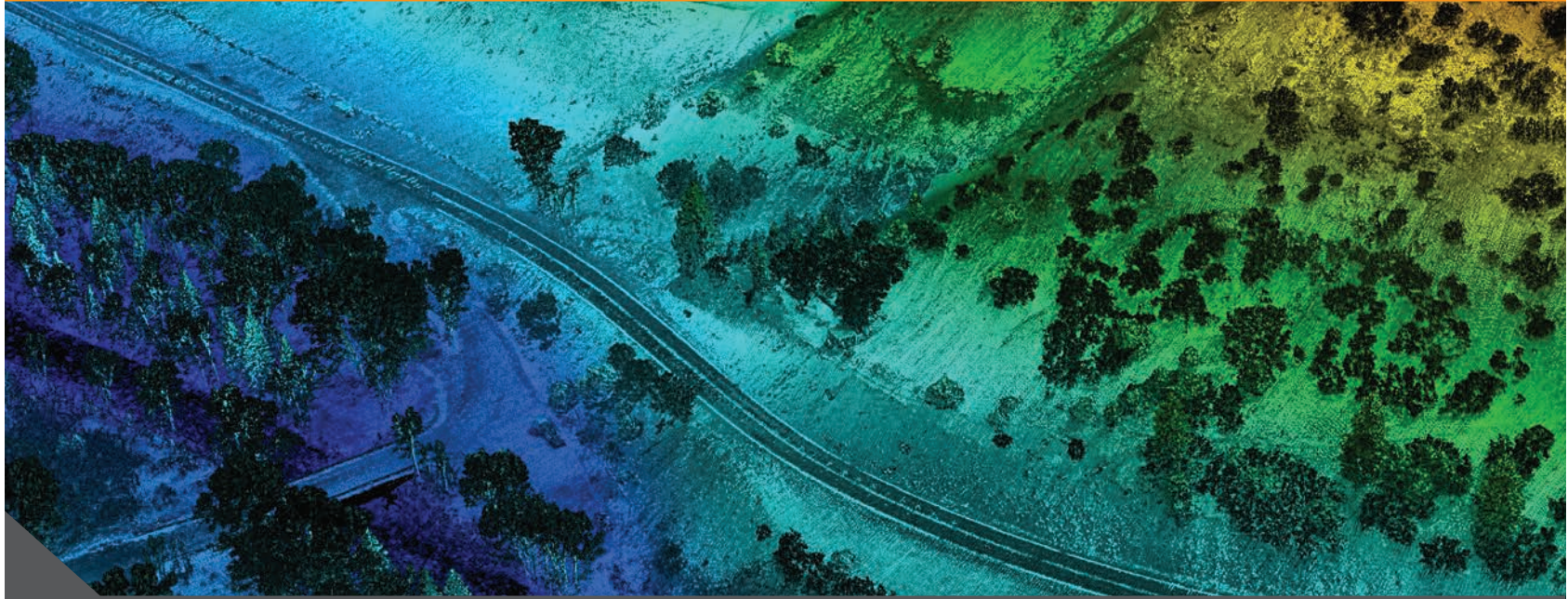




TRANSPORTATION SOLUTIONS



ARE YOU:

- Struggling to accurately survey rights-of-way and surrounding areas?
- Accountable for increasing safety and removing survey crews from dangerous situations?
- Responsible for remediating rockfall hazards to protect the public and public assets?
- Having trouble mapping ditches and medians, including areas “outside the fence?”
- Concerned with savings in survey crew hours, cost and time?

Juniper Unmanned’s Transportation Solutions save you time and money while safely delivering better than 0.1-foot accuracies. Contact Juniper today to discover how we can support your projects, efficiently and cost effectively.

- **Right-of-way mapping**
- **Geohazard remediation**
- **Engineering design surveys**
- **Slope stability surveys**
- **Post-construction “as-built” data**
- **Support of State DOT standards, such as TMOSS**

Juniper Unmanned, Inc., provides premier unmanned system-based information solutions for commercial, federal, state, and military organizations. The company integrates best-in-class aircraft with the most advanced sensors. High-quality data is combined with Juniper’s engineered processes, advanced software, and analytics to deliver actionable intelligence to our clients. Detailed UAS data are complementary to static LiDAR, traditional surveying, and photogrammetry and provide valuable insights to every project. Juniper’s team of professionals has extensive experience in engineering, remote sensing, safety and compliance, data processing and analysis, and surveying and mapping. We start each project by listening to our clients’ needs, then identifying the most appropriate sensors and equipment to meet their requirements.

WHAT MAKES JUNIPER UNMANNED UNIQUE?

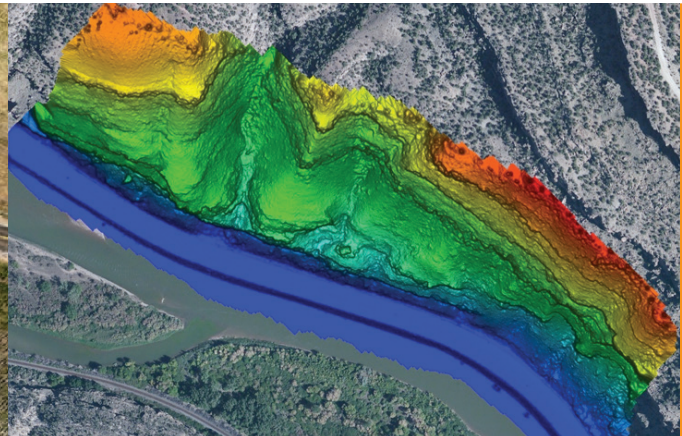
- Top-rated and continuously trained FAA Part 107 certified pilots
- Safety and compliance experts
- Remote sensing specialists
- In-house data processing and analysis
- Large selection of advanced sensors
- Extensive data acquisition experience in extreme operational environments
- AI-enabled products and services
- Expert mission management
- Projects completed on six continents
- Selected as a “2018 Colorado Company to Watch”

BENEFITS OF UAS FOR TRANSPORTATION

- Safely operate above hazardous ground conditions
- Rapid and as-needed deployment and data processing
- Accurate assessment of assets
- High-resolution 3D models
- Valuable pre-construction data
- Jobsite productivity optimized
- Worksite safety improved
- Data acquisition in less time
- Reduced need for lane closures
- Frequent status updates and quality control



Colorized Point Cloud



Slope Stability Digital Surface Model (DSM)

PLATFORMS/EQUIPMENT

- Many platforms available: fixed-wing, multi-rotor, and single-rotor UAV from trusted manufacturers
- Onboard GNSS/IMU
- Survey-grade terrestrial GPS/GNSS base
- Agile flight planning for extreme terrain

SENSORS

- Multispectral, RGB, NIR
- LiDAR
- HD Video
- Thermal
- Magnetometer
- Bathymetry

DATA PROCESSING/PRODUCT DEVELOPMENT CAPABILITIES

- Preliminary design surveys, planimetric maps, contour maps, calibrated point clouds, orthomosaics, bulk-material quantities and project takeoffs
- Files compatible with all major machine control manufacturers: Topcon, Trimble, Leica, others
- Solutions include XML, DTM, TIN data, cross sections, point files, contours
- Data products delivered in most CAD/GIS formats: AutoCAD, Civil 3D, MicroStation, GEOPAK, others



15000 W. 6th Avenue, Suite 330 Golden, CO 80401

www.juniperunmanned.com

720-440-9960

info@juniperunmanned.com