



## With sharper on-screen images, things are looking up.

Overcome limitations of conventional, single-angle head-up display (HUD) interlayers with new Saflex® VIEW ST (Short/Tall).



### The short/tall problem

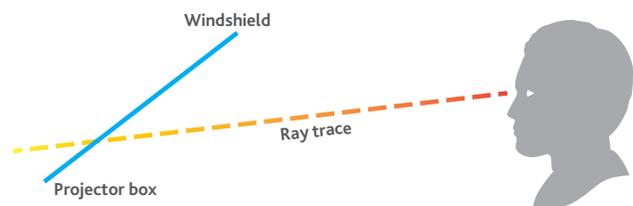
HUD systems are emerging as an effective method to help combat driver distraction. Today's systems enhance the overall driving experience by allowing drivers to keep their eyes on the road and still view critical vehicle data.

As HUD systems continue to evolve, and with a larger number of automotive OEM platforms employing these systems, drivers are taking note of some of the limitations of this technology. A prime example—the height of a driver can directly affect the quality of projected HUD images.

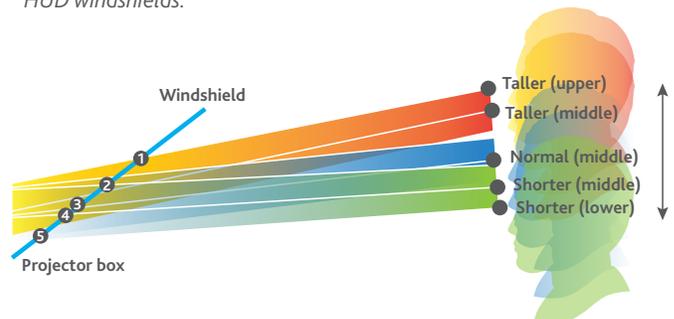
One challenge with automotive HUD systems is projecting a well-focused image on the windshield. When the image is reflected through multiple layers of glass at an angle, visual distortion can occur, commonly known as ghosting.

Conventional HUD PVB solves ghosting for those at a nominal height. However, for tall and short drivers, the conventional single-angle HUD windshield can result in the ghosting effect, which may be interpreted as a product defect of a vehicle.

If a vehicle model has a complex windshield curvature or steeper rake angle, as typically used in trucks and SUVs, the ghosting observed by tall and short drivers may be even more apparent.



A representation of a nominal height to which OEMs design HUD windshields.



However, there's a wider range of driver heights, and a driver's position within a vehicle varies based on preference. The limitations tend to mean shorter and taller drivers will experience ghosting.

### Saflex® VIEW ST—a dynamic wedge interlayer for complex windshields

That is why Eastman is introducing Saflex® VIEW ST, a next-generation interlayer and solution to help eliminate HUD ghosting, particularly in complex curved windshields and steeper-raked ones.

Saflex VIEW ST increases the usable HUD zone for short and tall drivers, improving image clarity by minimizing ghosting. Because the wedge angle of VIEW ST can be tailored throughout the HUD box, the actual wedge angle can be calculated and adjusted to minimize transmitted double image and reflected image ghosting for a wide range of driver heights.

The HUD market is growing; it's forecasted to reach up to 10 million vehicles per year by 2022. Per U.S. Census data from 2010, approximately 10% of the U.S. population is over 6 ft 2 in. and 30% are below 5 ft. 3 in. For illustrative purposes, if 5% of drivers experience ghosting, that equates to nearly 500,000 drivers who could be affected by this problem. To help enable successful growth, HUD systems of today and tomorrow require a new kind of interlayer.

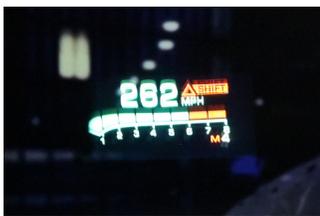
## Additional benefits

VIEW ST can be combined with a variety of Eastman technologies, addressing safety, security, acoustics, and much more.

## Eastman delivers forward-looking innovations

Eastman helped pioneer the development of HUD interlayers more than 20 years ago. Through our experience in working jointly with HUD channel partners, we have accumulated a robust understanding of how to enable best-in-class HUD optics performance to ensure the smooth launch of each HUD vehicle program.

For more information, visit us online at [www.eastman.com/saflex](http://www.eastman.com/saflex).



Single angle



Saflex® VIEW ST

*Two production windshields made on the same line. Identical glass and the same production-approved HUD projector were used.*

## EASTMAN

The results of insight™

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