



Night Vision: Still Trying to See the Light



Automotive engineering innovations have created safer driving and highway travel. Such developments as blind-spot monitoring, lane departure warnings, and automatic braking are the newest to achieve growing popularity with drivers.

However, there are some highly innovative systems that face tough sledding on the road to acceptance by motorists. One of these is night vision -- a system that increases visibility down the road by about 300 percent compared to a vehicle's headlights.

Originally introduced by Cadillac for the 2000 DeVille, the automaker abandoned its night vision after the 2005 DeVille went off sale. Night vision is now only available as an option in some Audi, BMW, and Mercedes-Benz models.

But Autoliv, a leading European safety equipment supplier to the auto industry, is now preparing to launch the fourth generation of the system. Night vision, unlike the visible images you see illuminated in your headlights, "sees" heat reflected from other vehicles, pedestrians, and even some animals.

The three German manufacturers of luxury vehicles sold only about 80,000 night vision systems globally last year. Cadillac offered a first-generation night vision system in its model year 2000-2005 DeVille, but only sold about 22,000 units during those five years before dropping it as an option. However, Richard Seoane, general manager of Autoliv's night vision business, confidently forecasts that sales could grow to 300,000 units annually by the end of the decade.

He says two additional automakers will offer a night vision option later this year and two more, including an American carmaker, will offer night vision in 2016. Seoane declines to identify the new customers at this time. However, he also suggests that when autonomous vehicles debut -- probably within the next decade -- that will be another opportunity for night vision to grow.

Conventional headlights only illuminate the roadway about 40 meters ahead of your vehicle. But the headlights only reflect images illuminated by the headlights that you can see within the normal visual range. But the Autoliv night vision system detects heat emanating from other vehicles, pedestrians, and even many animals up to 300 meters down the road with a unique far-infrared (heat-seeking) camera, and can even alert you to these obstacles when a driver's vision could be impaired by smoke or fog.

Night vision may parallel the slow uptake of head-up displays by car buyers. Fewer than 5 percent of cars sold today come with head-up displays. There are a lot of reasons for that. Head-up displays were first developed for use in military planes to give pilots vital information displays to pilots without having take their eyes away from looking out of the windshield.

Automotive head-up displays don't really offer much additional information to drivers, since things like speed and other data can be quickly seen on the instrument panel of cars. There's only limited value from head-up displays and most drivers don't believe they're worth the expense. While typical head-up displays mainly convey redundant data, night vision displays safety alerts visible through the windshield or on the vehicle's instrument panel, offering an additional layer of safety to the driver.

Automotive engineering is a highly dynamic thing and cars keep getting safer and longer lasting because of innovation. Perhaps Autoliv's patience will eventually pay off and night vision will become more acceptable to drivers in the future.