# ENLITEON EDGE

Overview

### **Platform independent**











#### **Vendor neutral**









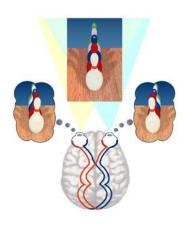




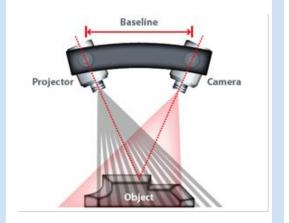


### Camera technology agnostic

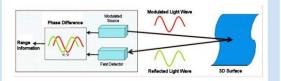
**Stereo Vision** 



Structured Light



Time of Flight ToF



### Supported consumer 3D cameras













#### Supported industrial 3D cameras











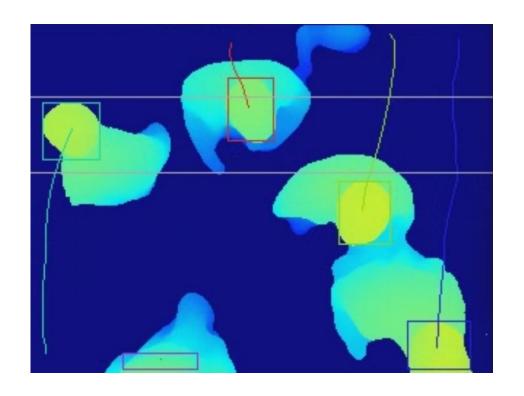






## Virtual tripwire

Accurate simultaneous counting of multiple persons crossing virtual tripwires.





#### **Counter accumulation**

Get countings in real-time

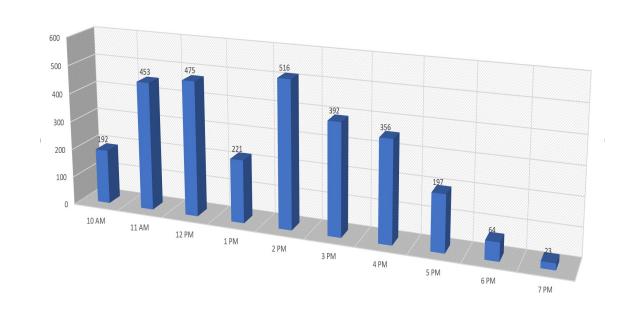
or get accumulated data

every 15 minutes,

every hour or

every 12 hours

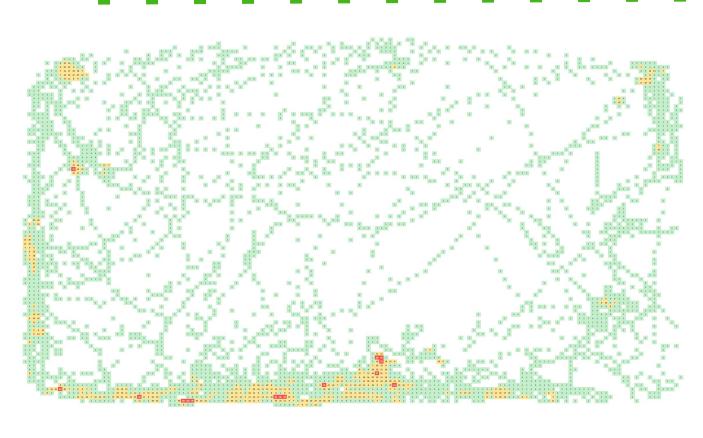
People counting - Via Montenapoleone - 27 Jul 2017





### Full resolution real-time tracking

Each point
represents the
centroid of the
head and
heatmap colors
the most
frequented
areas





#### **Grid heatmap**

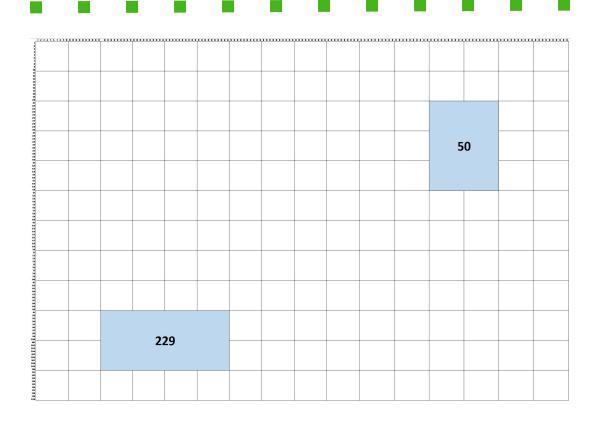
Track points can be accumulated in a square grid heatmap

|     | 6   | 5   | 18  | 14  | 19  | 14  | 14  | 28  | 25  | 9   | 6   | 4   | 2   |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 24  | 458 | 26  | 36  | 29  | 24  | 13  | 15  | 31  | 42  | 5   | 18  | 15  | 15  | 227 |  |
| 29  | 72  | 19  | 33  | 18  | 11  | 12  | 15  | 19  | 13  | 9   | 6   | 2   | 12  | 36  |  |
| 51  | 244 | 110 | 31  | 24  | 19  | 21  | 23  | 18  | 16  | 9   | 4   | 20  | 18  | 12  |  |
| 52  | 29  | 12  | 26  | 22  | 21  | 20  | 7   | 5   | 16  | 21  | 19  | 10  | 21  | 31  |  |
| 342 | 51  | 23  | 22  | 8   | 29  | 12  | 9   | 18  | 3   | 9   | 4   | 28  | 34  | 58  |  |
| 156 | 52  | 30  | 11  | 30  | 18  | 6   | 12  | 6   | 7   |     | 5   | 12  | 26  | 42  |  |
| 177 | 63  | 21  | 27  | 25  | 8   | 27  | 25  | 8   | 11  | 5   | 14  | 16  | 137 | 89  |  |
| 99  | 42  | 24  | 33  | 46  | 45  | 39  | 48  | 682 | 77  | 58  | 19  | 37  | 46  | 22  |  |
| 11  | 276 | 331 | 424 | 688 | 524 | 747 | 611 | 803 | 303 | 145 | 235 | 153 | 42  | 22  |  |



#### **Dwell time in regions of interest**

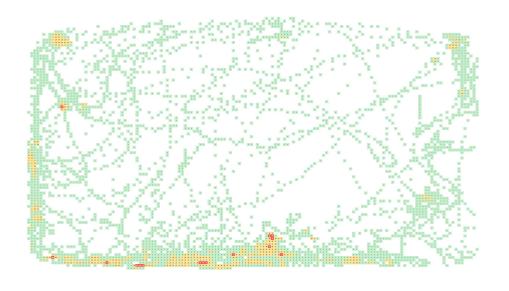
Multiple Regions
of Interest can be
set to constantly
monitor dwell
time





### Track points in real-time

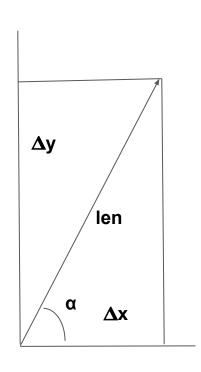
| Date     | 27-Jul-17 |
|----------|-----------|
| Time     | 18:00:00  |
| X        | 45        |
| Y        | 91        |
| Track ID | 2351      |



Coordinates are in pixels in the camera's reference frame



#### **Track vectorial kinematics**



| Δt                    | 0.04 sec                          |
|-----------------------|-----------------------------------|
| Δx                    | 5 pixel                           |
| Δy                    | -2 pixel                          |
| Vector length         | 5.39 pixel                        |
| Vector<br>orientation | -38°                              |
| Speed                 | 161 ENLITEON Limited - All rights |

## **Track analytics**

| Track ID           | 38871     |
|--------------------|-----------|
| Number of points   | 248       |
| Total track time   | 17.2 sec  |
| Total track length | 238 pixel |
| Average speed      | 14        |
|                    | pixel/sec |

**ENLITEON** 

#### **Unified API**

MQTT for real-time asynchronous communication

**RESTful** for synchronous querying (tba)

