



***VR Group***®



**20**  
years  
1998-2018

# Foreword

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**Milan Doležal**  
CEO

Twenty years is not insignificant in the life of man, and not at all in the life of a company, arising in the overwhelming period of emerging capitalism after the gloomy times of the unsuccessful experiment of building socialism and a normalization process in which all natural values related to invention, progress and the development of human personality were suppressed.

That's why I am glad that even in the many uncertainties of today's times, political, economic, and otherwise, there are still certainties that customers and employees can rely on. One of them is VR Group, which has been a guarantee of tradition, reliability and professionalism both in the field of the supply and integration of simulation training solutions and systems for military and security forces as well as in providing technical support and assistance, service and advisory and consulting services in the field of modeling and simulation. An important part of our ability to move to the highest level is also the significant share of the company's activity in field of R&D.

For success, which naturally does not come by itself and painlessly, it is necessary to look for market space and, above all, qualified and experienced professionals to create a well-functioning team, to motivate them and to create the right conditions for them to work. These are the greatest assets and wealth of a well-functioning company.

Thanks to the sophisticated organizational steps, technological advancement and a suitable portfolio, the company managed to overcome the economic crisis at the turn of the first decade of the 21st century, becoming the largest, purely Czech company involved in the development and supply of training simulation solutions and systems in the Czech Republic. In recent years, our portfolio has become so attractive to our customers that we are implementing significant orders not only in the Czech Republic and Europe, but also in areas such as the Middle East, Africa, the USA and Southeast Asia.

# Company History

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**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. This effort together with the 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 in 1999. System integration of the simulation centers involved cooperation with US government and US companies accredited within the Foreign Military Funds program and resulted in the battalion/brigade staff and company level training in command and control as well as in the live simulation training system.

This gave rise to the VR Group products and solutions for ground forces based on the all three types of simulations Live, Virtual and Constructive.

In 2004 VR Group became fully owned by LOM PRAHA state enterprise and started providing support 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 the Czech Army Centre of Simulation and Training Technologies, totalling around 500 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.

In 2009 VR Group merged with the supplier of the Air Force training simulators Hexagon Systems under the auspices of LOM PRAHA s.p. Their products such as a comprehensive training system for the Czech Air Force L-159 and L-39 rank to the world top level quality. 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 Force.

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 operated by LOM PRAHA, s.p.

This unique, highly effective centre provides solution for Air Force training in various missions not only to the Czech Army Air Forces, but also to international customers.

VR Group company has been using the long-term and deep experience in development, production, system integration and support of the training solutions offering three major programs **Air, Ground and Live.**

In the Air program we are focused on close cooperation with Aero Vodochody on the Ground Based Training System, on the procedure trainers and tactical crew simulators for helicopters and on the Air Force tactics training systems.

Ground force program offers the training solutions for tactics training on company and battalion/brigade level.

Live simulation program consist of Indoor Shooting Range and Laser Combat System to support the field training.

# Products and Company Milestones

Introduction of Virtual Reality principles to the public during the INVEX Computer 1994 exhibition in Brno.

## 1994

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

## 2000

Very close and effective cooperation with the US company SAIC resulted in the design and development of a concept for the application of reconfigurable virtual simulators in tactical training. The **Modular Tactics Training System (MTTS)** was created at that time.

## 2001

After two years of development from scratch, the **Comprehensive Training System for L-159** aircraft was put into operation, which includes several types of simulators and a computer-based training tool. Long term fruitful cooperation between VR Group and Aero Vodochody has been going on since that time.

## 2002

The company started developing its own laser combat simulator solution, which would be constructed exclusively using Czech components. This gave rise to the **STING** product range, which presently includes both a laser combat simulator as well as indoor laser shooting ranges.

## 2005

Using its long-term experience and knowledge on constructive simulation usage for tactical training, the company has developed the completely new **WASP** constructive simulation tool. It is widely used in VR Group training solutions as a CGF or primary training tool for staff exercises.

## 2009

Based on several preparatory research projects and with the effective support of CzAF, VR Group succeeded in commissioning a unique **Tactics Training System** for tactical air force in a very short time. Focused from the beginning on advanced BVR training in the present, the center is a cornerstone for training processes in all kinds of airborne tactics.

## 2010

Using proven principles and experience, the completely new **T-CPT Mi-171** system for crew tactics training for Mi-171 helicopters was delivered to the first customer. It combines a reconfigurable cockpit approach with a high-fidelity tactics environment into a unique, highly effective training tool.

## 2014

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## 1998

VR Group, a.s. was established.

## 2000

HEGAGON Systems, s.r.o. was established.

## 2004

VR Group became fully owned by **LOM PRAHA** state enterprise providing simulation support to the owner training facilities.

## 2009

VR Group, a.s. merged with the company **Hexagon Systems, s.r.o.**, provider of the Air Force training system.



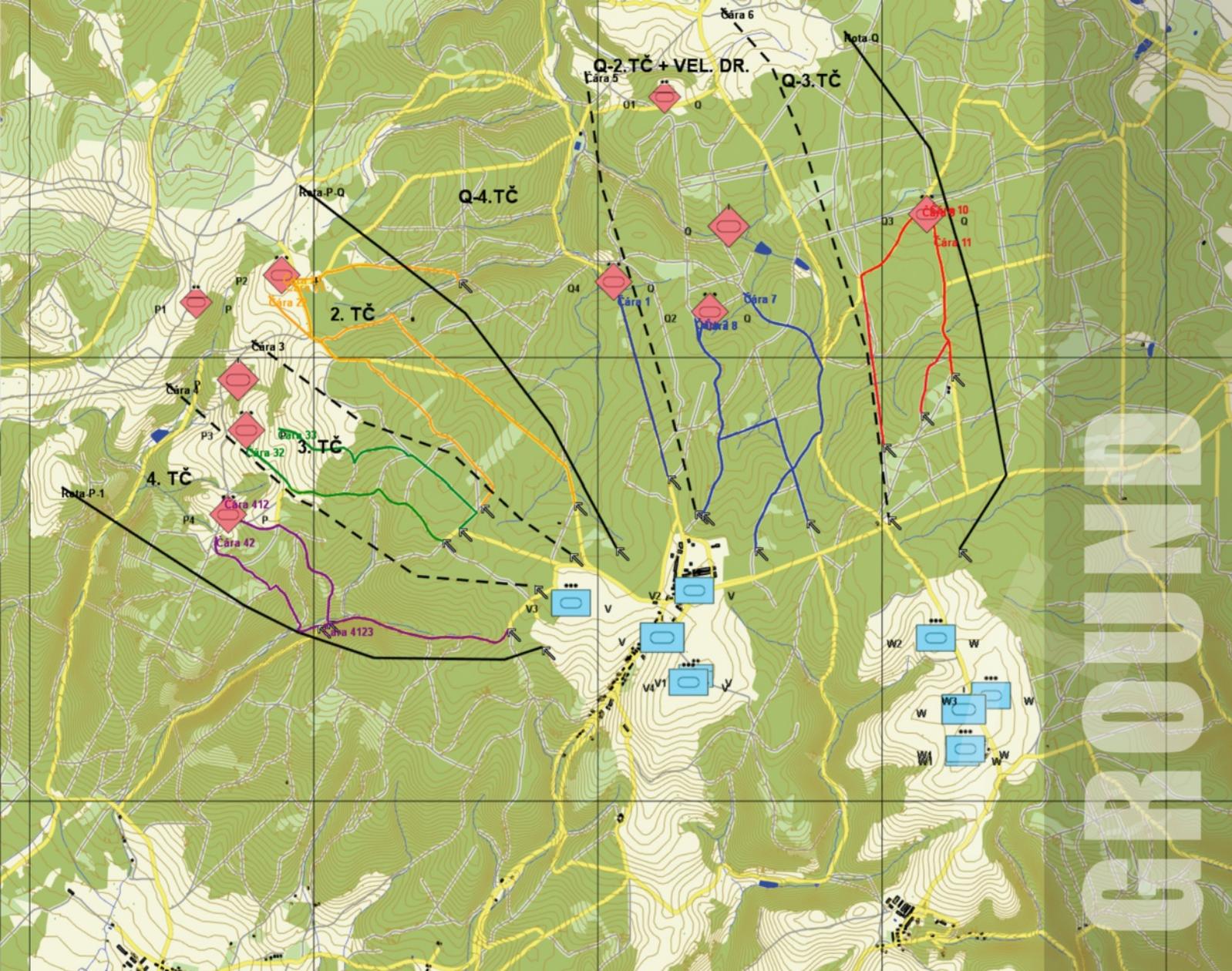
## Modular Tactics Training System

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**Modular Tactics Training System (MTTS)** is a flexible and effective collective tactics training solution based on VR Group developed reconfigurable virtual simulators, the proprietary constructive simulation system WASP and the simulated command & control network ASTRA.

MTTS is mainly used for collective training up to the company level using various simulated platforms in one simulation environment that creates complex scenarios close to the real mission conditions.

Unit leaders and their subordinates are trained together to achieve proficiency in all essential tactical skills. The MTTS is also equipped with a variety of Exercise Director tools for the preparation, control and evaluation of the training.



## Command & Control Staff Training

VR Group has long term experience in providing training for military staff on the battalion/brigade level and crisis management staff. The training solution is based on the in-house developed **constructive simulation system WASP** and the **simulated command & control network ASTRA**.

For military purposes, the system is used mainly on the level of the Command Post Exercise (CPX), the most common exercise used for battalion staff training including subordinates. The training can realistically reflect Army doctrine and Mission, Enemy, Troops, Terrain, and Time Available (METT-T). All organic and supporting communication equipment can be simulated as well.

Crisis management staff training aims at developing skills essential for effective crisis management. It is intended for staff in charge of emergency services coordination, such as police, firefighters, rescue units, emergency medical service and civil authorities. The training has mobile capability, so the training is performed right in the working environment of the emergency committees.





## AERO family Ground Based Training System

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VR Group and Aero Vodochody cooperate very closely to provide a comprehensive training solution for the Air Force customers. The cooperation covers the analysis and design of the whole ground-based training system as well as cooperation in the design, development and production of simulators. Based on these agreements between aircraft OEM and the simulator manufacturer, VR Group is fully capable of ensuring the accuracy of the aero dynamical models of the aircraft as well as the seamless and very effective upgrade from the provided L-39 and L-159 simulators to future versions of the aircraft.

Various training levels are available, from the state-of-the-art Learning Management System (LMS) and Computer Based Training (CBT) to Cockpit Procedure Trainers (CPT) and Full Mission Simulators (FMS).



## Cockpit Procedure & Tactics Helicopter Trainers

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**Cockpit Procedure & Tactics Helicopter Trainers** are designated for piloting personnel (pilots, board technician and rear crew - door gunners), for training and exercise activities and procedures on the ground and in flight, including ordinary and emergency ones.

It is a tactical procedure simulator, which particularly provides the training and exercise of the operation, control and the use of helicopter on-board systems, weapon systems and self-protection systems in performing combat tasks, navigation tasks and tactical situations.



## Air Force Tactics Training System

The **AF Tactics Training System** provides a universal platform for the simulated tactics training of pilots, commanders and ground staff. The system provides pilots and instructors with a full scope of simulators and other tools necessary for effective planning, conducting and the evaluation of training tasks and missions.

Modular, open and highly customizable architecture allows tailoring the training system in accordance with the current and future needs of the Air Force.



## Indoor Shooting Range

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**Laser shooting simulators** from our production are primarily focused on those training aspects which are very demanding on economic or security measures and can therefore hardly be implemented on conventional shooting ranges for live fire. Engaging suspects / targets in a crowd of bystanders or civilians or in the designated area for trainee duty is just an example.

This helps the trainees to increase their shooting skills, improve their decision-making process and reduce reaction time.

VR Group offers two basic versions of shooting simulators which can be customized in scenarios or exercises according to end user requirements; the STING-ISR installed in the dedicated indoor area, or the STING-TSB deployable indoor range in a transport case.



## Laser Combat Simulator

**The fully instrumented laser combat simulator** provides “train as you fight” conditions for the training of combat tactics and battle drills mainly for smaller units and groups.

The setting of different conditions and using pure human thinking of trainees brings them as close as possible to the real situation without risking the lives or health of the trainees. This life simulation product is based on training with regular service weapons with blank ammunition and an individual set which is modified to the regular trainee’s equipment and personal protection, both communicating with each other as well as with the Command Center.

The exercise commanding officer has various tools to set up the different scenarios as well as to review the course of the exercise and prepare a debriefing from the After Action Review (AAR) system.

# Our Vision

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**Martin Klicnar**  
Business Director

I have been working with VR Group since its very inception. By constantly monitoring and analyzing customer needs, monitoring competitive capabilities and applying the latest knowledge and technologies in the field of computer modeling and simulation, we strive to create, offer and deliver solutions to achieve the highest effectiveness of synthetic training. Not only technological excellence but also a professional attitude, accountability and courtesy to our customers are our core criteria for gaining their trust and maintaining long-term business relationships.



**Ivo Gamba**  
Head of Air Program

I have been working in VR Group for nearly 20 years. I have a very diverse team under me that combines an enthusiasm for aviation technology with advanced technology and unique solutions. Our simulators are regularly used by both novice graduates as well as top tactical Air Force pilots to train the performance of all types of tasks of the air force deployment doctrine. In order to do so in the future, we keep an eye on the current trends in synthetic training and especially cybernetic-physical systems, so that we remain at the cutting edge of our field.



**Vít Ryška**  
Head of Ground Program

Over the course of 20 years with the company, I have been involved in developing and delivering products and solutions and gaining valuable experience in ground simulation. Top experts with many years of experience in the field of constructive and virtual simulation work in my team on systems for tactical training and military as well as crisis management staff training. Emphasis is placed not only on the delivery of our solutions to the customers, but also on the long-term relationships and the mutual cooperation between the customer and the supplier.



**Radim Gryc**  
Head of Live Program

Since 2000 I have been involved with the company in the implementation, maintenance and interconnection of simulation systems for the Czech Army. Nowadays my team deals with the development and production of live simulation training systems designed for armed and security forces with a focus on the area of tactical laser systems and the virtual shooting ranges. Intensive cooperation with training experts on implementation of new training methods have allowed us to gradually realize supplies of training systems to our customers.

# Get Ready for Your Missions

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