



floodcam

**Visual AI for camera based
detection of flooded areas**



Innovative technology

floodCAM blends proprietary computer vision and machine learning techniques to use surveillance cameras to detect flooded areas on the ground, like the ones that may affect road pavement, underpasses and riverfronts. floodCAM can be used with both bullet/box and PTZ cameras also to detect the effects of liquid spills in indoor environments, like industrial plants and productive sites.

Digital outputs

floodCAM works with both indoor and outdoor IP CCTVs to return minute by minute updates on the presence and extension of free water surfaces within one or more regions of interest set in the camera view.

floodCAM 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

floodCAM 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 (floodCAM 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	Free water surfaces (not simply wet surfaces)
Measured variable	Extension of the detected water 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)