# DIGINEXT
## Simulation & Virtual Reality

# INSCAPE
## Authoring for Simulation and Training

## OUR EXPERTISE:

The DIGINEXT Simulation and Virtual Reality division is a French leader in the field of Virtual Reality and Simulation since 1994. With its worldwide scope and its international experts, it can provide a strong expertise in high performance simulation, real-time 3D and distributed simulation.
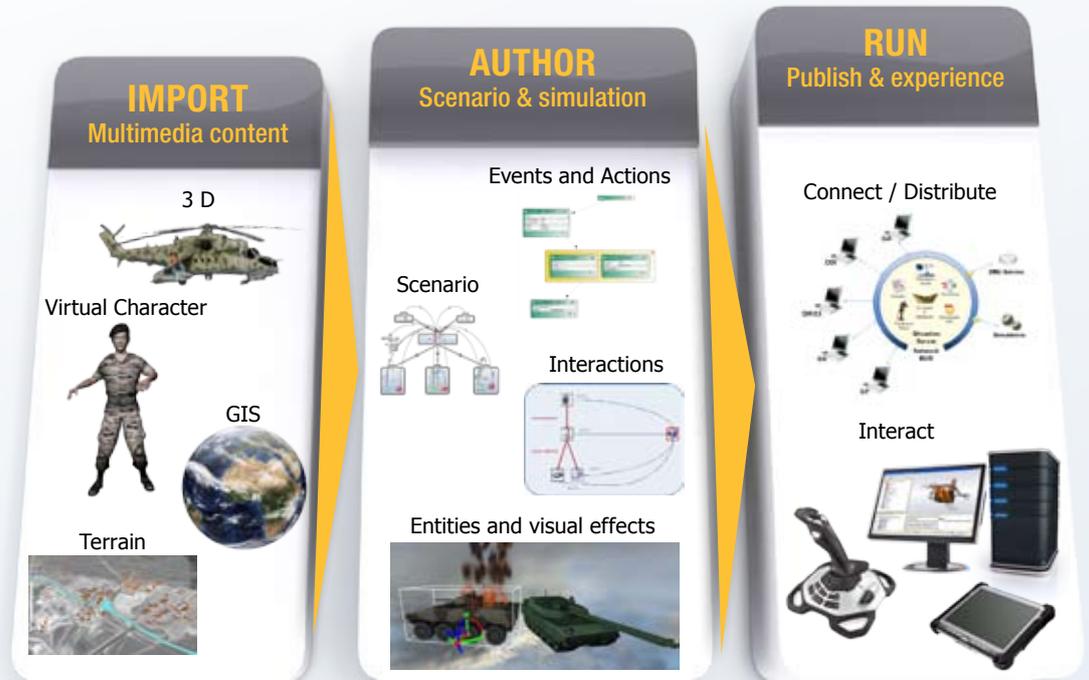
## OUR OBJECTIVES:

■ Provide intuitive edition tools to create complex scenarios and simulations.

■ Bring together the state of the art technologies in 3D GIS, interactive storytelling and training simulation.

■ Customize an authoring environment that meets consumer needs in simulation and training.

## ADDED VALUE:

■ Visual authoring of interactive 3D content.

■ Plug-in based extensible architecture.

■ High performance for urban and geographical dataset visualization.

## BUILD INTERACTIVE 3D SIMULATION AND SCENARIO

Inscape is an authoring environment for both the rapid creation and experiencing of 3D interactive applications; it is aimed at visually assembling complex scenarios for military or civil security mission planning and rehearsal, training for complex operations, education or serious games in general. Developed by DIGINEXT, Inscape is already used for the preparation of security exercises, the virtual rehabilitation for disabled people, or the recurrent training of aircraft cabin crew.



**IMPORT** — Multimedia content: 3 D, Virtual Character, GIS, Terrain

**AUTHOR** — Scenario & simulation: Events and Actions, Scenario, Interactions, Entities and visual effects

**RUN** — Publish & experience: Connect / Distribute, Interact

## KEY FEATURES

Inscape provides an extensible set of features and modules in one integrated cost-effective software suite, which proposes a complete workflow for the creation of interactive 3D applications:

■ Import, manage and edit riche media from the library

■ Edit and visualize the scenario structure using interactive storytelling features

■ Design and experience the scenario in real time

■ Create and animate entities and 3D characters

■ Integrate 3D sounds and visual effects

■ Add images, vector graphics, symbols and video stream

■ Define interactive actions and events

■ Create distributed application for multiple users and geo-localised simulations

■ Publish in interactive or video format

# DIGINEXT
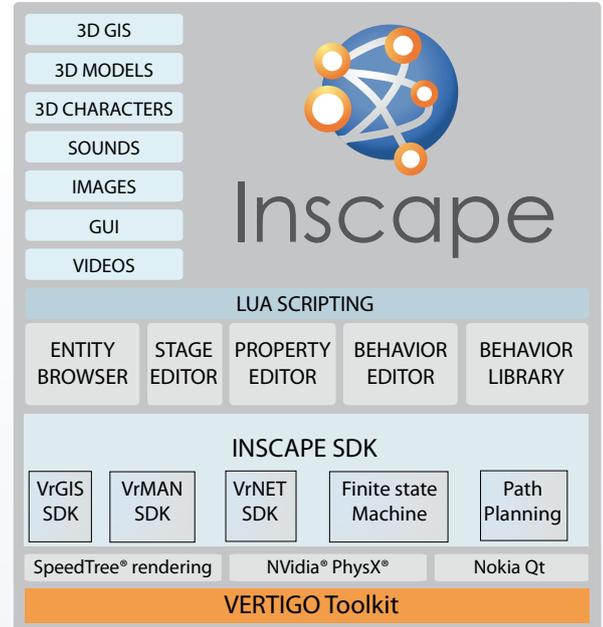## Simulation & Virtual Reality

# Inscape
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## TECHNOLOGY

The **Vertigo** rendering engine at the heart of the Inscape environment benefits from more than 15 years of DIGINEXT experience in the industry and defense simulation domains. It supports next gen rendering effects such as real time shadow mapping, SSAO, depth of field, HDR, atmospheric effects, particle systems, character animation, planet-size environment visualization from global to local scale. Inscape comes with the 3D Studio Max exporter for **Vertigo** and also provides interoperability means with other DIGINEXT's products for 2D/3D preparation and visualization of massive geographical dataset (**VirtualGeo**, **VrGIS**) , 3D character animation (**VrMAN**), or tactical simulations (**TactX**).

**Supported formats:**
- 3D Formats: Collada, 3ds, obj, flt, vrml
- Geographical and urban dataset : Geotiff, ESRI shapefiles
- OGC standards : WMS, WFS and KML.
- 2D Formats: Images (png, jpeg2000, bmp, tiff, tga),
- Videos (mpeg4, real-time stream), GUI (Nokia Qt UIs)
- sounds: mp3, wave

| 3D GIS |
| --- |
| 3D MODELS |
| 3D CHARACTERS |
| SOUNDS |
| IMAGES |
| GUI |
| VIDEOS |

### Inscape

**LUA SCRIPTING**

| ENTITY BROWSER | STAGE EDITOR | PROPERTY EDITOR | BEHAVIOR EDITOR | BEHAVIOR LIBRARY |
| --- | --- | --- | --- | --- |

**INSCAPE SDK**

| VrGIS SDK | VrMAN SDK | VrNET SDK | Finite state Machine | Path Planning |
| --- | --- | --- | --- | --- |

| SpeedTree® rendering | NVidia® PhysX® | Nokia Qt |
| --- | --- | --- |

**VERTIGO Toolkit**

## EXTENSIBILITY

The modular architecture of Inscape allows the visual customization of user interfaces through dockable windows, and the definition of dedicated layouts and widgets for both the authoring and experiencing modes. The Inscape C++ and Lua SDKs allow programmers to extend and adapt the Inscape environment to various application domains by integrating external libraries, extending the data model, supporting third party rendering engines, or implementing new plug-ins. The Lua scripting offers the possibility to create complex behaviors for custom needs. It provides access to online tutorials and support, documentations, and many libraries written in Lua available on the Internet.

## DISTRIBUTION SERVICES

Inscape relies on a real time data distribution service based on the OMG DDS specification. This enables the creation of interactive multi-user applications interoperating with third-party systems using standardized protocols (e.g. DIS, HLA…).

## USE CASES

Recurrent training for cabin crews.

Nuclear power plant simulation for safety procedure training.

Serious game prototyping.

DIGINEXT
Advanced Computing Systems
CS GROUP