AVACAM

KEEP YOUR EYE ON
THE MOUNTAINS

High-Quality devices and software for remote landslide monitoring

Find out how to effectively monitor the evolution of natural phenomena in mountain areas with advanced monitoring devices, infographic reporting and artificial intelligence, to prevent landslides and hydrogeological instability.

CONTECH IN THE ERA OF DIGITAL PLATFORMS: AVACAM'S FIRST STEPS

Geological monitoring and environmental risk management are essential for protecting people and infrastructure.
According to a study by the European Commission, landslides and hydrogeological instability are responsible for a significant damages to infrastructure and housing in mountainous areas.
Despite advances in monitoring technologies, many existing solutions are still not sufficiently scalable, user-friendly, or adaptable to the complex conditions of high-risk territories.

Avacam was created to address these challenges by developing a geological monitoring system based on high-quality industrial speed video devices and artificial intelligence. Our product is designed to provide continuous, near real-time monitoring of mountain areas and landslides. Our devices are plug & play, easy to install, resistant to extreme temperatures, require no regular maintenance, and they are created for every type of geological scenario.

Our CEO & Founder, Damiano Bauce, still vividly recalls the enthusiasm and passion that drove him during the early stages of Avacam. At the time, there was no dedicated solution for landslide monitoring that combined cutting-edge artificial intelligence with a highly resistant device, easy to install, maintenance-free, and, above all, fully customizable to each specific situation.

"A precise monitoring technology, capable of capturing high-quality images at regular intervals. With the help of artificial intelligence, it has transformed landslide monitoring into a continuous, effective, and adaptable process without the need for constant maintenance, thus protecting both environments and people at risk."

- **Damiano Bauce**, Founder & CEO of Avacam

Avacam is an innovator in the field of monitoring geologically unstable areas. It offers cutting-edge technology capable of capturing high-resolution images at regular intervals. Thanks to artificial intelligence, its platform transforms landslide monitoring into a continuous and efficient process, eliminating the need for frequent on-site interventions while ensuring constant protection through automatic alerting solutions for risk situations. This enables decision-making and intervention times to be optimized by up to 80%.

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WHAT PEOPLE SAY ABOUT US

OUR CLIENTS

- **Geologists and Environmental Engineers**

“When we faced a risk situation, when the slope near the road was collapsing, we managed to secure the area in time and significantly accelerated our on-site operations.”

- **Local and Regional Authorities**

“The community was pleased with the road closure before the landslide, supported by the evidence provided through Avacam’s timelapse video.”

- **Civil Engineers**

“Monitoring the area with photos every 5 minutes allowed us to analyze the landslide zone almost in real time, optimizing our prevention and mitigation efforts over several days.”

- **Civil Protection Entities**

“Automatic alerts and the ability to view real-time data allowed us to take timely action, minimizing the damage caused by the landslide.”

FIELDS OF APPLICATION

- **Hydrogeological Risk Areas**

“The fixed position of the device and the ability to compare images allowed us to take timely action, after thoroughly assessing the real changes in the monitored area.”

- **Infrastructures in the Mountains**

“The device positioned in front of the area where we are building the road allowed us to monitor not only the progress of the works but, above all, to prevent landslide risks.”

- **Public Authorities and Local Communities**

“It allowed us to enhance our approach to environmental safety, improving communication with highly illustrative Speed videos.”

- **Geologists in Mountain Municipalities**

“Thanks to the platform, we can check the status of multiple risk areas through a single link, since our territory requires great attention to hydrogeological risks due to its conformation.”

All these testimonials refer to devices for monitoring landslides and hydrogeological instabilities: an innovative solution that can change the way environmental safety and prevention are managed.

In the field of geological monitoring, tools such as sensors and cameras have always been used, but Avacam has revolutionized this approach by introducing a completely new system designed to meet today's needs in terms of control, prevention, and data management.

Our devices are not just simple detection tools: they are patented units equipped with advanced technology, capable of capturing ultra-high-resolution images and environmental data at regular intervals. Each detection is processed in real time before being transmitted to our dedicated servers.

This phase is crucial: it allows us to ensure the automatic anonymization of sensitive information (such as human presence, vehicles, or infrastructure), fully complying with privacy and security regulations.

Thanks to integrated artificial intelligence, we can perform automatic analyses on every image and dataset with a latency of just a few seconds, thus providing an updated and continuous overview of the real situation in the monitored area.

The potential of this technology is enormous. Through ongoing collaboration with public authorities, companies, and researchers, we are constantly evolving our solutions, making them increasingly flexible, scalable, and customizable, so we can respond clearly and effectively to the needs of

environmental monitoring.
This manual is a practical guide to using Avacam for your area of interest or your technical team.
You will discover which processes can be automated, where costs and intervention times can be reduced, how to prevent critical events, and how to improve the management of territorial safety.

Our device is unique and patented, with officially recognized technical and operational features.

AVACAM

A Tailor-Made Solution

In recent years, Avacam has developed a comprehensive and customizable solution that integrates the latest technologies in the field of geological monitoring, offering:

- *Image resolution up to 4K*
- *Daily and monthly timelapse speed video monitoring*
- *Real-time updates and continuous platform development*
- *Remote-controllable optical zoom, pan, and tilt*
- *Solutions with integrated photovoltaic panels*
- *Devices with integrated network cable*

The platform's services are highly customizable and are defined during an initial consultation with the client, ensuring a tailor-made monitoring plan that meets both the project's requirements and the available budget.

Admin Panel

Through the admin panel, you can easily create and manage users, assign specific devices, and set up custom alerts tailored to your needs.

The revolutionary AI-powered remote land monitoring system

The challenges of managing areas subject to hydrogeological instability are many. They include constant land monitoring, verification of environmental parameters, scheduling maintenance interventions based on weather data, preventing critical events, and collecting content useful for institutional or technical communication.

All these activities can become smoother and more efficient thanks to the system developed by Avacam, which in many cases makes it possible to automate processes that are currently handled entirely by human intervention.

Automating complex and repetitive operations allows to optimize the use of resources, reduce response times, and rely on a system that is always up-to-date, reliable, and easy to access.

A concrete example of this is the automatic alerts that provide real-time notifications of changes in the terrain or abnormal conditions, signaling situations that could precede a landslide or slope failure.

It is no longer necessary for a technician to analyze every piece of data or image collected: the integrated artificial intelligence has been trained to do so autonomously and accurately, easing the workload of monitoring teams.

Although still in the early stages of large-scale adoption, the results obtained have proven to be extremely promising.

“Now an authority or a company can configure the system to receive exactly the information they need, in a targeted and reliable way. The data is becoming increasingly rich, detailed, and useful for making quick and informed decisions.”

— adds Franceschetti

> “AI communicates in real time any change that may be relevant to territorial safety or that could compromise the stability of the monitored area.”
>
> - **Federico Franceschetti**, Software Developer

How land management can be improved

The testimonials from our clients have provided concrete evidence of how management and internal communication have significantly improved thanks to our platform, which offers customizable access and ensures a continuous, centralized, and shared view of the entire monitored territory.

For authorities and organizations managing multiple sites across different locations, this real-time sharing guarantees a single version of the data, avoiding decision-making delays.

Our clients include public authorities, consortia, technical firms, and large companies operating in the environmental sector, often managing risk areas located tens of kilometers away from their headquarters. Physically reaching the site involves costs in terms of time, resources, and logistics. With Avacam, remote monitoring reduces these costs and increases responsiveness.

> "I believe that other institutions and professionals are also willing to work with these services, because information is the fundamental essence of prevention. If you don't immediately know what is happening in a risk area, you cannot take action in time.
> By following monitoring and prevention plans, emergencies and unexpected costs can be avoided. This is why we work with Avacam: prevention is always more sustainable than intervention after the fact."
>
> — Avacam customer

On-site inspections and their associated costs have been reduced by up to 80%.

In addition to reducing operational costs, remote monitoring also contributes to environmental sustainability: for clients operating in areas located around 50 km away, it has been estimated that each avoided trip reduces emissions by approximately 8.25 kg of CO_2, providing a concrete contribution to sustainability.

With Avacam, compliance with ESG standards and environmental regulations becomes easy to demonstrate: every phase is documented with certifiable high-resolution images, easily accessible to the authorities responsible for verification.

Thanks to the continuous collection of visual and environmental data, the platform simplifies periodic reporting and generates automatic Speed videos - daily, weekly, or monthly - accessible to all stakeholders, from the client to the field technician.

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A system compliant with privacy regulations and easy to implement

The Avacam system is fully compliant with current privacy regulations: all images and data collected by the devices are automatically subjected to an anonymization process, which irreversibly blurs any sensitive elements such as people, vehicles, or identifiable structures.

Once anonymization is completed, the original clear image is permanently deleted, ensuring full compliance with personal data protection and GDPR regulations.
This strong focus on privacy has enabled us to obtain certification for the protection of sensitive data in compliance with GDPR.
The standard certifies the ethical, secure, and transparent management of personal data, which is an essential element in environmental monitoring and remote control contexts.

This is a unique service at the European level: no other environmental monitoring system has yet achieved this certification, making Avacam a distinctive solution in the sector.

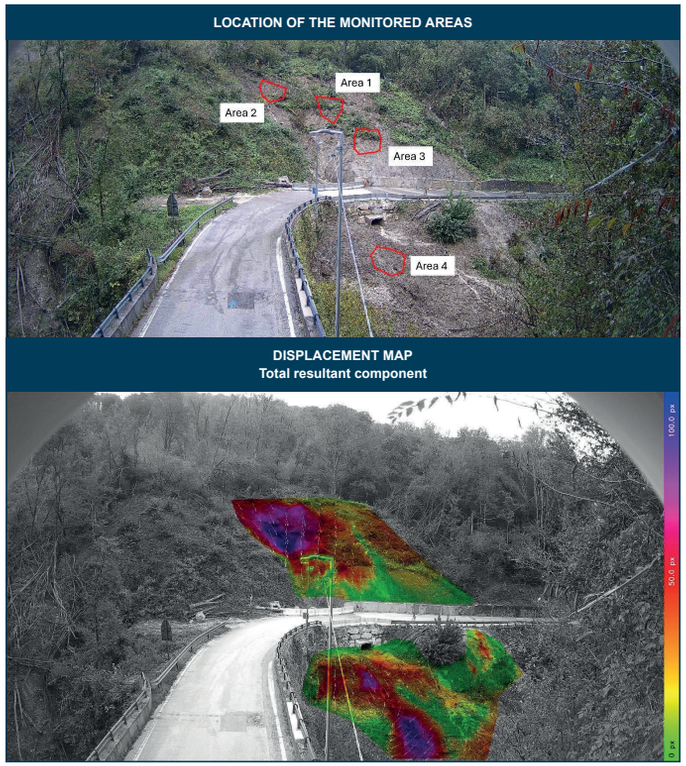
Our devices are designed to be extremely durable, autonomous, and adaptable to the critical environments in which they are installed: they do not require regular maintenance, cleaning, or the use of SD cards. They are sealed against dust, debris, and weather conditions, and can operate continuously for years. Installation is quick and intuitive, taking just a few minutes even for non-technical staff.

All data and images are stored on AWS S3 cloud infrastructure to ensure maximum security, redundancy, and accessibility. In addition, the devices can be equipped with an integrated battery that automatically takes over during power outages, ensuring uninterrupted operation.

We have designed an intuitive and accessible system that requires no external technical or legal support.
In this way, our clients can implement and manage monitoring in complete autonomy, with the highest level of security and regulatory compliance.

Clear and detailed overview: all the data at your fingertips

The collection of environmental data with Avacam is designed to be precise, objective, and reliable, providing all the information needed to support strategic decisions based on concrete, real-time data.



Ground movement detection and analysis

The AI software developed by Avacam is capable of detecting both micro and macro variations in surface and subsurface movements.
Every change is recorded, processed, and graphically represented, making essential information accessible to technicians, public decision-makers, and field operators.

Access Monitoring and Environmental Anomaly Detection

Avacam's platform can also detect unauthorized presence in restricted areas, identifying entries during unusual timeframes or in prohibited zones thanks to intelligent image detection.
In the event of a suspicious detection, an automatic notification is sent via email or directly to the platform's operational dashboard.
This feature is particularly useful for the protection of sensitive areas or scientific equipment installed in remote environments.

Environmental Safety Monitoring

Avacam is able to detect hazardous conditions for the environment or for technicians working on site, such as:

- Localized collapses
- Abnormal accumulations of water or debris
- Sudden increases in humidity or ground inclination

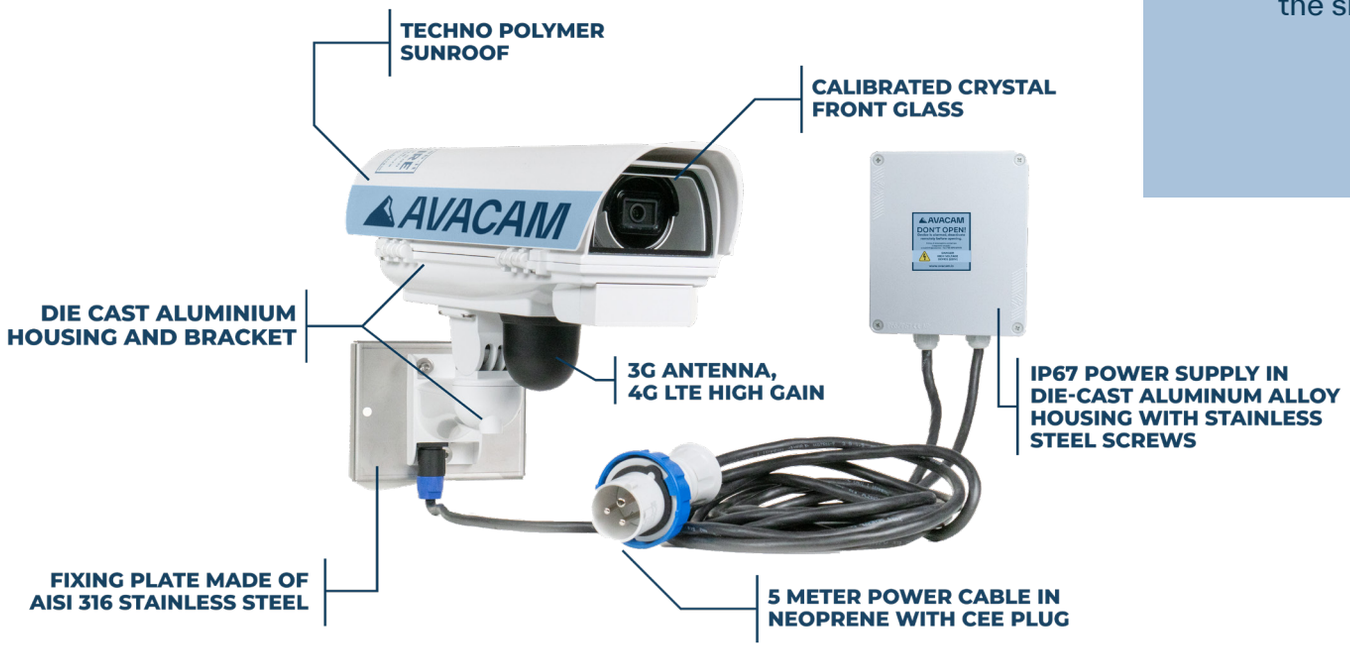
Thanks to its continuously growing database, Avacam's AI is constantly trained to recognize early warning signs of instability, making each alert increasingly accurate and timely.

Technical data

The automatic reports generated by the platform provide a comprehensive overview of periods of greatest geotechnical activity, prevailing environmental conditions and the impact of interventions carried out.

All collected data can be cross-referenced, making it easier to identify recurring patterns or critical anomalies, essential for planning consolidation works and for any preventive evacuation actions.

GEO T8 – High-resolution fixed device



Details

The GEO T8 is an advanced device for landslide monitoring, designed to capture high-definition images. It is equipped with interchangeable lenses, allowing optimal customization for each specific monitoring need. The acquired images are stored on a central server, enabling the creation of high-quality Speed videos that highlight even the slowest landslide movements.

Data security and privacy certifications

The Avacam service, delivered with GEO T8 devices, is certified under the ISDP 10003:2020 standard for the protection of personal data, in compliance with GDPR.
This certification, accredited by Accredia, confirms the company's commitment to promoting a culture of personal data protection and full compliance with European regulations on the processing of sensitive data.

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