

**SAFECARE**

*Integrated cyber-physical security for health services*



# Physical Security Demonstration

*SAFECARE Awareness Event, 1<sup>st</sup> February 2021*

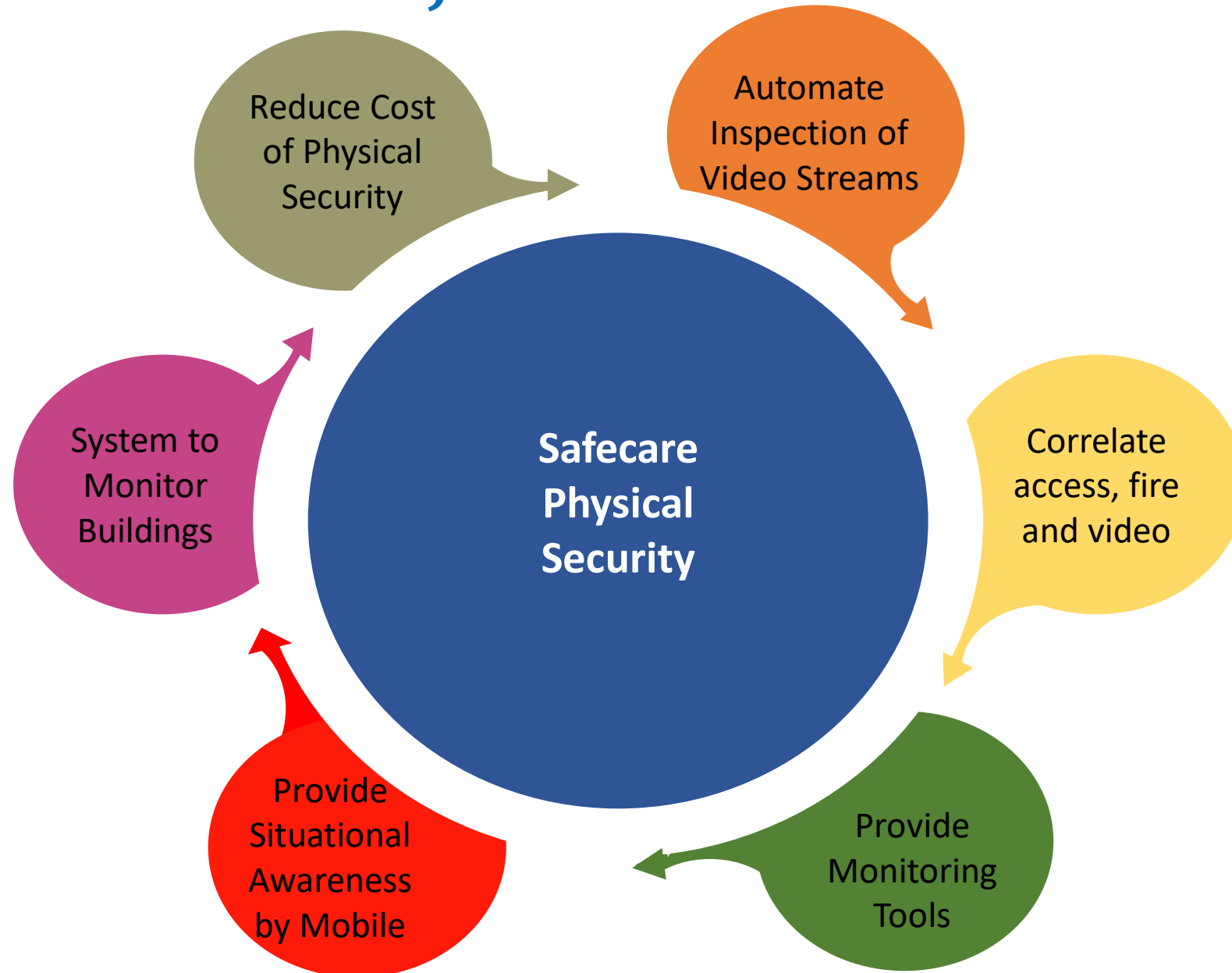
*Dr. Barry Norton, Milestone Systems*

# Project Objectives

Objective	Covered by
O1: To develop intelligent modules and integrate efficient technologies to improve physical security.	<ul style="list-style-type: none"><li>➤ Suspicious behaviour detection.</li><li>➤ Intrusion and fire detection.</li></ul>
O3: Provide cost-effective solutions taking into account the latest financial restrictions within the European Union.	<ul style="list-style-type: none"><li>➤ BTMS based on existing Video Mgt. System, XProtect.</li></ul>
O4: To develop intelligent modules to integrate different data sources and better take into account the combination of physical and cyber security threats.	<ul style="list-style-type: none"><li>➤ Integration of data collection, and cyber incidents / impact models, via Data Exchange Layer.</li></ul>
O6: To improve threat detection capacities: data fusion, analytics, cascading effects models, notification of alerts.	<ul style="list-style-type: none"><li>➤ Implementation of complex events, e.g. tailgating, via rule engine, to alarm system of BTMS.</li></ul>



# WP4 Main Objectives



# Suspicious Behaviour Detection System



To develop intelligent modules and integrate efficient technologies to improve physical security.



Carries out video analytics on cameras attached to the XProtect VMS providing:

- Weapon Detection,
- Covered Face Detection,
- Crowding Detection,
- Loitering Detection,
- Suspicious Interaction Detection.



Integration with the Data Exchange Layer, allowing these alerts to be displayed and evaluated in the Mobile Alerting System, as well as the Building Threat Monitoring System (BTMS = XProtect SmartClient).



Leader:

Milestone

Contributors:

KUL, LINKS, CSI,  
ASLT05, BEIA

# Intrusion and Fire Detection System

Leader:  
Milestone  
Contributors:  
KUL, LINKS, CSI,  
ASLT05, BEIA



**To develop intelligent modules and integrate efficient technologies to improve physical security. To develop intelligent modules to integrate different data sources and better take into account the combination of physical and cyber security threats.**



Carries out video analytics on cameras, combined with devices (fire detection and access control systems) attached to the XProtect VMS detecting:

- Fraudulent use of access control
- Tailgating
- Breaking by force
- Fire detection.



Integration with the Data Exchange Layer, allowing these alerts to be displayed and evaluated in the Mobile Alerting System, as well as the Building Threat Monitoring System (BTMS = XProtect SmartClient).



# T4.3 Data collection system

Leader: **BEIA**  
Contributors: **Milestone, KUL, LINKS, CSI, ASLT05**



To develop intelligent modules to integrate different data sources and better take into account the combination of physical and cyber security threats.



Collects data from

- Fire detection,
- Heating,
- Ventilation,
- Air conditioning,
- Power supply.



Integration with the BTMS, and thereby Data Exchange Layer, allowing alerts to derived directly, or in combination with data analytics including video analytics, and display in BTMS and MAS.



# Mobile alerting system



**To improve threat detection capacities:** data fusion, analytics, cascading effects models, notification of alerts.



Provides mobile interface for phones and tablets, allowing:

- Alert evaluation,
- Incident reporting,
- Incident history,
- Impact evaluation,
- Threat response.



Integration with the BTMS and Data Exchange Layer, allowing alerts to be viewed and evaluated in either (or both) interfaces, and novel incident reports to be viewed in BTMS, as well as propagated to WP6, etc.



Leader:

**LINKS**

Contributors:

**Milestone, KUL,  
BEIA, CSI, ASLT05**

# Building Threat Monitoring System



**To improve threat detection capacities: data fusion, analytics, cascading effects models, notification of alerts. Provide cost-effective solutions [...]**



Integrates previous work with Milestone XProtect Video Management System:

- Alerts and incidents shown in alarm view,
- Alerts and incidents shown in map view,
- Maps extended to show other devices than video, and assets,
- Alarms extended to be attached to novel devices,
- Data analytics and complex rules.

} Features already released in XProtect 2020R2, more in XProtect 2021 R1



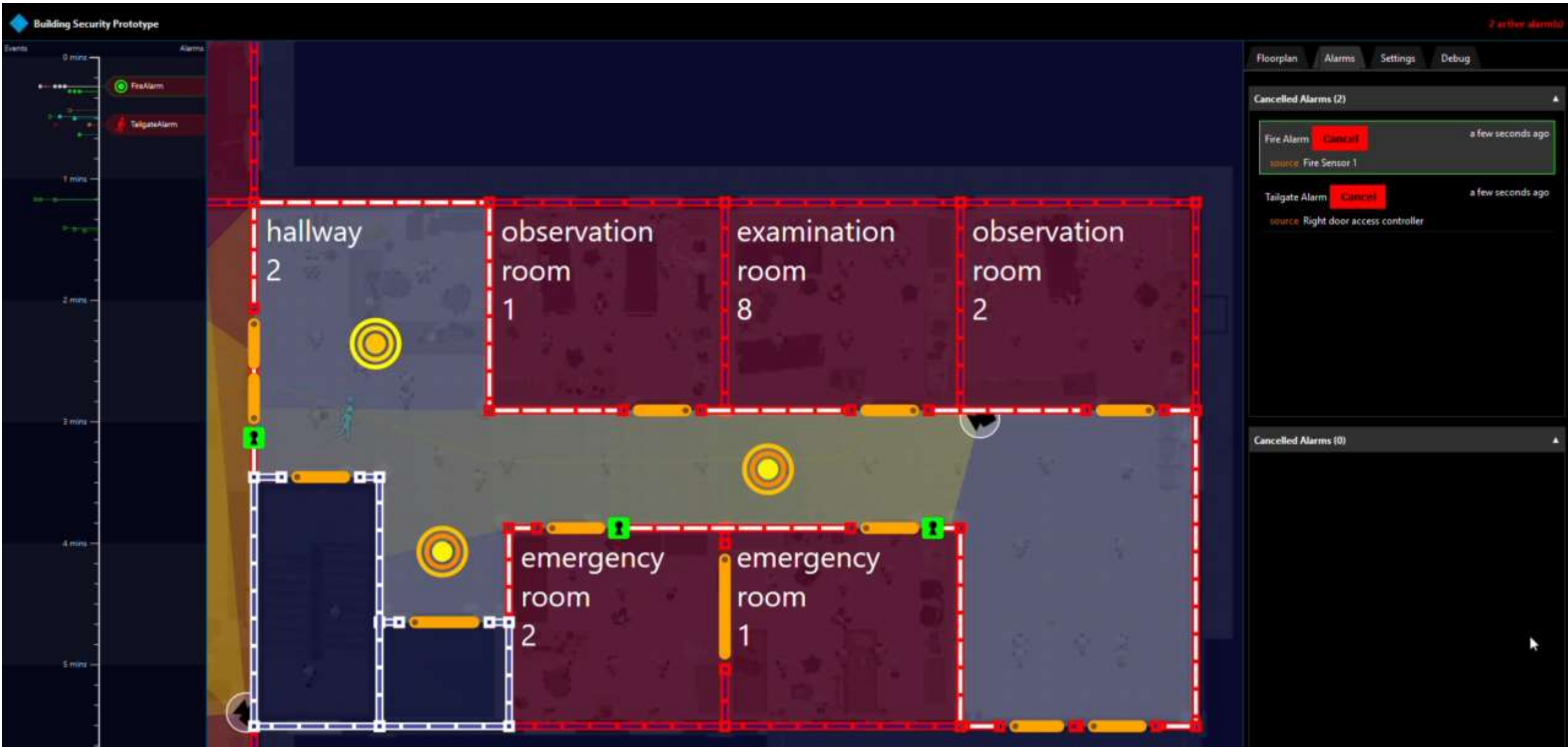
Integration with the MAS and Data Exchange Layer, allowing alerts to be viewed and evaluated in either (or both) interfaces, and novel incident reports to be viewed in BTMS, as well as propagated to WP6, etc.



# Demo – Virtual Hospital (with CCTV, Access Control and Fire Sensor Integration)



# Demo – Prototype Web Interface



# Demo – Building Threat Monitoring System

Milestone XProtect Smart Client 24-11-2020 12:49:09

Live Playback Search Alarm Manager Access Control System Monitor

XProtect

Views

Search views and cameras...

- MyRole
- Private
  - New Group
  - SafeCare
    - Lab door
    - Lab map
    - Test set-up
  - Smuk fest
- Cameras
  - DKWS-VT02-03

Test set-up

AXIS P1346 Network Camera (10.10.16.252) - Camera 1

AXIS P1346 Network Camera (10.10.16.254) - Camera 1

person 897

Select a location...

BYGNING 1

Canon VB-H45 (10.10.17.85) - Camera 1

AXIS P1346 Network Camera (10.10.16.254) - Camera 1

Quick Filters

- New (1)
- In progress (0)
- On hold (0)
- Closed (35)

Alarms No filter


Time	Priority Level	State Level	State Name	Message	Source
12:49:05 24-11-2020	4	1	New	Tailgating at Left door	AXIS P13


Reports 1-1




# Demo – Mobile Alerting System

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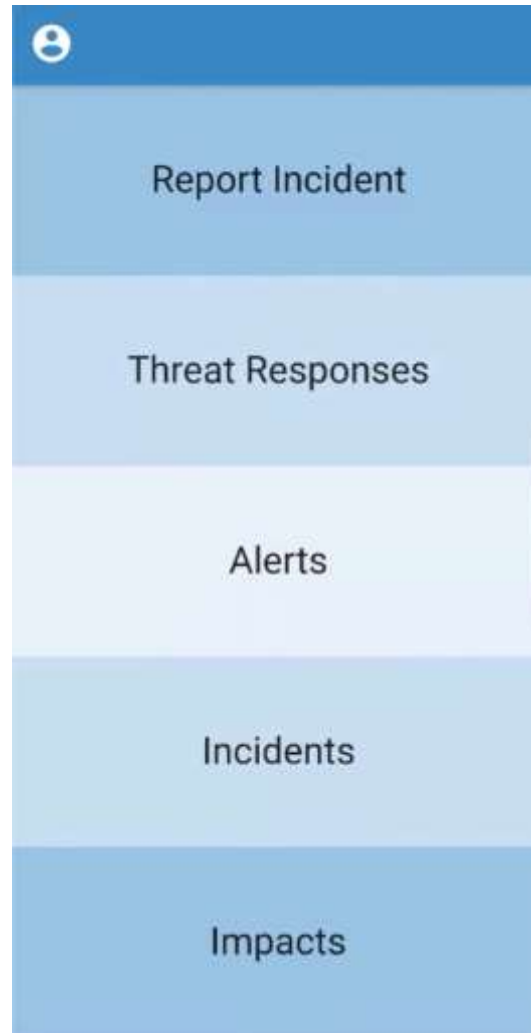
 bno@milestone.dk

 .....

Select Facility 

Remember me ☐

Login

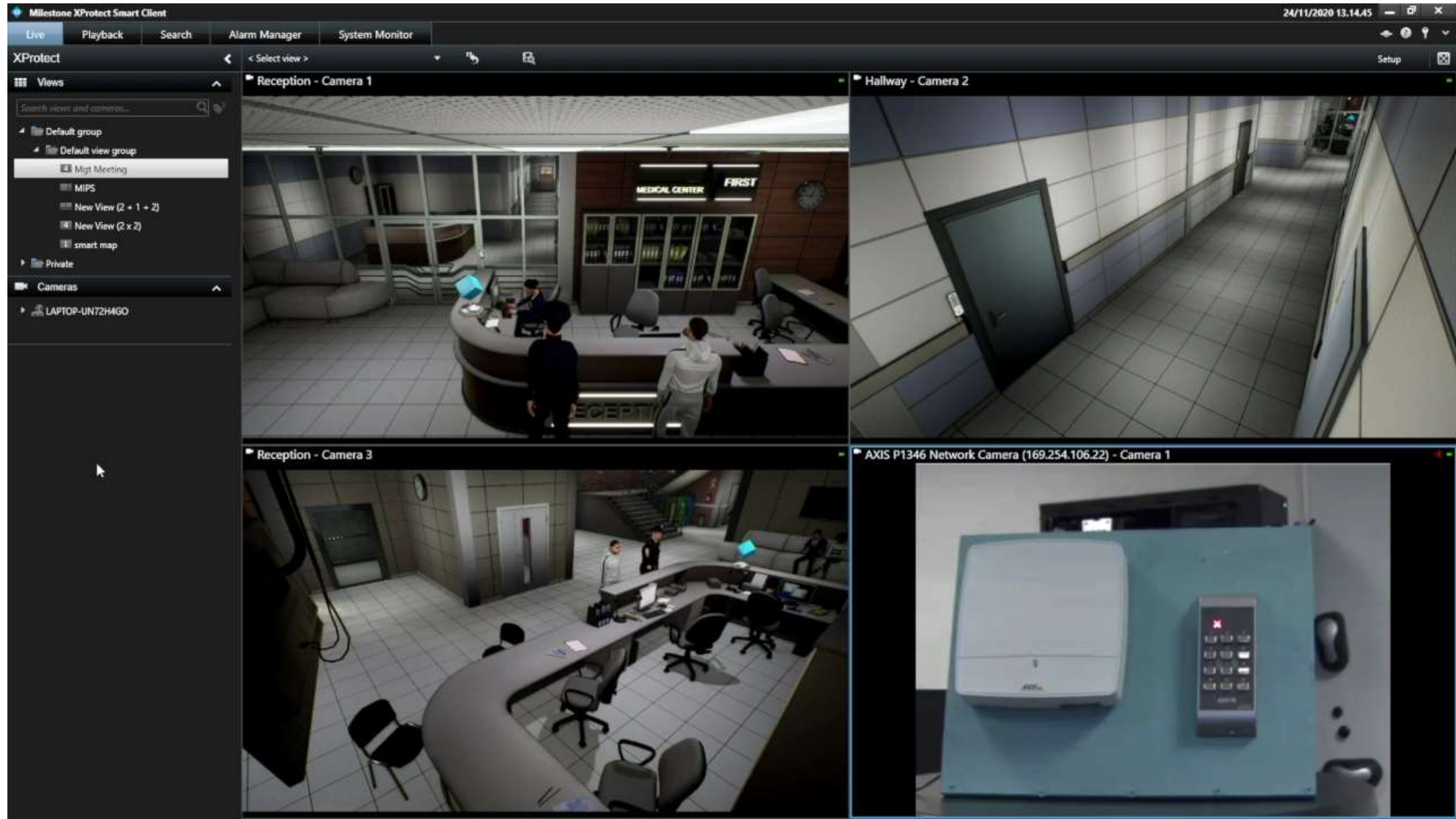


# Virtual Hospital

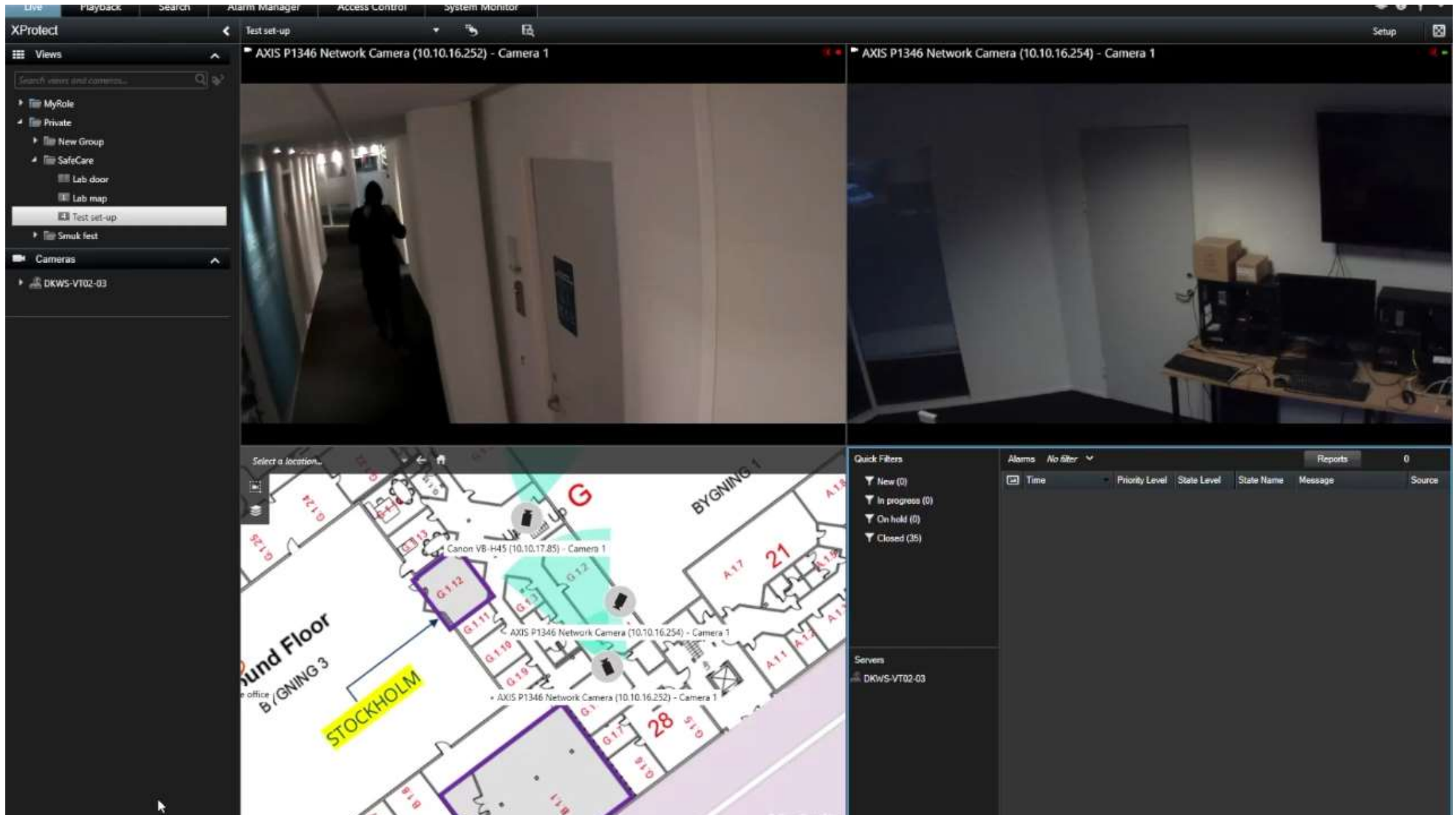




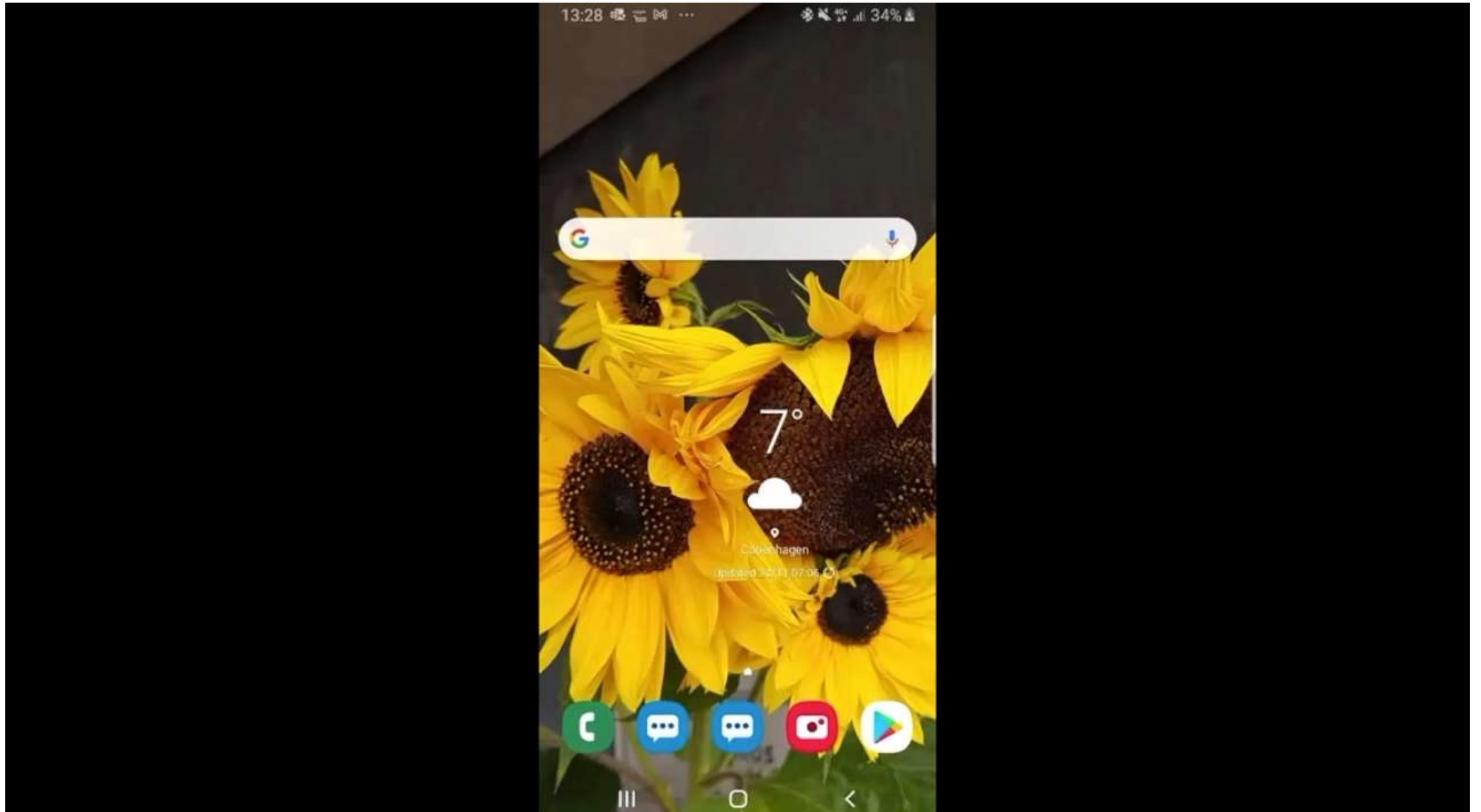
# Tailgating in Virtual Hospital



# Tailgating in Milestone Research Lab

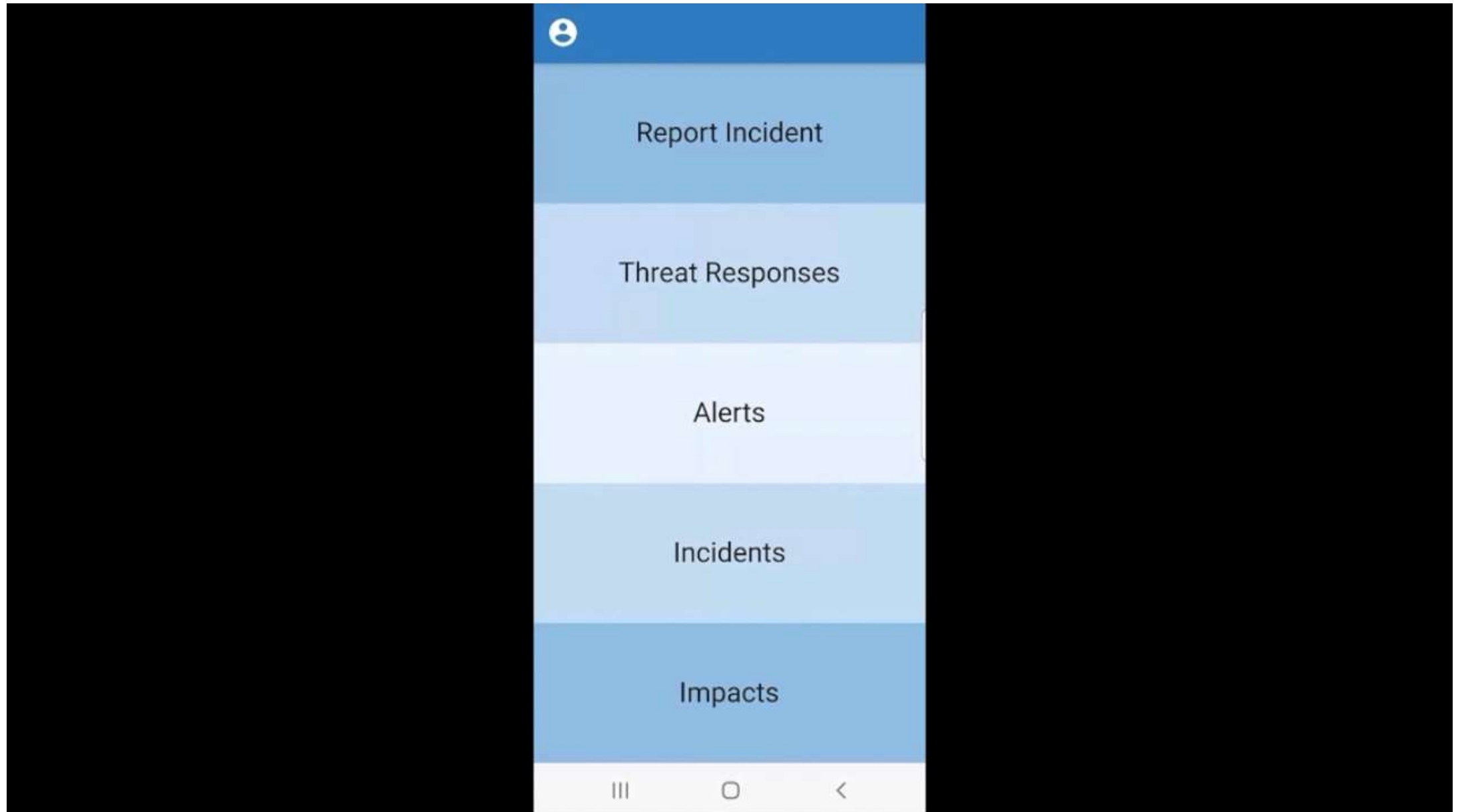


# Tailgating & Mobile Alerting System





# Reporting Incident from Mobile Alerting System



# Thank you !

More details available on:

- Our website: <https://www.safecare-project.eu/>
  - Twitter: @SafecareP
  - LinkedIn: SAFECARE Project

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