NVIDIA

SOLUTION SHOWCASE

SKYCATCH

NVIDIA AI-Accelerated GPU Enables Skycatch to Deliver Even Faster Data in the Field

Challenge

- Mining customers want to process and check their drone-captured survey data quickly
- Many times, mining sites are remote and far from Internet access
- Companies need to make quick decisions that impact safety and site efficiency

NVIDIA Solution

- Easy to integrate and develop hardware solution
- Excellent customer support for Linux 4 Tegra
- Standard SDKs that are optimized for NVIDIA® Tegra® platforms
- Large developer community and network

Results

- Faster mining drone analysis data delivery using the Skycatch Edge1 in-field processing unit
- Aerial photogrammetry results in half the time for customers
- The ability to check datasets and/or make critical decisions in the field

SKYCATCH HIGH-PRECISION PACKAGE FOR MINING

> *"Integrating the NVIDIA TX2 GPU into our in-field image processing engine is already bringing real value for our customers—with shorter time to the data they need. But, we are only scratching the surface, as we continue to deploy more machine learning capabilities into the future."*
>
> — **Christian Sanz,** CEO Skycatch

Product Overview

The High Precision Package for Mining is a packaged solution for UAV-based data that makes it safer and faster to get site survey and mapping data in even the most remote locations around the world. It includes Edge1—a powerful, dual-purpose GNSS receiver and in-field processor. The Edge1 SfM engine uses the NVIDIA Jetson TX2 to process geotagged imaging datasets in the field, most within 15-30 minutes.

NVIDIA Platform

For us to develop the Edge1, we had to select an embedded platform that was powerful enough to run our computer vision stack, but also easy to develop on both the hardware and software side. The Jetson platform was the perfect choice for us, as it combined power compute resources in an easy-to-integrate package, enabling rapid system development. Skycatch was able to go from concept to production on the Edge1 in less than nine months due to the ease of adaptation of the Jetson TX2.

Products Used

> NVIDIA Jetson™ TX2

Processing Engines Used

> NVIDIA CUDA®—with the majority of algorithms optimized in the 3D reconstruction software to use CUDA for GPU acceleration
> LibArgus—for interfacing with MIPI camera sensors

Software Used

> NVIDIA JetPack™
> NVIDIA TensorRT™
> Custom CUDA code

Skycatch Results

Skycatch has reduced drone-based photogrammetry processing time for customers in the field by 50%. Using our solution, customers can make important real-time decisions on-site using 3D processed aerial data that impacts site safety and production. In addition, a customer's up-time and production throughput improves with faster time to data.

About Skycatch

Founded in 2013, Skycatch develops and sells proprietary 3D reconstruction, post-processing, and analytics software for mining, construction and other industrial applications. It turns the physical world into an easy-to-access, highly accurate, and measurable 3D model that customers can interact with retroactively or in real time from the office or the field. The fully automated technology to capture, process, and analyze data has been proven in multiple continents in the harshest of conditions covering 90% of the earth.

LEARN MORE

Contact us: jetson@nvidia.com

Learn more: www.nvidia.com/robotics

Learn more about Skycatch at: www.skycatch.com