



## *Simulating the World*

### **Product Description**

---

SynCity constructs different types of real-world scenarios that would be otherwise difficult to record due to challenging and potentially hazardous conditions for the purposes of training and testing autonomous applications. It is a hyper realistic simulation platform designed to generate synthetic data aimed at machine learning. Our highly customizable and robust system provides a virtual test bed that allows you to train, validate and verify algorithms for autonomous applications.

By leveraging a proprietary high-fidelity simulator to generate diverse datasets based on real-world scenarios, SynCity provides a cost-efficient solution while also accelerating time to market. Beyond the significant cost savings in the absence of both vehicle and data loss, SynCity also preserves human life that would otherwise be at risk through real-world testing.

SynCity provides a platform that allows for exotic 2D and 3D land, aerial and marine environments. The photorealistic renderings of real-world environments enable transfer learning for a wide variety of operations including autonomous vehicles, robotics applications, and sensor manufacturers.

SynCity was developed for machine learning applications. It simulates both scenes and real-world phenomena, like camera aberrations, from the perspective of the AI model. Along with generating datasets rich in variation and realism, SynCity maximizes machine learning capabilities and is an integral component to any organization developing autonomous applications.

### **Key Features**

---

- **Wild Variety of Applications** - The only simulator that can be used for any kind of autonomous application including automotive industry, security and law enforcement, industrial and infrastructure inspection, and precision agriculture, etc.
- **Configurable Parameters** – The API and GUI systems provide clients with an unparalleled degree of customization and flexibility. Choose from thousands of high quality 3D models, customize sensor models and properties, select various weather and lighting conditions.
- **High Entropy** – Maximize machine learning utilizing entropic data sets. The high variation and randomization of hazardous conditions ensures optimal AI model generalization.
- **Scalability** - We simulate the world both far and wide, as well as narrow and niche. No matter what your needs are our simulations go both big and small in scale.
- **Unmatched Photorealistic 3D Environments** – Create hyper realistic 3D environments and scenarios specifically for machine learning. We pay particular attention to phenomena that skews training such as rain or mud on the lens.
- **Sensor Simulations** – Our sensor simulations (LiDAR, infrared, thermal, radar, multiple cameras, GPS, IMU) generate data that is indistinguishable from sensor data collected in the real world, allowing for full configurability.
- **Complete Turnkey Solution** – Integrate SynCity with CVEDIA and easily manage billions of images and video clips generated by the platform for faster algorithm development.