

# What's UP MÄK

## PRODUCT NEWS :

## B-HAVE Is Here!

We're excited to announce that B-HAVE, the AI module for VR-Forces, is now available. B-HAVE uses Kynogon's proven Kynapse technology to provide more complex and realistic behaviors in VR-Forces.

B-HAVE makes CGF entities smarter, helping you create more realistic and dynamic scenarios. It's especially suited to urban training. Using the module, VR-Forces entities can analyze terrain topology, intelligently navigate through complex urban environments, automatically plan and follow paths through 3D building interiors, dynamically avoid collisions with obstacles or other entities, and flee from threats.

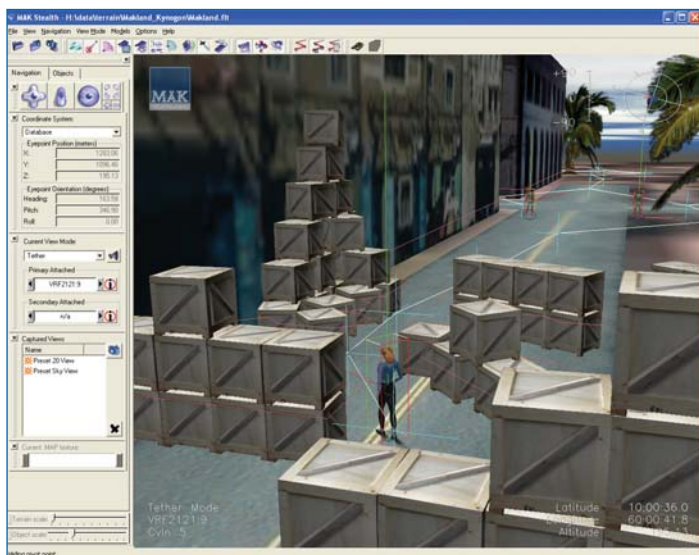
B-HAVE is packaged as a set of plug-ins to the VR-Forces Terrain Database Tool (TDB Tool), Simulation Engine, and GUI. The TDB Tool plug-in allows you to automatically generate navigation maps ("PathData") from your 3D terrain data. The VR-Forces Run-Time plug-ins take advantage of this PathData to allow entities to enter and leave buildings, go up and down stairs and ramps, and realistically navigate around trees, fences and other obstacles. The module extends the set of built-in tasks available to VR-Forces users to include Hide, Wander, Follow and Flee. It also supports custom behavior scripting in the Lua lightweight programming language.

To help you understand the 3D world from the behavior point of view, a MÄK Stealth plug-in is also provided. (A MÄK Stealth license is required.) The Stealth plug-in visually depicts the bounding volumes used by Kynapse to represent each entity, the path that each entity is following, and the boundaries of identified obstacles — all directly within the Stealth's 3D scene. B-HAVE's dynamically generated paths are also published via DIS or HLA, so that they are visible in the VR-Forces GUI.

One of the key strengths of Kynapse is its ability to handle crowd simulation, and B-HAVE puts this strength at your fingertips. To create random foot traffic in an area, create a number of entities in VR-Forces, and assign the B-HAVE wander task to all of them. To simulate a typical crowd reaction to an explosion or other event, assign different Lua scripts to various groups of entities, so that some flee the scene, some wander confusedly, and some race towards the event to find out what happened. As each entity's brain navigates individually, some very realistic crowd behaviors emerge as entities avoid each other and traffic jams appear.

**If you're interested in learning more about B-HAVE send your contact info to [makmail@mak.com](mailto:makmail@mak.com) and we'll email you a PDF of our detailed FAQ. Or stop by the booth at one of our upcoming tradeshows to see a demo.**

B-HAVE is a separate plug-in module for VR-Forces and is available now. **For more details and pricing, contact [sales@mak.com](mailto:sales@mak.com).** ■



NEWS : 2

PRODUCT UPDATES : 3

TECHNICAL TIP : 4

WHERE WE'LL BE : 4

A PUBLICATION OF



## New VR-Forces Module — RotorLib®

MÄK is pleased to report that RTDynamics, a MÄK market development partner, has released RotorLib for VR-Forces. This easy to use plug-in allows non-programmers to add physically-based autonomous helicopter entities to their scenarios. RotorLib autonomous helicopters can simulate insertions, search & rescue operations, bob-up attacks, contour following (or nap-of-the-earth) flight patterns and many more. The virtual pilot (a high-level auto-pilot control system) flies the 6 DOF rigid body dynamics based helicopter model. This combination is analogous to the real world situation and therefore this technology allows much more realistic motion at any stage of the flight including touchdown or unexpected agile maneuvers. RotorLib autonomous helicopters can be used in VR-Forces like any other VR-Forces entity. They are controllable through the VR-Forces GUI and are scriptable using Plan files. All VR-Forces task commands are supported by RotorLib helicopters.

For more information or to purchase RotorLib, please contact Devrim Erdem at RTDynamics.

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Tel: +49 8031 232 9382

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**Stealth view of a B-HAVE entity following a path through the park.**

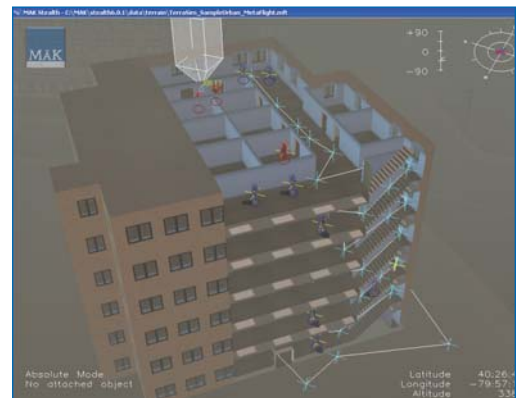
## TerraSim's GDB Export Module for VR-Forces & MÄK Stealth

TerraSim's GDB Export for VR-Forces and MÄK Stealth for TerraTools® 3.0 is now available. With the GDB Export module, TerraTools 3.0 can now support the rapid generation of high-fidelity geospatial databases in MÄK's GDB terrain format. Users can create highly realistic environments to support CGF simulations ranging from theater-level exercises to "Three Block War" missions in urban terrain. The TerraTools GDB export plug-in is engineered to seamlessly support the production of VR-Forces terrain databases using the full range of GIS source data processed by TerraTools.

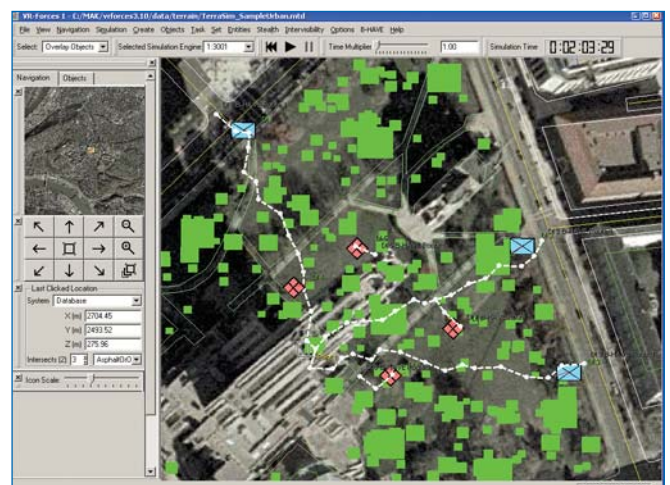
TerraTools GDB export is particularly well suited to work with the recently released B-HAVE AI Module for VR-Forces. TerraTools imports a full range of civil and military source vector data, DEMs, and imagery to produce a fully attributed terrain representation that supports all of the B-HAVE Module behaviors in complex urban environments.

Urban environments present a level of complexity for object representation and attribution to support entity route planning and navigation. TerraTools GDB export simplifies this complexity by automatically assigning the necessary GDB attributes so that VR-Forces users can produce environments ready for exercise planning. TerraTools also produces fully correlated visuals in MetaFlight format for the MÄK Stealth runtime.

TerraTools urban content generation includes the ability to generate complex urban structures with interiors using TerraSim's UrbanPlan (automated building interior generator). Coupled with the B-HAVE entity models, highly detailed building clearing operations can be planned and visualized. Users can construct geo-specific building interiors from graphical floor plans or detailed CAD drawings. ■



**Stealth view of B-HAVE entities following a path within a building.**



**B-HAVE entities plot paths in urban terrain provided by TerraSim.**



## TECH TIP :

### Customized MÄK RTI RIDs

TIP 2007.9.2

The MÄK RTI has an extensive set of configuration parameters designed to help you maximize its effectiveness for your federations. However it can be challenging to understand exactly which parameters to edit to meet the demands of each simulation. To give you a head start towards customizing the RID file, the MÄK RTI includes three sample RID files that are customized for different objectives. You can use these files as alternatives to the default RID file. These are subsets of the default RID file and show you how to change the default settings for the following cases:

**High performance (highPerf-rid.mtl).** This file shows the parameters you need to edit to maximize performance and provides suggested values.

**Lightweight mode (lightWeight-rid.mtl).** This file includes the parameters supported by lightweight mode. It excludes parameters for the services that lightweight mode does not support.

**Typical configurations (basic-rid.mtl).** This file includes the parameters that most installations will want to or need to edit regardless of performance objectives.

NOTE: If you use one of the sample RID files instead of the default RID file, you must specify the file with the RTI\_RID\_FILE environment variable or rename it rid.mtl.

As always, contact MÄK support if you need help configuring the MÄK RTI. ■

## RESELLERS

For a full list of MÄK's international resellers, please visit [www.mak.com/products/resellers.php](http://www.mak.com/products/resellers.php)

Australia  
China  
Czech Republic  
Cyprus  
Egypt  
Ecuador  
Finland  
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Germany  
Greece  
India  
Indonesia  
Israel  
Italy  
Japan  
Korea  
Malaysia  
The Netherlands  
Norway  
Poland  
Portugal  
Russia  
Singapore  
Spain  
Sweden  
Taiwan  
Turkey  
United Kingdom

## WHERE WE'LL BE :

### ITEC

April 24 – 26, 2007

Koelnmesse  
Cologne, Germany  
with Antycip, DiSTI, and MultiGen-Paradigm

**Booth #216**

FOR INFO. & ATTENDANCE VISIT:  
[www.itec.co.uk](http://www.itec.co.uk)

### DoD Modeling & Simulation Conference

May 7 – 11, 2007

Hampton Convention Center  
Hampton Road, VA

**Booth TBD**

### ESRI International User Conference

June 18 – 22

San Diego Convention Center  
San Diego, CA

**Booth TBD**

FOR INFO. & ATTENDANCE VISIT:  
[www.esri.com/events](http://www.esri.com/events)

Link – Simulate – Visualize