SIMULATION
ONDULUS NVG

ILLUMINATE. EMULATE. OPERATE.

\ **Ondulus NVG** is a commercial-of-the-shelf software capable of simulating night vison capabilities in real-time of any electro-optical device that is used to detect visible and infrared energy and provide a visible image.

PRESAGIS

\ MAKE IT REAL

BENEFITS

REAL-TIME AND PHYSICALLY-BASED

Radiation, cooling, and other calculations are built-in, realistic, and accurate, and do not need to be "faked" or interpolated.

RICHER, MORE IMMERSIVE TRAINING

Complex and composite materials are supported to further increase the realism of sensor views.

FULLY CUSTOMIZABLE

Open architecture allows users to replace or customize sensors to meet their specific requirements.

SUPPORTS OGC CDB FORMAT

In addition to supporting most industry-standard formats, Ondulus NVG supports OGC CDB which allows users to manage a single database with all sensor and 3D views. This enables users to develop rich ground material databases that can cover the whole earth, and offer multi-user and multi-resolution points of view

WIDE EXPORT CAPABILITIES

Developed in Canada, Ondulus NVG is a product that can be integrated in any solution, allowing it to be deployed and supported almost anywhere in the world.

ONDULUS NVG VIEW USING ACTIVE ILLUMINATION

PHYSICALLY-BASED RENDERING

Ondulus NVG provides night vision views of a dynamic scene containing detailed terrain, building and water materials, as well as, moving platforms and characters.

Ondulus NVG (Night Vison Goggles) is inspired by physically-based rendering, meaning that a scene's lighting is re-calculated based on light sources and information, as well as materials.

Ondulus NVG permits OTW views as well as NVG views with variable specular highlights. NVG mode allows you to control the level of specular highlights or eliminate them completely, depending on your requirements.

DEVELOPER
FEATURES

\ **MODULAR ARCHITECTURE**

Built on a modular, open architecture, simulation developers can easily replace default data with their own or even write their own GPU shaders. Ondulus NVG is designed and built following a Modular Open Architecture approach and leverages only Open Standards which can integrate/interoperate easily with other software using these industry standards

\ **DEBUGGING TOOLS**

Ondulus NVG provides several debugging options, such as: Information on textures and materials. The ability to inspect and modify light sources The ability to toggle lighting components.

ONDULUS NVG
FEATURES

\ **ACTIVE/PASSIVE ILLUMINATION**

Ondulus NVG supports both passive and active illumination sources with a user-defined power.

Active infrared illumination – used to intensify illumination in low-light areas, or penetrate fog – is "seen" in Ondulus NVG just as it is in real-life.

To remain realistic, active illumination is only visible in NVG view. Furthermore, active illumination can be sourced from any (external) location, i.e.: helicopter-mounted.

\ **ENHANCED REALISM**

Uses physically-based rendering to simulate both out-the-window (OTW) and night-vision-goggles (NVG) views to create realistic, immersive effects:

Noise: Simulates the visual artefacts often seen in low-light conditions

Light Blooming: Simulates the visual effect seen in NVG from light sources

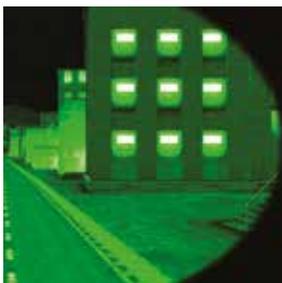**Vignetting:** Recreates the peripheral drop-off common in NVG

Black Spots: Recreates the effect seen on older or damaged sensors

\ **UNPRECEDENTED CONTROL**

Giving users a high-degree of control, Ondulus NVG is equipped with many configurable parameters, including:

- Light Amplification
- NVG Color
- Digital Zoom

All Ondulus NVG features described above can be controlled at runtime.

CITY VIEW USING OUT-THE-WINDOW VIEW (TOP), NVG WITH PASSIVE ILLUMINATION (MIDDLE), NVG WITH ACTIVE ILLUMINATION (BOTTOM)

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