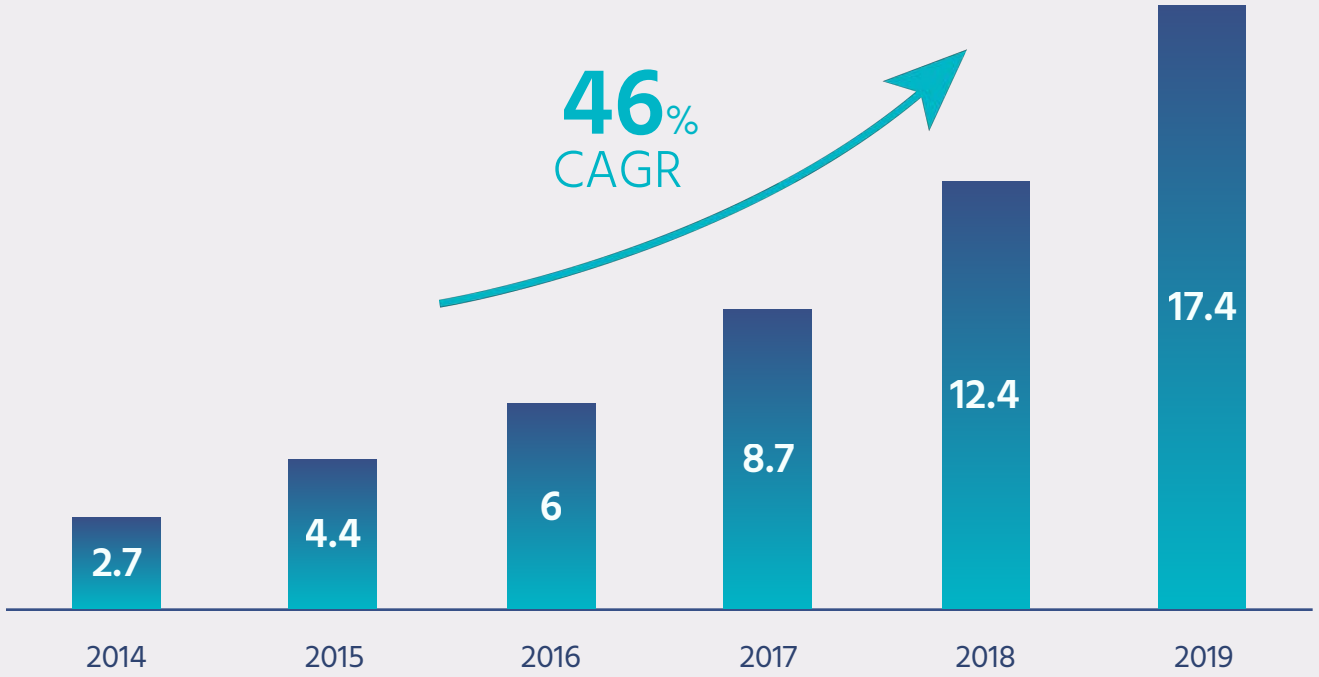
# Mobileye. D.R.I.V.E.S

## Inaugural Investor Relations Summit

Israel, Nov. 5, 2019

# Mobileye in Numbers

**EyeQ Shipped** (Million units)




**Over 50M**
EyeQs shipped to date

**44% revenue CGAR**
Since 2014

**110% HC growth**
Since acquisition

# 2019 in Numbers

## 45 Running programs

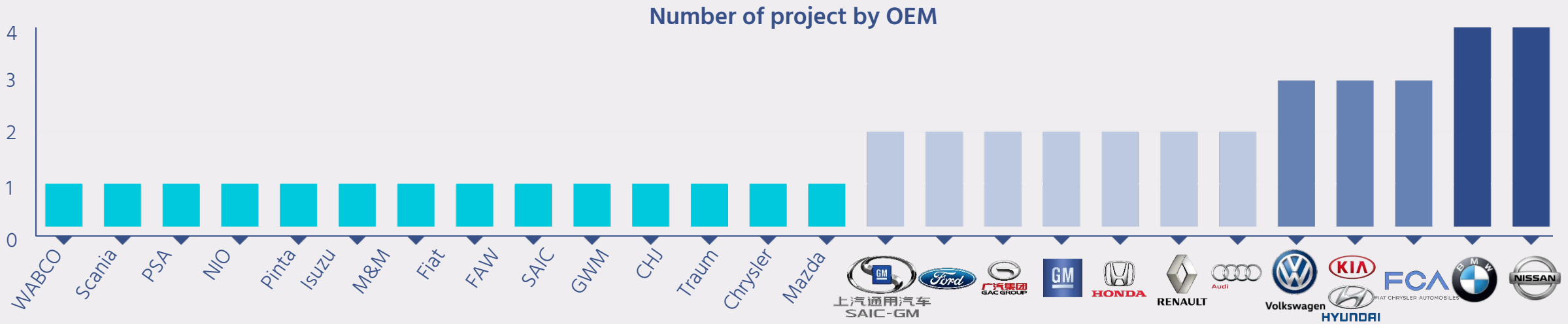
+ Globally across 26 OEMs

## 22 Design wins

+ 16M units over life
+ Including 4 high-end L2+ programs with 2 major EU OEMs and two major Chinese OEMs

## 16 Product launches

+ Industry first 100° camera with Honda
+ VW large-volume launch (Golf, Passat)



# The Evolution of AV Technology


## Why Robotaxi is a necessary corridor towards consumer-AV?

- **SDS Cost** and complexity in the first years- not acceptable for privately owned cars constraints
- **Regulation** and Validation- RT is easier to govern
- **Geographic scale** at low-cost- mapping vast areas is a prerequisite for AV proliferation

# The Evolution of AV Technology

## Mobileye's strategy

- **ALL-IN ON THE GLOBAL ROBOTAXI OPPORTUNITY**
- **Maximize learnings from robotaxis to be ready for consumer AV phase**

## Enablers

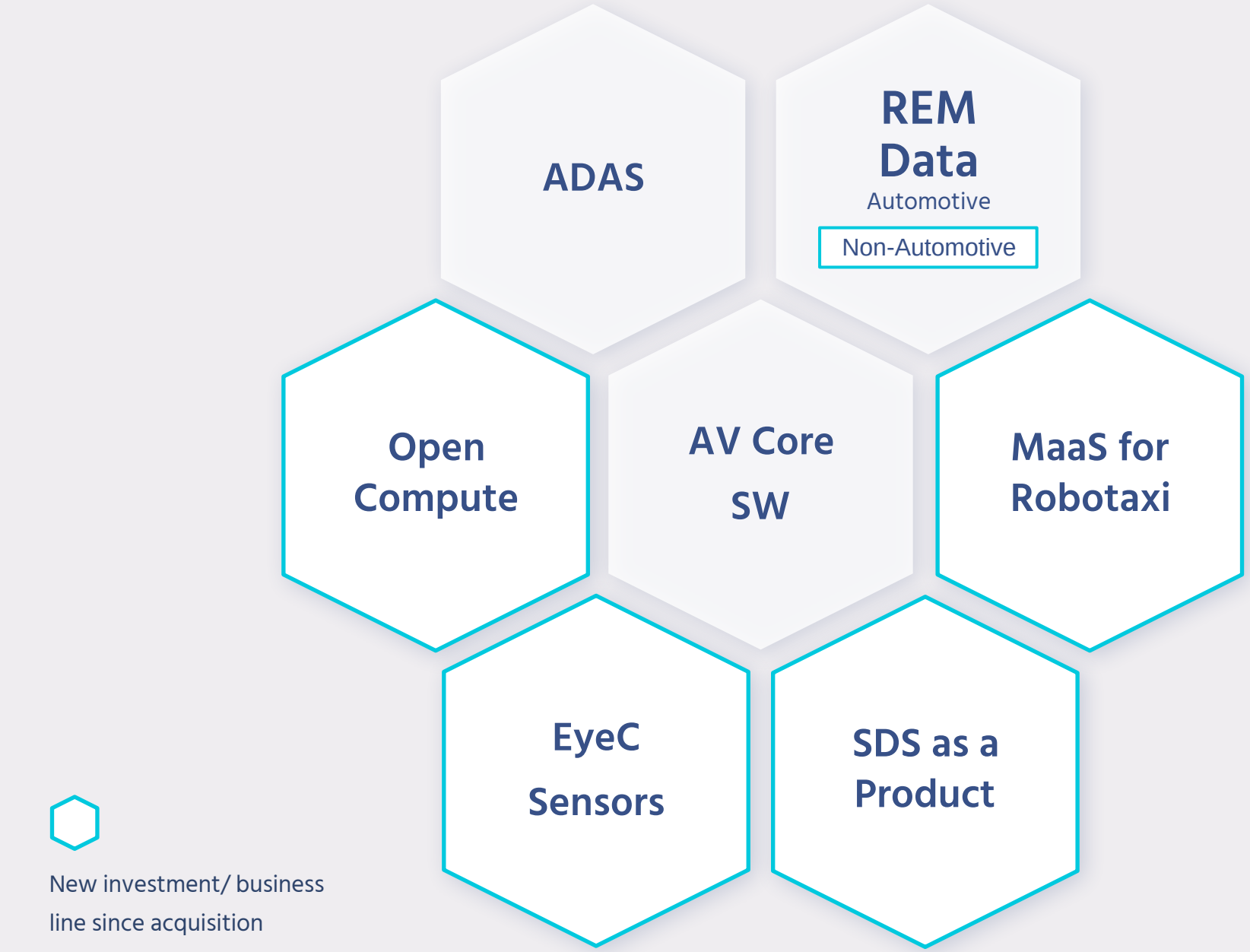
**ADAS** is our validation space for AV technology and the key for sustaining AV development for the long run

Camera centric SDS backbone with **True Redundancy** is the key to a scalable solution

**REM** HD mapping technology to allow global coverage at scale

Using our **Responsibility-Sensitive Safety(RSS)** formal model of safe driving to facilitate the regulatory discussion

# Significantly Expanding our Business Since Acquisition




New investment/ business line since acquisition

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# Mobileye's Business Lines

| | ADAS | REM AV Maps | Robotaxi | Consumer AV | Sensors L4/L5 |
|---|---|---|---|---|---|
| Components | ▪ L1/L2, L2+, REM L2+<br>▪ "Vision Zero"<br>▪ Monitization of data from front cameras | ▪ Map licensing for consumer AV | ▪ E2E MaaS provider<br>▪ SDS to MaaS operators<br>▪ SDS as a product | ▪ SDS to OEMs (privately owned cars) | ▪ Developing Lidars for our AV kit<br>▪ Selling to AV manufacturers |
| Timeline | Current | 2024 | 2022 | 2025 | 2023 |
| TAM | 2024 - **$5B**<br>2030 - **~$7-8B** | 2030 - **~$3.5B** | MaaS 2030 - **$160B**<br>SDS 2030 - **~$10B** | 2030 - **~$40B** | 2030 - **~$12B** |

# Mobileye's Business Lines

| | ADAS | Sensors L4/L5 |
|---|---|---|
| Components | ▪ L1/L2, L2+/<br>▪ "Vision Ze<br>▪ Monitizati<br>from front | Developing Lidars for our AV kit<br>Selling to AV manufacturers |
| Timeline | Current | 2023 |
| TAM | 2024 - **$5**<br>2030 - **~$** | 2030 - **~$12B** |

## Total Potential TAM by 2030

(Excluding MaaS)

**$72.5B**

2024 2022 2025

## Total Potential MaaS TAM by 2030

**$160B**

# EuNCAP Driver assistance achievements

## 2018 5 stars rated vehicles

| Make and Model | Mobileye inside | Safety Equipment | Overall Rating |
|---|---|---|---|
| Volvo XC40 | ✓ | Standard | ★★★★★ |
| Lexus ES | ✓ | Standard | ★★★★★ |
| Peugeot 508 | ✓ | Standard | ★★★★★ |
| Mercedes Benz A-Class | ✓ | Standard | ★★★★★ |
| Audi A6 | ✓ | Standard | ★★★★★ |
| Volvo S60 | ✓ | Standard | ★★★★★ |
| Volvo V60 | ✓ | Standard | ★★★★★ |
| Audi Q3 | ✓ | Standard | ★★★★★ |

| Make and Model | Mobileye inside | Safety Equipment | Overall Rating |
|---|---|---|---|
| Mazda 6 | ✓ | Standard | ★★★★★ |
| Hyundai NEXO | ✓ | Standard | ★★★★★ |
| Hyundai Santa Fe | ✓ | Standard | ★★★★★ |
| VW Touareg | ✓ | Standard | ★★★★★ |
| Jaguar I-PACE | ✓ | Standard | ★★★★★ |
| X5 | ✓ | Standard | ★★★★★ |
| Ford Focus | ✓ | Standard | ★★★★★ |

**ME in 75% of models that won 5 stars in 2018**

**The single camera-only solution to achieve 5 stars rating**

**80% of ME-inside models achieved 5 stars rating in 2019**

# Mobileye Solution Portfolio

## Covering the Entire Value Chain


Today

### L1-L2 ADAS

**Driver assistance**

Front camera SoC & SW:

- Emergency braking
- Emergency steering
- Adaptive cruise control
- And more

Today

### L2+/ L2++

**Conditional Autonomy**

Scalable proposition for
- Front computer vision
- REM HD map

May also include:
+ Driver monitoring
+ Surround CV
+ Redundancy

"Vision Zero"- RSS for ADAS

2022

### L4/ L5

**Mobility-as-a-Service**

**Full Autonomy**

Full-Service provider
- Owning the entire MaaS stack

Offering SDS to MaaS operators

SDS as a Product

2025

### L3/4/5

**Passenger cars**

**Consumers Autonomy**

SDS to OEMs

Chauffeur mode
- High volumes
- Scalable SDS design for RB to enable a better position for privately owned cars

### REM®

**Data and Mapping**

Crowdsourcing data from our vast ADAS footprint for
Creating HD mapping for AV and ADAS applications
Providing smart city eco system with Safety/Flow Insights and foresights

# SoC technology: The EyeQ® Family

## Tight SW/HW co-design for unparalleled compute efficiency


### EyeQ® 3

series prod since 11/2014

**0.25 TOPs @ 3W**

### EyeQ® 4

Series prod from 3/2018

launches by 4 OEMs in 2018,

12 OEMs in 2019 & onwards

**2.5 TOPs @ 6W**

### EyeQ® 5

Sampled Dec 18

4 Design wins , >8Mu

3rd party programmability

Series production 3/2021

**24 TOPs @ 10W**

### EyeQ® 6

Samples e/20

ADAS and AD

On-road 2023

**128 TOPs @ 40W**

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# The AV/ADAS Interplay

The Building blocks of

## Autonomous Vehicles

- Sense / Plan / Act
- Perception computer vision
- Other sensors processing
- Mapping

Revolution in **Transportation**

**Component Qualification**

**Transition of Technologies**

The Building blocks of

## ADAS

- Front sensing
- Wide-angle front sensing
- Surround perception
- Mapping

Making “Vision Zero” a reality

Revolution in **Saving Lives**

# The ADAS Segment

# Mobileye's Self-sustaining Business Model

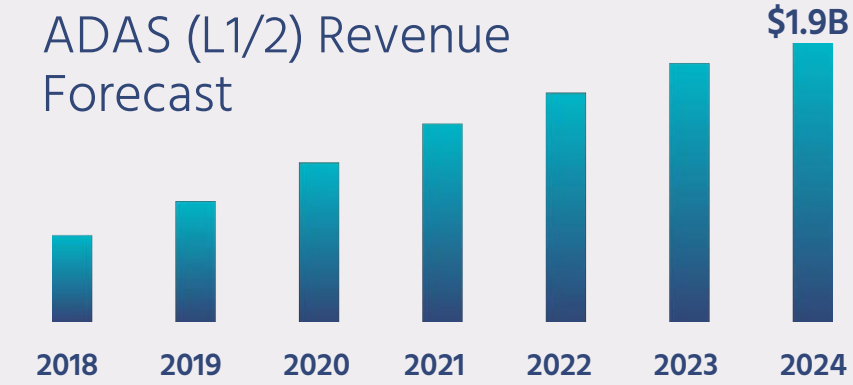
## Continue at the forefront of ADAS to provide the financial "fuel" to sustain AV activity for the long run

**ADAS penetration rate**
is constantly increasing:
2019- 32% → 2024- 60%

**Growing adoption**
in emerging markets

**L2+- A Rapidly Growing Segment**
with higher profitability margins

**L2+ "Vision Zero"**
Full surround+ RSS safety shield for ADAS




*Assuming existing OEM client base

**Excluding REM

# L2+ - A Rapidly Growing Segment

## L2+ systems common attributes

+ All-speed lane centering

+ HD maps

+ Hand-free driving

## 8 out of 11 L2+ systems running today are powered by Mobileye's technology

For example:

Nissan ProPilot ™ 2.0

VW Travel Assist ™

Cadillac Supercruise™

Audi zFAS

## Additional 12 active programs with L2+ variants and 13 open RFQs

## 100% nomination rate track record

# Next Generation ADAS

## Unlocking “Vision Zero” with RSS for Humans

### ADAS Today

**AEB, LKA |** Emergency driven

**ESC/ ESP |** Prevention driven

Application of brakes
longitudinally & laterally

### ADAS Future Potential

**AEB, LKA, ESC |** All in one

**Prevention** driven system

**Formal Guarantees**

## Potential TAM expansion of $1.2B by 2024

**Scalable surround CV system**

**RSS Jerk-bounded braking profile**
longitudinal & lateral

**Standard fitment/ Rating**

**Vision Zero**

# ADAS Evolution

# Vision Zero: Can Roadway Accidents be Eliminated without Compromising Traffic Throughput?

Shai Shalev-Shwartz, Shaked Shammah, Amnon Shashua

Mobileye, 2018

**Abstract**

We propose a new economical, viable, approach to challenge almost all car accidents. Our method relies on a mathematical model of safety and can be applied to all modern cars at a mild cost.

## 1 Introduction

In 1997 the Swedish Parliament introduced a "Vision Zero" policy that requires reducing fatalities and serious injuries to zero by 2020. One approach to reduce the number of serious car accidents, which has been advocated by the "Vision Zero" initiative, is to enlarge the tolerance to human mistakes by combining regulative and infrastructure changes. For example, installing speed bumps in urban areas, which reduces the common speed from 50 kph to 30 kph, may make the difference between a mild injury and a fatality when a car hits a pedestrian. Another example is not allowing a green light for two routes at the same time (like "turn right on red" scenarios). The disadvantage of this approach is that it compromises the throughput of the road system — for example, reducing the speed limit from 50 kph to 30 kph increases traveling time by 66%.

Another approach to reduce the number of car accidents is to rely on Advanced Driving Assistant Systems (ADAS)

# Unique Differentiating Assets moving from ADAS towards Robotaxi and Consumer-AV

# Unique Elements of Mobileye's Approach

## Camera centric approach to enable True Redundancy

+ Cost-optimized ADAS and AV
+ Robust CV allows two separate sub-systems for AV

## REM HD maps global coverage at scale

+ Leveraging our strong position in ADAS
+ Already operational and is proving to be a true segment disruption

## RSS formal model for safety

+ Allowing useful and human-like driving experience
+ RSS for ADAS- "Vision Zero"

# The Camera-centric Approach

# The Perception Challenge

Breaking down the MTBF into $\prod_i \text{MTBF}_i$ of **independent** sub-systems

**Subsystem 1**

surround cameras

**Subsystem 2**

other sensors

$$\text{MTBF} \approx \text{MTBF}_1 \cdot \text{MTBF}_2$$

$$10^7 \qquad 10^{3.5} \qquad 10^{3.5}$$

Critical MTBF of $10^{3.5} \approx 3000$ hours is plausible.

How do we maximize **independency?**

# Visual Perception Approach

## The Goal

### To achieve True Redundancy for Avs:

- Cameras enable a comprehensive end-to-end operation
- Other sensors added for redundancy

## The Means

### Pushing computer-vision sensing envelope

To empower cameras to deliver end-to-end AV performance

## The Challenge

### Extracting 3D information from cameras

The easiest thing to do - using indications from other sensors already in the low-level stage

The price- totally dependent subsystems

## The Outcome

### “The right AV”

With true redundancy

### Cost-optimized ADAS

Relying on cameras- cheap and versatile

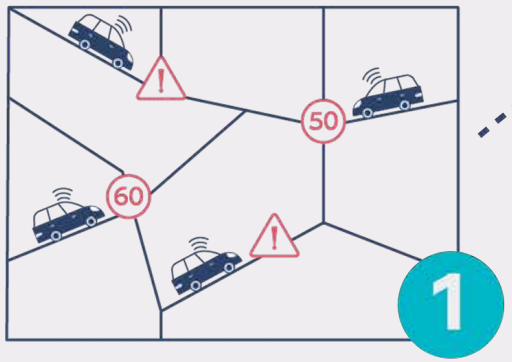
# Current AV Setup

End-to-End AV powered by Camera-only

Separate sub-system of Radar/ Lidar (“true redundancy”) will be added in the future

# REM Data

# REM Process

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## HARVESTING

Collecting road and landmarks through EyeQ-equipped vehicles

Anonymizing & encrypting REM data

2

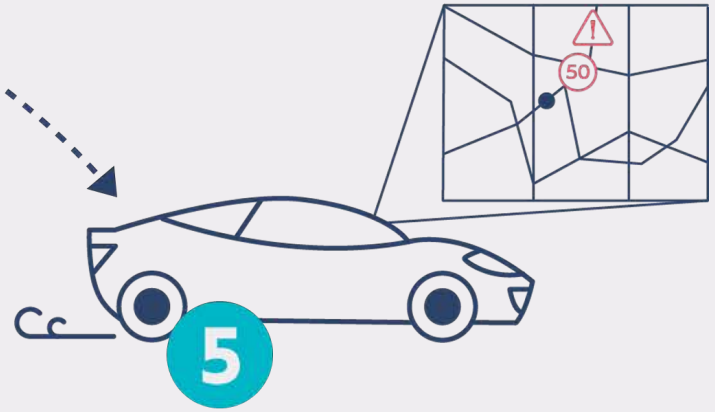
3

## AGGREGATION

Generating HD crowdsourced road -book for the autonomous vehicle

Map tile distributed to the car

4

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## LOCALIZATION

Localizing the car within 10cm accuracy in the road book.

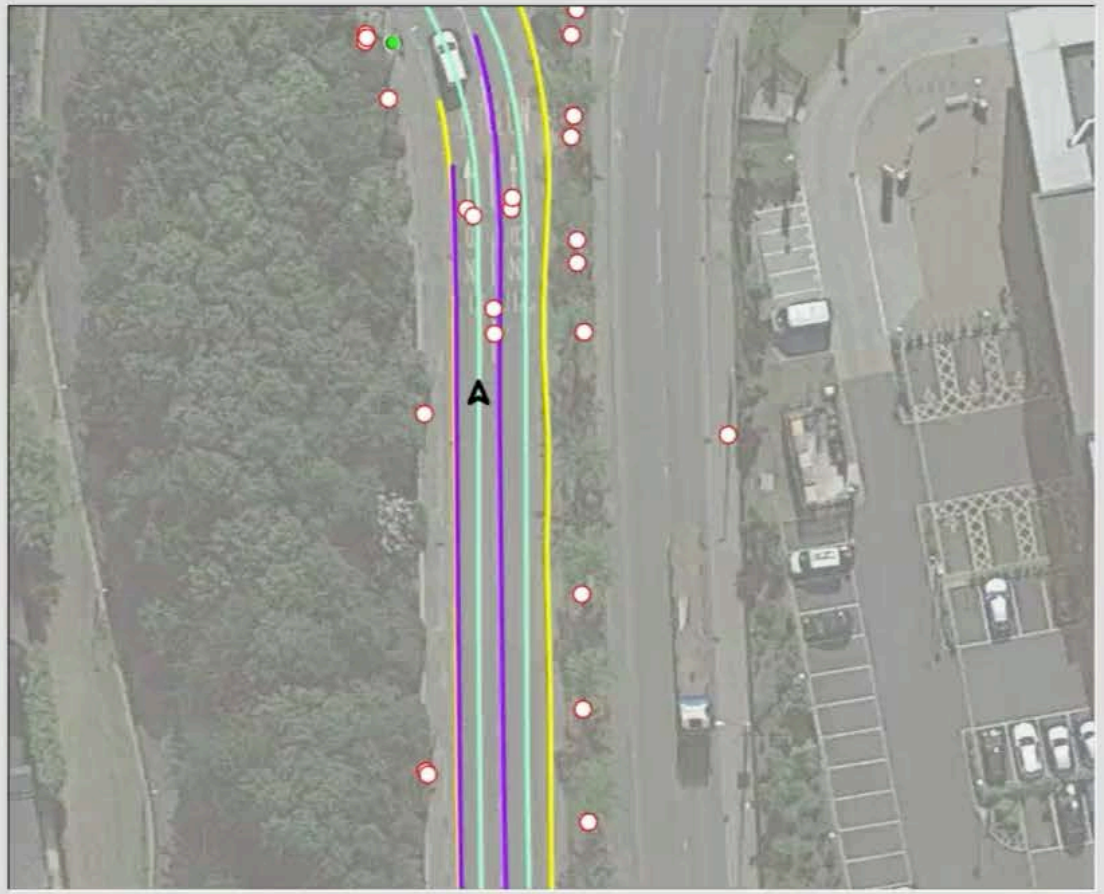
Also available via ME8

# REM Process

RB data projected onto image space.

Road edge, lane marks, lane center, landmarks (in Yellow).


RB data projected onto Google Earth.



# REM Applications

## AV Maps

- Scalable solution for HD maps
- Ultra- high refresh rate with real time updates

## L2+/3/4

- Enhancing today's ADAS with minimal cost

## Non-Automotive

- Realtime data for "smart cities"
- Automatic infrastructure survey to aid city planning

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# REM Volumes

**Agreements with 6 major car makers to enroll millions of Harvesting vehicles in the next several years**

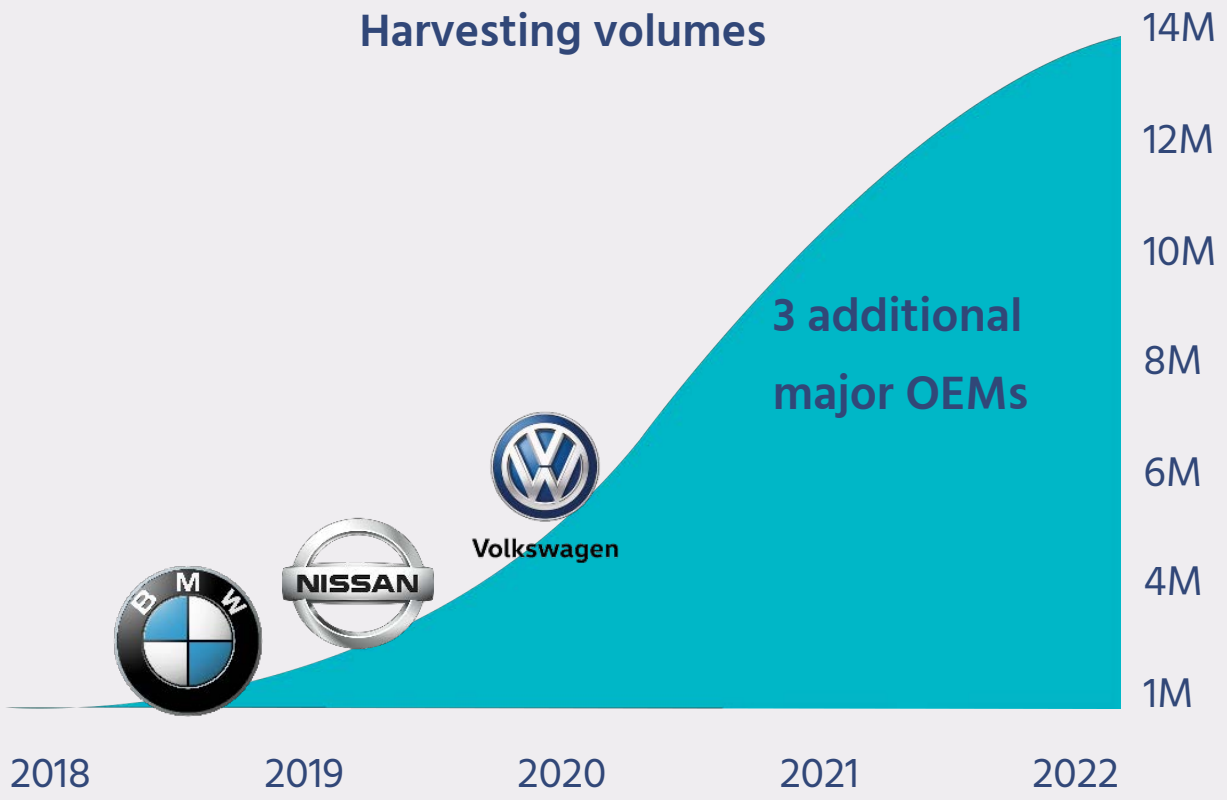
**Harvesting:**

+ Over **1M** Harvesting vehicles in EU by 2020
+ Over **1M** Harvesting vehicles in US by 2021
+ Advanced discussions with additional 3 major OEMs

**Localization**:

+ Programs for using Roadbook™ for L2+:

**2 OEMs** **2 OEMs** **2 OEMs**



# HD Map Creation Using REM

## Maps are now created in a fully automated process based on data coming from production vehicles

such as


BMW X5


BMW 3 series


Nissan Skyline


VW Passat

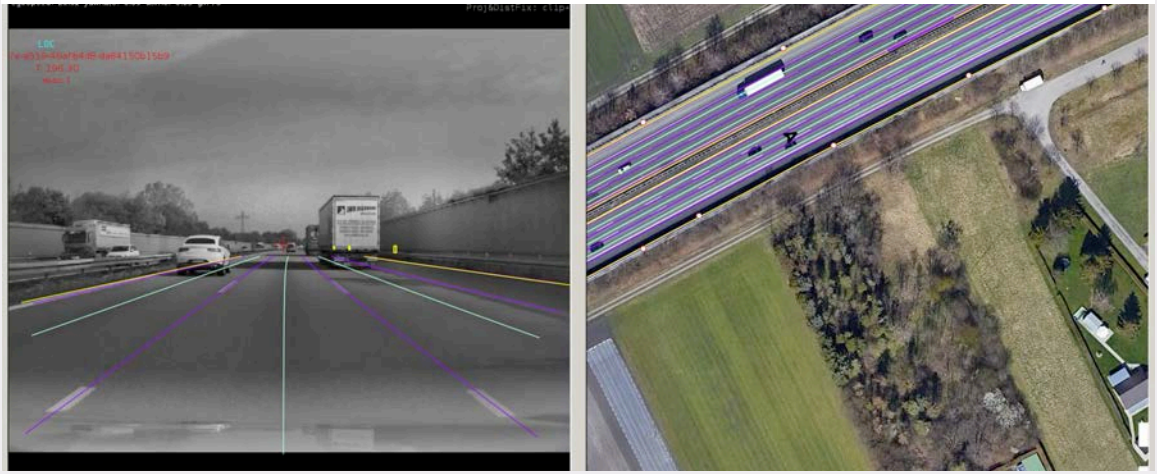

VW Golf

## Game changing capability

### Values

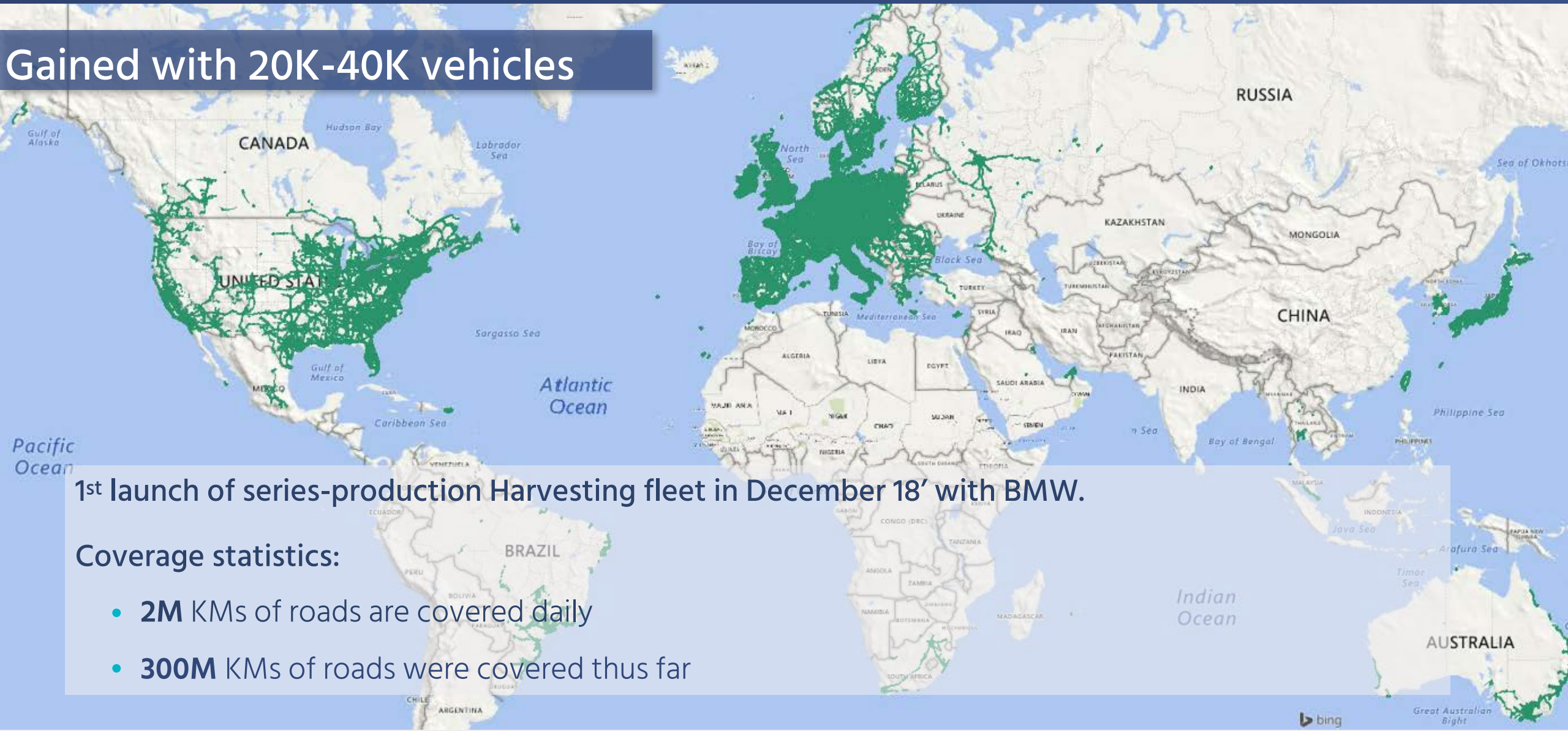
+ Scalability for AV (also L2+)
+ Stickiness of complete ADAS offering
+ Generates revenues on top of traditional ADAS
+ Recurring revenues
+ Service provider

### Perfect localization from production RSD



# REM-data Aggregation- Global Snapshot

## Gained with 20K-40K vehicles

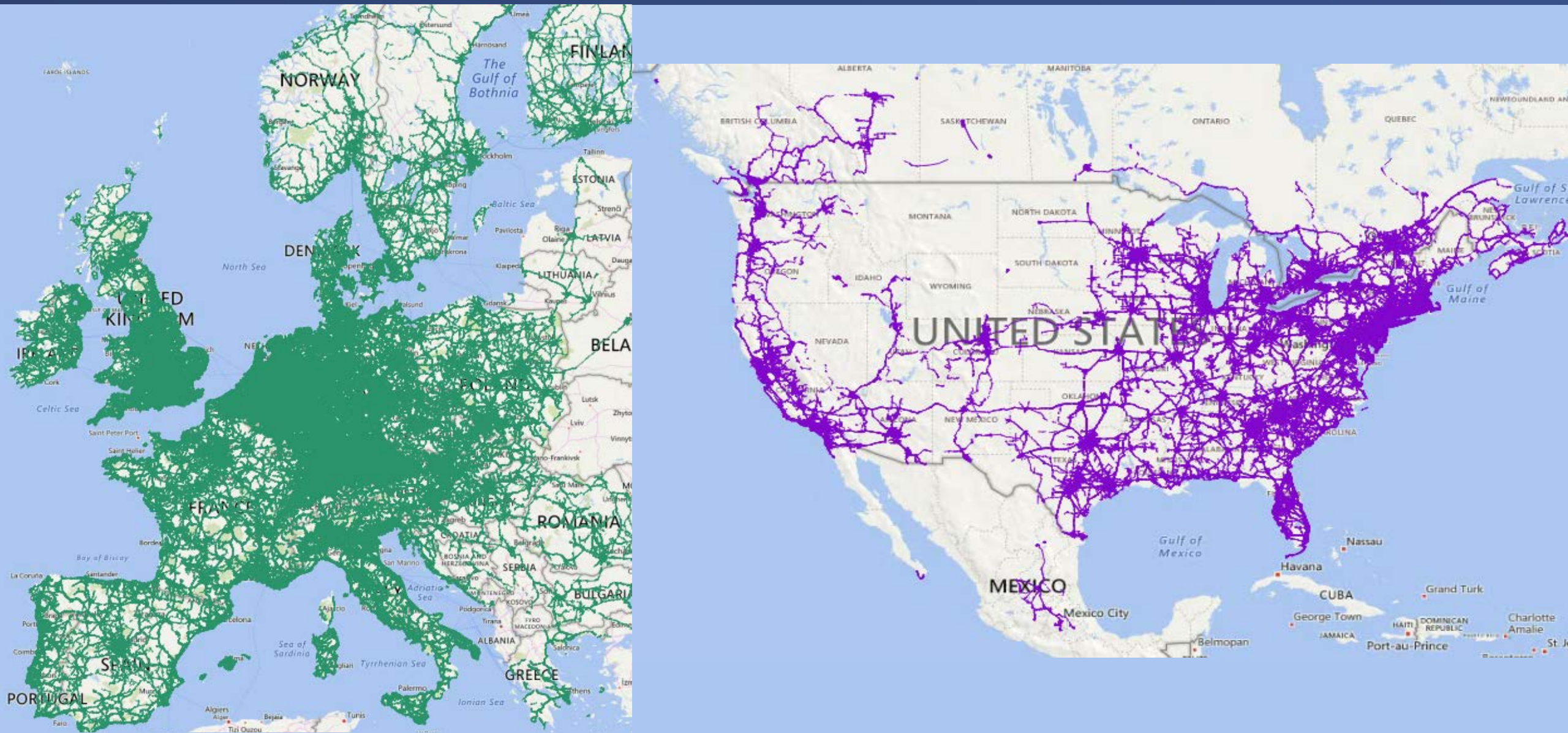



1st launch of series-production Harvesting fleet in December 18’ with BMW.

Coverage statistics:

- **2M** KMs of roads are covered daily
- **300M** KMs of roads were covered thus far

# REM-data Aggregation- Global Snapshot



# REM Milestones

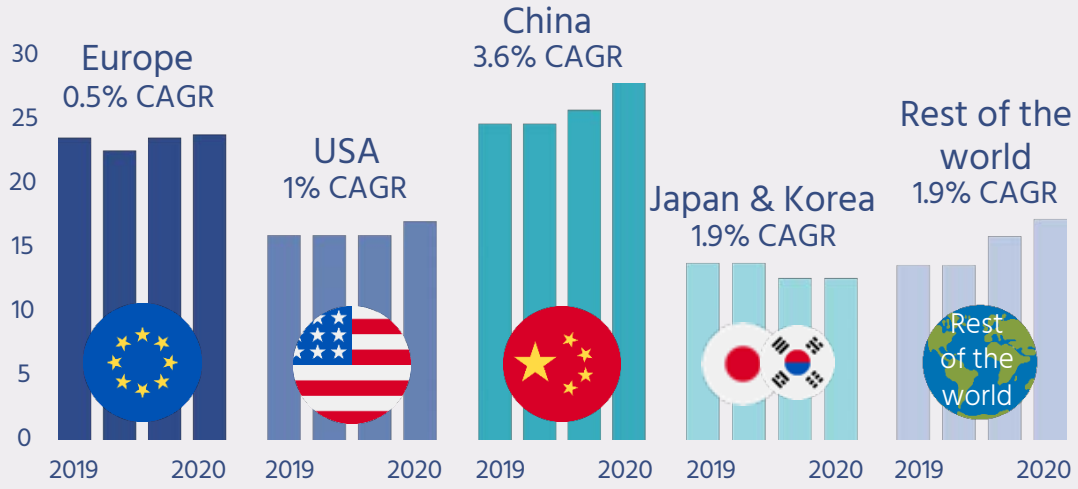
Mapping most of the US by the end of 2020

Mapping all of Europe by Q1 2020

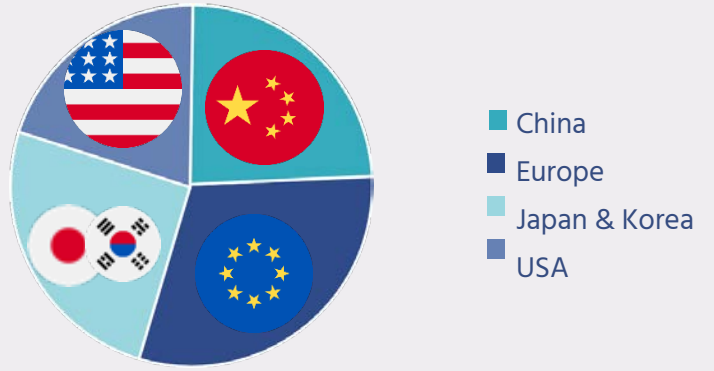
# REM in China

- China in the biggest light vehicles market in the world and the fastest growing market among the four major Geos
- Chinese OEMs accounts for >25% of Mobileye's life time volume of programs won in 2019

**Light vehicle production* (B)** *IHS, October 16, 2019




**Life time volume per OEM origin for won programs**




**Unlocking strategic opportunities for harvesting data under regulatory constraints**

# REM in China

**Ground braking agreement for data harvesting in China under regulatory constraints**

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Harvesting data in China as part of new collaboration with NIO on L4 synergy for Robotaxi and consumer AV

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Strategic collaboration with major Chinese OEM for REM data harvesting

Potentially 300K vehicles

# REM in China

## Signing a strategic JV agreement with Unigroup China


### Scope of Cooperation:

- Regulatory Clearance to enable the collection, processing, and monetization of data in China
- Aftermarket products distribution channels
- JV will focus on data commercialization – for Government and Fleet use
- Promotion of ADAS and AV standardization in China

# REM Monetization

## AV Maps

- Scalable solution for HD maps
- Ultra- high refresh rate with real time updates

## L2+/3/4

- Enhancing today's ADAS with minimal cost

## Non-Automotive

- Realtime data for "smart cities"
- Automatic infrastructure survey to aid city planning

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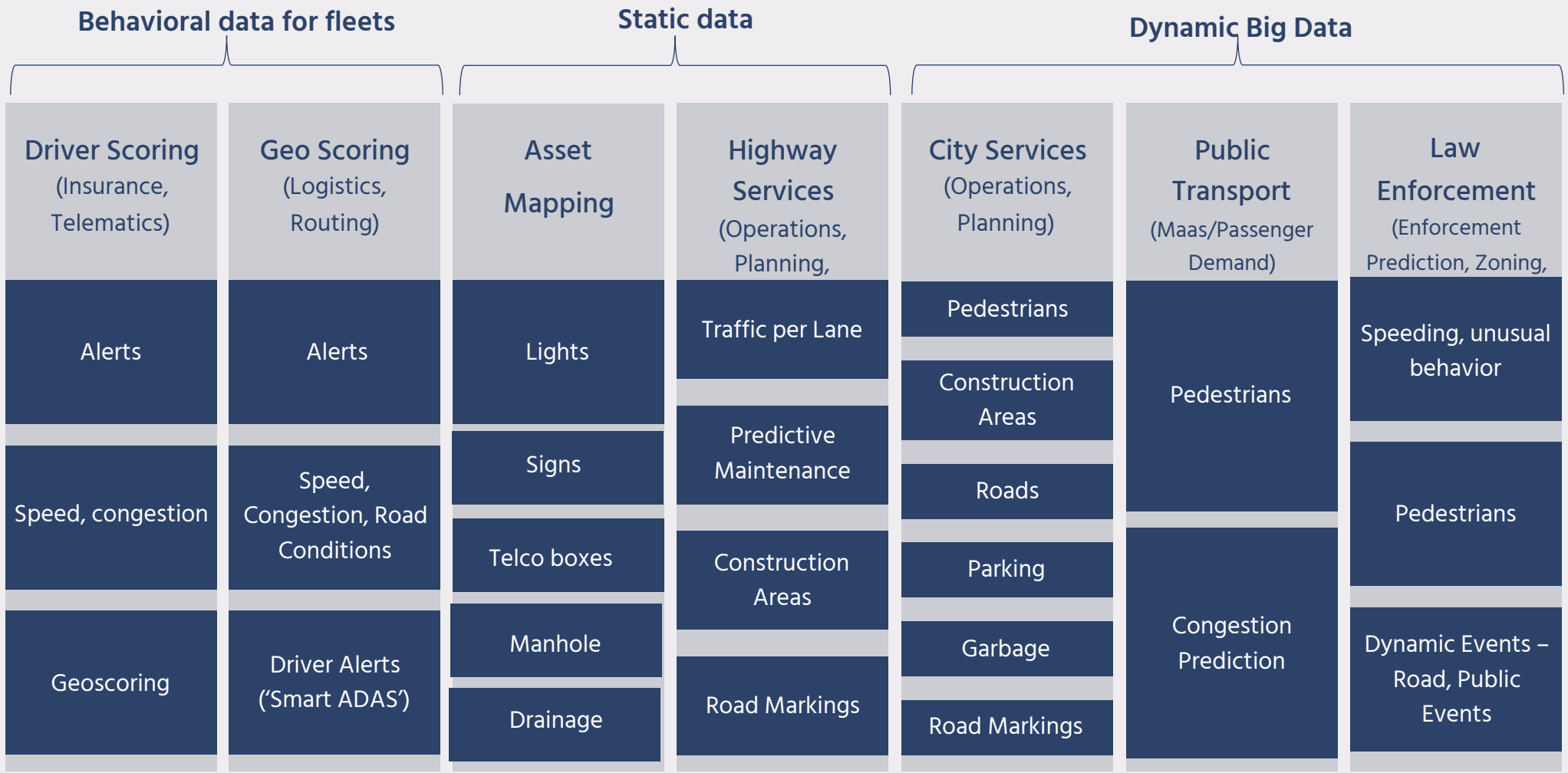
# Non-Automotive Data Story Opportunities

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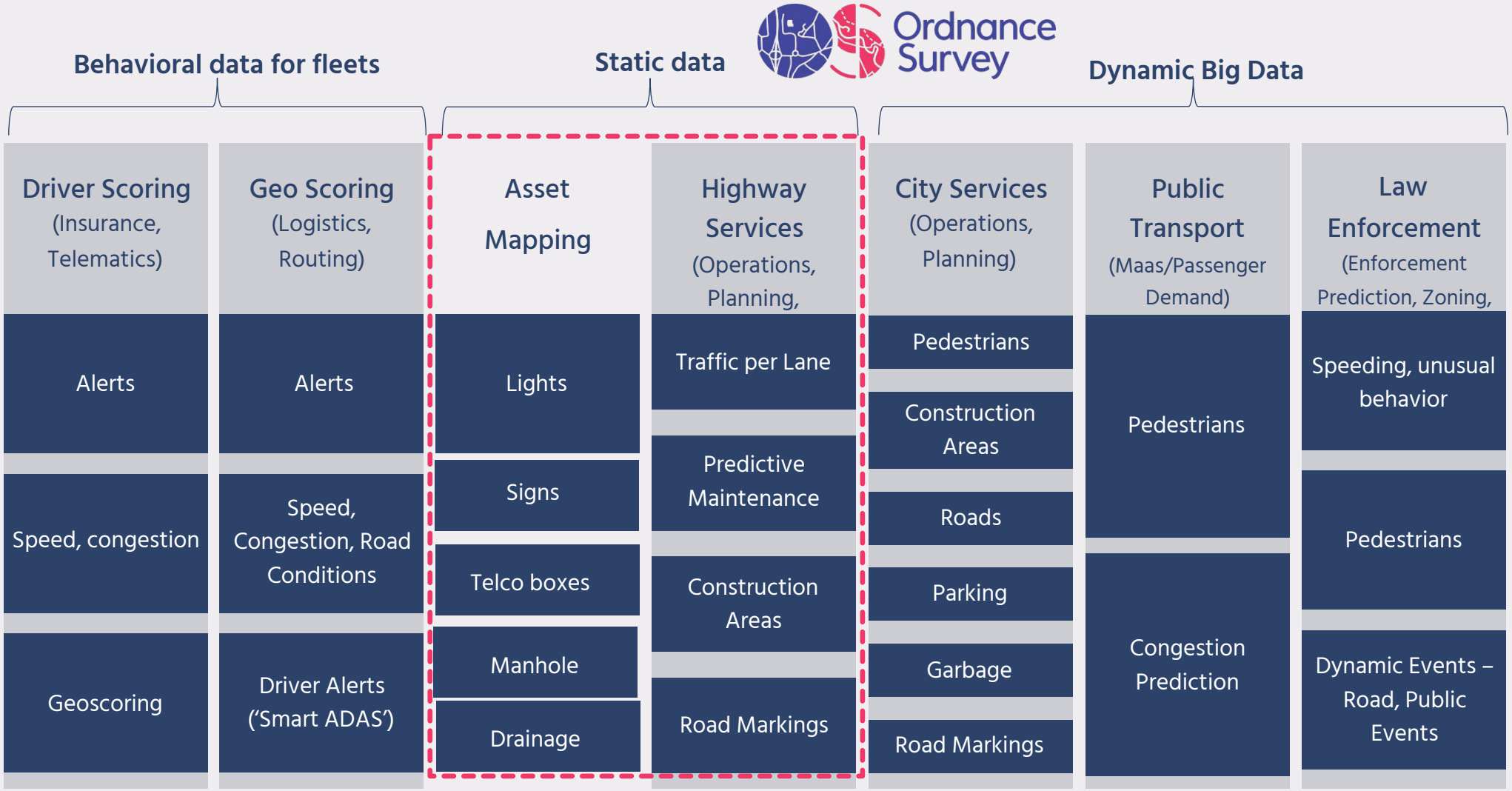
# Mobileye Data Story Opportunities

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# The Utility Strikes Use Case (UK)

**60K**
utility strikes per year (UK)

**$380M**
Third party damage to utility assets (UK)

**$1.5B**
Indirect cost in London alone

**12** deaths and **600** serious injuries per year

**150**
companies allowed to do underground excavating

As of 2016, 48% of the utilities were mapped.

Of these, **84% were found to be inaccurately recorded.**

Digitization of utility infrastructure can enhance asset management, and **increase profitability by 20-30%** through reduction in strikes and construction duration*

*Booth, A., Mohr, N., Peters, P. (2016) The digital utility: New opportunities and challenges, McKinsey & Company. [Online]. Available at: http://www.mckinsey.com/industries/electricpower-and-natural-gas/our-insights/the-digital-utility-new-opportunities-and-challenges [July 2016].

# Detection Features

## ADAS and AV applications

+ Road markings, Symbol marking on the road
+ Road edge
+ Signs, traffic lights
+ Poles
+ Construction area furniture
+ Road surface

## Asset management

+ Poles classification- electricity/ telco/ streetlights
+ Manholes sub categories classification
+ Telco cabinets and electricity boxes
+ Drainage
+ Surface water and puddles
+ Cracks and road surface quality

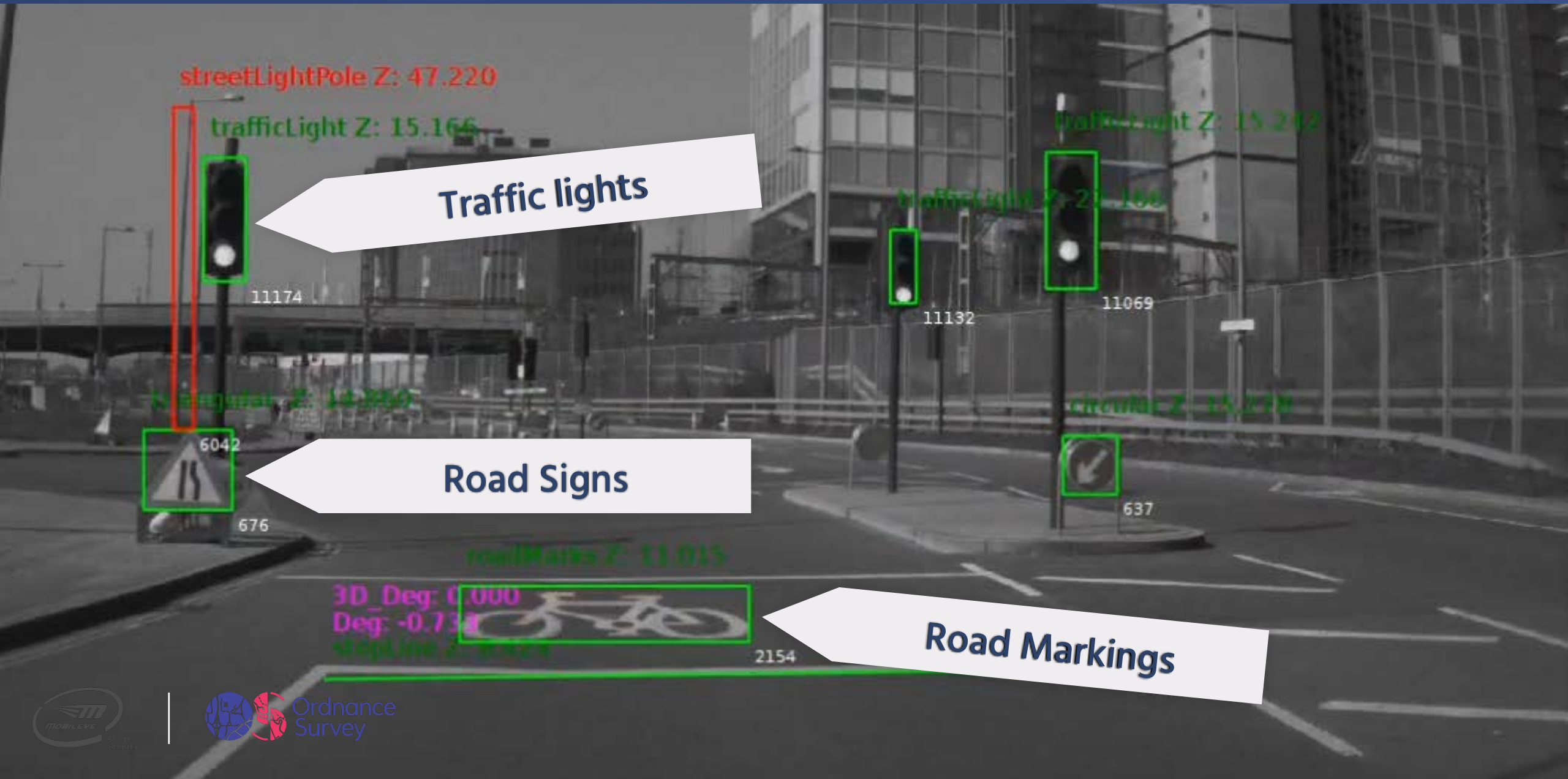
## Future

+ Front-Facing Camera as an “Intelligent Agent”

## ME8 Aftermarket Solution

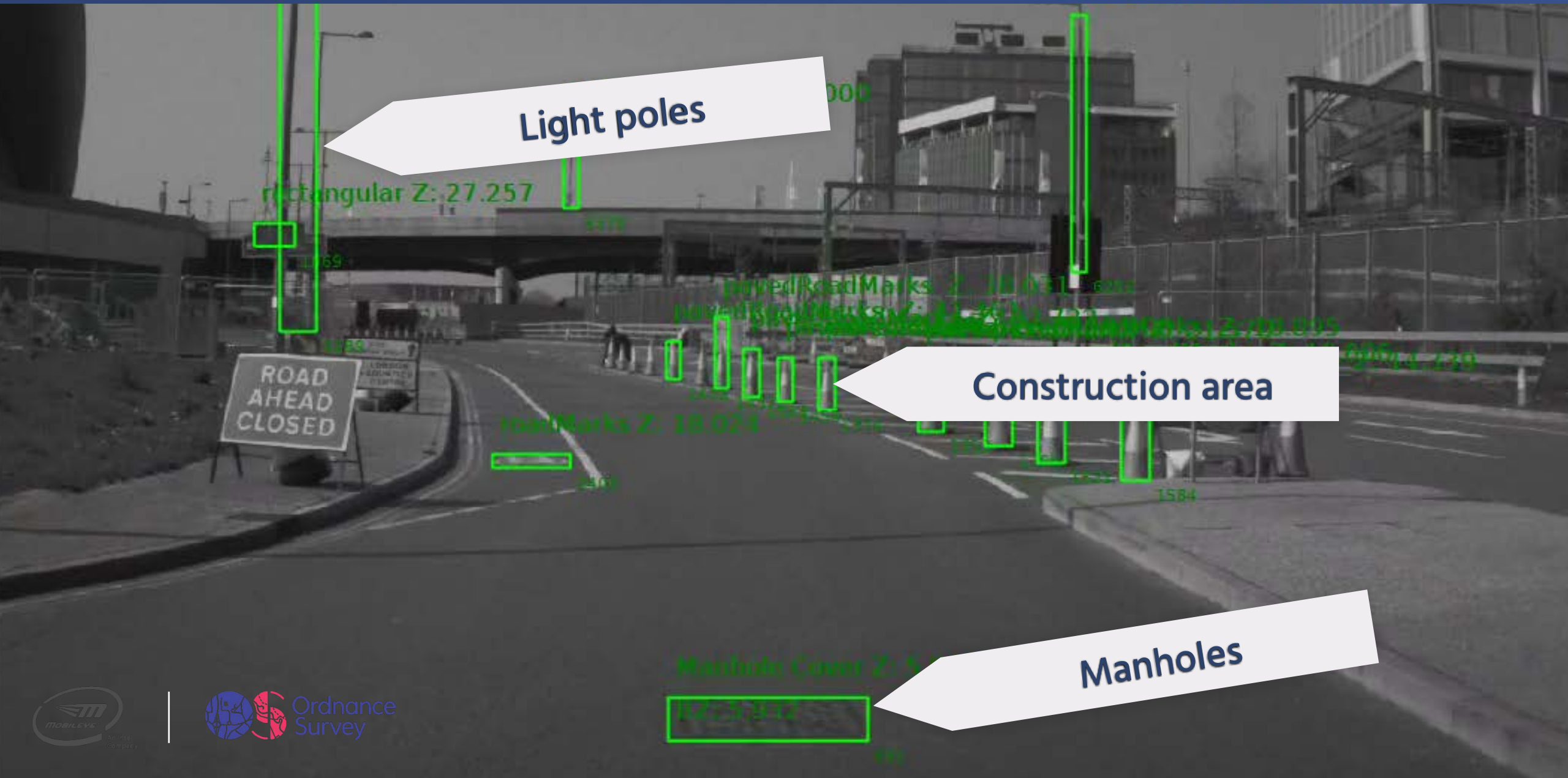
Collision avoidance, Data aggregation, Fleet management- All-in-one

# Detection Features

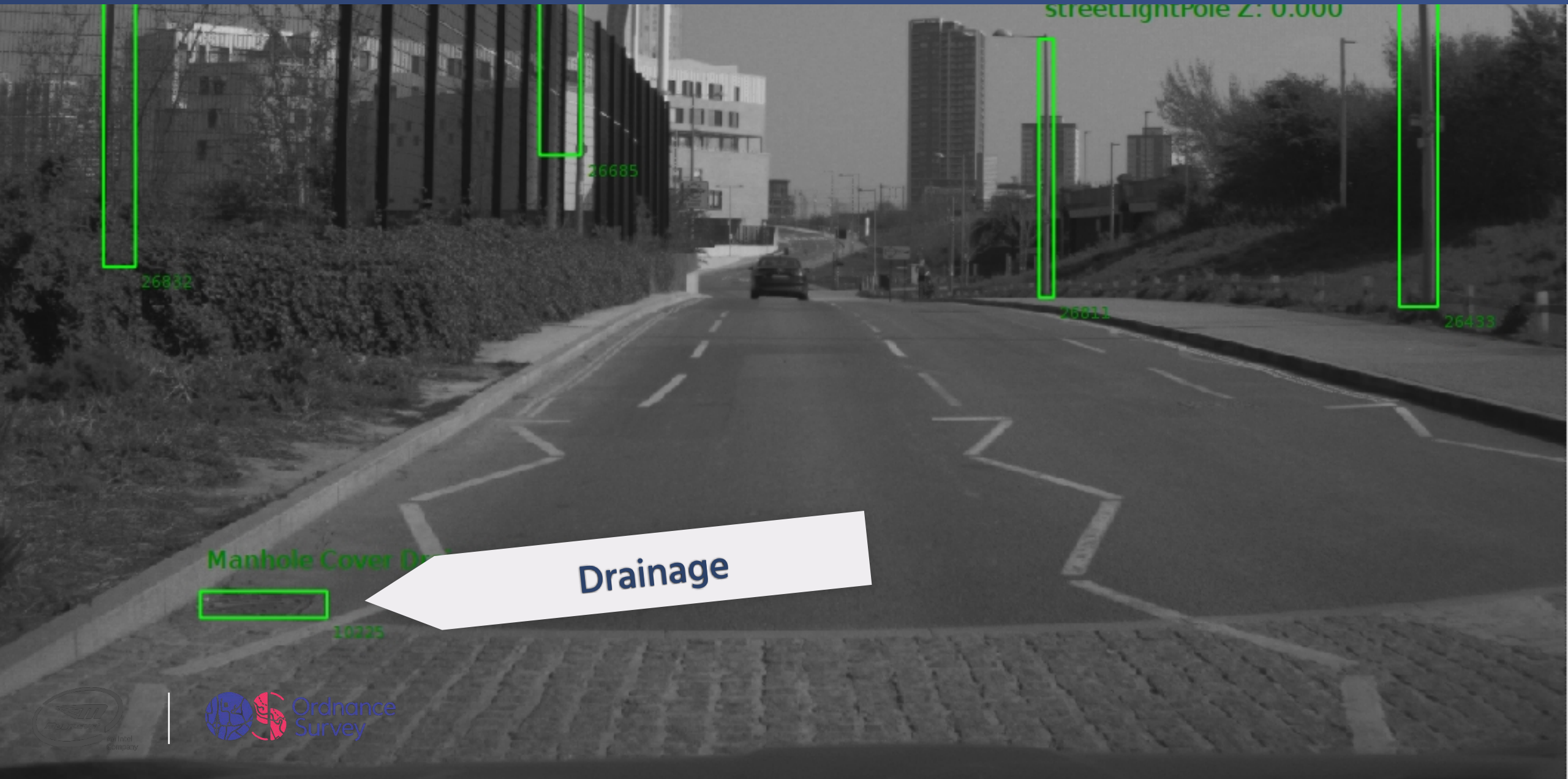



Ordnance Survey

# Detection Features



# Detection Features



# Detection Features

# Mobileye- Ordnance Survey

Above-surface data generated from REM is combined with sub-surface data to create reach HD assets map base

Continuously updated with zero overhead efforts

20 new utilities companies have joined the data evaluation trial

Global expansion beyond UK for 1st installations in Singapore, Hong Kong, and Dubai

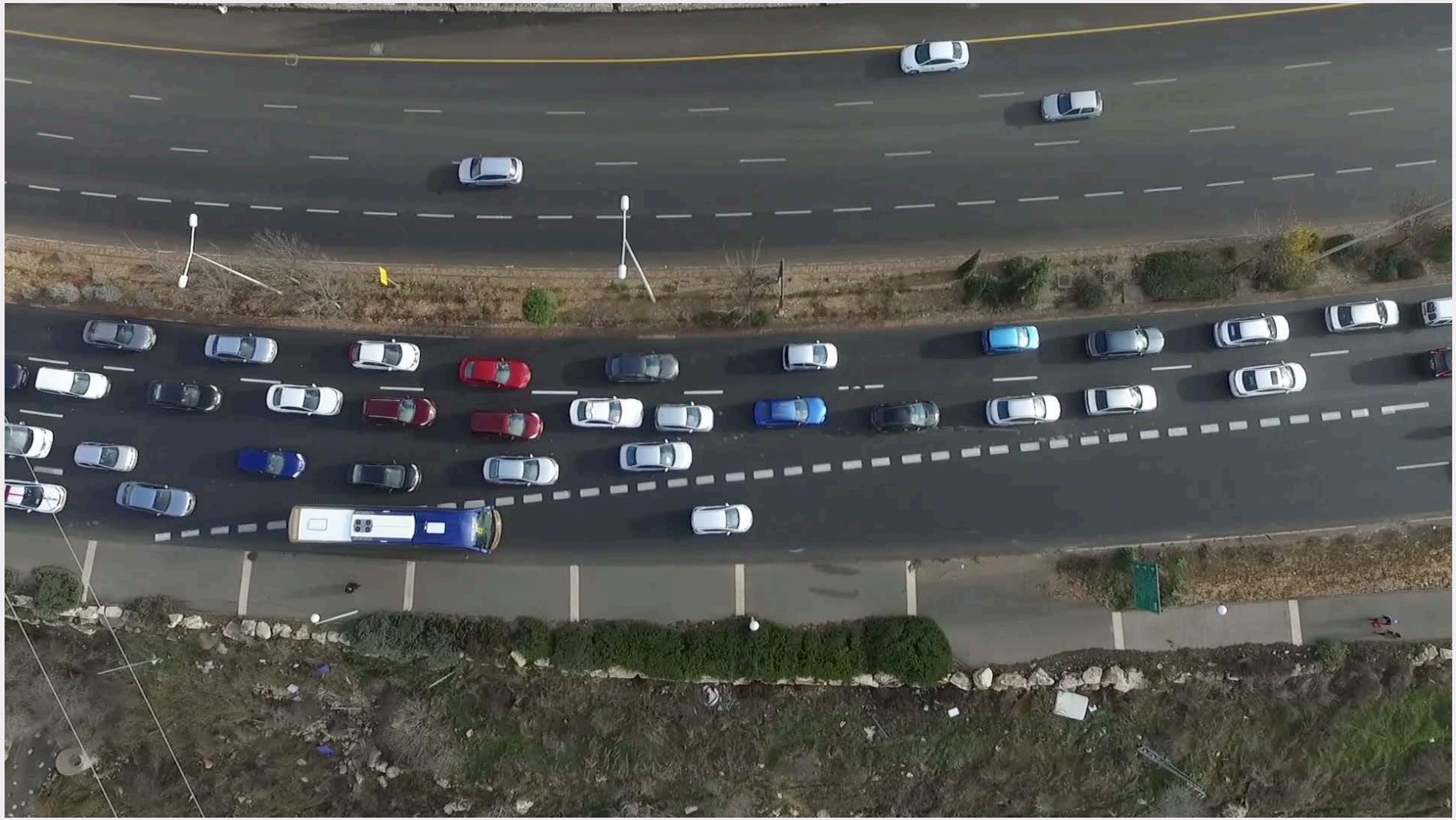

Ordnance Survey Launching Event- May 2019

**Potential revenues from the UK alone (50 local customers) = $70M Per Year**

**2024 TAM for asset mapping (static data) - $750M**

# RSS Driving Policy and Driving Experience

# Driving in the Real World



Merging into dense traffic requires significant “negotiation” amongst humans

# Autonomous Driving Cycle

## Sense

- Perception of the environment

## Plan

- Decision-making
- Driving Policy

## Act

- Execute the plan
- Motion control cycle

# The Driving Policy (Action) Challenge

- Do we allow an accident due to a “lapse of judgement” of Driving Policy?
- Should the occurrence of “lapse of judgement” be measured statistically?

→ Safety is a technological layer living outside of Machine Learning.
It is like “Ethics” in AI - a set of rules.

- It all boils down to a formal definition of “what it means to be careful”

→ There is a need for “regulatory science and innovation”. Technological innovation is not sufficient.

# What is RSS?

## RSS

**A mathematical model, formalizing a “common sense" interpretation of what it means to drive safe**

- What is **a dangerous situation** ?
- What is the **proper response** to a dangerous situation?
- What does it mean to be **reasonably cautious**?
- What **assumptions** a driver can make on the unknown behavior of other road users ?

RSS adheres to three basic criteria:

- Usefulness
- Completeness
- Efficiently verifiable

# Responsibility Sensitive Safety

# RSS

## On a Formal Model of Safe and Scalable Self-driving Cars

Shai Shalev-Shwartz, Shaked Shammah, Amnon Shashua

Mobileye, 2017

**Abstract**

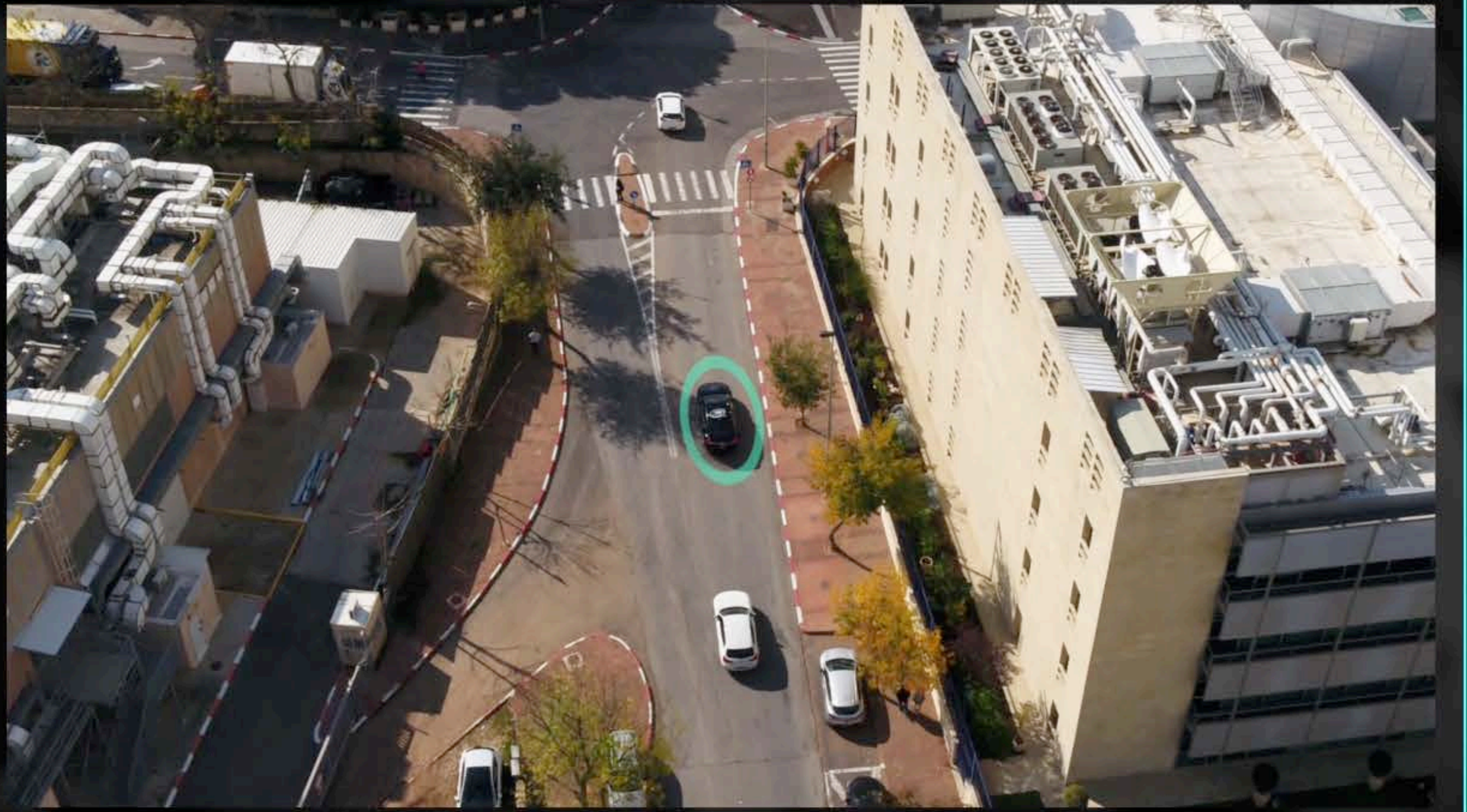
In recent years, car makers and tech companies have been racing towards self driving cars. It seems that the main parameter in this race is who will have the first car on the road. The goal of this paper is to add to the equation two additional crucial parameters. The first is standardization of safety assurance — what are the minimal requirements that every self-driving car must satisfy, and how can we verify these requirements. The second parameter is scalability — engineering solutions that lead to unleashed costs will not scale to millions of cars, which will push interest in this field into a niche academic corner, and drive the entire field into a "winter of autonomous driving". In the first part of the paper we propose a white-box, interpretable, mathematical model for safety assurance, which we call Responsibility-Sensitive Safety (RSS). In the second part we describe a design of a system that adheres to our safety assurance requirements and is scalable to millions of cars.

http://arxiv.org/abs/1708.06374

# RSS Driving Experience

**RSS deterministic and mathematical safety definitions allow better drivability and assertive driving behavior**


- “Give-way”/ “Take-way” decision
- Actively creating the proper gap rather than waiting for the perfect moment
- Assuming plausible worst-case behavior on other road users



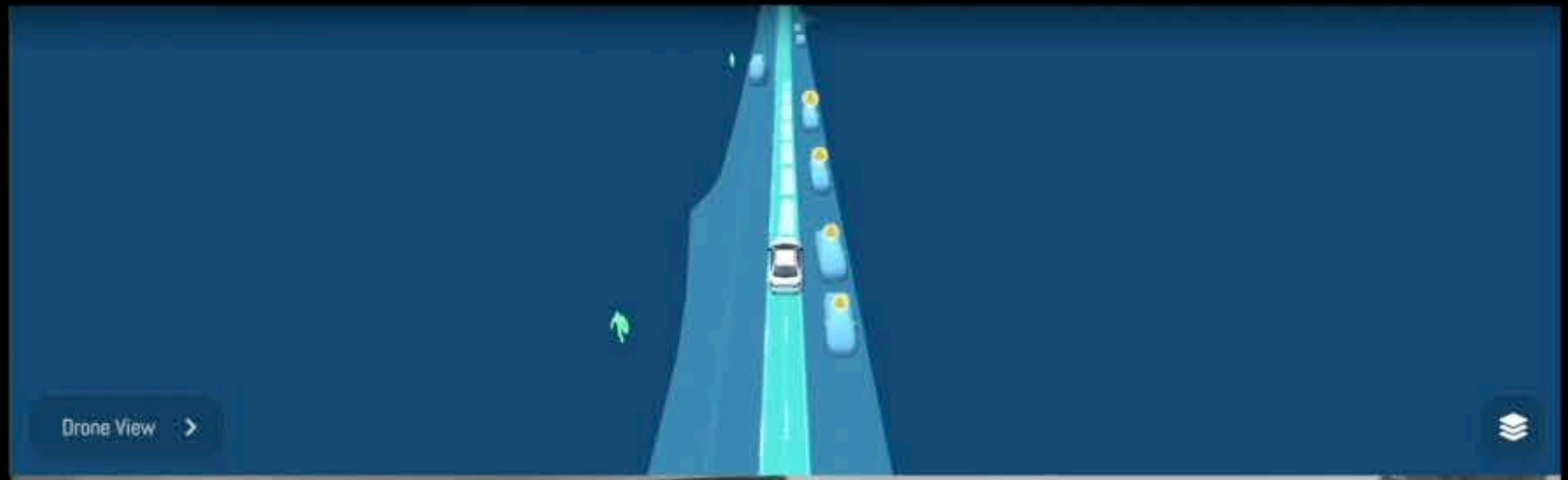
Autonomous

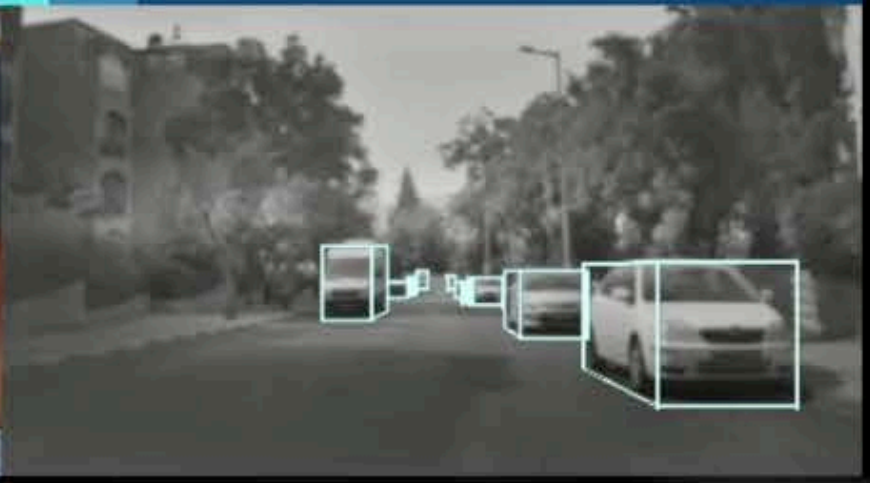
ACTIVE

17

km/h

14°

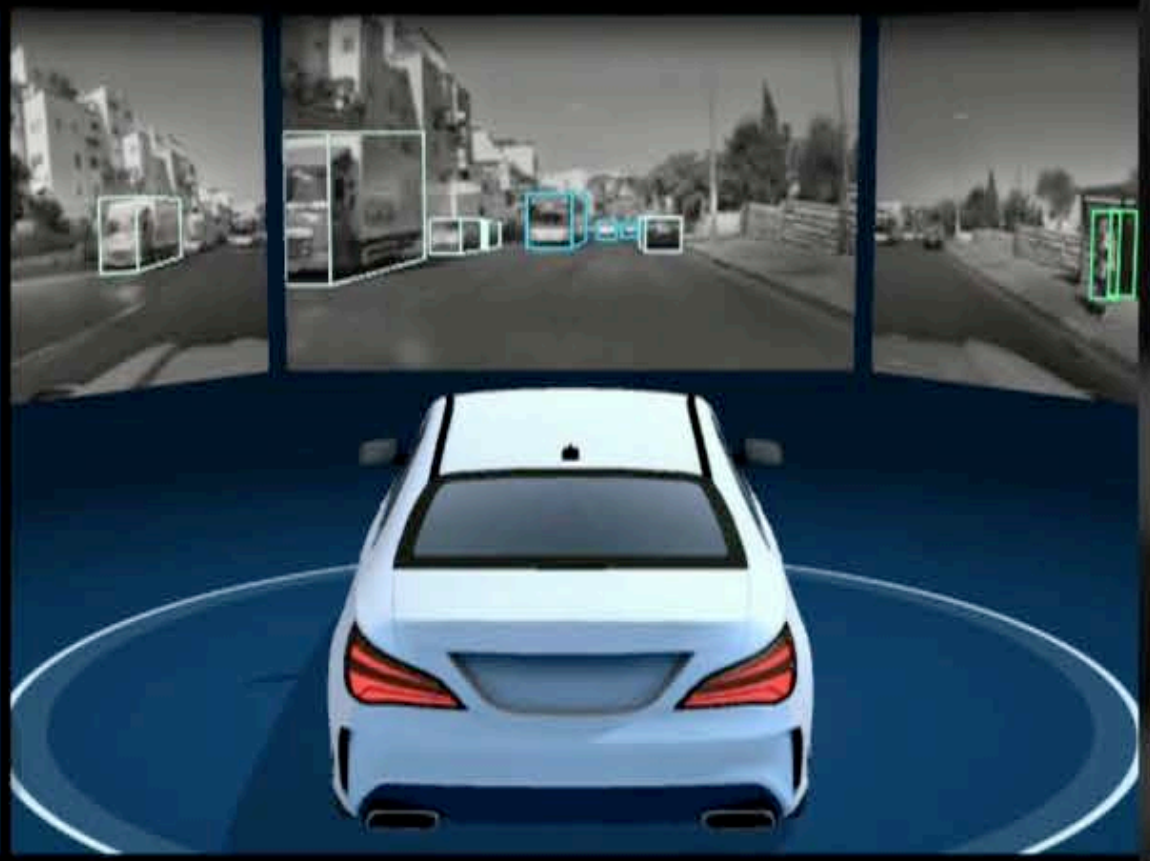


Autonomous
ACTIVE

28
km/h

16°



# SDS as a Product

# SDS-as-a-Product

## Manufacture an integrated SDS

- Build our SDS for Robotaxi (manufacture at scale or through a partner)
- Sale SDS to Robotaxi fleets
- Prepare for passenger car autonomy

**TAM in 2030- ~$40 (10M* cars, $4K/SDS)**

*3rd party estimations

# AV Kit HW Generations

## EPM 44

+ In deployment
+ Up to 4x EQ4H
+ Up to 12x1.3MP
+ **Up to 10 TOPs**

## EPM 52

+ Deployed this month
+ Up to 2x EQ5H
+ Up to 7x8MP + 4x1.3MP
+ **Up to 48 TOPs**

## EPM 59

+ Jan 2020
+ Up to 9x EQ5H
+ Up to 7x8MP + 4x1.3MP
+ E2E support in all aspects- fusion, policy, control
+ 2H 2020- automotive grade
+ **Up to 216 TOPs**

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# Nio-Mobileye Collaboration

## New collaboration with NIO for synergy on L4 HW+SW dev for robotaxi and consumer AV

| | Mobileye (An Intel Company) | NIO |
|---|---|---|
| | • AV kit HW design+ SW<br>• HD maps | • AV kit "production house+ integration<br>• Mapping licenses in China |
| **Benefits** | + Full access to Nio's RT + battery swap capabilities<br>+ AV kit modules for use on other RT platforms<br>+ China footprint- mapping and dev<br>+ Consumer AV rev stream with industry-first | + Reducing dev burdens<br>+ Scalable proposition for Nio's L4 passenger cars |

# MaaS – the larger scope

# Intel-Mobileye MaaS Key Differentiators in MaaS

## Cost differentiation:

- **RSS** – formal safety translates to insurance advantages and shorter trip times
- **True redundancy** - minimizes validation costs , & broadening ODD to minimize teleoperation overheads
- **REM** : seamless geo-scaling leveraging our unmatchable ADAS proliferation and automatic map aggregation technology

## Value differentiation:

- **RSS**: riders safety-perception
- **Policy** : ride Agility resulting in short travel times, Human-like overall ride experience

## Unique business model:

- **ADAS revenue stream** creates a Self-Funded Global Robo-Taxi activity

# Intel-Mobileye MaaS Key Differentiators in MaaS

## Cost differentiation:

- **RSS** – formal safety translates to insurance advantages and shorter trip times
- **True redundancy** - minimizes validation costs , & broadening ODD to minimize teleoperation overheads

**Sustainable, scalable, self-funded global autonomous robotaxi fleet**

## Value differentiation:

- **RSS**: riders safety-perception
- **Policy** : ride Agility resulting in short travel times, Human-like overall ride experience

## Unique business model:

- **ADAS revenue stream** creates a Self-Funded Global Robo-Taxi activity

# PINTA: “sandbox” for a full-stack SDS

# Project PINTA

# Bringing MaaS to Israel by 2022

The project consortium partners across all layers of the layer model of Mobility-as-a-Service with self-driving electric vehicles

Layer 5

## Content Providers

VOLKSWAGEN CHAMPION MOTORS

Layer 4

## Mobility Platform & Services

VOLKSWAGEN CHAMPION MOTORS

Layer 3

## Fleet Operations & Fleet Control Center

CHAMPION MOTORS

Layer 2

## Self-Driving Vehicles

VOLKSWAGEN

Layer 1

## Self-Driving System

# Project Phases

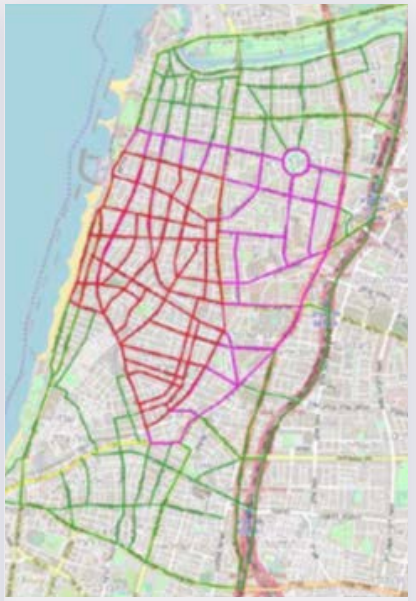
The service covers the most relevant urban area of Israel by 2022

2019 Phase 1
Pre-Development

**15km**

2020 Phase 1.1
Development

**33km**



2021 Phase 2 2022
Phase 3 Pre-Commercial

**111km**

**(13,4 km²)**

Scaling approaches

- Scale into Metropolitan area
- Increase granularity of existing area
- Add additional special routes

2023 Phase 4 Scaling

# RATP collaboration: The first hook for Robotaxi in Europe

# MaaS Go-to-Market Engagements

## Deal with world-leading mobility operator

RATP

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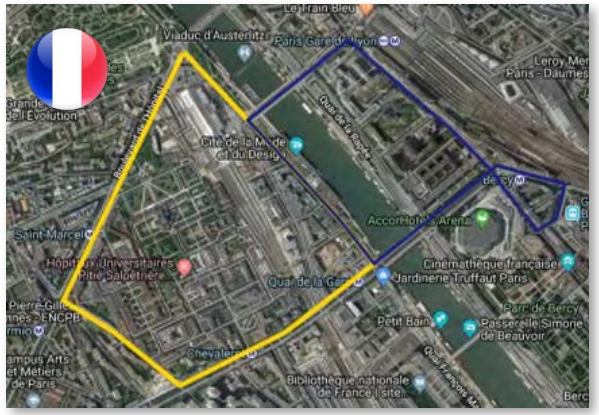
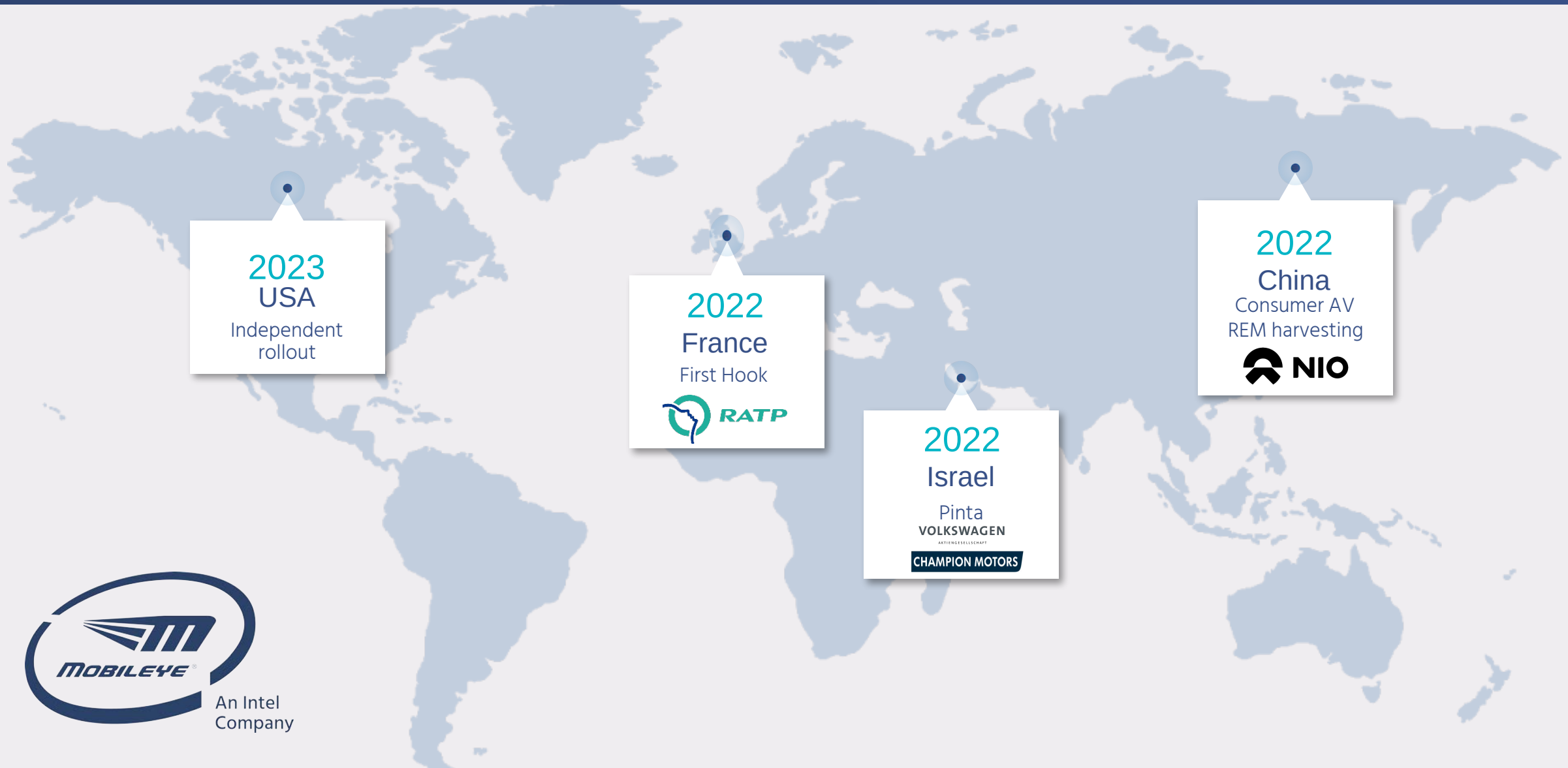
## The scope:

- Gov. funded project to run AV in Paris for a trial period
- To be done based on our current AV config
- Initial deployment mid 2020
- Long term- deployment of commercial robotaxi fleet
- Foot in the door for regulatory engagement



# MaaS Scale-up Plan

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# Summary of Achievements and Milestones

## REVENUE TODAY THROUGH ADAS

- **> 50M EyeQ® chips shipped**
- **ME in 8 out of 11 L2+ systems that are in production**
- **High-volume program launch with VW (Golf, Passat, etc.) including REM harvesting**
- **22 New DWs in 4 major markets:**
  - 4 million units in France;
  - DW with largest OEM in India;
  - 2 new wins in China with leading OEMs
  - 4Mu with leading Asian OEM

## MAPPING / DATA

- **Automatic map creation based on data arriving 3 major OEMs, 3 more in the pipeline**
- **EU will be fully mapped by Q1 2020, and the majority of the U.S. before year-end 2020.**
- **> 20 additional customers joined Mobileye's OS trial for assets mapping**

## MAAS

- **JV with VW and Champion Motors is on track for 2022 deployment in Tel Aviv.**
- **TAM for robotaxis at $160 billion by 2030**
- **Level 4 collaboration with NIO:**
  - L4 for consumer AV
  - exclusivel L4 for Mobileye's for global deployment of robotaxi
- **RATP cooperation for a robotaxi shuttle to start testing in Paris in 2020.**

# Summary of Achievements and Milestones

## Total Potential TAM by 2030
(Excluding MaaS)

**$72.5B**

- **> 5**
- **ME**
  **in production**
- **High-volume program launch with VW (Golf, Passat, etc.) including REM harvesting**
- **22 New DWs in 4 major markets:**
  - 4 million units in France;
  - DW with largest OEM in India;
  - 2 new wins in China with leading OEMs
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**ation**
**ing 3**
**major OEMs, 3 more in the pipeline**

**EU will be fully mapped by Q1 2020, and the majority of the U.S. before year-end 2020.**

- **> 20 additional customers joined Mobileye's OS trial for assets mapping**

## Total Potential MaaS TAM by 2030

**$160B**

- **TAM for robotaxis at $160 billion by 2030**
- **Level 4 collaboration with NIO:**
  - L4 for consumer AV
  - exclusive L4 for Mobileye's for global deployment of robotaxi
- **RATP cooperation for a robotaxi shuttle to start testing in Paris in 2020.**

# Thank you