

What's Up MÄK

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Not going to I/ITSEC 2014? Not a problem.

We can still show you how to incorporate state-of-the-art technology into your simulation & training environments.



Every year we make a big deal about our presence at the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) — and rightfully so! I/ITSEC gives us the chance to show you what we've been working on all year. But if you can't make it to the show floor for whatever reason, rest assured that wherever you are, we can bring our I/ITSEC presence to you. Whether that's through an in-person visit to your facilities, a personalized product training session, or a demo via skype or Zoom, we are happy to make our way to you to help deliver your simulation needs.

Here's a preview of what we'll have on display at I/ITSEC 2014. If you won't be there, [let us know](#); we'll work out a private demo, personalized for you.

Command Staff Training: MÄK provides the simulation technology and software architecture to simulate modern command staff training systems — regardless of echelon — to teach and practice planning, decision-making, and communication skills. Our demos include:

- a battalion-level simulation evaluating alternate courses of action,
- innovative simulations using intelligent human characters to train company commanders, and
- a low-overhead Joint Air Support Operation.

Beautiful Visuals: Our reinvented VR-Vantage IG harnesses the power of the latest graphics card technology to render beautiful scenes. The IG is combined with four different host simulation engines to demonstrate high-performance first-person player stations. I/ITSEC demos include:

- a Light Armored Vehicle (LAV) demo using CM Lab's Vortex physics,
- a Forward Observer using binoculars and SensorFX NVGs,
- Aero Simulators' UAV sensor gimbal simulation, and
- an integration of VR-Vantage IG with the Oculus Rift.

Cutting-Edge Web Technologies: Take advantage of our cutting-edge web technology — be the winner as your customers demand easily accessible, rapidly developed, and highly deployable training systems.

- MÄK's Training System Demonstrator combines lightweight web technologies with its complete line of simulation software to create a training system environment to suit both student and instructor training scenarios.
- Innovative applications for Command Staff Training focus on open standards and interfaces, allowing integration into existing and future systems — both operational and simulated.
- Web interfaces help the instructors set up and run MÄK's first-person player stations.

Whether you stop by our booth (#1225) at I/ITSEC or we come to you, we can't wait to unveil our state-of-the-art technology to enhance your training environments. [Let us know how we can help you get ahead of the game!](#) ✿

Customer Success!

The Battlefield is Evolving: The Increased Threat of Cyber Attack Affects Strategic Decision-Making

As technologies continue to advance and become more deeply ingrained in modern life, so too do threats of a crippling cyber attack or electronic warfare (EW). In attempts to mitigate these risks, the Colombian national government (represented by the Ministry of Information Technology), the Higher War School in Colombia, and ITM Consulting Company joined forces to explore the role simulation plays in understanding, preparing for, and fighting against cyber attacks.

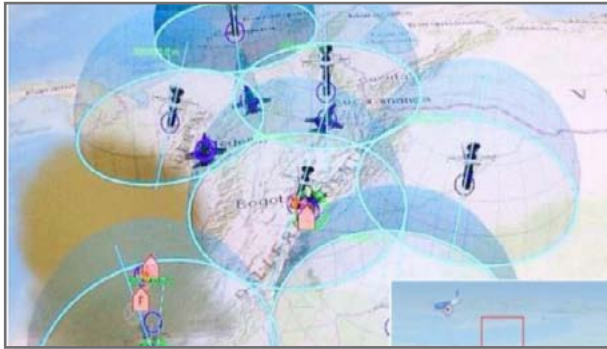


Figure 1: Illustration of a Radar Attack

To build electronic warfare scenarios, the organizations needed a tool that could create and model elements vulnerable to cyber attacks, such as radar systems, military and civilian entities, and communication systems; they chose VT MÄK's VR-Forces simulation software tool for the job. VR-Forces not only allowed them to create scenarios to play out different threats in different environments, but also gave them the freedom to redesign the User Interface (UI) to match specific scenario needs. The group conducted three major cyber attack scenarios, which they are using to create response strategies.

In the first scenario, VR-Forces simulated two aircraft teams, where the red team was given a mission to use scanners and jammers to alter the frequency on the blue team's radar systems; doing this enabled the red team to use attack aircraft to undermine the blue team's defense system (see Figure 1).

The second scenario uses VR-Forces to simulate an electronic warfare attack on the Colombian oil infrastructure, a victim of frequent terrorist attacks. In this exercise, the red team was instructed to alter the readings on specific valves on a pipeline to ignite fires. Additionally attacks on the blue team's surveillance systems (unmanned aircraft) set out to deter the blue team's response (see Figure 2).

A third scenario highlights the danger to civilian population if the turbines in a hydroelectric plant are compromised through a cyber attack. The red team in this situation instigates drastic variations in water levels at the plant that in turn disrupt the power and energy generated to the nearby town. The power and energy disruptions bring about detrimental consequences for the simulated town (see Figure 3).

The exercises using VR-Forces have contributed to research and development efforts led by the Department of Telematics ESDEGUE, and in particular its line of research in Cybersecurity and Cyber Defense.

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"What we were able to do with VR-Forces allowed us to lead the research process for the modeling and simulation of Electronic Warfare and Cybernetics; it is through this research that we learn how to best describe the behavior of different cyber attacks and EW tactics to determine scenarios, trends, and courses of action with excellent results," says Colonel Martha Liliana Sanchez Lozano, the Official Colombian Air Force Chief of Telematics and Program Coordinator of Cybersecurity and Cyber Defense at the Higher War School. 🌸

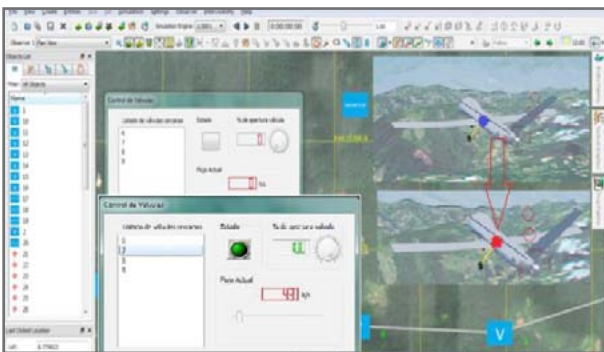


Figure 2: Cyber Attack on a Colombian Oil Infrastructure

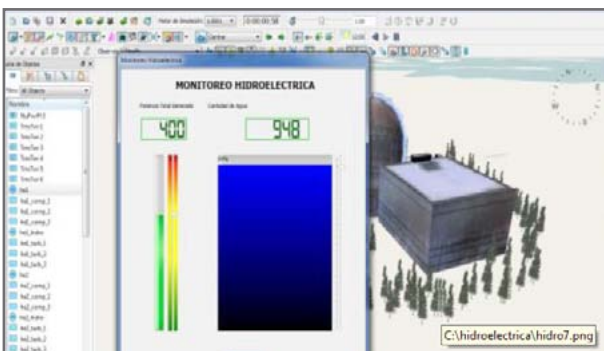


Figure 3: Cyber Attack on the Colombian Critical Infrastructure

Want to see your project published?
Get in touch with us at marketing@mak.com!

MÄK Events @ I/ITSEC 2014

If you're heading to I/ITSEC, join us at these MÄK events!

- ✿ **When Your Eyes Aren't Good Enough: Simulating Sensors with VR-Vantage and SensorFX**
Tuesday, December 2, 9:00am - 9:45am; Rosen Centre, Salon 1
Presented by Jim Kogler, VT MÄK Director of COTS Products, and Russ Moulton, Founder of JRM Technologies
- ✿ **Simulating the Upper Echelons with VR-Forces 4.3 — Aggregate Level Simulation**
Tuesday, December 2, 10:00am - 10:45am; Rosen Centre, Salon 1
Presented by Nathan Kidd, Lead Architect of VT MÄK Simulate Products
- ✿ **Intelligent Human Behavior with DI-Guy**
Tuesday, December 2, 11:00am - 11:45am; Rosen Centre, Salon 1
Presented by Alex Broadbent, Director of DI-Guy at MÄK
- ✿ **"Connect the Dots" Networking Event**
Tuesday, December 2, 4:30-6:30; Orange County Convention Center, Booth #1225
Everyone at I/ITSEC is invited to enjoy a Sam Adams at MÄK's "Connect the Dots" networking event.
- ✿ **Innovation Showcase: The Emergence of Web & Mobile Technologies in Modeling, Simulation, and Training**
Wednesday, December 3, 11:30am; Orange County Convention Center, Booth #2287
Join Dan Brockway, VT MÄK's Vice President of Marketing and Innovation, as he presents what lessons learned from web & mobile customer use cases and discuss the challenges still facing the M&S community.

Can't make it to I/ITSEC? Not a problem. *Let us know* and we'll bring our presentations to you.

MÄKer Spotlight: Alex Broadbent

Director of DI-Guy



Meet Alex Broadbent, Director of MÄK's DI-Guy Human Simulation software. Alex is responsible for managing DI-Guy engineering projects and for training customers to use our human simulation products. He also works closely with the Marines and Special Forces to meet specific training objectives using DI-Guy.

Before DI-Guy became part of the MÄK product line in early 2014, it was part of Boston Dynamics, where Alex served as the DI-Guy Director and Content Engineer. Prior to his DI-Guy days, Alex spent some time in the television industry where he led the New England Cable News as the Art Director. He redesigned the entire network using all new hardware systems; he also designed the logo, set, and show visuals for the Phantom Gourmet. Before that, he was a 3D animator and artist at CNN producing 3D animated "bumps" and show intros, editing music and videos for air, and working with producers, directors, and engineers on on-air effects and graphics. He also worked for ABC's Monday night football shooting footage during the game.

After Alex earned his Associates Degree in Visual Communications from the Art Institute of Atlanta, he graduated from the American College for the Applied Arts with his Bachelors of Commercial Art.

Alex is a man of many talents. He boasts that he can pick out a four leaf clover in a field with thousands of clovers - who wants to take him up on this? In addition to impeccable eyesight and attention to detail, Alex can play the drums and has played in a speed/heavy metal rock band. He's also taught kids how to play (although he prefers not to teach and rather to just do)! When he's not out playing in clover fields or banging on drums, he enjoys hunting, exercising, and figuring out how to move heavy boulders using leverage and counterweights.

We hope this piques your interest in our community here at VT MÄK. Stay tuned to the [MÄK blog](#) and [Twitter](#) for more updates from us! ✿