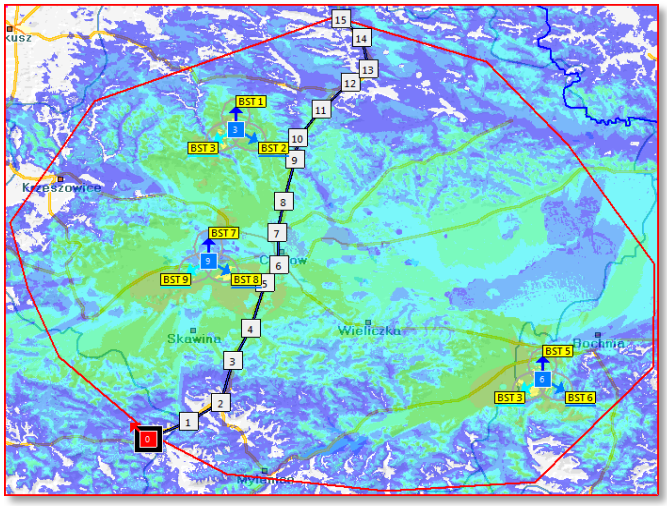
HTZ warfare

APPLICATION SCENARIOS

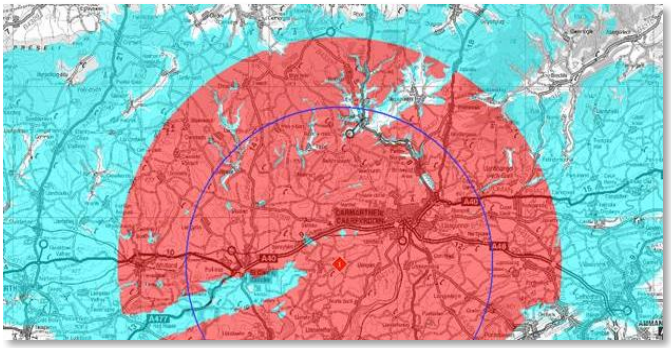
On-The-Move: moving device efficiency analysis

HTZ warfare allows the modeling and simulation of paths and trajectories for any moving device in order to perform dynamic analyses. This includes ground vehicles, aircrafts, UAV's, mobile jammers, mobile direction finders. Trajectories can be directly entered into HTZ warfare or automatically imported from various vector formats based on GPS information so that calculation can be done on each way point. HTZ warfare then generates comprehensive reports of the dynamic analysis.



Optimizing radars location and configuration

As part of a mission planning, HTZ warfare will help answering strategic questions such as: What are the optimal locations and configurations for radars? What is their vulnerability? What is the probability to detect a radar?



HTZ warfare supports the following functions:

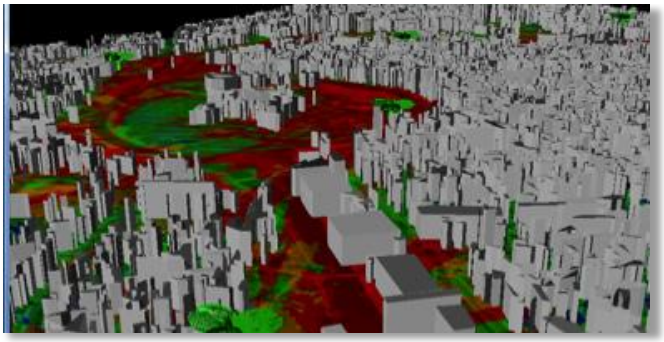
- Range calculation by defining the parameters or the radiation pattern
- Coverage calculation
- Radar location optimization
- Radar Doppler on path
- Radar interception
- Radar counter measures (with mobile and static jammers)
- Radar interference

Maximizing jammer efficiency

When it comes to the definition of optimal jamming strategies, there are several important questions that a mission planner shall consider. What are the optimal locations/configurations/paths for the jammers in order to jam enemy communications? How do we optimize jammer efficiency? How do we minimize the risk of being jammed by the enemy?

The following features help to maximize jammer efficiency:

- Mobile and static jammers modeling
- Fixed frequency, wide band (diffusion, adaptive modes) jammer modelling
- Jammer coverage
- Jamming efficiency
- Jammer location optimization
- Jammer power optimization
- Jammer coverage efficiency test
- Efficiency calculation on each way point using
- OTM capabilities



Direction finder efficiency calculation

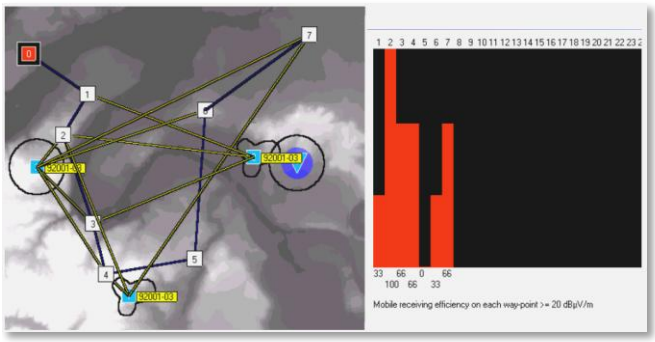
What is the efficiency of a network of direction finders? **HTZ warfare allows the modeling of allied or enemy direction finders supporting the following key functions:**

- Static/mobile
- “Calibration” allows the calculation of the azimuth variation
- “Direction Finder localization”
- “Localization accuracy map”
- “Mobile interception” to simulate the behavior of a mobile
- Efficiency calculation
- Capability calculation
- Bearing import from data bases

Drones and UAV path optimization

Aircrafts, drones, UAV’s communication equipment can be modeled in HTZ warfare together with their paths and trajectories (dynamic analysis) as part of the whole battlefield’s communication network. This enables the mission planning and coordination between Army, Air Force and Navy, ensuring the robustness of the communication links and therefore minimizing risks during the missions.

Planning an interception strategy



One of the key questions HTZ warfare helps answering is: can we intercept transmitted signals from a given source, whether fixed or mobile?

The following functions support the planning of an interception strategy:

- Path receiving efficiency on each waypoint
- Path receiving situation
- Height calculation to communicate
- Height calculation to intercept
- Prospective planning for identifying the optimal locations for monitoring equipment

Optimizing eavesdropping strategy

Similar to interception, developing an eavesdropping strategy means answering the questions:

- Where should one place the listening devices in order to intercept and eavesdrop on a communication, while minimizing the probability of being detected or jammed?
- How to make sure that the listening devices can communicate reliably back to a central processing unit for decrypting and recording?

HTZ warfare helps answer these questions and optimize an eavesdropping strategy, both for static and mobile sources.

Managing interferences between services

Through the modeling of any radio communication equipment and potential interfering elements, HTZ warfare allows the analysis of interference between services. For example HTZ warfare handles the management of wind turbine interference, which can result into false target identification for surveillance radars. HTZ warfare models accurately the radars and the wind turbines behavior in order to understand the interferences and potentially remove interfering elements or devices from critical zones.

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