

October
2016

What's Up MÄK

Mechanized Infantry Training

Bringing a complex training system to life with a unified software platform

Raydon demonstrates company-level training

See what Raydon built with MÄK products

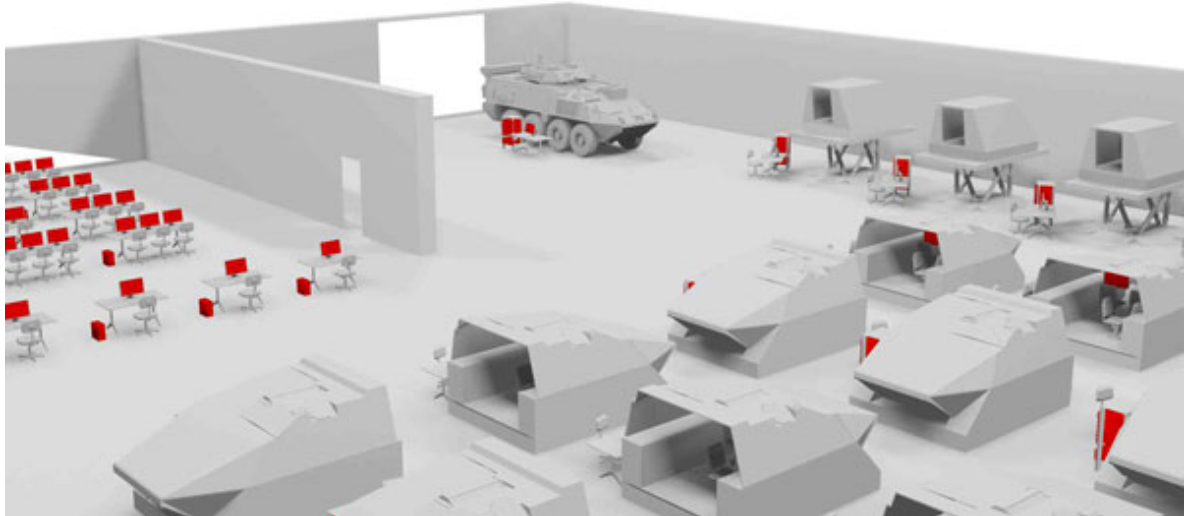
NewsMÄKers

RT Dynamics has released the latest version of their VR-Forces plugin

Danny Williams will be at AUSA

MÄKer Spotlight: Deb Fullford

Deb is a longtime MÄKer who helps customers find the best solutions



Mechanized Infantry Training

Bringing a complex training system to life with a unified software platform

MÄK is always developing new ways to simplify complex training software configurations. We believe that our customers are enabled to build superior systems when products are simple to develop, maintain, and operate.

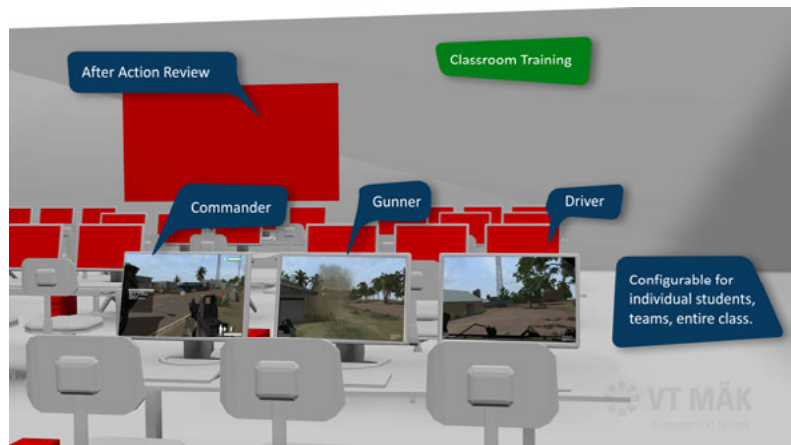
A comprehensive mechanized infantry training system like the one pictured here is a perfect place to see how MÄK products work cohesively to power multiple training configurations using one software platform. Mechanized Infantry train to take advantage of the combination of mounted and dismounted elements to attack enemy positions and patrol urban environments in complex urban and rural environments. To maximize effectiveness, trainees must train as they fight – as a team.

Virtual training allows Mechanized Infantry crews to learn the skillsets required for the three positions involved – the driver, the gunner, and the commander. This comprehensive training arrangement provides four levels of fidelity for the crew to graduate through as they acquire the skillsets required for their roles.

This training system example illustrates how four different configurations can focus fidelity on specific training tasks - classroom training on desktop computers, driver training on a motion platform, full crew training inside of a vehicle mockup, and embedded training inside a real vehicle.

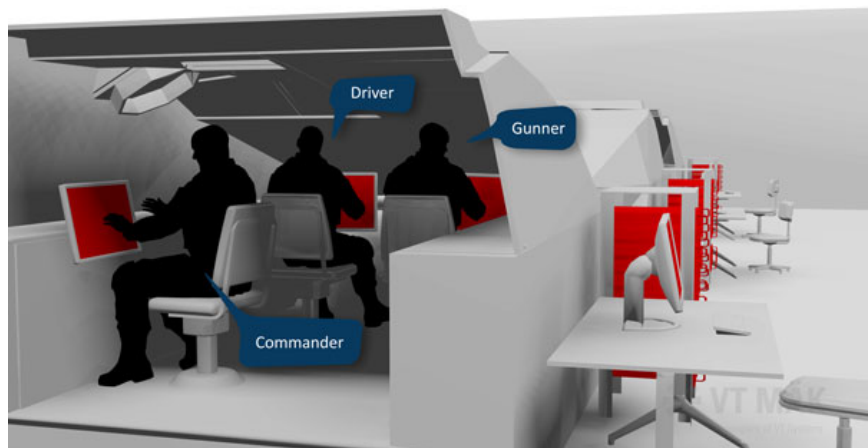


Classroom training allows the commander, driver, and gunner to sit side-by-side while they learn fundamental skills on desktop systems. This layout, built on **VR-Forces** for the simulation and **VR-Vantage** for the image generation, allows for a maximum number of trainees at once and is configurable for individuals, teams, and whole classes. The classroom is ideal for after-action review on a larger screen, where students can easily rewind and review their actions recorded on the **MÄK Data Logger**.



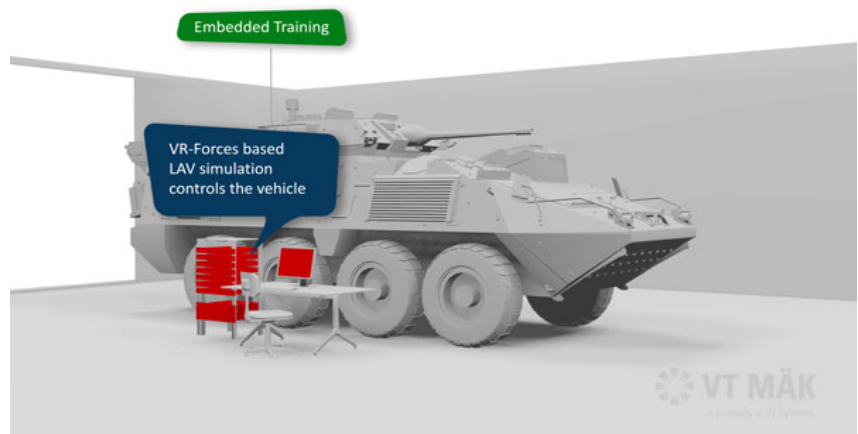
Driving training takes place on motion platforms that take advantage of a driving simulator built with VR-Forces using the **Vortex** plugin for vehicle dynamics and VR-Vantage IG to view the scene. The result is a high-fidelity experience that allows trainees to learn the feel and dynamics of the vehicle as it traverses the terrain.

Crew training can begin in earnest within the vehicle mockup, where each position is customized to the role. The fidelity of mockups can vary widely as determined by the system integrator. Trainees work together to solve challenges that instructors introduce either from a VR-Forces-based instructor operator station (IOS) or on a mobile device via applications built with **MÄK's**



WebLVC Suite. VR-Vantage provides visuals for the trainees, including appropriate overlays and sensor modes to acclimate them to understanding those systems. The commander is able to simulate dismounting the vehicle and participating as a first-person character, engaging directly, or by giving orders to other soldiers.

Embedded training inside a real vehicle provides the trainees with the highest level of tactile fidelity, as they can now use the real interfaces for their training tasks. The vehicle's systems are switched to training mode, in which a VR-Forces-based LAV simulation controls the vehicle itself, while VR-Vantage IG stimulates the vehicle's sensors with visual and sensor imagery of the training scenario.



This setup shows four different hardware levels of fidelity, but with MÄK's software architecture, a training system like this can be made with just one software platform. This system can be achieved with:

- One simulation engine for all training devices and all roles (VR-Forces w/Vortex)
- One image generator for all views and all sensors (VR-Vantage IG)
- One simulated environment (VR-Forces using a choice of terrain strategies)
- One set of instructor and AAR tools (WebLVC, MÄK Data Logger)

Watch [the video of this use case](#). Want to learn more about [virtual simulation](#)? Interested in seeing a [demonstration](#)?

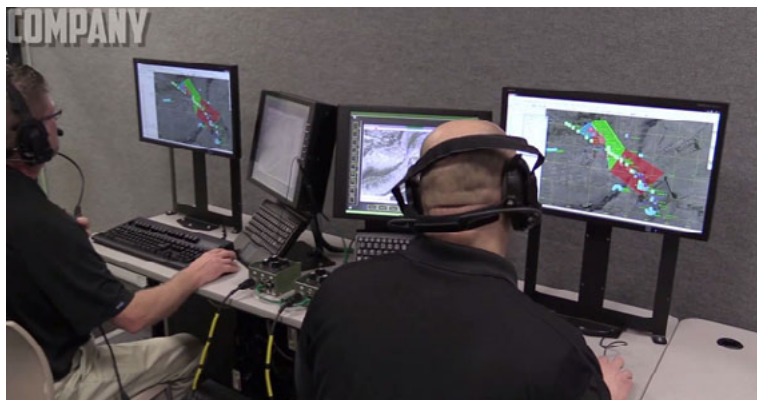
Raydon demonstrates company-level constructive training for the US Army Stryker community using MÄK products

Scalability can provide cost and fidelity advantages when it comes to training. When Raydon wanted to demonstrate constructive training at the company level to the US Army Stryker community, they used MÄK's COTS products to power and connect their simulation.

The result was a comprehensive demonstration of Raydon's Combined Arms Operations that ties together live simulation, CGF-driven capabilities, and a Call for Fire trainer by Fidelity – another **VR-Forces** user. The demonstration is scalable for exercises all the way up to company-level.

"MÄK's products allowed Raydon to support constructive training as a Stryker company. MÄK's simulation and Link products were integrated with Fidelity's equipment and Raydon's simulation engine. VR-Forces enabled Raydon to execute a company-level exercise with one live platoon and two puckster platoons," said Greg Recker, Vice President of Business Development at Raydon. "Raydon's experience with VR-Forces and the confidence built over that experience made the decision to use MÄK an easy one. It was simple to integrate, and the tool set was easy to learn."

Raydon's demonstration of Combined Arms Operations trains a range of Army personnel, including platoon leaders, Fire Direction Center staff, Forward Observers, and Company Commanders. It allows for live platoon training while integrating Fidelity's Call for Fire system. This expanded format provides a higher fidelity for the commanders by seamlessly including the relevant logistics and communication between the teams in training.



To populate the battle environment, Raydon used MÄK's VR-Forces Computer Generated Force (CGF) system. VR-Forces' flexibility provided a battle environment that scaled from crew to platoon and company to combined arms, so they could easily connect Fidelity's Call For Fire with Raydon's existing systems and train effectively. VR-Forces made it easy for participants to puckster four stryker vehicles at a time to engage in larger combined arms operations without requiring additional personnel to run the simulation.

Red force actions were part of a pre-built, multi-phaseline scenario designed to stimulate the training. VR-Forces provided a rich library of constructive entities. The variety of vehicles, human characters, and behaviors allowed Raydon to generate sufficient realism to train Platoon leaders and the Company commanders for specific threats.



MÄK's [Link](#) products provided the needed interoperability and flexibility to seamlessly expand and distribute the training over different networks, using protocols including DIS and HLA.

MÄK's engineer-down-the-hall approach to support played a significant role in making the demo a success, as MÄK engineers worked cohesively with Raydon to solve potential issues before they became problems.

"MÄK was very open to helping make the project a success from a technical standpoint, and the knowledge and experience of their engineers was a resource always available to us," said Greg.

Check out [an awesome video Raydon put together](#) that shows off this success. Want to learn more about [VR-Forces](#)? Interested in seeing a [demonstration](#)?

NewsMÄKers

RT Dynamics has released the latest version of their VR-Forces plugin! [Check here](#) for more information regarding RT Dynamics, whose plugins allows users to add high fidelity flight dynamics to their simulations without additional programming.

Come meet Danny Williams from the MÄK team at the [AUSA Annual Meeting](#) in Washington, D.C. from October 3-5! He will be appearing at the VT Systems booth, #2317, and exhibiting our latest demos.

Be sure to keep current with our upcoming events, especially with [I/ITSEC](#) right around the corner! Check out our events page to see what shows we're attending, where to find us, and what we're showing!

MÄKer Spotlight: Deb Fullford, Account Manager and Red Sox Fan



This month, we'd like to introduce you to Deb Fullford, Account Manager at MÄK. As an Account Manager, Deb keeps her customers up to speed on how MÄK's products help them meet their program requirements. By setting up visits and web-sessions, she provides her customers with the latest information and developments. She also acts as their personal liaison with engineering, making sure that all of their potential issues are resolved.

Deb has been a MÄKer since 1994 and has experience at many different levels of the company. After starting off as a software developer, she began working with international customers. She went on to lead business development efforts, before settling into her current role as an Account Manager for the United States and Canada.

Deb received her bachelor's degree in Engineering from Boston University. She went on to receive her Master's degree in Aeronautical Engineering from MIT - which makes her a rocket scientist!

When Deb isn't busy helping her customers, she spends her free time skiing, boating, watching football, cheering for the Red Sox, and raising her twin 16-year-old daughters.

We hope we've piqued your interest in getting to know the MÄK team! Stay tuned to our [blog](#) and [Twitter](#) to get the latest on MÄK happenings!