



# Smart Education Solutions

AI-Powered Campus Analytics and Automated  
Classroom Occupancy Framework

# WHAT IS 6SS?

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## Vision & Team

Founded in 2013, 6SS is an American software company where high-caliber IT professionals, neural network engineers, and product strategists build impactful, intelligent computer vision technologies.



## Global Portfolio

Our expansive software ecosystem boasts over 20+ advanced video analytics modules optimized for enterprise architectures. Leading capabilities span facial recognition, automatic license plate tracking (LPR), smart parking, forensic video searches, and centralized management solutions.

# WHY 6SS?

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## Scalability

Manage and orchestrate thousands of cameras simultaneously across large distributed clusters using our failover platform architecture.



## Flexibility

Select tailored modules that fit your precise scope, backed by flexible pricing structures and custom feature engineering.



## Data Privacy

Data remains completely on-premises. 6SS never transmits or hosts institutional footage on external servers.



## Cost Efficiency

Optimized algorithms reduce hardware footprint, yielding a total cost of ownership 50% lower than competitors.

# University Project in UAE

A Deep Dive into Our Deployment of Automated Attendance & Occupancy Analytics

# AUTOMATED ATTENDANCE

Advanced biometric entry and exit monitoring:

-  **Frictionless Check-in:** Inside-classroom IP cameras recognize faces against enrollment rosters, logging attendance automatically.
-  **Active Time Tracking:** Monitors the duration a student spends inside vs. outside class to verify minimum course attendance quotas.
-  **Automated Reporting:** Generates granular, schedule-mapped reports tracking late arrivals, early departures, and absences.

/ClassRoomReport.aspx

### Classroom Reports

| PERSON      | ROOM | STATUS  | ENTER TIME | EXIT TIME | TIME IN CLASS (MIN) | TIME BETWEEN ENTRY/EXIT (MIN) | BREAK TIME (MIN) | NUMBER OF BREAKS | LATE BY (MIN) | LEFT EARLY BY (MIN) | ARRIVED LATE | LEFT EARLY | IMAGE                                                                               |
|-------------|------|---------|------------|-----------|---------------------|-------------------------------|------------------|------------------|---------------|---------------------|--------------|------------|-------------------------------------------------------------------------------------|
| Guru Prasad | POC  | Present | 12:10      | 12:35     | 25                  | 25                            | 0                | 1                | 10            | 5                   | Yes          | No         |  |
| Sabtain Ali | POC  | Present | 12:11      | 12:48     | 37                  | 37                            | 0                | 1                | 11            | 0                   | Yes          | No         |  |
| Rashid      | POC  | Present | 12:11      | 12:35     | 24                  | 24                            | 0                | 1                | 11            | 5                   | Yes          | No         |  |
| Syed Saqib  | POC  | Present | 12:11      | 12:13     | 2                   | 2                             | 0                | 1                | 11            | 27                  | Yes          | No         |  |
| Raul        | POC  | Absent  |            |           | 0                   | 0                             | 0                | 0                | 0             | 0                   | No           | No         |  |

# CLASSROOM ACCESS SECURITY

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## Intrusion Alerts

Receive immediate security alarms if a non-enrolled person enters a classroom while a course is actively in session.



## Anti-Tailgating Detection

Identify tailgating incidents at secure doors using video analytics that count physical passes per authorized scan.



## Restricted Staff Areas

Enforce strict, keyless access permissions for academic staff offices, testing facilities, and laboratory doors.



## Automated Truancy Alerts

Notify control operators automatically during class session for students skipping class.

# STUDENT SAFETY & CONTROL

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## Early-Warning Dispatch

Notify control operators automatically during abnormal activity, allowing swift investigative response to protect campus sites.



## Evacuation Safety

Detects sudden crowd gathers and blockages at exits and terminal points to guarantee optimal spatial evacuation routes.



## Hallway Density

Monitors occupancy inside major thoroughfares, corridors, and lounges to prevent campus truancy or localized altercations.

# CAMPUS OCCUPANCY MAPPING

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## Occupancy Counters

Uses virtual tripwires and region-of-interest (ROI) polygons across existing CCTV feeds to calculate live campus-wide occupants and real-time footfall totals.



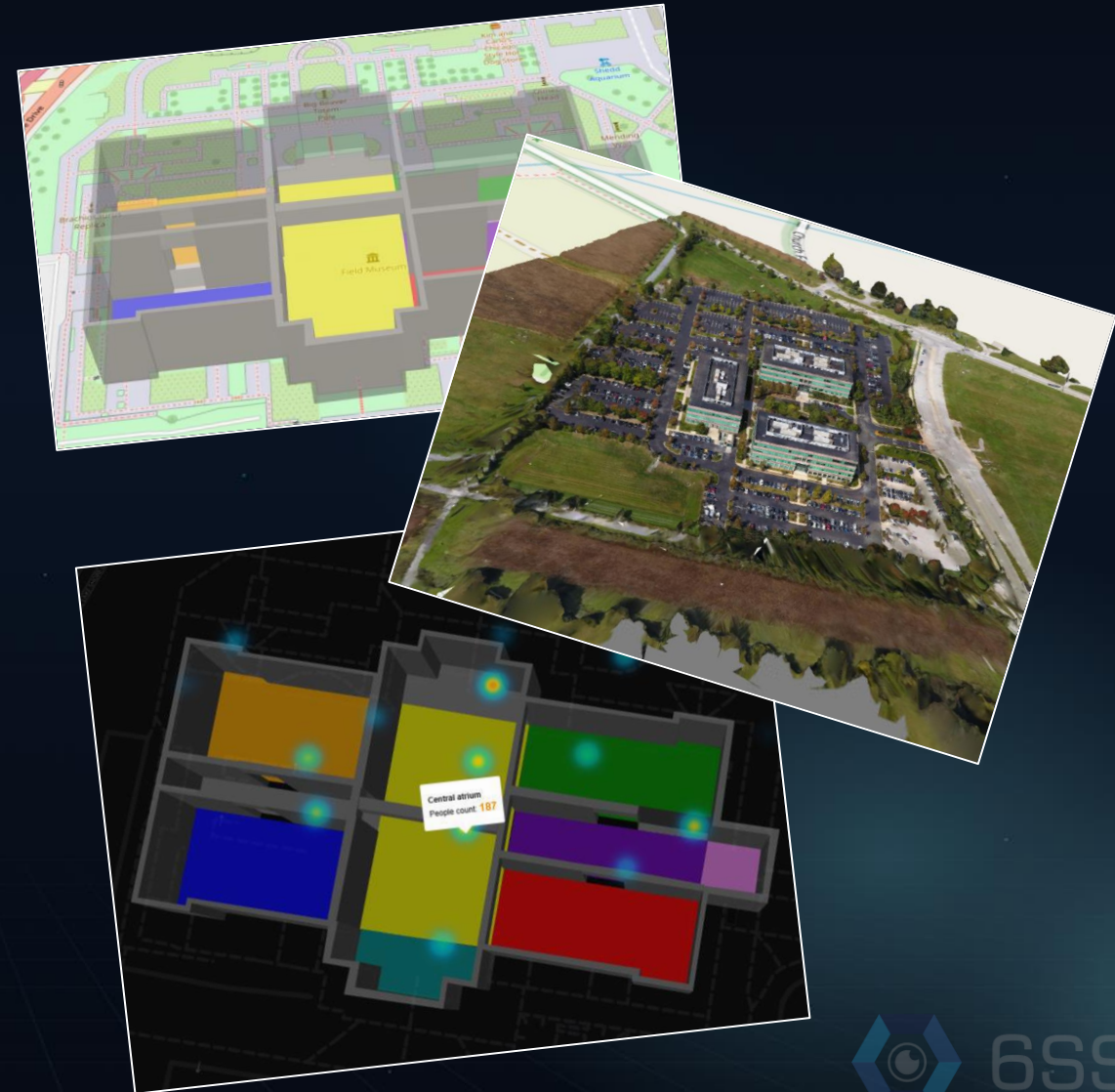
## HVAC & BMS Integration

Exposes open REST APIs and standards-based protocols (MQTT, BACnet/IP) to feed occupancy data into HVAC systems, optimizing campus power usage dynamically.

# DYNAMIC CAMPUS MAPS

Sophisticated geographic and structural mapping:

-  **3D Campus Photogrammetry:** Renders campus structures using Cesium 3D Tiles datasets for a complete spatial awareness overview.
-  **GeoJSON Floor Plans:** Converts indoor facilities, hallways, and classrooms into searchable geometric polygons.
-  **Dynamic Heatmaps:** Displays real-time student traffic density patterns across campus levels for better space design.



# PERIMETER PROTECTION

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## Intrusion Detection

Automatically flags boundary line crossings to safeguard university borders from unverified vehicles or individuals.

## Smoke & Fire Alarms

Locates early-stage fires in open athletic fields and critical technical infrastructure, capturing precise time and location details.

## Remote Site Inspection

Conduct automated video patrols across expansive campus zones, eliminating the need for security personnel's physical presence.

## Device Agnostic Open API

Easily forwards alert notifications to custom email channels, SMS networks, security consoles, and mobile device portals.

# Any Questions?

## CONTACT US



### HQ ADDRESS

7725 Bryant Ave N  
Brooklyn Park, MN 55444 USA



### PHONE SUPPORT

+1 (651) 233-0977



### EMAIL US

[info@6ss.co](mailto:info@6ss.co)

[sales@6ss.co](mailto:sales@6ss.co)



### WEBSITE

[www.6ss.co](http://www.6ss.co)