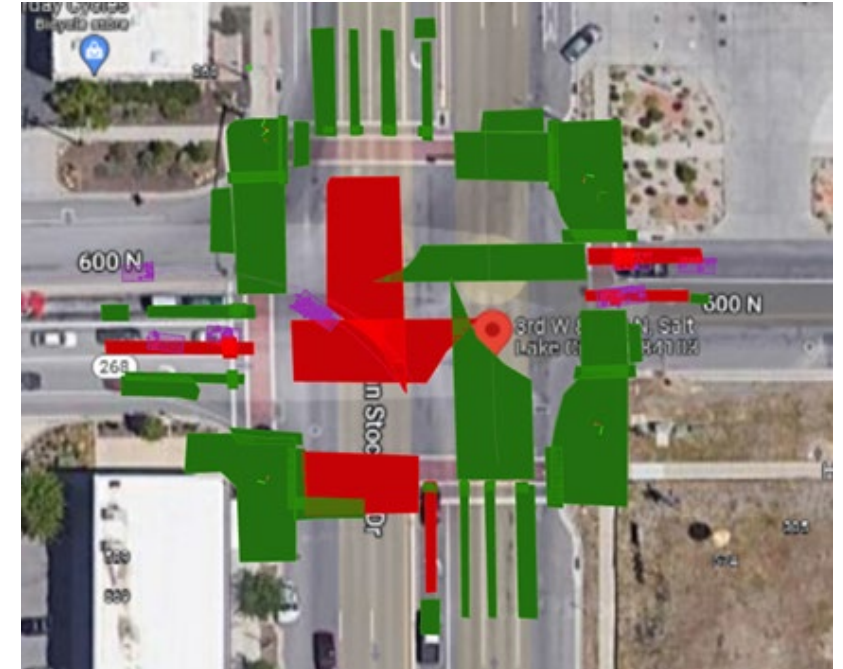
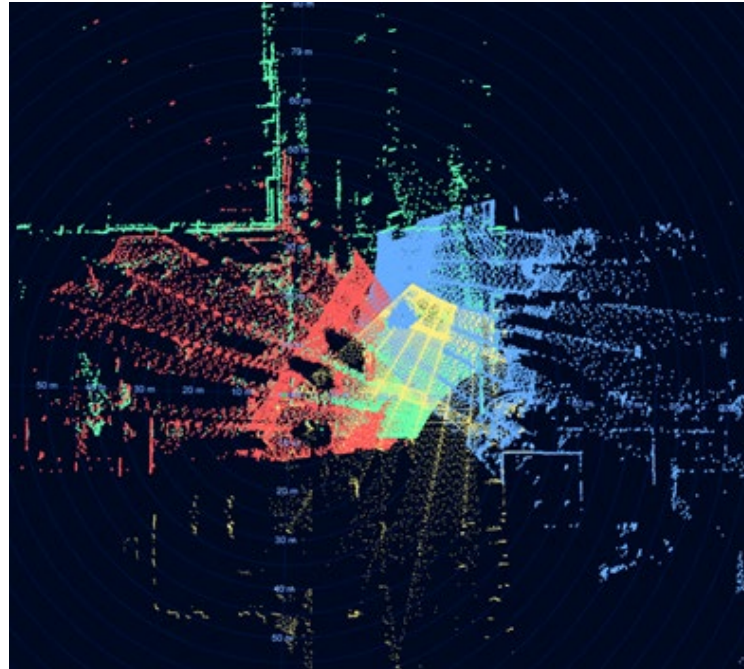


Current Project on LiDAR

- *Identifying near-misses (including red-light running) and reducing the conflict through D-FYA at signalized intersections using lidar sensors*



System in Operation



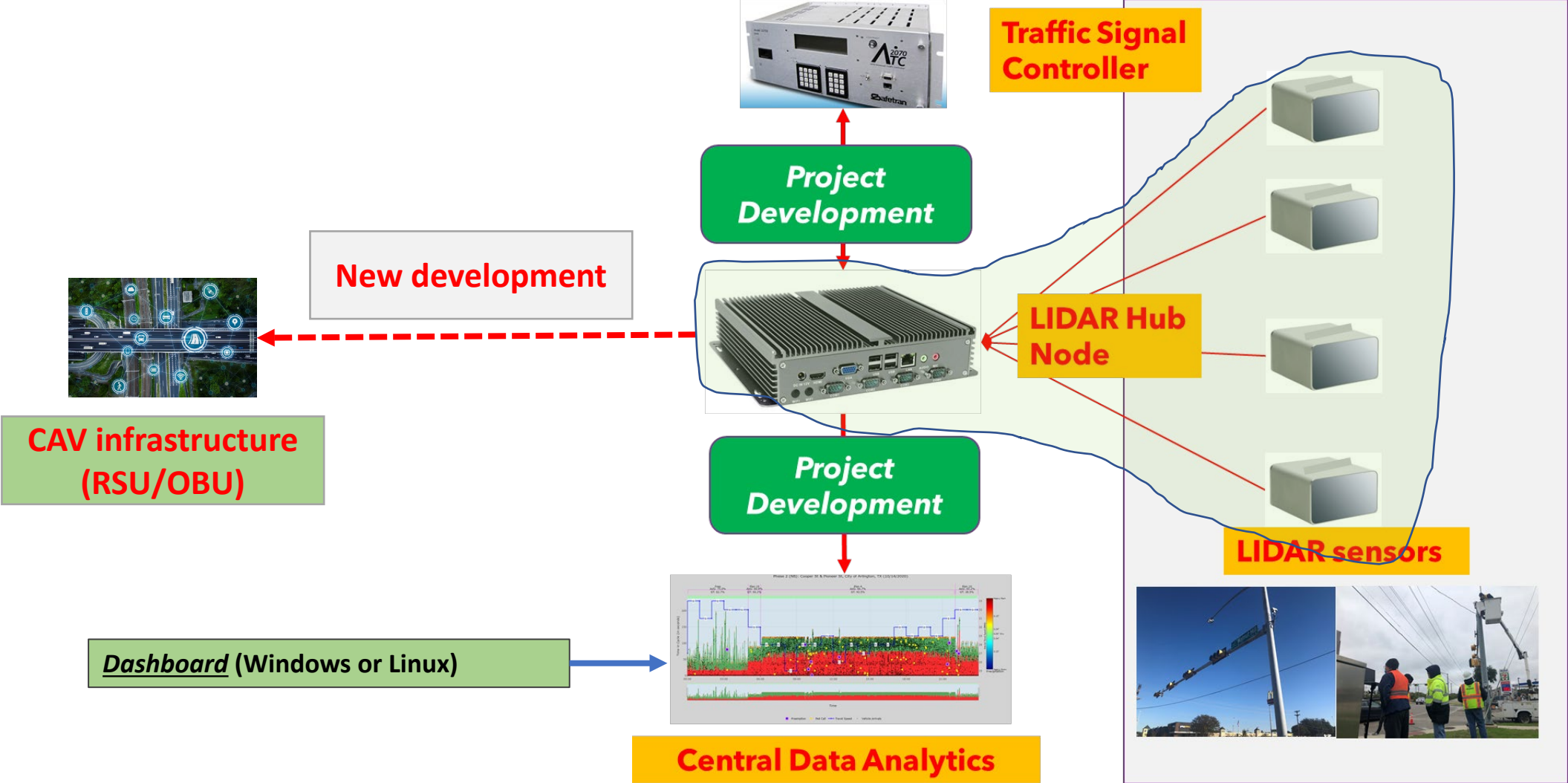
The screenshot displays the Helius v1.4.13 interface, which includes a multi-camera view of an intersection. A red box highlights a pedestrian in the top-left camera feed, with the word "Pedestrian" written in red. The main camera view shows several pedestrians with green and red bounding boxes, one of which is labeled "628865". The interface also features a "Phase Status" table and a log of pedestrian data.

Phase Group	1	2	3	4	5	6	7	8	9	10
Reds	●	●	●	●						
Greens					●					
Veh Calls	●	●	●	●	●	●	●	●	●	●
Min Calls	●	●	●	●	●	●	●	●	●	●
Max Calls	●	●	●	●	●	●	●	●	●	●
Ped Calls										
Alt Ped Calls										
Dont Walks	●	●	●	●						
Ped Clears										
Walks										

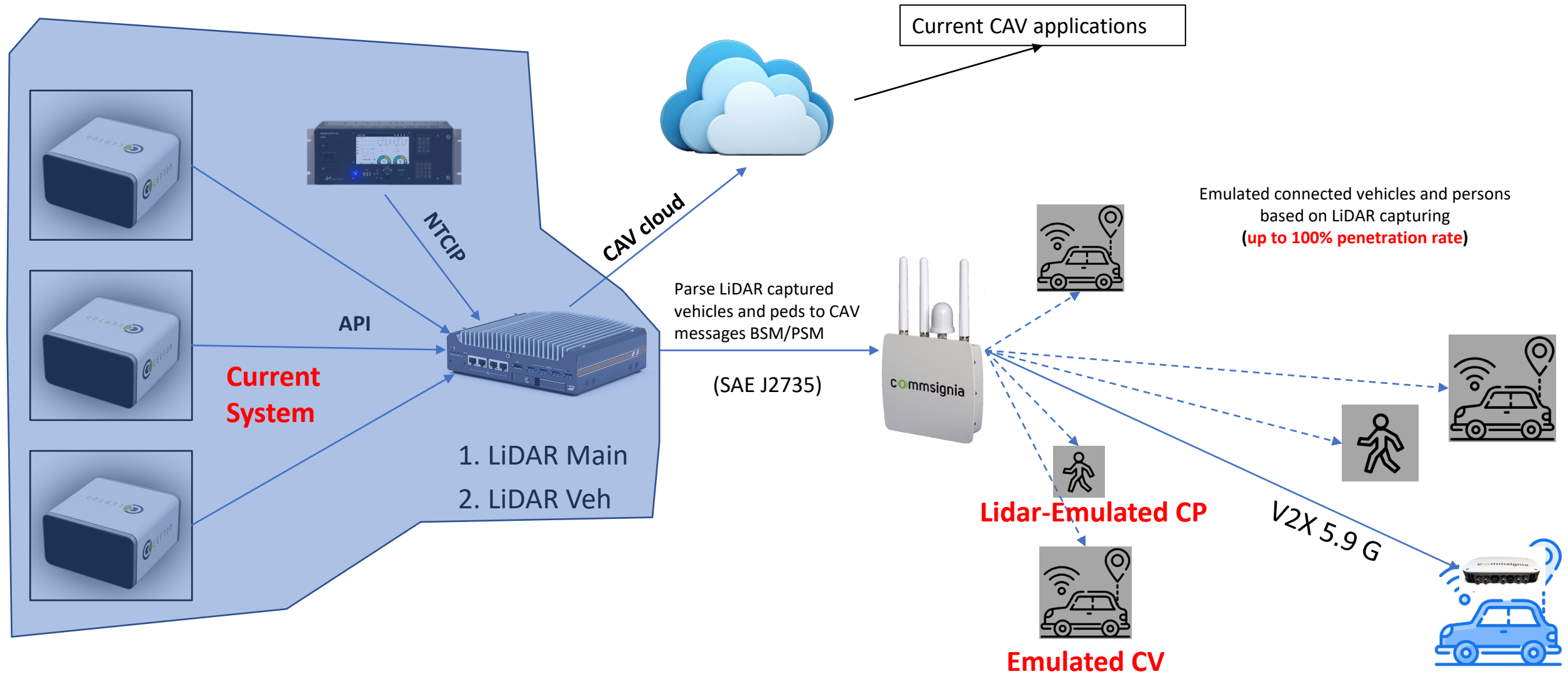
```
ped_phase: 3, ped_id: 19831
ped_phase: 4, ped_id: 19831
ped_phase: 6, ped_id: 20151
ped_phase: 3, ped_id: 21779
ped_phase: 3, ped_id: 21902
ped_phase: 3, ped_id: 317306, arrival_epoch_time: 1619043450.0, entering_time: 1619043603.4, leave_epoch_time: 1619043625.6, walking_time: 22.1, p-r time: 5.4
ped_phase: 4, ped_id: 385301, arrival_epoch_time: 1619045229.1, entering_time: 1619045231.5, leave_epoch_time: 1619045252.0, walking_time: 20.5, p-r time: 5.5
ped_phase: 2, ped_id: 385301, arrival_epoch_time: 1619045259.0, entering_time: 1619045274.4, leave_epoch_time: 1619045291.3, walking_time: 16.8, p-r time: 7.0
ped_phase: 2, ped_id: 409529, arrival_epoch_time: 1619046011.4, entering_time: 1619046056.9, leave_epoch_time: 1619046074.9, walking_time: 17.9, p-r time: 6.6
ped_phase: 2, ped_id: 525067, arrival_epoch_time: 1619049874.0, entering_time: 1619049903.7, leave_epoch_time: 1619049921.8, walking_time: 18.1, p-r time: 9.1
ped_phase: 6, ped_id: 575925, arrival_epoch_time: 1619051713.5, entering_time: 1619051724.0, leave_epoch_time: 1619051734.0, walking_time: 10.1, p-r time: 6.0
ped_phase: 6, ped_id: 609067, arrival_epoch_time: 1619053250.5, entering_time: 1619053267.2, leave_epoch_time: 1619053282.3, walking_time: 15.1, p-r time: 1.7
ped_phase: 3, ped_id: 609735, arrival_epoch_time: 1619053293.5, entering_time: 1619053339.6, leave_epoch_time: 1619053360.6, walking_time: 21.0, p-r time: 5.5
ped_phase: 6, ped_id: 612425, arrival_epoch_time: 1619053408.3, entering_time: 1619053414.7, leave_epoch_time: 1619053437.9, walking_time: 23.2, p-r time: 0.0
ped_phase: 6, ped_id: 615278, arrival_epoch_time: 1619053517.4, entering_time: 1619053550.2, leave_epoch_time: 1619053567.0, walking_time: 16.8, p-r time: 5.3
ped_phase: 4, ped_id: 617315, arrival_epoch_time: 1619053581.7, entering_time: 1619053613.4, leave_epoch_time: 1619053634.3, walking_time: 20.9, p-r time: 5.2
ped_phase: 2, ped_id: 617315, arrival_epoch_time: 1619053640.3, entering_time: 1619053656.4, leave_epoch_time: 1619053672.5, walking_time: 17.0, p-r time: 6.0
ped_phase: 6, ped_id: 622386, arrival_epoch_time: 1619053744.7, entering_time: 1619053792.8, leave_epoch_time: 1619053809.7, walking_time: 16.8, p-r time: 5.6
```

https://www.youtube.com/watch?v=tgi6Rzu_78k

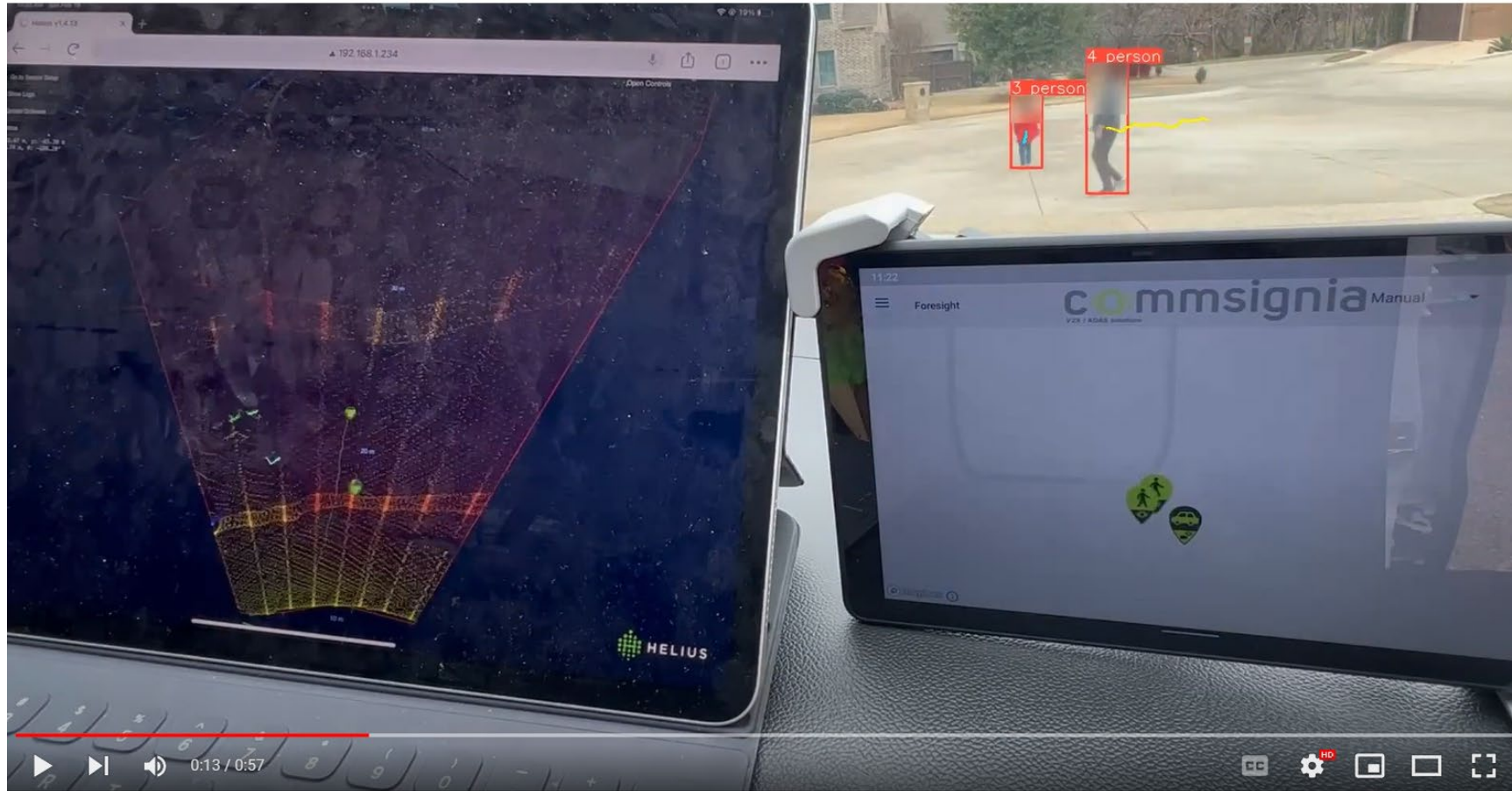
System Architecture



LiDAR + Signal + CAV



Lab Demo – Looking for local partners for field deployment



<https://www.youtube.com/watch?v=yaLPuo2RWIQ>