



VR Group or the Magicians in Simulation Technologies

The Company Origins

VR Group, a.s. was founded in autumn 1998 as an outcome of the efforts made by several companies cooperating in IT area. These companies had a common intention of applying their advanced computer simulation knowledge in armed and security forces training. Virtual reality systems produced by them were first introduced at the INVEX 1994 fair and consequently in 1995 at IDET International Trade Fair of Defence and Security Technologies.

Prior to founding the company, various specific products and concepts applicable in individual and group training were presented to the Czech Army. The products included mainly driving and shooting simulators and simulation applications suitable for staff training.

These activities as well as cooperation with the Czech Army helped VR Group, a.s. in gaining a commission for system integration of the Centres of Simulation and Training Technologies in Brno and Vyškov, whose construction started in 1999.



Presentation of the systems of virtual reality at INVEX 1995 fair



Milan Doležal (to the right) and Martin Klicnar from VR Group, a.s. during their visit to the Joint Warfighting Center in 2001

CSTT Construction

System integration of the simulation centers involved cooperation with US government and US companies accredited within the Foreign Military Sales (FMS) programme, which provided the centers with the ModSAF simulation system for staff training. The cooperation also consisted in sending responsible Czech Army officers for study tours to important US army training centers, such as Joint Warfighting Center in Norfolk or ground forces training base in Fort Benning.

VR Group company played an important part in user requirements analysis, design and implementation of capabilities in the simulation center for staff training at battalion / brigade level in Brno. The first live army training took place already in 2000, with the 23th Mechanized Battalion.

Consequently ModSAF simulation system for supporting tactical training up to company level was installed in the Constructive and Virtual Simulation Department (CVSD) in Vyškov. Very close and effective cooperation with a US company SAIC resulted in design and development of a concept for application of reconfigurable virtual simulators in tactical training. The first military training in Vyškov in 2001 confirmed high efficiency of this solution and the US partner was so impressed by the results that in July 2005 a training of Texas National Guard was organized in Vyškov, which was also very acclaimed.



23th MB training in CSTT Brno in 2000



Training in CVSD Vyškov in 2001

VR Group participated in implementing the MILES laser combat simulator, which was delivered by the US partners as a part of their support. At the beginning, the company took part mainly in interconnecting the live simulation system with existing simulation systems and exercise director's tools. Eventually in 2004 the company started developing an own laser combat simulator solution, which would be constructed exclusively with use of Czech components and would meet the user's main requirement – to gradually replace the MILES system used at the time with a fully compatible system. This gave rise to the STING product range, which presently includes not only the fully instrumented laser combat simulator, but also indoor laser shooting ranges with a wide range of applications. The STING laser combat simulator functionality was checked several times in testing and presentations organized in cooperation with the Czech Army.

Presentation of STING combat simulator in Hradiste MTA



In 2008 VR Group implemented BMP-2 Crew Simulators of the "Full Mission Simulator" category in the CSTT in Vyškov. These are used for individual training of drivers and shooters, as well as for combat vehicle crews up to platoon level. These simulators are fully interconnectable with different simulators and other tactical training tools within one simulation environment. Interconnection within distributed simulation is realized with use of international DIS and HLA standards.

2004 Merger with LOM PRAHA

In 2004 VR Group became fully owned by LOM PRAHA state enterprise. VR Group became a subsidiary company of LOM PRAHA, s.p. and started providing support in the simulation training area, especially in LOM PRAHA training facilities. At this time both companies started sharing their experience, as between 2002-2008 VR Group was providing technical and personnel training support in CSTT Brno and CVSD Vyškov, totalling 450 exercises. The training support lead to forming a very close relationship with the users, ranging from army members to training centers specialist staff, which brings about better understanding of users' training requirements and ability to continuously improve the technical solutions.

The origin of synergic cooperation between LOM PRAHA and VR Group in design, implementation, construction and operation of comprehensive training solutions for armed and security forces thus dates back to these years.

In 2004 VR Group experts also became involved in specialist groups within NATO Research Technology Agency (RTA) and EDA, which focus on application of simulation technologies. Thanks to this work in international environment, VR Group gained not only some valuable experience, but also cooperation opportunities and orientation within the international simulation market.

Among important company's long-term activities is its participation in Czech research and development projects sponsored by MOI, MOD, MIT and TACR, either independently or in cooperation with leading professionals from universities and scientific institutions. The company follows the newest trends and approaches, adapts and develops them and puts research results to practice, so as to offer high-quality and effective products and solutions.

A hall with BVP-2 Full Mission Simulators in CVSD Vyškov



L-159 aircraft full mission simulator

2009 Merger with Hexagon

In 2009 VR Group, a.s. merged with the company Hexagon Systems, s.r.o. under the auspices of LOM PRAHA s.p. Hexagon Systems was a supplier of training simulators for air forces and their products such as a comprehensive training system for L-159 and L-39 rank to the world top level quality.

The air forces training product portfolio thus significantly expanded. VR Group then provided aircraft and helicopter simulators for the LOM PRAHA Air Training Centre in Pardubice, a long-term provider of training to the Czech Army air forces.

The synergistic effect of merging the experts from VR Group a Hexagon Systems companies in the area of tactical training simulation lead to development and construction of the Tactical Simulation Centre (TSC) in Pardubice, which is run by LOM PRAHA, s.p. This unique, highly effective centre provides solution for training in air combat tactics and fight against ground targets.

LOM PRAHA uses the TSC for providing tactical training not only to the Czech Army air forces, but also to international customers and participation in realizing international exercises with use of simulation. As an example, the centre took part in the conjoined exercise NATO Virtual Tiger Meet in 2013 or in conjoined training of Czech and Swedish air forces, which involved a unique remote connection of simulation centers located in Pardubice and in Sweden.



Tactical simulators in TSC Pardubice

Company's Future Heading

VR Group company has long-term and deep experience in development, production and system integration of solutions for simulation training of armed and security forces. All products used in VR Group solutions are developed and manufactured by the company, they are thus independent of any third parties. The company keeps following and improving its training solutions based on the latest findings in computer simulation development. For instance, currently VR Group works on implementing powerful and realistic visual simulation used in computer games, yet in full respect of international standards for distributed simulation, into its training solutions.



Sample of a new virtual environment in visual simulation

Experience and references in training in local environment present a major prerequisite for the company's success in international competition and the supply of training solutions for foreign customers. TSC above all brought great international acclaim and the company is currently discussing several opportunities for delivering solutions or providing training to foreign customers.

Within the Czech Republic there are also further possibilities in application of simulation training in other domains than armed and security forces. Currently VR Group has finished development of a comprehensive solution for training of municipal emergency committees, which is organized in cooperation with regional authorities and IRS. The solution has already been used in several exercises and was positively welcomed both by trainees and the organizations which are in charge of training municipal committees. The company keeps developing this solution and in cooperation with its partners explores the possibilities of its deployment in training.

Among the company's ambitions is the aim to continue in system integration and construction of simulation training centers for the Czech Army, in which there hasn't been much progress since 2008.

VR Group, a.s. is still ready to offer its help with conceptual work and training support. The technical support provided to CSTT in the past as well as operation of the TSC in Pardubice have proved that LOM PRAHA, s.p. as well as its subsidiary VR Group, a.s. are fully competent for providing training to armed and security forces.

VRG team and Michal Jágrik

Municipal emergency committee training with a simulated industrial accident

