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What's Up MÄK

VR-Forces 4.4 Is Here!

Check out the latest features and content from our simulation software.

NASA Wins, Grows with the MÄK RTI

NASA's use of the MÄK RTI grows, MÄK meets flexibility needs.

MÄKing the News

Check out our training class, new releases, and the AUSA winter meeting report.

MÄK Spotlight: Diamond Award

MÄK wins the Diamond Supplier Award from Fidelity Technologies.



VR-Forces 4.4 Is Here!

The latest version of VR-Forces brings superior capabilities, a better interface, and more content than ever before.

VR-Forces is the flagship product of the MÄK brand. Our software engineers have evolved its features and interface based on our customers' needs over many years. The latest iteration introduces new capabilities, is easier to use, and comes with more out-of-the-box content than ever before.

More Terrain Database Options

VR-Forces 4.4 brings new options for those looking to implement specialized terrain formats or to create databases quickly using procedural techniques.

A module is available to support Bionatics' Blueberry3D terrain for those seeking creative, high resolution ground terrains. Blueberry 3D creatively constructs detailed terrains from small amounts of source data, effectively mimicking the variance of natural topography.

This version of VR-Forces supports CDB as a streaming terrain format. CDB can now be used as imagery and elevation inputs to MÄK's streaming terrain. Future versions will continue to expand support for CDB in VR-Forces.

VR-Forces supports procedural terrain generation of airports from included X-plane feature data. VR-Forces aircraft can take off and land from almost any airport in the world using a procedurally generated terrain which includes runways, elevations, marking, and lighting.

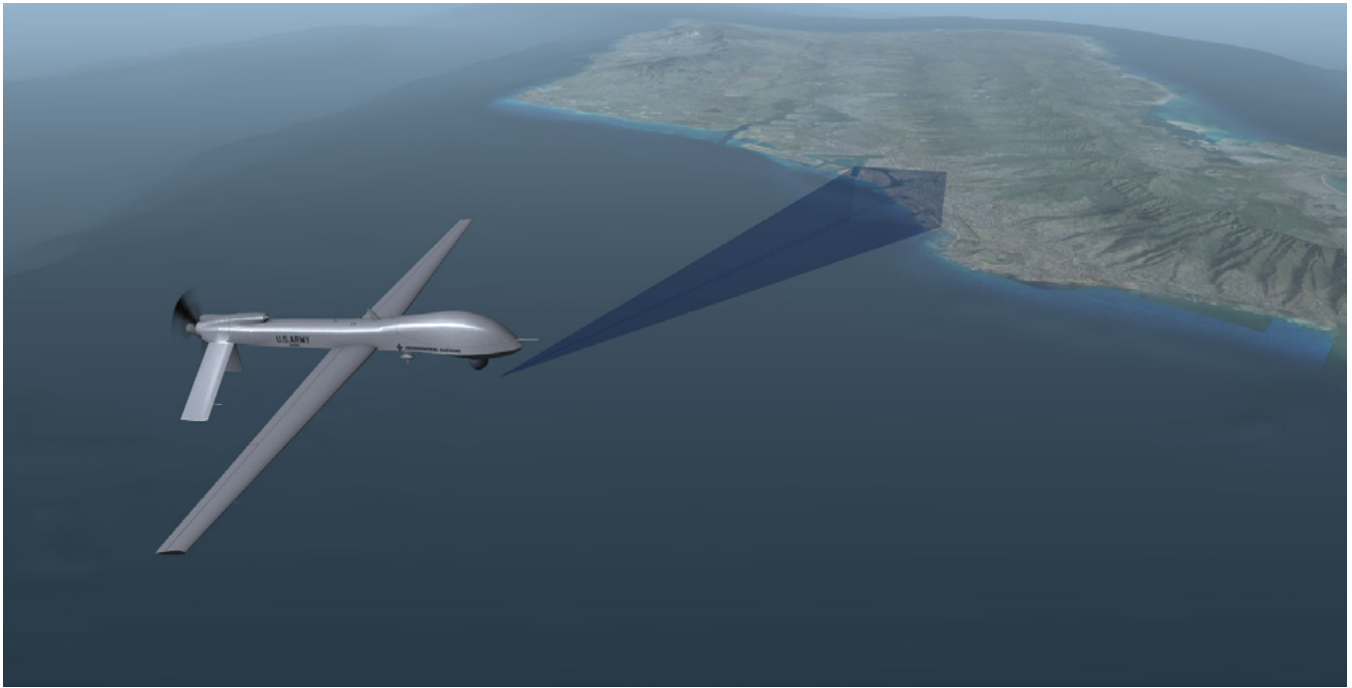


Sensors

New simulation models and controls allow users to model a sensor's gimbal. This gives sensor missions full control of where the sensors are pointing, as well as sensor pan and zoom through a plan, the C++ API, a script, or the joystick. Gimbal-mounted cameras can be placed on any entity or object, in any location. Information about the sensor, including its frustum is published over the network and can be used to drive visuals for a complete ISR simulation.

Airspace Modeling

VR-Forces 4.4 introduces airspace modeling, a volumetric visual representation of designated areas. VR-Forces uses extruded tactical graphics to highlight modeling restricted areas of operation and air corridors. These extruded tactical graphics can also be activated or altered based on time definitions.



B-HAVE Integration

MÄK has integrated all the functionality of B-HAVE into the VR-Forces product. VR-Forces ground objects now plan paths quickly through complex environments using Autodesk's Gameware Navigation suite (Formerly Kynapse) which is built directly into the VR-Forces product. To perform complex path navigation, users still need to generate a Navigation Mesh which requires an additional license, but objects doing the navigation do not require any additional license.

In addition to VR-Forces advanced path planning, customers can now also use the Pattern Of Life functionality previously only available in B-HAVE. VR-Forces Pattern Of Life functionality allows users to generate streams of traffic (aircraft, ships, people, cars) with complex statistical patterns, for example: subway stations where 100's of people leave every 10 minutes or schools where children flow out at 15:00 and enter around 8:00.

CGF Fidelity

VR-Forces now provides computer-generated forces with the fidelity required for first-person players, including first-person shooter simulations. Entities aim their weapons when they detect a potential threat, lining up targets in advance. Tracer ammunition shows the trajectory of the rounds, allowing entities home in on targets. Suppressive fire tactics add realism to battles by allowing one force to tactically inhibit another's ability to fight back and provide cover for movement. Line-of-sight calculations have been improved, resulting in higher-fidelity visual recognition for CGFs.



Simulation Object Groups

VR-Forces 4.4 introduces a new construct: simulation object groups. Object groups define the relationships between multiple entities, allowing users to place an entire interactive group into your scenario in one simple action. For example, you might place a Patriot missile battery for which the radar, the command post, and the missile launchers are all part of an intricate fire control system. Now users can instantly replicate the whole Patriot system over and over again in your scenario.



Customizable Interface

VR-Forces 4.4 features the most intuitive interface we've ever developed — users can add intensity to training exercises, correct mistakes, and insert challenges, all at runtime. The Quick launch toolbar can be customized to trigger events and global plans by clicking an icon.

New Content

VR-Forces 4.4 comes with more out-of-the-box content than ever before. Customers will find Patriot missile batteries, Coast Guard cutters, cruise ships, UAVs, and so much more. Entities are fully customizable, meaning you can add or subtract weapons, sensors, and other components so you can make units specific to your needs or model prototypes of new systems.

Want to learn more? [Have a look at the VR-Forces page](#) for more information. Are you interested in seeing a [demonstration](#)?

NASA Project Wins, Grows with the MÄK RTI

As aviation technology has improved, commercial air traffic has increased significantly, requiring better airspace management techniques. In an attempt to develop better air capacity, safety, and flexibility, NASA's Air Traffic Operations Laboratory (ATOL) used a massive simulation environment called Air and Traffic Operations Simulation (ATOS) to explore better techniques. As the project's success led to its growth, NASA required a licensing option that would be easily scalable in a simulation that is ever-expanding.

Photo Credit: NASA



The Challenge:

NASA originally needed a tool that could effectively communicate and maintain all the entities involved in its complex, multi-laboratory, simulation that includes 400+ workstation-based high-fidelity aircraft simulators networked together. The simulation would eventually demand a creative, flexible solution so that licensing restrictions would not hinder its development.

The MÄK Solution:

VT MÄK offers commercial-off-the-shelf (COTS) technology to facilitate Air Traffic Management simulations, backed by a company with an “engineer down the hall” philosophy to help organizations creatively solve their implementation issues.

The MÄK RTI has been used by ATOL for over a decade to enable their High Level Architecture (HLA) federations to rapidly and efficiently communicate the positioning and actions of entities in the ATOS simulation. It was also used to communicate with external laboratories at NASA



Photo Credit: NASA

LaRC, NASA Ames Research Center, FAA and other compliant facilities.

As the simulation’s success led to the growth in the number of federates and labs involved in the simulation, NASA’s needs changed. The ATOL required a way to use unlimited instances of the MÄK RTI, and needed to do it in a way that would be cost-efficient. MÄK’s “engineer own the hall” philosophy played a big role in ensuring success, as we worked out a custom licensing model to meet their needs and ensure that MÄK would continue to play a role in the success of the ATOL.

We were able to reach Glover Barker of NASA Langley Research Center for comment: “At NASA Langley Research Center, we have used the MÄK RTI libraries since 2005. Our Airspace & Traffic Operations Simulation (ATOS) uses High Level Architecture (HLA), so we initially tried an open source HLA solution. But the quality and reliability were not adequate, so we purchased RTI from MÄK. MÄK’s RTI implementation conforms well to HLA standards, so we could easily substitute MÄK RTI for the open source solution. We have been satisfied customers ever since.”

“MÄK has steadily improved their product in every new release. MÄK’s technical support always responds quickly and helpfully when we have questions or problems. When needed, they have sent staff to our site to inspect our environment, and made recommendations to change our configuration. In the cases when we experienced a bug because of the unique way we

used their software, MÄK has diligently provided fixes for our problems. When we needed a new licensing scheme to fit our usage model, MÄK delivered.”

Want to learn more? [Have a look at the MÄK RTI page](#) for more information. Are you interested in seeing a [demonstration](#)?

MÄKing the News

MAK RTI 4.4.2 - The latest version of the MÄK RTI has been released! Version 4.4.2 brings some incredible performance gains that facilitate larger simulation exercises.

VR-Link 5.2.1 - The latest iteration of VR-Link was released in March! 5.2.1 is a leap forward in terms of ease of use, with an improved code generator and Java support.

SensorFX 2.1 - 2.1's March release brought several improvements to sensor simulation, including sensorized procedural imagery and improved performance.

MAK Data Logger 5.4 - The latest version of the MÄK Data Logger was released in March. 5.4 improves exercise scalability through increased packet reading speed and a revised GUI.

We enjoyed meeting our customers at the AUSA show in Huntsville, Alabama! [Read Pete Swan's report from AUSA!](#)

We hosted a weeklong VR-Forces Training Class from March 21-25 at our headquarters in Cambridge, Massachusetts and it was very successful! [Check out this form to request future training on a specific topic.](#)

MÄK Spotlight: VT MÄK Wins Diamond Supplier Award

MÄK is excited to receive a plaque from Fidelity Technologies recognizing our longstanding relationship and commitment to providing the best experiences for our customers.

The Diamond Supplier Award based on our services as a supplier for cost, quality of product, and delivery time. MÄK has a long-running successful relationship with Fidelity.

Fidelity specializes in three main areas: Simulation and Training, Field Services, and Military and Aerospace Manufacturing. In response to the ever changing requirements of the customer, Fidelity is constantly expanding its expertise and capabilities to provide innovative solutions.

Stay tuned to our [blog](#) and [Twitter](#) to get the latest on MÄK happenings!