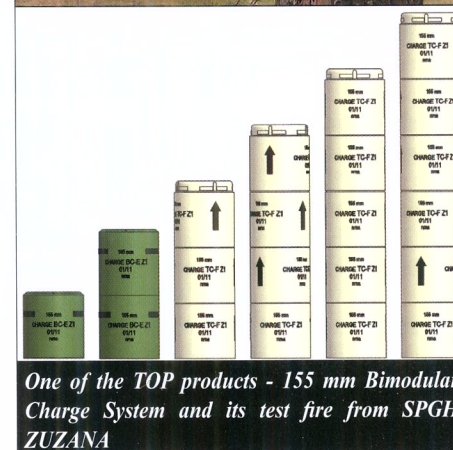
In addition to research and development activities the VÚPCH laboratories ensure also a wide spectrum of analyses and tests for production departments of EXPLOSIA a.s., as well as for external customers, e.g. analyses and identifications of unknown explosives,

ballistic tests of propellants, explosive and safety tests of explosives etc. Many of these tests are accredited according to ČSN EN ISO/IEC 17025.

VÚPCH workers provide expert activities in the field of propellants stability problems, detection of explosives, identification of propellants from ammunition, further in the field of disposal of propellants, pyrotechnic compositions and other components de-loaded from large caliber ammunition and rockets, and provide also expert services for army research base and specialized training services (e.g. training of pyrotechnists).



PRUNA - Specialized facility from 1960s for production of plastic explosives SEMTEX



## ERA Has Completed the SAT of Its Part of A-SMGCS System Deployed at Heydar Aliyev International Airport in Baku, Azerbaijan

*ERA Company passed the Site Acceptance Tests for the airport surface management system at Baku airport several days ago. The ERA MLAT surface system has been developed as an extension of the already successful implemented Wide Area Multilateration system Caspian Sea. The contract awarded in 2011 has built on the success the Azerbaijan Air Navigation Service (AZANS) has earlier experienced with this system deployed to monitor low flying helicopters and aircraft over the Caspian Sea. This project began when air traffic operations become more demanding in oil and gas sector of Azerbaijan.*

"AZANS believes that the choice of ERA will contribute to ensure a reliable solution for such a challenging project, considering the need of integrating this new system for surface management with the WAM system already installed over Caspian Sea, also implemented by ERA," stated Mr. Farhan Guliyev from AZANS.

Further economic development in the Azerbaijan Republic, along with increased business activities and passenger flow into the city of Baku and an increase in traffic at Heydar Aliyev airport has been the impetus behind the need to implement additional airport surface surveillance to mitigate the risk of runway incursions and other ground traffic related incidents. ERA was awarded the contract together with its partners HITT and Terma and they have delivered a solution consisting of an Air Traffic Control system fed by both new surface movement radar and the MSS multi-sensor surveillance system by ERA.

The multilateration system by ERA consists of 18 ground stations with the support

of 60 SQUID Vehicle Tracking Units using ADS-B technology. The previous WAM system, which went operational in 2010, consisted of 10 ground stations. The final solution has also brought financial benefits to the customer. The central processing unit can be shared by both systems thanks to the use of the MSS standardized and modular solution by ERA. The newly deployed system has enhanced the safety of the ground operations and the efficiency of use of runways, the apron, taxiways and parking gates. It has also maximised runway capacity and decreased the risk of financial losses due to aircraft damages on the apron.

