

# UNIGINE

**Real-time 3D engine for enterprise and technology enthusiasts.** Photorealistic graphics, large virtual worlds, with C++ and C# API.

# **PRODUCTS AND SERVICES**

### **REAL-TIME 3D ENGINE**

UNIGINE SDK (Software Development Kit) is designed for development teams (C++/C# programmers, 3D artists) working on interactive 3D apps.

100% proprietary technology IP, developed in-house by the internal R&D team.

# **THREE EDITIONS** for different industries

- UNIGINE 2 Community
- UNIGINE 2 Engineering
- UNIGINE 2 Sim

### **PROFESSIONAL SERVICES**

- Turnkey interactive 3D app development
- Consulting
- Software development
- 3D content creation
- System integration

### **BENCHMARKS**

UNIGINE Benchmarks can be effectively used to determine the stability of PC hardware (CPU, GPU, power supply, cooling system) under extremely stressful conditions.

# **Real-Time 3D Engine For VR/3D Apps**

- Simulation & Training
- BIM / GIS / Smart City
- Digital Twins in 3D
- Engineering
- Games
- Architecture
- AI Learning

The best from two worlds:

- entertainment visuals
- planet-scale enterprise scenarios

# Showcase video: https://youtu.be/yEFtbhrD7qg



# **TECHNOLOGY ADVANTAGES**

Game Engines	Real World	UNIGINE 2
<ul> <li>Uses flat Earth approximation</li> <li>Operates in X/Y/Z only</li> </ul>	<ul> <li>The Earth is a geoid (deformed ellipsoid)</li> <li>All maps / GIS data are in geographic coordinate system (latitude / longitude)</li> </ul>	<ul> <li>Uses ellipsoid model (WGS84, etc.)</li> <li>Works in both Lat/Lon/Alt and X/Y/Z systems</li> </ul>
Operates 10x10 km scenes (32- bit precision of coordinates)	<ul> <li>Shanghai: &gt;50x50 km</li> <li>Energy network: country</li> <li>Boeing 737 range: &gt;5000 km</li> <li>Military operations: continents</li> <li>Space missions: &gt;10<sup>6</sup> km</li> </ul>	Operates solar system sized scenarios (64-bit precision of coordinates, 2 <sup>32</sup> times more accurate than 32-bit)
Visibility distance: <10 km	<ul><li>Human eye: &gt;50 km</li><li>Drone sensors: up to 400 km</li></ul>	Visibility distance: 400 km
<ul> <li>Works only with hand-crafted, optimized 3D content</li> <li>Crashes on large models loading</li> <li>Limited by articulated parts</li> <li>Limited number of formats</li> </ul>	<ul> <li>3D content in enterprise:</li> <li>Automated 3D scans</li> <li>CAD/BIM models</li> <li>GIS data from satellites / drones</li> <li>No optimization, millions of polygons, hundreds of thousand parts</li> </ul>	<ul> <li>Imports tens of millions polygons</li> <li>Handles hundreds of thousand parts</li> <li>Procedural content generation</li> <li>Support for GIS, CAD and BIM formats</li> <li>Extendable data loading API</li> </ul>



Visual quality (0.017 seconds per frame)

### Planet-Scale Operations

### Realistic atmosphere system

### Lifelike Water

Unique virtual terrain with real-time terraforming

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Different 3D applications, the same engine

## **ABOUT UNIGINE**

Established in 2005, **UNIGINE is a global company focused on real-time 3D technologies**, delivering powerful B2B and B2C solutions for simulation, visualization, scientific research, video games, virtual reality systems, and more. **Our flagship product is the real-time 3D-visualization engine UNIGINE 2.** The company is also well-known for a series of GPU benchmarks.

All three editions of the UNIGINE 2 platform (Community, Engineering, and Sim) share the same core (UNIGINE 2 Engine) and are developed in parallel, with regular major releases every 3 months. With each new release, UNIGINE developers systematically improve the engine's advantages, focusing on user feedback.

Over 15 years of R&D, UNIGINE launched 170+ SDK releases and delivered its products to millions of users worldwide. The company is headquartered in Luxembourg and can be found online at unigine.com.

In April 2020 UNIGINE has entered the mass market with the free UNIGINE 2 Community SDK and is rapidly gaining popularity among programmers and 3D artists due to its outstanding performance and stability, as well as quarterly major releases with tangible improvements - the number of registered users platform increases by several thousand accounts every month.

## **CUSTOMERS**



More than 200 companies worldwide use UNIGINE technologies to perform a wide variety of business tasks: simulation & training, digital twins, urban planning, scientific research, engineering, architecture, game development, and AI learning.

# UNIGINE

### **Contact us**

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