ADAS: Advanced Driver Assistance Systems
• About 1.24 million people die each year as a result of road traffic crashes. That is more than 2 deaths every minute.
• 50% 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 countries between 1-3% of their gross national product.

Virginia Tech Transportation Institute released findings of breakthrough research on real-world driver behavior, distraction and crash factors. Nearly 80% of crashes, and 65% of near crashes involved some form of driver inattention within 3 seconds before the event.

In February of 2009, Swiss insurance firm AXA Winterthur conducted a study on the link between collisions and cases of whiplash, and reported the effect of an early warning:

1.5 seconds early warning can prevent 90% of rear end collisions, 2.0 seconds warning can prevent almost all crashes!

Collision probability

- Front to side collision
- Head on collision
- Rear-end collision

Early warning time
In the European Union 4,254 people lost their lives in collisions involving heavy goods vehicles (HGVs) in 2011 and 722 in collisions involving a bus, coach or trolleybus. Totaling 29% of the overall number of road deaths recorded in 2011.

The largest share of those killed in collisions with goods vehicles, buses or coaches are not the occupants of those vehicles. Unprotected road users amount to 28% of the road deaths recorded following collisions involving HGVs: 6% were riders of powered two-wheeled vehicles (PTW), 7% were cyclists and 15% were pedestrians.

There is an acute problem of blind spots around nearside turning of heavy good vehicles for pedestrians and cyclists, due to the size and weight differential of heavy good vehicles.
Mobileye
About Mobileye

Mobileye is a global pioneer in the development of Collision Avoidance Systems based on Artificial Vision technology.

- Founded in 1999
- Operating in 48 countries
- 70+ distributors globally
- Adopted by 90% of the world's auto manufacturer
- Largest artificial vision R&D center in the world
- Publicly traded on the NYSE; MBLY, as of 1st of August 2014
OEM Partners

GM
BMW
Volvo
Ford
Peugeot
Chrysler
Audi
Scania
Opel
Jaguar
Land Rover
Hyundai
Citroën
Honda
Mitsubishi
Kia
Mini
Nissan
Yulon
MAN
Mobileye Aftermarket Solution
Aftermarket Solution

The same Advanced Collision Avoidance technology embedded in OEM models can also be fitted in any vehicle as an aftermarket solution.

- Mobileye Pedestrian Collision Warning
- Mobileye Lane Departure Warning
- Mobileye Forward Collision Warning
- Mobileye Traffic Sign Recognition/Speed Limit Indication
- Mobileye Intelligent High-Beam Control
- Mobileye Headway Monitoring and Warning
Testing and results:
Ministry of Transport, Netherlands in 2008

2400 Trucks.
1 year of testing, 77 Million kilometers.

400 Trucks without Mobileye
(4-5 accidents predicted)

2000 Trucks with Mobileye
(11-13 accidents predicted)

5 Accidents
No Accidents

“...Participants also maintain their distance better, use their indicators more often and maintain their direction on the road more effectively. Furthermore, they also find the task of driving to be less demanding overall...”.

“The majority of participants in the pilot are satisfied with Mobileye. They find the system easy to use and believe that driving with both LDW and HMW is conducive to road safety. This is due to the fact that drivers’ adapt their driving behavior (in a positive sense) in order to minimize the number of warnings...”
Insurance commissioner at Israeli Ministry of Finance has done a research regarding the effectiveness of Mobileye’s collision avoidance systems (FCW & LDW) and to what extent the Mobileye system reduces claims in which there was bodily injury.

<table>
<thead>
<tr>
<th></th>
<th>Exposure- policy Years 2009-2012</th>
<th>Number of Claims</th>
<th>Claims Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles <strong>without</strong> Mobileye system</td>
<td>7,737,679</td>
<td>186,688</td>
<td>2.41%</td>
</tr>
<tr>
<td>Vehicles <strong>with</strong> Mobileye system</td>
<td>6,190</td>
<td>63</td>
<td>1.02%</td>
</tr>
</tbody>
</table>

The claim frequency of vehicles using Mobileye was 57.68% less than vehicles that did not use Mobileye.

Source: Actuarial Research on the Effectiveness of Collision Avoidance Systems
Government Incentive
The Israeli Ministry of Transport and the Tax Authority grant tax incentives for vehicles equipped with safety systems, starting from August 2013.

Car importers receive a tax reduction from the Israel Tax Authority for the cost of the Mobileye system, and so are able to supply new cars to the Israeli market with a Mobileye system installed, with no cost to the importers.
### Israeli Government Incentive

<table>
<thead>
<tr>
<th>Points</th>
<th>Safety Function</th>
<th>#</th>
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<tbody>
<tr>
<td>2</td>
<td>lane departure</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>head way monitor</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>adaptive cruise control</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>pedestrian detection</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>EBA</td>
<td>5</td>
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<tr>
<td>1</td>
<td>blind spot detection</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>the 7th air bag</td>
<td>7</td>
</tr>
<tr>
<td>0.5</td>
<td>rear camera</td>
<td>8</td>
</tr>
<tr>
<td>0.5</td>
<td>TPMS</td>
<td>9</td>
</tr>
<tr>
<td>0.5</td>
<td>seat belt sensor</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tax credit (euro)</th>
<th>Minimum air bag</th>
<th>Points needed</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commercial Vehicle</td>
<td>Vehicle Passenger</td>
<td></td>
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<tr>
<td>-</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>100</td>
<td>4</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>180</td>
<td>4</td>
<td>6</td>
<td>2.0</td>
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<tr>
<td>250</td>
<td>4</td>
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<td>430</td>
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<tr>
<td>450</td>
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<td>6</td>
<td>10.0</td>
</tr>
</tbody>
</table>
On May 26th 2014, SPRING SINGAPORE (a government body) and the Singapore Transport Association launched Mobileye in Singapore. The government scheme gives 70% discount to fleets installing Mobileye. In addition, several Singaporean insurance companies are offering 10% discount on the insurance policies for these fleets.
Government Regulations

• **U.S.:**
  - Current Transportation bill (ADAS mandatory for fleets that use interstate highways).
  - Tax credit\tax deductible.

• **EU:**
  - All new vehicles over 3.5 tone, must have LDW and FCW. Turkey and Japan have already replicated this legislation, with others following.

• **Germany:**
  - Government gives subsidy of 50\% for all trucks installing Mobileye.

• **Japan:**
  - Government gives subsidy of 50,000 Yen to truck fleets that install Mobileye.
  - Government gives subsidy of 50\% for costs of ADAS/Mobileye.
  - 3 Japanese provinces give subsidies for companies installing Mobileye.

• **Singapore:**
  - Spring Singapore (Ministry of Trade) gives 70\% subsidy of the cost of Mobileye.
  - Singapore Tax Authority, gives a subsidy of 68\% of the remaining 30\%.
  - Tokio Marine Insurance offers a 10\% reduction in premium utilizing this scheme.
Cycle Safety Shield
In 2012 cyclist’s deaths on Britain’s roads hit a five-year high with 122 cyclists killed.

Many common accidents occur when a large vehicle is turning left into a side road and a pedestrian, cyclist or motorcycle cannot be seen. To address this issue Cycle Safety Shield was developed in 2013 in partnership with Mobileye technology.

Current trial with Transport for London, Ealing Council, Ringway Jacobs and successful out roll with Hope Construction.

Further trails set to commence this month with the NSW Transport, Sydney, Australia, New York and Singapore.
London buses to get free wifi and cycle safety sensors

12:52 06 August 2014
Zoah Hedges-Stocks

TfL launches bus safety sensors and software trial

Four buses are to be fitted with new pedestrian and cyclist detection software, aimed at improving drivers’ awareness of pedestrians and cyclists, later this month.

The new safety technology trial, which involves two competing systems – each designed to alert drivers when pedestrians and cyclists are too close to their vehicles – is being run by Transport for London (TfL).

The two systems are CycleEye, from Fusion Processing, and Cycle Safety Shield, by Safety Shield Systems. Buses on routes with known cyclist safety issues have already been selected for the trial.
Lorry cyclist safety sensor saves 15 lives in six months!

A safety sensor fitted to a London council lorry to alert the driver to cyclists and pedestrians has prevented 15 potentially fatal collisions in six months.

Barking council today announced the results of the first London borough trial of the Cycle Safety Shield device, which a contractor has been using on a 20-tonne vehicle.

The system is able to detect only pedestrians, cyclists and motorcycles — meaning the lorry driver gets instant visual alerts triggered by rampings, regroupings and other vehicles.

During the trial, which ran from January to June this year, the system detected more than 40,000 cyclists, pedestrians and motorcycles.

Its alarm alerted the lorry driver on 15 occasions, when they were close enough to be in danger.

The majority of alerts were triggered when a cyclist was detected on the left side of the lorry as it travelled straight ahead or turned left.

The alarm enabled the driver to brake and avoid collisions. The presence of the CSS system also meant the driver used £500 less fuel due to smoother braking and acceleration.

As a result, the City of London Corporation is to trial the system on its rubbish trucks. Transport for London is already testing it on a route 25 and a route 73 bus.

Benjamin Matthis, Barking council’s cabinet member for transport, said: “We are committed to reducing lorry danger because we have seen just how vulnerable these road users are involved in approximately two-thirds of cyclist deaths in London.

“We are in discussions with TfL and if these own independent results support these so far, we are keen to look at further roll-out of this system across our fleet.”
Thank you, and please drive safely