

AI: The Next Frontier for  
Irish Construction

**CITA** | **TECHLIVE**  
2024 | AI in Construction

Oussama Bonnor

AI + Construction: An Evercam Perspective.

## Evercam

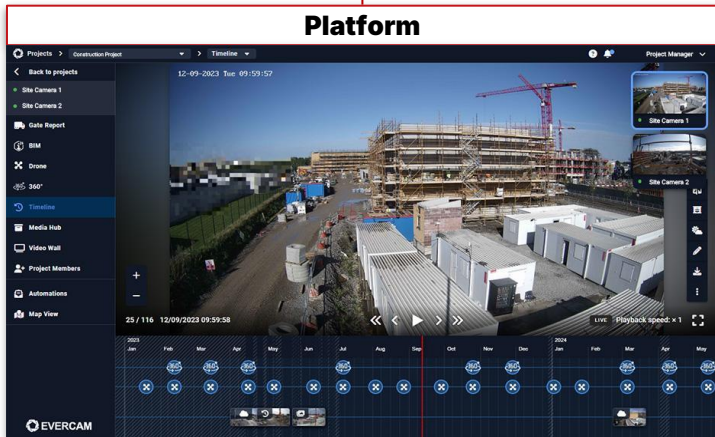
**1200+ Projects**  
Live in **24 countries**

**20k Users**  
Succeed with Evercam

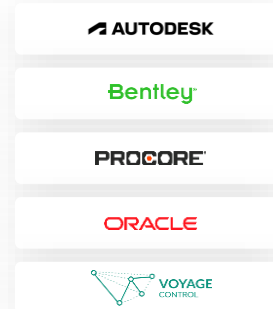
**\$400bn**  
in Construction Projects



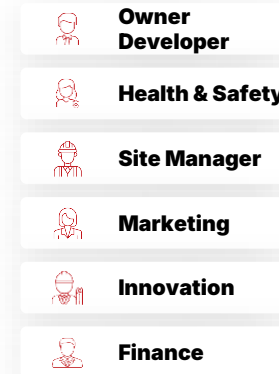
## Construction Visibility Platform



### Connectors

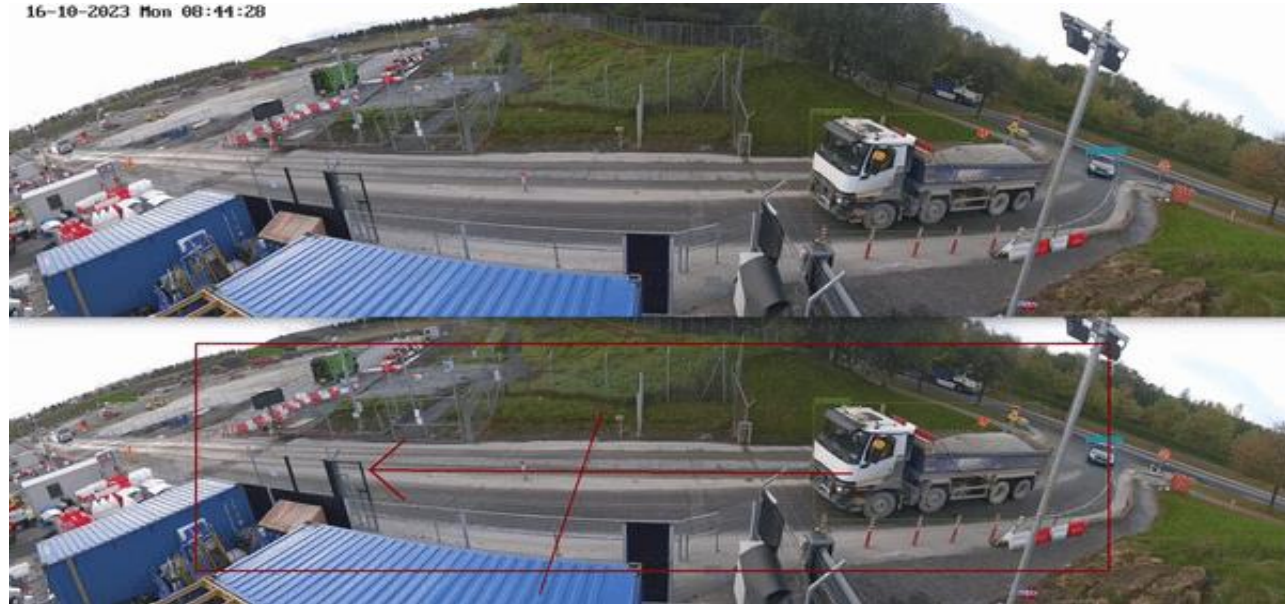


### Insights For




# | What is the Gate Report?

Gate Report identifies all vehicles that enter & exit your site and provides you with an in-app & PDF/CSV report.



## | Why did Gate Report V1 perform poorly?

- Relying on a single model.
  - Using Object Detection first.
  - Having blind spots or tricky angles.
- 
- New vehicles not included in training data were missed.
  - Matching vehicles were confused when entering/exiting in different order.
  - Occasional occlusion caused data loss.

# ANPR Camera

ANPR cameras, also known as Automatic Number Plate Recognition devices, are used to read a vehicle's number plate. The technology is designed to detect number plates whilst vehicles are stationary or travelling a certain speed.



## | Gate Report V2



**ANPR Recording**



**Context Camera Recording**



**ANPR data**



**Vehicle Direction**



**Time of Entry/ Exit**



**Vehicle Type**



**Report**

## Here's the result



AI + Construction: An Evercam Perspective.

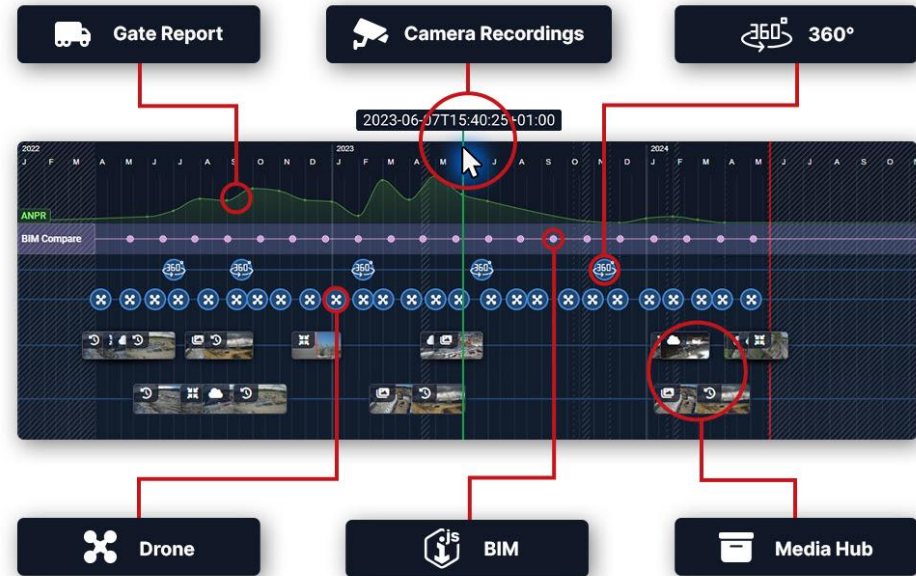
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## Telling a Story in Timeline

We decided to start capturing all the events all the time to offer a global view of what happened in site:

- All input systems included (camera, drone, GR, 360...).
- All visual events on the same place.
- Everything is considered an event in time with a certain type.



# Timeline in Action

The screenshot displays the Evercam software interface for a construction project. The main view is a live video feed of a construction site, showing a large building under construction with scaffolding and a red crane. The interface includes a left sidebar with navigation options: Back to projects, Site Camera 1, Site Camera 2, Gate Report, BIM, Drone, 360°, Timeline (selected), Media Hub, Video Wall, Project Members, Automations, and Map View. The top right corner shows 'Project Manager' and a notification icon. The bottom of the interface features a timeline view with a grid of icons representing camera feeds and events, spanning from 2023 to 2024. The current time is 12-09-2023 Tue 09:59:57. The Evercam logo is visible in the bottom left corner.

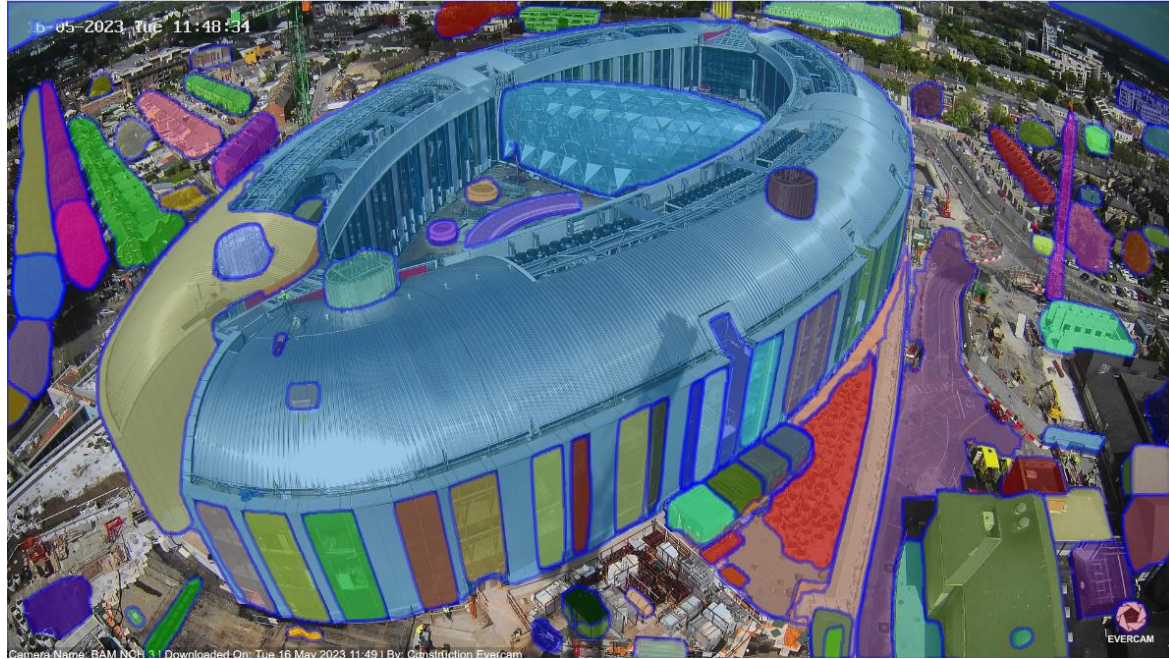
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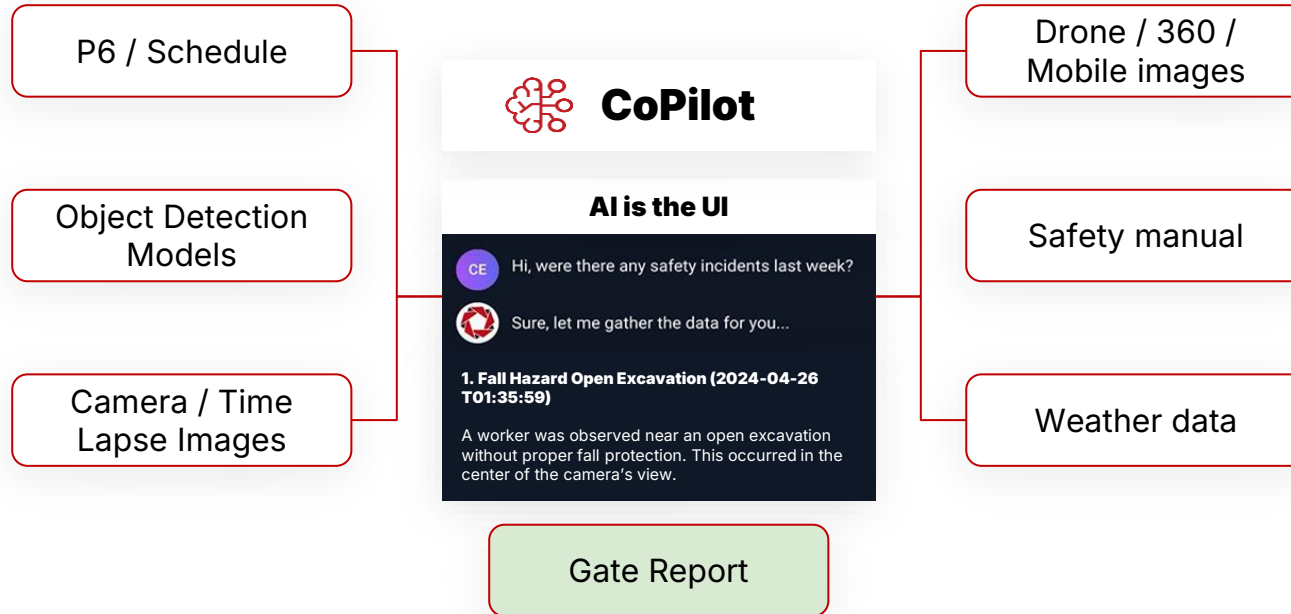
## R&D using AI Models

With the timeline of all events captured, we started using different models to perform actions that lead towards a coherent end result. In this case:

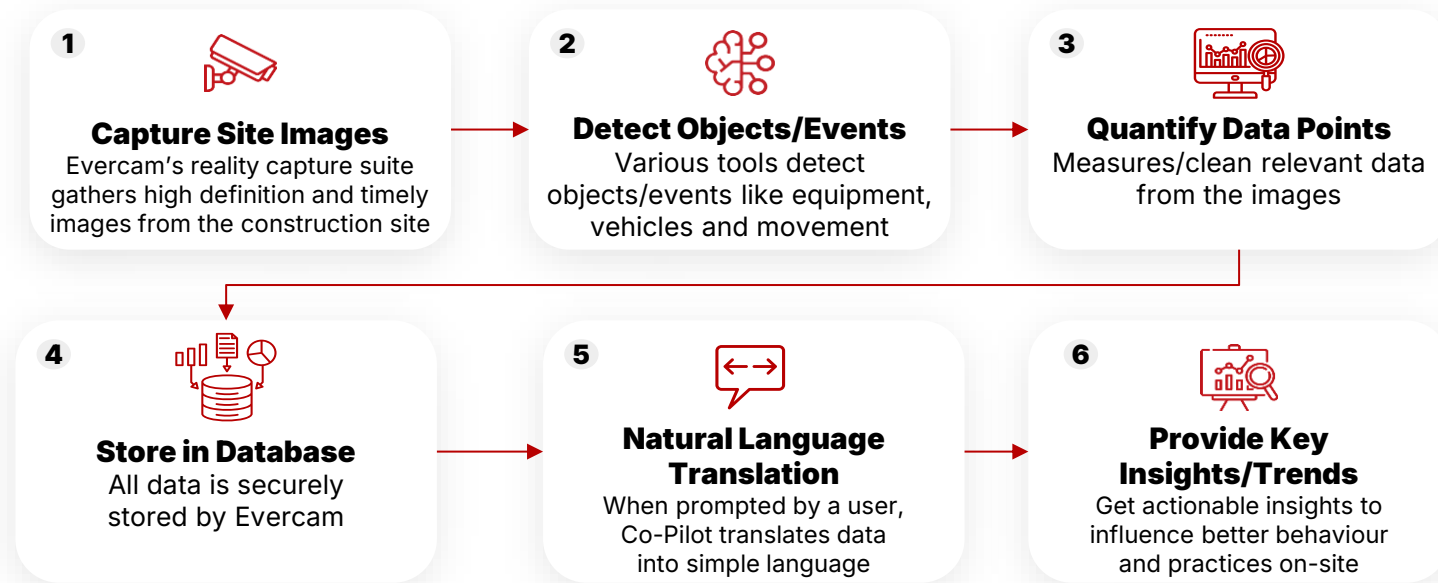
1. Capturing images using a camera.
2. Segmenting an image using SAM2, into many pieces.
3. Running object detection on the pieces.
4. Queries the objects using Copilot.



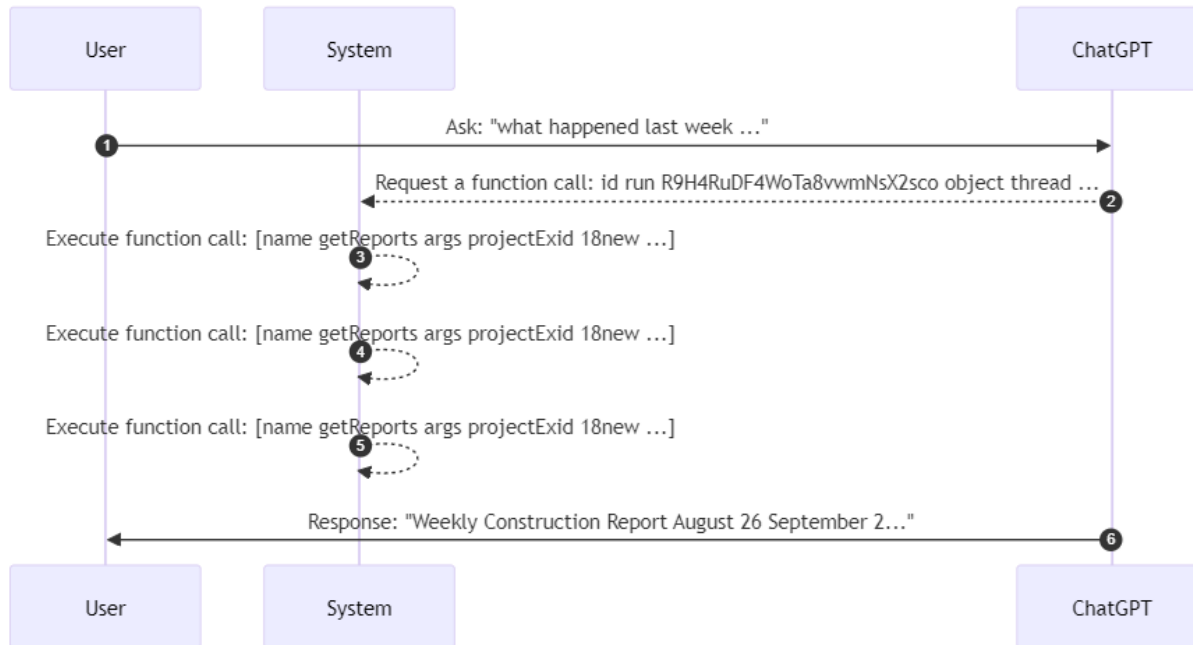
# Copilot



## | How Does CoPilot Work?



## | How Does CoPilot Really Work?



## | Site Analytics

With the timeline of all events captured, we started using different models to perform actions that lead towards a coherent end result. In this case:

1. Capturing images using a camera.
2. Segmenting an image using SAM2, into many pieces.
3. Running object detection on the pieces.
4. Querying the DB using Copilot.



## | Conclusion & Roadmap

This is a learning journey for us. Many things are changing, fast.

Our goal is to get better at

- Capturing events.
- Better Edge support and processing.
- Better queries/function calling/prompting.

We want to become flexible at using the right AI tools for the right job, while focusing on capturing everything happening on site.





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**Thank you for  
your time**