



An Intel
Company

Mobileye

Мировой лидер в создании системы помощи водителю для предотвращения аварий и технологии автономного вождения.



A taste of our technology



A taste of our technology

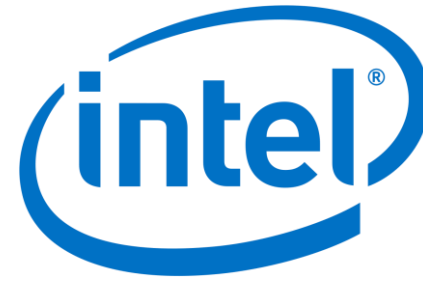




In 1999, Prof. Amnon Shashua and Mr. Ziv Aviram found Mobileye and harness the power of computer vision for automotive safety



2014: Publicly traded on the NYSE (MBLY)



2017: An Intel Company



2021: BMW Group and Mobileye Team Up to Bring Fully Autonomous Driving to Streets



2007: First Camera/Radar Fusion – Volvo



2011: First camera-only FCW



2015: - First camera-only AEB - 10 Millionth Chip



2016: First camera-only full speed Adaptive Cruise Control (ACC) on Nissan ProPILOT

2017: REM™ mapping launch: Two million vehicles collecting data by YE 2018



An Intel Company

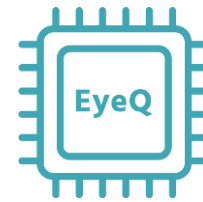
Nearly Two Decades Later...

Mobileye is a world leader in Advanced Driver Assistance Systems (ADAS)



25+

Leading OEMs rely on Mobileye



35+ million

Mobileye-equipped vehicles



13 automakers

Working with Mobileye to enable autonomous driving

32M+ Vehicles with Mobileye Technology.

93% of new cars sold rated 5 stars by Euro NCAP



Facts & Figures - WORLD HEALTH ORGANIZATION



About **1.25 million people die** each year as a result of road traffic crashes. **That is more than 2 deaths per minute**

Nearly half of all road traffic deaths are amongst **vulnerable road users, pedestrians, cyclists and motorcyclists**

Between **20 to 50 million** more people suffer **non-fatal injuries**, with many incurring a disability as a result of their injury

National estimates have illustrated that **road traffic crashes cost most countries 3% of their gross national product**

Source | <http://www.who.int/mediacentre/factsheets/fs358/en/index.html>

Human Error Is The Cause Of Most Collisions

94% of road accidents are caused by human error.

Pedestrians account for 22% of all traffic fatalities.

Road crashes cost the U.S. \$230.6 billion per year.

Source: NHTSA, WHO “Global Status Report on Road Safety”, 2015, ASIRT.org



АВТОНОМНОЕ ВОЖДЕНИЕ

Представьте себе автономное
будущее ...



Our Technology

Our System understands the driving scene

- Pedestrians
- Lane Markings
- Vehicles
- Traffic Signs
- Land Marks
- Traffic Lights
- Holistic Path
- Drivable Path

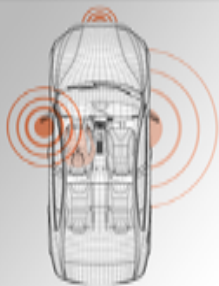


The ADAS Road to AD Reality

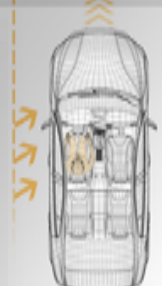
ADAS

Human driver monitors environment

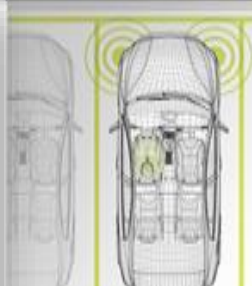
UP TO LEVEL 02



**NO
AUTOMATION**



**DRIVER
ASSISTANCE**



**PARTIAL
AUTOMATION**

AUTOMATED

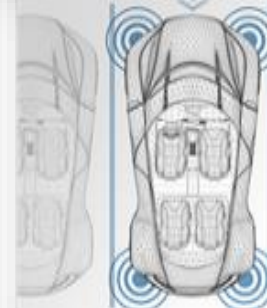
Vehicle system monitors environment

LEVEL 03



**CONDITIONAL
AUTOMATION**

LEVEL 04



**HIGH
AUTOMATION**

LEVEL 05



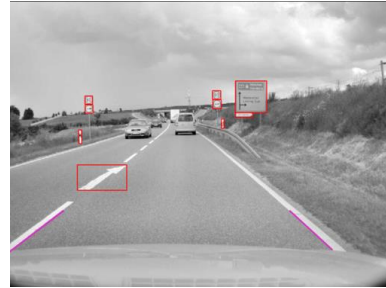
**FULL
AUTOMATION**

Как мы делаем это реальным

Три столпа автономного вождения



Считывание и распознавание

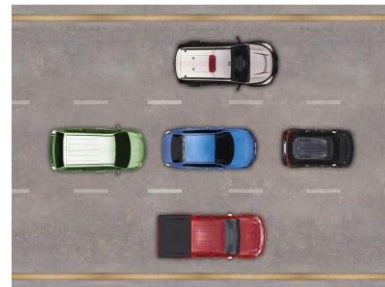


Картографирование



Правила вождения

REM



Responsibility-Sensitive Safety

Считывание и распознавание

Entire roadscape

- Pedestrians
- Lane Markings
- Vehicles
- Traffic Signs
- Land Marks
- Traffic Lights
- Holistic Path



Intel and Mobileye Begin Testing Their Autonomous Fleet in Jerusalem





Retrofit ADAS



Solutions for any Fleet



Mobileye 6



**Mobileye
Shield+™**

Lifesaving Features



Forward Collision
Warning



Pedestrian
and Cyclist
Warning



Lane Departure
Warning



Headway
Monitoring
& Warning



Speed Limit
Indication

Forward Collision Warning



Why: Collision avoidance systems could reduce more than 80% of rear-end crashes (NTSB)

How: A visual and audio alert is issued up to 2 seconds before a collision, allowing enough time to react

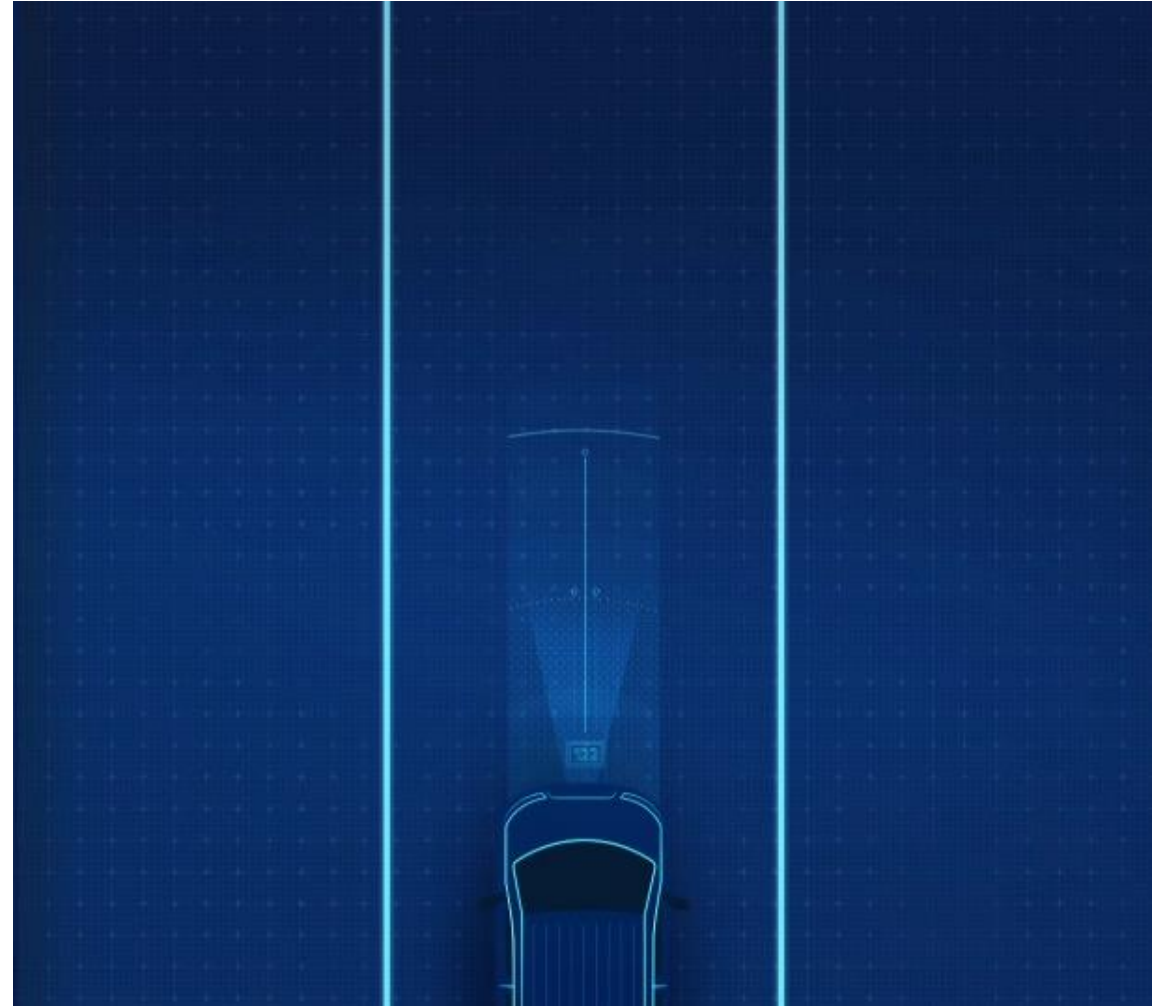


Pedestrian and Cyclist Warning



Why: Pedestrians and cyclists are the most vulnerable road users, especially in crowded urban areas

How: A visual and audio alert is issued when the an imminent collision is detected with a pedestrian or cyclist allowing the driver enough time to react



Lane Departure Warning



Why: Drifting from the lane is often the first sign of driver drowsiness.

Road accident fatalities are disproportionately a result of unintended lane departure

How: A visual and audio alert is issued when a deviation from the lane without signaling is detected, allowing the driver enough time to react



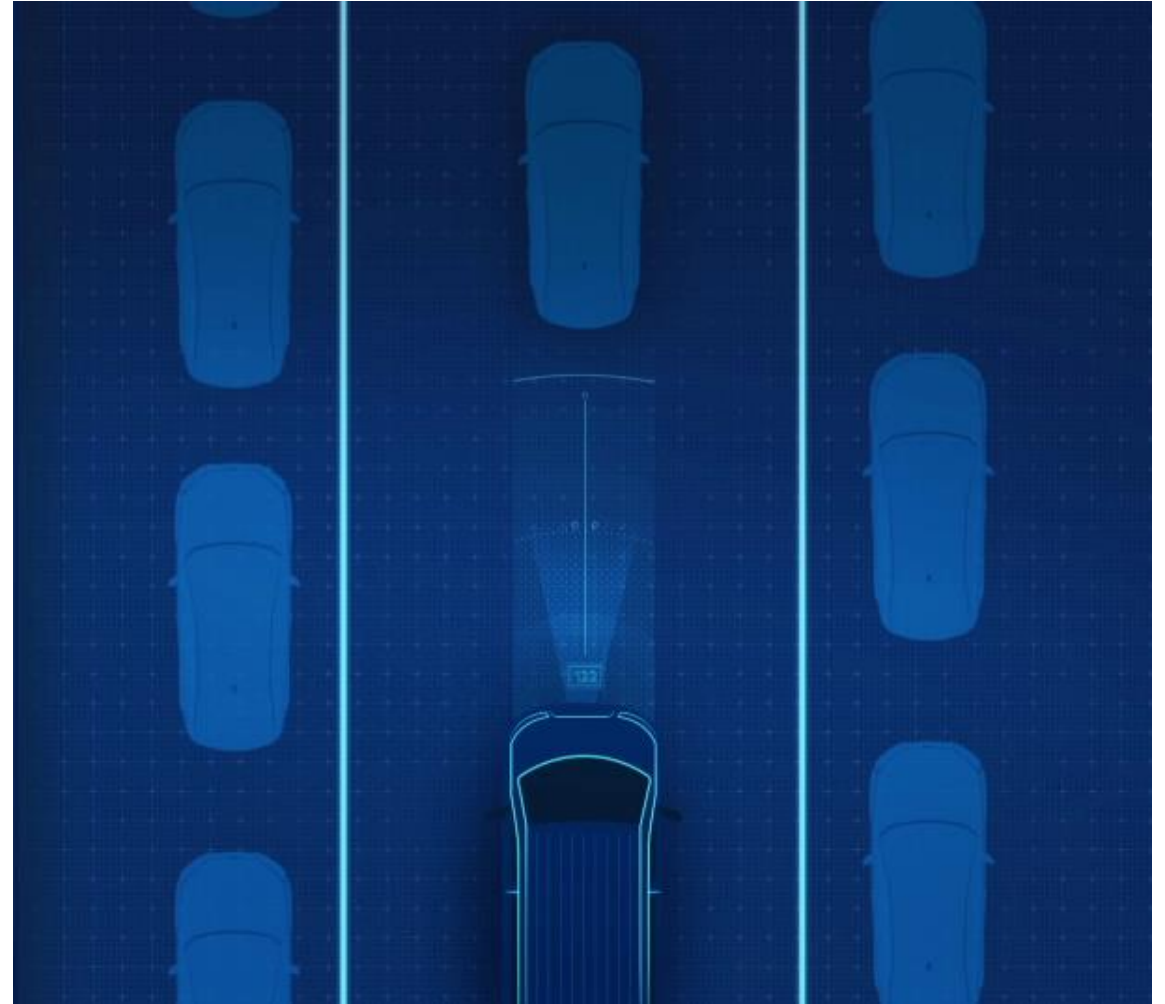
Headway Monitoring & Warning



Why: Many drivers underestimate the amount of headway needed to stop safely

How: The distance (measured in seconds) from the vehicle ahead is calculated and compared to a pre-defined threshold

A visual and audio alert is issued when the distance is at an unsafe length, guiding the driver to keep a safer distance from the vehicle ahead



Speed Limit Indicator

Why: About 55% of all fatal speeding-related crashes are due to “exceeding posted speed limits” (NHTSA)

How: Speed limit signs (including electronic signs) and supplementary signs are identified and a flashing Speed Limit Sign icon is displayed when driving above the detected speed limit warning the driver to slow down



Intelligent High Beam Control



Why: Deciding if and when to turn high beams on and off is often distracting for the driver

How: IHC assists the driver by automatically switching low-beams to high-beams on dark roads, when no traffic is in close proximity to your vehicle



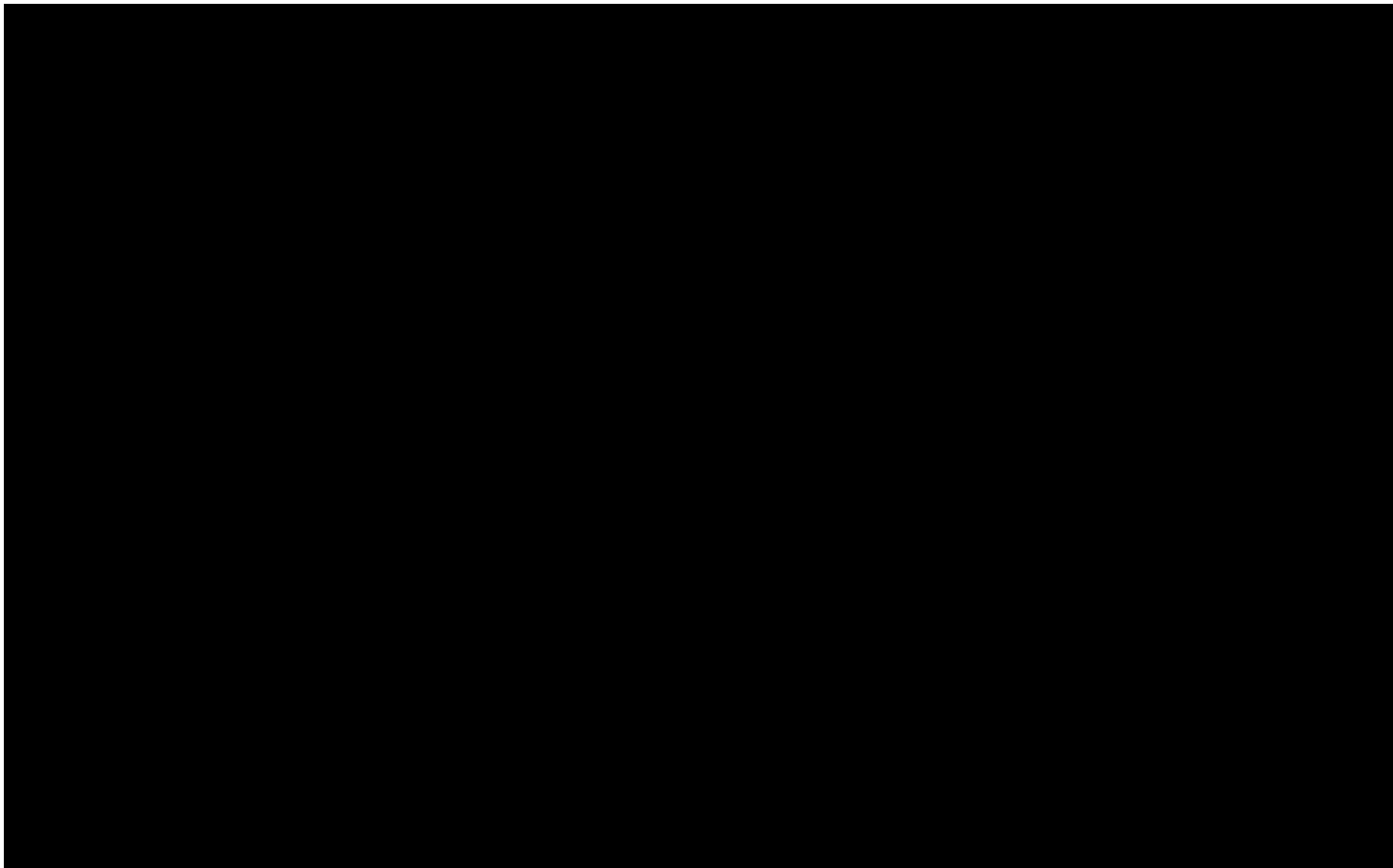
Mobileye Integrates With Numerous FMS Providers



Mobileye Shield+™



Shield+™ for large vehicles



Shield+™ for large vehicles

Best solution for
urban areas

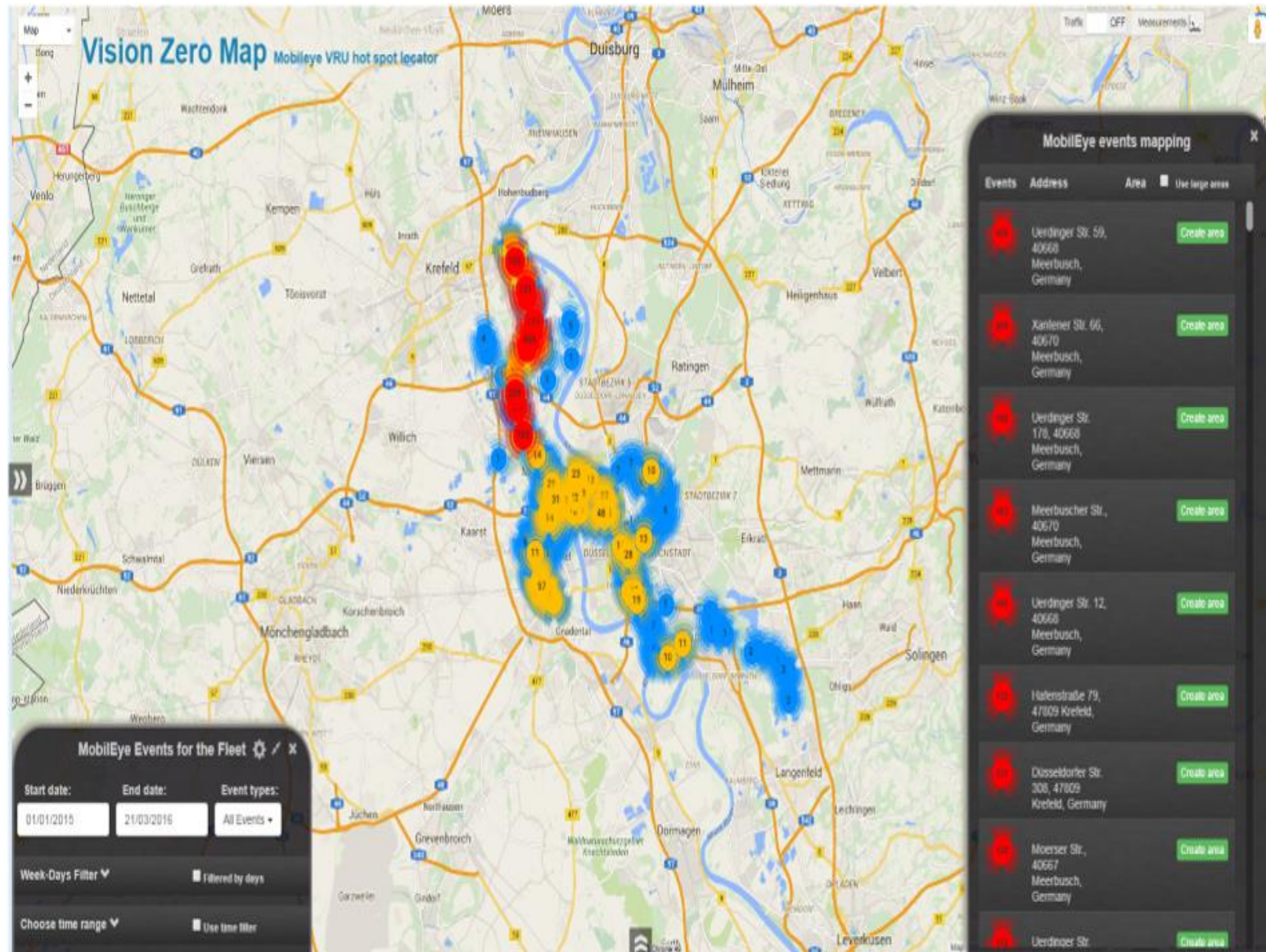


Most crashes between large vehicles
and road users occur

- Multi-camera collision avoidance system
- Pedestrian and Cyclist Blind Spot Detection
- Dashboard Display + 2 additional side displays for pedestrian and cyclist detection
- Actionable data to improve safety



Mobileye integrates with numerous FMS providers





Some of Our Customers



Phillip Morris



 **Location:**
Ukraine

 **Vehicles:**
350 Passenger Cars

Former crash rate was around 200 accidents per year in 2016 it was down to only 84 – 58% reduction in collision rate



PHILIP MORRIS

Coca-Cola Hellenic



 **Location:**
Poland

- Zero collisions during pilot period
- 40% reduction in HMW; 50% reduction in FCW; 80% reduction in LDW
- Over three years following the pilot installed in 15,000+ vehicles in 28 countries



ComfortDelGro



 **Location:**
Australia

 **Vehicles:**
1,000+ Buses &
Coaches

- Decided to implement Mobileye following successful trial by sister company SBS Transit in Singapore who equipped Mobileye with 750 buses
- “CDC is proud to be the largest bus company in Australia to adopt Mobileye.” –CDC Australia



C.R. England



Location:

USA, Largest refrigerated trucking company in the US



Vehicles:

Installed in 4,000 vehicles



- 37% reduction in collisions
- “Mobileye was able to supply us with essential driving assistance features in a single package that will protect our vehicles, the traveling public, and the valuable cargo we carry every day.”- C. R. England’s VP Training & Safety.



C.R.England



CFL

📍 Location:
US



“I would recommend Mobileye to any fleet wanting the perfect aftermarket technology to increase their drivers’ safety on the road, and significantly reduce their incident frequency. It has proven to be a seamless technology with great results in our fleet.”

Scott Cramer, President of CFL



SAB Miller



 **Location:**
Colombia & Peru

- **65% reduction in collisions**
- **Reduced driver turnover to just 3.3%**
- **“Mobileye can be described as a cost reduction tool, as it prevents accidents that are costly and positively influences driver behavior, improves fuel consumption and keeps trucks on the road.” –Carlos Cucalon Regional Manager for South America**



Yutong Bus Company

 **Location:**
China

- Largest bus manufacturer in the world
- Implemented Mobileye aftermarket system in its electric bus production line



Adelie Foods



📍 Location:
UK

- Fleet travels 12.5 million miles each year
- “We have an excellent safety record but Mobileye will give us an extra layer of protection, as well as ensuring drivers constantly meet the incredibly high standards we expect of them.” -Glenn Buick, Distribution Manager at Adelie Foods



Revv Rental Car



 **Location:**
India

- During the three month trial: Mobileye-equipped vehicles were nearly three times less likely to be involved in an accident
- Showed a 74% reduction in damage rates



Johnson & Johnson



“In the first three months of the trial J&J has seen its fuel economy improve from 74% to 85% against the benchmark. We've also improved the safety of participants driving from 67% to 81% based on where they were at the start of the year”

-Amanda Fitzpatrick, Johnson and Johnson

Johnson & Johnson



TransGourmet

 **Location:**
Germany

“We looked for an accident prevention system that could be fitted easily to our existing trucks that would keep the technical standard at a very high level and chose Mobileye to minimize the risk of accidents and support our drivers in the best possible way.

-Sven Sauerwein, Head of Logistics Services at Transgourmet



Dish

 **Location:**
US

 **1900 Vehicles** equipped with
Mobileye upon full deployment


- 55 Million miles of data
- 73% of reduction of in-scope accident costs
- 87% reduction in-scope collisions



AT&T



 **Location:**
USA Nationwide
San Antonio, TX

 **4230 Vehicles** equipped with
Mobileye (Ford, GMC/Chevy)

- **56% Reduction in Headway Monitoring**
- **55% Reduction in Lane Departure Warnings**



Winslow Constructors



Location:
Australia



Vehicles:
400 road fleet +
construction vehicles



Zero collisions during the pilot stage of 60 vehicles. Following this, Winslow carried out a complete fleet roll-out.

“Nowadays, most new vehicles come with built-in collision avoidance systems, but renewing our entire fleet overnight would be prohibitively expensive. So after thoroughly researching different collision avoidance systems options, Winslow found Mobileye’s “retrofitted” system could achieve the same level of safety for our fleet as purchasing new vehicles, but for a fraction of the cost of changing every vehicle” PR, Winslow Constructors Australia



WINSLOW

Abellio London

 **Location:**
UK

 **Vehicles:**
66 Buses


- A reduction in avoidable collisions by nearly 30%
- Unexpected side benefit – a reduction in passenger injuries from avoidable collisions by 60%

abellio 



Polk County Sheriff's Office

 **Location:**
Florida, US

 **Vehicles:**
600 police vehicles









“Since installing the system, we have not had any collisions that we felt could have been prevented by Mobileye. In fact, many of our officers have commented on how the Forward Collision Warning has alerted them in time to prevent a rear-end collision. I would say this has been the biggest benefit.”





Government Regulation & Enforcement for ADAS

Mandating ADAS for new vehicles (Global)

		2015	2017	2018	2019	2020	2022	2026	
	EU	AEB, LDW trucks, buses Moving objects					AEB, LKA, ISA Moving objects, Passenger Vehicles	PCW, BSIS Trucks, Buses	AEB Peds & cyclists – Passenger Vehicles
	USA					AEB Moving Objects All vehicles			
	AUSTRALIA	----- AEB ongoing process -----							
	CHINA		FCW, LDW Intercity Buses	AEB Buses					
	KOREA		AEB, LDW Buses	AEB, LDW Trucks					
	TAIWAN					AEB, LDW Trucks			
	JAPAN		AEB Govt. endorsed stickers on buses						

Legislated

Industry Standard

Proposed legislation



Raise Awareness

Euro NCAP

- Euro NCAP continues to set the agenda with new, more demanding challenges on safety technology to help protect vulnerable road users, including the introduction of the first cycling detection test for AEB.

Euro NCAP 5-Star 2018 Models

Make and Model	Mobileye inside	Safety Equipment	Overall Rating	Make and Model	Mobileye inside	Safety Equipment	Overall Rating
 Volvo XC40		Standard	★★★★★	 Mazda 6		Standard	★★★★★
 Lexus ES		Standard	★★★★★	 Hyundai NEXO		Standard	★★★★★
 Peugeot 508		Standard	★★★★★	 Hyundai Santa Fe		Standard	★★★★★
 Mercedes Benz A-Class		Standard	★★★★★	 VW Touareg		Standard	★★★★★
 Audi A6		Standard	★★★★★	 Jaguar I-PACE		Standard	★★★★★
 Volvo S60		Standard	★★★★★	 BMW X5		Standard	★★★★★
 Volvo V60		Standard	★★★★★	 Nissan LEAF		Standard	★★★★★
 Audi Q3		Standard	★★★★★	 Ford Focus		Standard	★★★★★



Incentivize

Singapore Infocomm
Development Authority
(IDA)

A subsidy of 70% was awarded to SMEs who purchase a complete safety system comprised of an FMS and Mobileye.



Raise Awareness + Incentivize

Japan's Ministry of Land,
Infrastructure, Transport
and Tourism (MLIT)

- Endorsed the inclusion of Advanced Safety Vehicle (ASV) standards for chartered buses.
- Lane Departure Warning System (Mobileye retrofit only)
- Stickers were added to buses to let passengers know buses were equipped with Lane Departure Warning








Mandate

South Korea

- From Jan 2018 new buses 9m+ mandated to have AEBS and LDW
- From Jan 2019 new trucks over 20T mandated to have AEBS and LDSW
- From Jul 2017 buses 9m+ long and trucks 20T+ mandated to have FCW and LDW (fines applied after the end of 2019) with 80% gov payback



Mandating ADAS for vehicles already on the road

	2016	2018	2019	2022 + Beyond
 ISRAEL	FCW, LDW 35 T+			
 CHINA			FCW, LDW Hazardous Carrier Vehicles	
 KOREA		FCW, LDW Buses 11m+, Trucks 20 T+		
 JAPAN		FCW, LDW Labeling buses		
 PERU				Various ADAS features

- Legislated
- Industry Standard
- Proposed legislation

Case Study - Israel



Awareness scheme for ADAS:

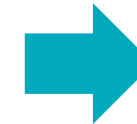
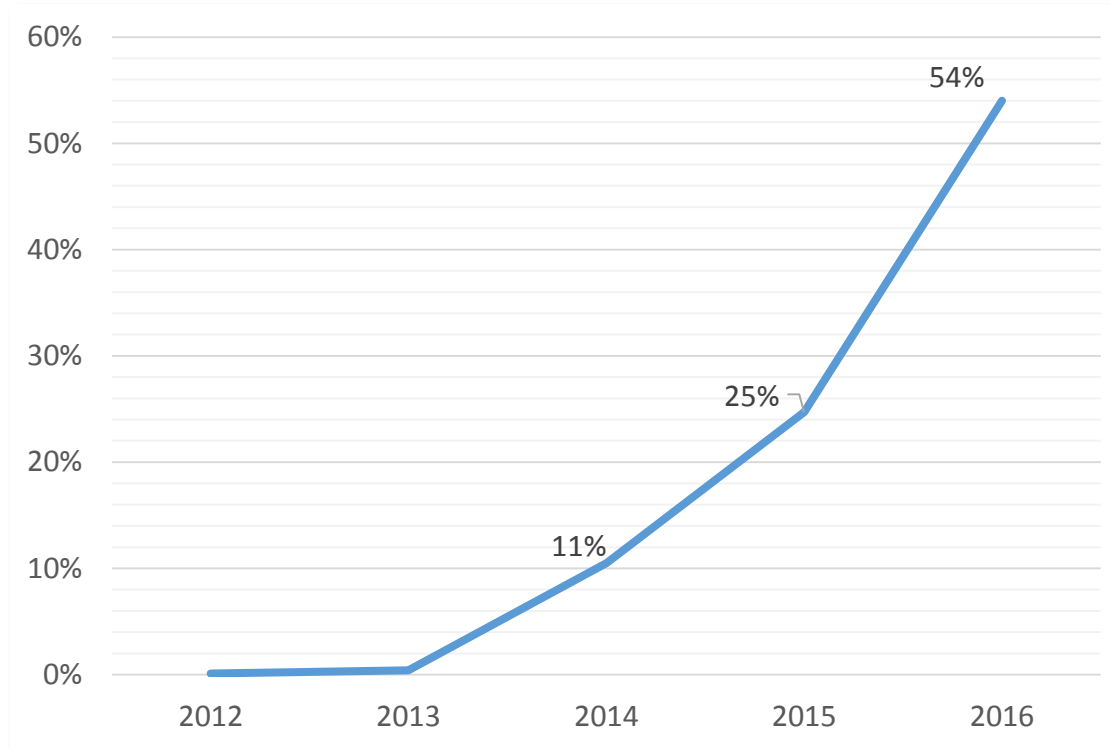




Government Incentive for ADAS

Vehicle importers receive an import tax reduction

The rate of new vehicles sold with high safety rating



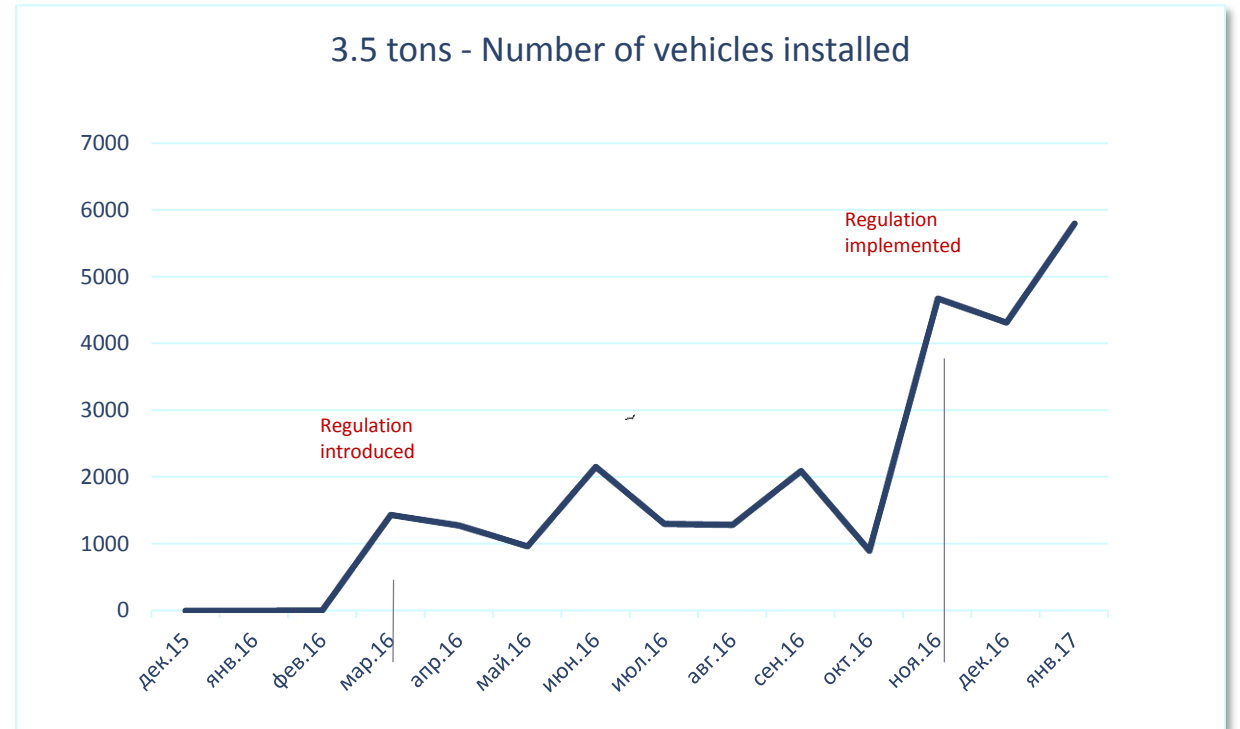
The reform resulted in a major increase in the number of vehicles with high safety rating

In 2016 – 54% of new vehicles were fitted with FCW, LDW and PCW

Case Study - Israel



Government Mandating ADAS



ALL VEHICLES WEIGHING 3.5 TONS OR MORE TO INSTALL COLLISION AVOIDANCE SYSTEMS

Models from 2012 and on; goes into effect November 1st 2016.



Case Study - Israel



Government Incentive for ADAS

180 million NIS
dedicated for retrofitting
ADAS to old vehicles

Rebate on yearly vehicle licensing fee:
Spread over three years





Visit: www.mobileye.com

Email: Uriw@mobileye.com

Safety Today
For The **Autonomous**
Tomorrow

