

snowcam

**Visual AI for camera based detection
of snow coverage on the ground**





Innovative technology

snowCAM blends proprietary computer vision technologies and cutting edge visual AI for using cameras to detect the presence of risky snow coverage on the ground. While snowCAM is particularly suited for automated road pavement control along large road networks, it can also be used to retrieve information about the presence/absence of snow in many other contexts, like urban or natural environments.

Digital outputs

snowCAM works with outdoor IP CCTVs to return minute by minute updates on the presence and extension of snow surfaces within one or more regions of interest set in the camera view. snowCAM data are digital by nature and can be exchanged both as telemetry and custom alerts via MQTT or https protocols, making communications with control rooms and third party decision support systems easy and straightforward.

Your measurements, your privacy

snowCAM is an edge native application, meaning that it runs directly onboard smart cameras by supported manufacturers, or local processing units installed within the camera network, like the Climate Camera Kit that we developed in collaboration with Eurotech. This keeps your images and privacy safe (snowCAM is GDPR compliant) with no need to open your network towards remote cloud servers.

TECHNICAL DATA

Performed measurement

Operating principle	Software video analysis
Detected feature	Snow settled on the ground
Measured variable	Extension of the detected snow surface, as a percentage of a reference region of interest
Sampling frequency	12 Hz (images per minute)
Measurement cycle	1 min

Camera requirements

Camera type	Visible IP camera
Camera format	Box, bullet or PTZ
Sensor dimension	1/2.8" or greater
Image resolution	fullHD 1080p (1920 x 1080 px)
Max operational focal length	10 mm with 1/2.8"
Camera position and angle	Horizontal $\pm 10^\circ$
Light conditions	The presence of visible light sources is required during nighttime

Output

Data communication	10/100 Mbps Ethernet 4G LTE (external router and SIM required)
Data output protocols	MQTT, https
Data format	JSON formatted text
Data channels	Telemetry and alerts (based on custom thresholds)