

ANTI-CONTACT SAFETY MEASURES, IN BIELLA THE FIRST ITALIAN SCHOOL "GOVERNED" BY ARTIFICIAL INTELLIGENCE

V-App Smart Integration Platform, the digital solution that detects distances and reports social gatherings

THE CASE

The Istituto Superiore Bona in Biella is the first school in Italy to adopt the V-App platform, developed by Bizmate on Cisco Meraki technology. This Social Distancing Monitoring System was tested for the school's final exams in order to evaluate and assess its effectiveness in a complex environment. As a matter of fact, the school offers areas that are dedicated to different uses (laboratories, classrooms, gyms etc.) and where, albeit observing the anti-Covid-19 safety requirements, pupils and school staff have now returned with greater ease and confidence.

Through the use of "intelligent" video cameras positioned in strategic points around the Institute, V-App monitors the safe distance between people, as well as the degree of crowding in common areas and specifically sensitive areas such as entrances and toilets.



Thanks to a sophisticated recognition algorithm, this technological solution also allows for monitoring of the use of protective masks. The analysis of the data in real-time is completed by a multi-channel alarm and notification management system regarding both the number of people present and the lack of masks.

Cisco Meraki and Bizmate together to support the restart of schools with new artificial intelligence technologies



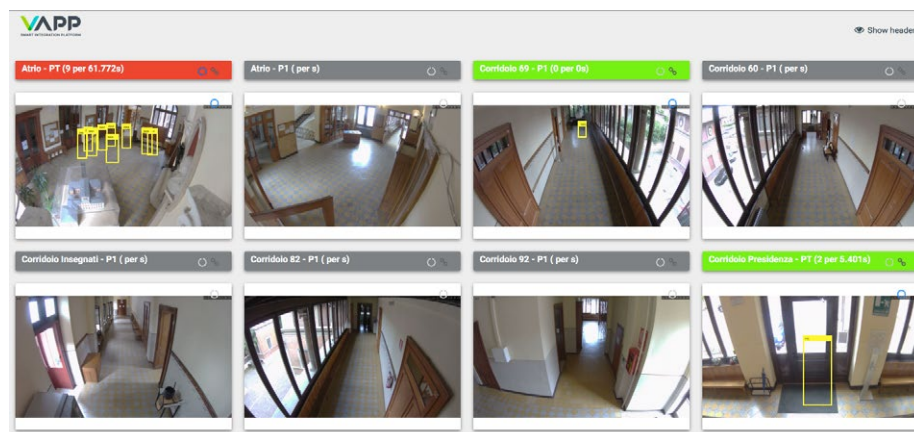
THE SOLUTION

V-App Social Distancing Monitoring

V-App analyzes in real time the data collected in a completely anonymous manner by the Cisco Meraki cameras. Moreover, thanks to the help of interactive maps, the system allows the user to promptly intervene in the event of high-risk events (e.g. gatherings).

Upon the occurrence of a so-called "collision", i.e. when two or more people are too close to each other with respect to the suggested distance and for too long a time, V-App detects the event and sends alert notifications through the commonly-used instant messaging platforms (Webex, Messenger, Telegram and Whatsapp), as well as via email and SMS, or by multimedia alerts on monitors and audio devices. The system can also be used to monitor sanitation and cleaning activities in frequently used areas.

For example, there are monitors near the toilets, warning if they are occupied or if they are inaccessible as they await the intervention of the staff for sanitation activities.



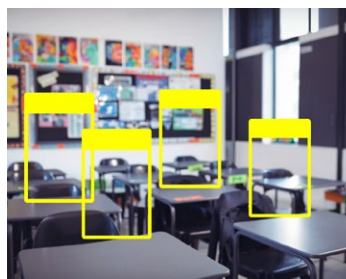
A non-invasive and privacy-friendly monitoring tool

The V-App platform is a highly reliable, non-invasive and totally discreet monitoring solution – there is nothing to remember, no device to wear, which you can lose or forget. The operating process of the various V-App application components and data processing comply with the requirements of the GDPR and privacy regulations.

The processing and display of the collected data is carried out in a strictly anonymous manner, without any treatment and reference to personal data.

The Visual Analytics technology used in the V-App does not record recognizable images, but only detects proximity and evidence (such as the presence of the mask).

The position information is also completely anonymous and refers to "generic" entities without any correlation or reference to individuals.



An "intelligent, preventive and educational" safeguard

The V-App solution offers a complete and innovative archetype, from the technological point of view as well as regarding the perception by students and school staff. V-App overcomes the approach of the most classic video surveillance systems, introducing artificial intelligence algorithms based on events, forms, rules and thresholds, offering a system that can identify "risk situations" in a context of progressive "learning".

Consequently, V-app is a tool of "control" but of an "educational" control with logics of prevention and progressive awareness.

Risk reports and the intervention of employees are only a reinforcement. The goal is to offer prevention, helping students move towards new social attitudes and habits.

The challenge



"The system, created in collaboration with the technological partners Cisco Meraki

and Bizmate (an Italian software company), will be tested during the school's final exams. The goal is to assess its effectiveness in a complex and lively building like a school, made up of areas and environments dedicated to different uses and where, while observing the anti-Covid safety regulations, pupils and school staff will be able to return to an albeit timid normality of learning activities", explains the school's principal, Raffaella Miori.

«Thanks to the high reliability of technology that adapts and learns within the environment in which it operates, based on the flows of people detected, this is a non-invasive and privacy-friendly monitoring tool, transparent and highly discreet». She wraps up by saying, «Above all, there is nothing that you have to wear (and perhaps risk forgetting) like bracelets or badges».

The results in the period of the high school exams

TR - Traffic Reported

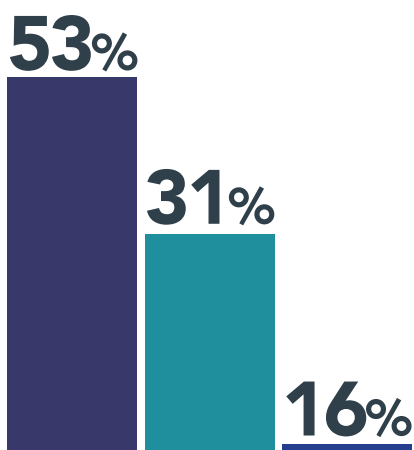
Number of presences detected and managed by the monitoring system

	TOT PERIOD	FIRST WEEK	SECOND WEEK
TR Total	1557	777	780
TR Max daily	200	170	200
TR Average daily	130	130	130

SDE - Social Distancing Event

Number of Social Distancing events

	TOTAL	ZONE 1	ZONE 2	ZONE 3
Total SDE	1136	657	367	112



09:00 AM

- Short gatherings (with duration < 20 seconds)
- Mid-length gatherings (lasting 20-60 seconds)
- Long gatherings (lasting > 60 seconds)
- Greatest number of gatherings (Time slot)

MD - Mask Detection

Mask Detection event distribution

	TOTAL		ENTRANCE TO SECRETARIAT	ENTRANCE TO PRINCIPAL	ENTRANCE
	Mask	No Mask	No Mask	No Mask	No Mask
Total MD	57%	43%	9%	13%	21%

VAPP

V-App - Smart Integration Platform is a project by:

Bizmate s.r.l.

Ph: +39 095 388583

www.v-app.io | info@v-app.io

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