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SAIMOS LiDAR IN CRITICAL INFRASTRUCTURE

Ideal for critical infrastructure organizations requiring a high level of accuracy and a low rate of false alarms, SAIMOS LiDAR is designed to help detect perimeter breaches and enable real-time response to threats. It combines industry-leading LiDAR sensors with Intel CPU-based AI video analytics together with our GIS, the SAIMOS Control Center, and all seamlessly integrated into Milestone XProtect. This highly accurate and reliable solution offers effective security protection for your critical infrastructure 24/7 in all light and most atmospheric conditions.

Real-time, real-world location information

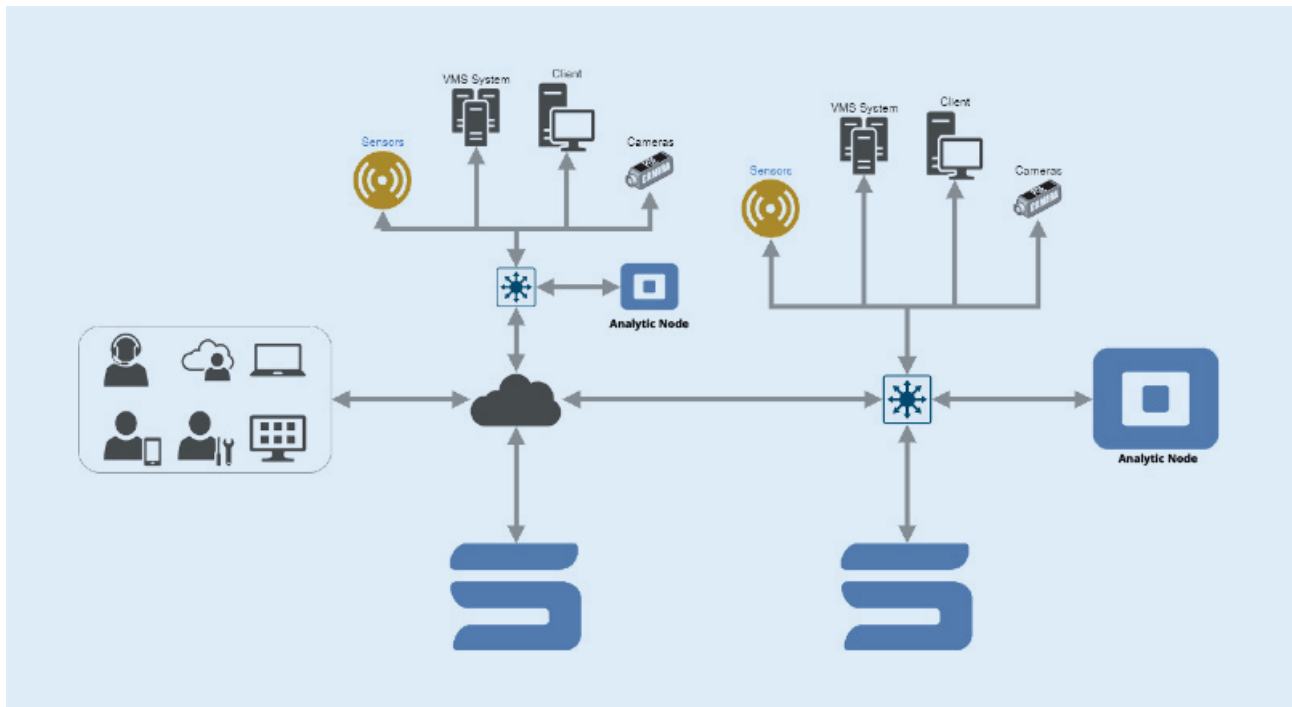
By analyzing the surroundings with laser beams and detecting moving objects such as humans or vehicles, it can help you mitigate risks from intrusion in real-time. LiDAR sensors produce detailed 3D point clouds, and with a respective perception software moving objects are located and tracked, so you have access to the object's real-time location information. For example, with our GIS component, the SAIMOS Control Center, boundary details of guarded objects, real-time security personnel locations, sensor data, alarms, and much more can be displayed on an interactive map. It's also possible to merge third-party data streams onto a base map such as weather conditions and traffic information to support even better decision-making. This map-centric approach allows users to manage operations in a more optimized and coordinated way. For instance, it enables automatic tracking of intruders and ensures security personnel can quickly locate and respond to threats – even multiple intruders are tracked and visualized on a map.

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How does SAIMOS LiDAR work?

SAIMOS Control Center offers enhanced situational awareness by combining XProtect, sensor data, and video analytics with geospatial analytics within the Milestone environment. This highly accurate and reliable 3D LiDAR data lets you quickly identify incidents as they occur ensuring the safety of employees and triggering alarms whenever trespassers enter restricted areas. It's possible to stitch several LiDAR sensors at various points

throughout an area to deliver geographically complete coverage. You can then detect, track, and classify objects based on the 3D point cloud received from the LiDAR sensors. Furthermore, LiDAR perception algorithms can scan the sensor's field of view, analyze point cloud data, and provide anonymized data on detected individuals- all without collecting PII (Personal Identifiable Information) to satisfy GDPR sensitive environments.

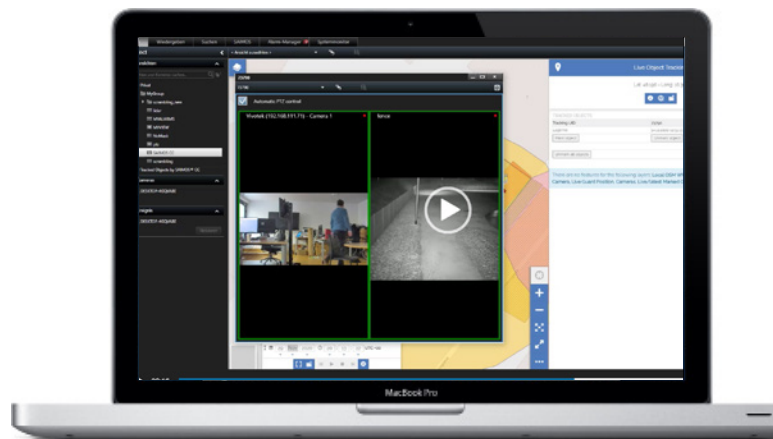


Make sense of your data

LiDAR produces mass point cloud data, which is delivered to a perception software generating real-time data of moving objects. This data can be managed, visualized, and geo-spatially analyzed using the SAIMOS Control Center. This integrated platform links geo-data with data from any source making it the perfect add-on for existing security operation center (SOC) solutions. Daily processes benefit from automated GIS analysis, and with support for geo-spatial technologies, you get faster and more accurate alarm responses. This means you can calculate routes to optimize security patrols and if an alarm occurs, security guards will be informed of the fastest route to the respective object based on iso-chrone calculations.

Extend the capabilities of your LiDAR solution

By combining LiDAR sensors with the wide range of smart near-edge-based AI video analytics available in the SAIMOS portfolio, you can take full advantage of precise and accurate analytics to create an even smarter solution to protect critical areas. For instance, the camera-based SAIMOS Perimeter analytic helps you effectively and reliably protect indoor and outdoor areas against unwanted intrusion. And SAIMOS Face Analytics can detect and recognize faces – ideal for complementing access control solutions.



With SAIMOS Object you can detect left or removed objects in indoor scenarios which can be used to analyze and evaluate emergency exits, escape routes, service passages, or server rooms. SAIMOS 3D Gate Access helps to identify tailgating while SAIMOS LPR offers a flexible and scalable license plate recognition solution for car parks and free-flow traffic scenarios. Additionally, SAIMOS Scrambler reliably blurs moving objects and static areas within video streams to ensure privacy is protected in a monitored area.

Last but not least, the SAIMOS Vehicle Occupancy Detector supports security staff at gates to identify passengers as well as drivers in cars – even through black tinted windows, increasing performance and cost savings. SAIMOS LiDAR is ideal for high-security assets applications that require a high level of accuracy and a low rate of false alarms. For instance, when integrating access control systems with SAIMOS Face Analytics and SAIMOS 3D Gate, it's possible to block tailgaters and ensure only authorized personnel enters secure areas.



With all this real-time information and analysis, the SAIMOS product portfolio offers security and protection at the highest level.



Seamless integration

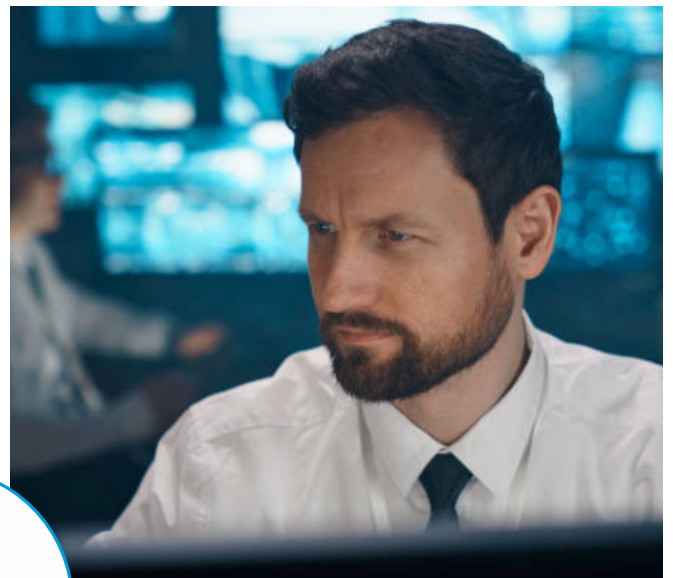
By seamlessly integrating with XProtect, SAIMOS LiDAR offers improved security with minimum false alarm rates, allowing for real-time, cross-camera tracking of intruders, and enabling automated PTZ camera control. The fully integrated, cost-effective, plug-and-play solution empowers security personnel with the tools and information they need to respond to threats confidently.

It's easy to install and configure and includes pre-installed SKUs. Plus, with joint solutions from SAIMOS and Milestone and Intel partners, you have access to a wide range of powerful analytics to make your system even smarter and ensure every solution is tailor-made to specific requirements. Furthermore, LiDAR sensors are also fully integrated with XProtect through SAIMOS LiDAR, so there's minimum configuration required.

Real-time object tracking

SAIMOS LiDAR integrates with PTZ cameras, via the Milestone PTZ-camera control, allowing the sensor data to be used to automate tracking of moving objects in areas of interest – including cross-cameras. With the SAIMOS Control Center's map display, it can continuously track multiple objects across multiple sensors for seamless tracking of an object's movement. This ensures the object(s) always stays in the operator's field of view so you can pinpoint the exact location of a threat on a map enabling quick and effective responses when and where they are needed.

With seamless XProtect Smart Client integration, intrusion and perimeter alarms are sent directly to the XProtect alarm manager, and you can easily mark objects for observation within the SAIMOS Control Center. Pop-ups automatically display and show the video streams from all cameras that can see the object of interest. And, because all sensors and video footage can be managed directly within XProtect, operators can view images of moving targets on dynamic maps enabling them to react and take quick and effective action.

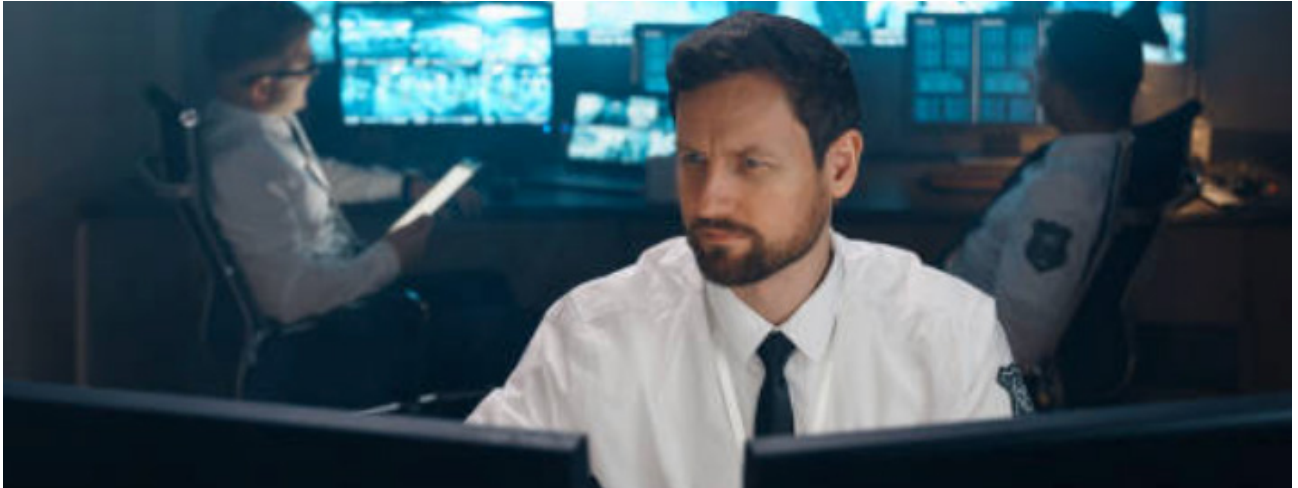


SAIMOS LiDAR is available with either basic or advanced integration to Milestone XProtect.

Functionality	Basic	Advanced
Object Counting	•	•
Occupancy monitoring	•	•
Proximity detection	•	•
Perimeter protection / Intrusion detection	•	•
Seamless integration into Milestone XProtect® Map centric user interface with map interaction Alarms are sent to the Milestone alarm list	•	•
Visualization of LiDAR objects on a map In real-time with a 1Hz refresh rate Object classification is visualized using different symbols		•
Tracking of Objects of Interest By clicking on the map Marked objects can be sent to camera tracking		•
Cross camera object tracking (static cameras) Objects of interest can be visually observed via live video streams Milestone view is launched and showing all relevant video streams "seeing" the object		•
PTZ camera tracking When an object of interest enters the FOV of a PTZ camera, that PTZ camera is controlled by the system in respect of following the target automatically based on the LiDAR tracking data The Milestone PTZ control is utilized for this functionality		•
Alarm zones can be drawn on the map For intrusion detection Classification of an alarm zone can be defined		•
Arming and disarming of alarm zones via the map By clicking on the map Define automatic re-arming after a certain period of time		•
Camera positions can be drawn on a map Camera meta-data and rotation is stored Data relation to Milestone XProtect®		•
Field of View polygons can be drawn on a map Meta-data is stored Camera relation is established		•
Base map data support OGC compatible map services (online/offline) Map services: Bing Maps, Google Maps, OSM or Esri		•
Local floor plan support Can be stored within the geo-database Can be locally administrated		•

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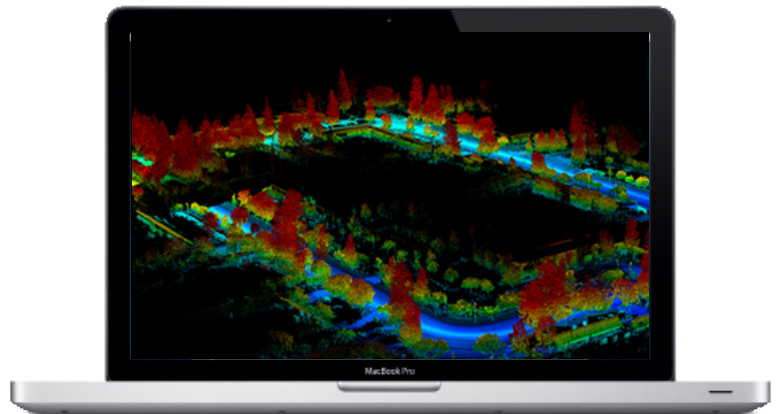


Smart, scalable solution

Both the Milestone, Intel, and SAIMOS platforms offer an open environment with integration out-of-the-box so you can easily create additional integrations with multiple technologies—all tailored to your specific requirements. For instance, you can create enterprise solutions where users can take advantage of a wide range of smart AI video analytics such as people counting, occupancy, face analytics, object detection, proximity detection, and more.

Lower total cost of ownership

Available both on-premise as well as in the Cloud, SAIMOS Control Center and SAIMOS LiDAR integrate seamlessly into Milestone XProtect and Intel OpenVino enabling great flexibility, advanced vision capabilities, and deep learning inference using CPUs and VPUs for video analytics. With no GPU required and easy deployment, configuration, and management, SAIMOS LiDAR requires less hardware and labor cost and offers lower Total Cost of Ownership (TCO). Per-channel server-side hardware costs are around EUR 40 for standard video analytics considering industrial-grade Intel silicon for long-live durability.



OpenVino significantly improves the inference runtime and increases vision data processing and performance of AI capabilities at the edge. The efficient and intelligent processing of video streams helps deliver valuable insights about your business. And it's possible to leverage computer vision and deep learning capabilities on existing cameras and edge devices. Furthermore, because OpenVino improves the speed and scalability of edge-based processes it helps reduce the cost of cloud processing and hosting.



Availability and support

SAIMOS products and services are globally available through local distributors and qualified sales channels or directly from SAIMOS. Simply provide a short description of your particular use case and a floor plan or base map, and SAIMOS will support your order with a customized design as well as commercial and hardware calculations if required. SAIMOS also offers pre-sales and technical support for their products and services as well as project-specific customizations.

You can receive SAIMOS pre-sales support online and where possible on-site, via e-mail, telephone, or the SAIMOS Help Desk. Furthermore, most SAIMOS Video Analytics products are available for 30 days free evaluation from the date of installation.