

## Success Story: Shanghai Jinshan Improves Safety and Cuts Costs with Mobileye Shield+™

The Shanghai Jinshan Bus Company was established in 1993 and privatized in 2004. As of 2017 year-end Jinshan owned 153 hybrid electric vehicles, 182 electric vehicles and employed over 650 staff. They have carried over 29 million passengers per year and currently run 39 lines throughout Shanghai.

In 2017 the Chinese government issued regulations requiring large vehicles be equipped with forward collision warning (FCW) and lane departure warning (LDW). According to Jinshan, their research led them to Mobileye Shield+ for several reasons. First, Mobileye is the world's largest supplier of ADAS technology. Secondly, Jinshan wanted to go beyond the letter of the law and install the extra layer of safety provided by blind spot protection - Mobileye Shield+ uses up to four cameras located on the vehicle's sides, to monitor blind spots and warn of potential collisions with pedestrians and cyclists. According to the World Health Organization, 260,000 people in China are [killed by collisions](#) annually, with 60% of these being pedestrians or cyclists. Finally, the company was impressed with Mobileye's track record with bus operators in both Washington State and London. In [Washington State](#), installation of Mobileye Shield+ led to a 58.5% reduction in vehicular and pedestrian collision claims, while [Abellio London](#) was able to reduce avoidable collisions by 30% and passenger injuries by 60% after installing Mobileye.

By choosing Mobileye Shield+, Jinshan was going beyond the mandatory installation of FCW and LDW to help prevent collisions with pedestrians and cyclists ahead and in their blind spots. These blind spots are areas generally located on the sides of large vehicles such as buses. Quite frequently, cyclists will pass buses on the right, directly through the bus's blind spot creating a potential collision. According to a [2007 research paper](#), cyclists make up almost one-third of those using the road in Shanghai. Left turns also create a hazardous situation when the A-pillar on city buses creates a blind spot that can easily hide pedestrians until it's too late.



### Client

Shanghai Jinshan Passenger Transport, Shanghai, China

### Industry

Passenger Bus

### Challenge

In 2017 the Chinese government implemented regulations requiring all vehicles greater than nine meters in length to be equipped with both forward collision warning and lane departure warning. Jinshan needed the most effective way to comply with this regulation.

### Solution

In December 2018 Jinshan installed Mobileye Shield+ in 20 of its electric buses for six months of testing.

### Outcome

A 49% drop in number of forward collision warnings and a 5% decrease in energy consumption.

*"We are very pleased to see that the cooperation with Mobileye has achieved good results."*

- Liu Hongzheng, General Manager of Shanghai Jinshan Passenger Transport



Additional features of the system include headway monitoring warning (HMW) which warns drivers when they are too close to a vehicle ahead of them and a speed limit indicator (SLI), reminding drivers of the current speed limit and when they have exceeded it.

Jinshan began this pilot in December 2018, installing Mobileye Shield+ in 20 of the company's electric buses. So far, the results have been impressive.

The pilot began with a blind test period where the system silently recorded alerts triggered by drivers. This allowed the company to establish a baseline for each driver – how safely they drove without Mobileye's alerts. After this period, the alerts became fully functional, alerting drivers to potentially dangerous situations.

By comparing these two periods the company was able to determine if, and by how much, drivers' behavior improved after installing Mobileye. And, indeed, driving behavior noticeably improved – FCW went down by 49%, LDW decreased by 48% and HMW fell by 66% - all indications that drivers were driving more safely, thereby triggering fewer alerts.

This system was also an important element in improving fleet management. The system gave the company an in-depth, overall understanding of fleet safety and also allowed them to analyze the safety behavior of individual drivers. This let them focus training on drivers who most needed it.

It was also important that the system provided digital data documenting this safety behavior, allowing management to approach drivers with facts and statistics as opposed to mere suspicions. Safety managers were able to sit with drivers and go over the digital safety reports, pointing out exactly where drivers could improve their driving. And it's hard to argue with the results: since installing Mobileye Shield+ the fleet has suffered no collisions in equipped vehicles.

Mobileye Shield+ not only helped increase fleet safety, the system also provided an added benefit – savings in energy consumption. Since installing the system, energy consumption among the fleet's electric vehicles has decreased 5% - a significant savings. It seems that improved driving habits such as keeping a safe distance between vehicles leads to less harsh braking and accelerating – which in turn leads to greater energy efficiency.

## In Numbers



**49%**

Decrease in forward collision warnings

**48%**

Decrease in lane departure warnings



**66%**

Decrease in headway monitoring warnings



## Contact us at

[www.mobileye.com/fleets](http://www.mobileye.com/fleets)