



**Global and China Automotive Night Vision
System Industry Report, 2019-2025**

Apr. 2019

STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- ◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- ◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- ◆ To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- ◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- ◆ To help company to succeed in a competitive market, and

METHODOLOGY

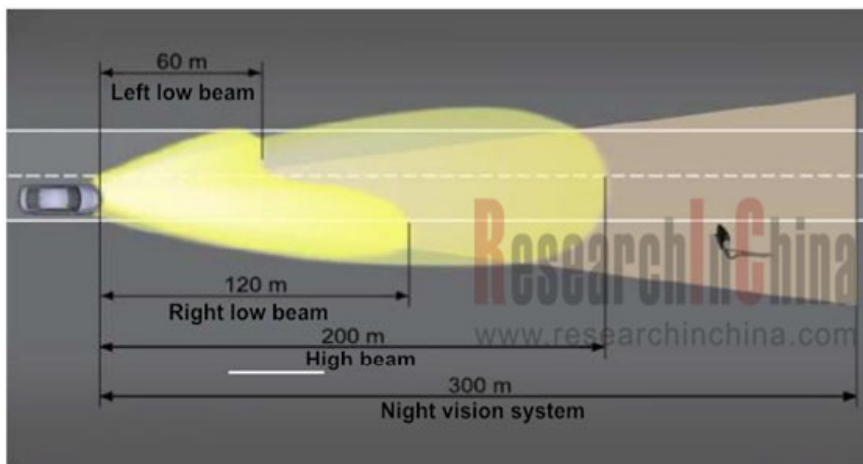
Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

Abstract

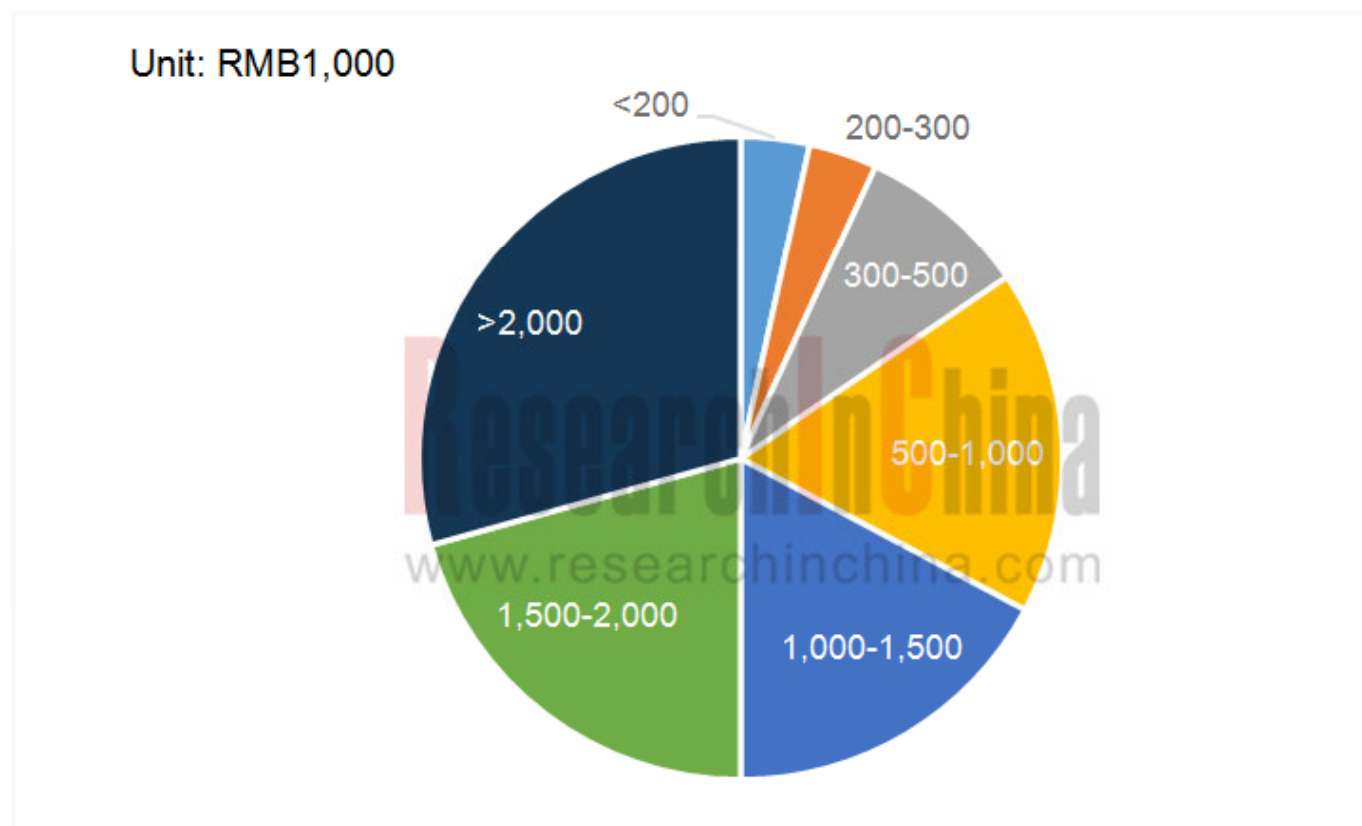
For the automotive sector, night vision system is of little value and seems like “chicken ribs” – tasteless when eaten but a pity to throw away.



Detector Technology					
Application	Visible	Thermal	Radar	LIDAR	Ultrasound
Traffic Sign Recognition	×				
Adaptive Cruise Control	×		×	×	
Lane Departure Warning	×				
Emergency Brake Assist	×	×	×	×	
Pedestrian/Animal Detection	×	×			
Night Vision		×			
Blind Spot Detection	×		×	×	×
Rear Collision Warning	×		×	×	×
Park Assist					×

In function, night vision system is a special solution for automobiles now that it enables a vehicle to see an object more than 300m ahead at night (compared with a mere 80m offered by headlamps) and gives driver more time to react, ensuring safer driving. ADAS and other technologies (like LiDAR and ordinary optical camera), however, play a part in night driving safety as well. And the stubbornly high price justifies the sluggish demand for night vision systems such as infrared night vision system.

According to the statistics, night vision system was a standard configuration for 58 of vehicle models available on the Chinese market in March 2019, just less than in 2015, of which 18 were Savana (caravans). Audi, Mercedes-Benz and BMW are less enthusiastic about the technology, and just equip it to their luxury models each priced above RMB1 million (a combined 67% of models carrying the system).



In the meantime, the insiders hold such different views on night vision system as follows:

Negative

“It’s not something that’s really necessary because optical cameras actually do pretty well at night and you have a radar system as backup that is not affected by light,” said Dan Galves, a senior vice president at Intel Corporation’s Mobileye.

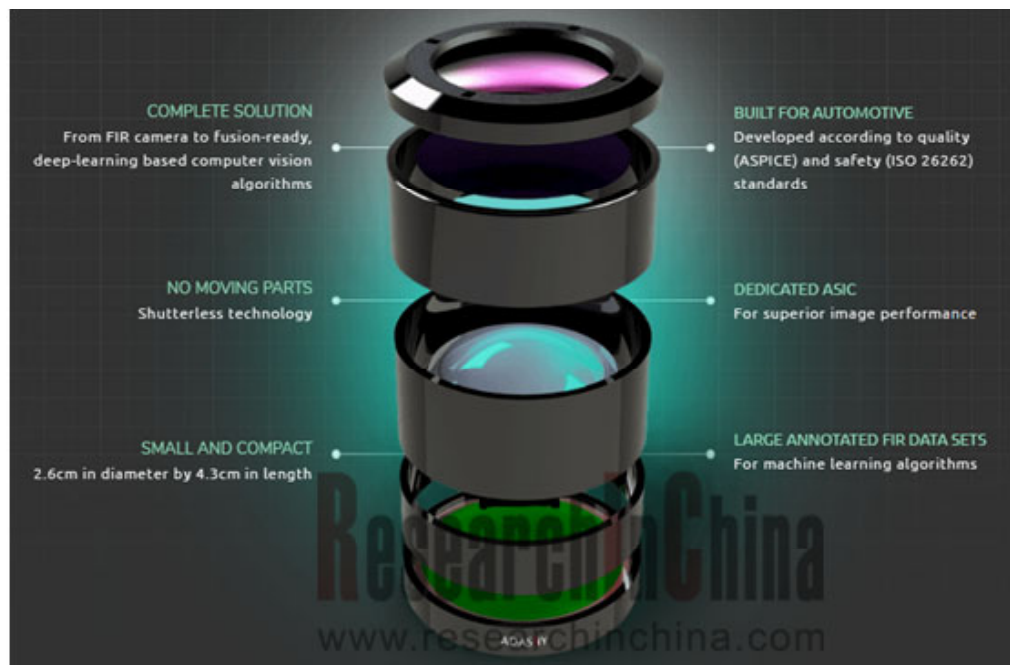
Bosch argues that technical advances bring about the decreasing demand for night vision system. One reason is that ordinary camera alone can work outstandingly at night with the maturity of image sensing technology. Also, the progress in technologies for automotive lighting, like LED headlamp, offers a horizon as long as 100-200m. So Bosch has shifted its attention away from night vision solution.

Positive:

Tim LeBeau, the vice president of Seek Thermal, thinks that the current optical radar for autonomous cars cannot detect the heat of an object to ensure whether it is a creature or not, and that the cost of thermal sensors is slashed by about 20 percent a year as they get widely used.

People who detest high beam agree that headlamps delivering 200m beam will interfere with other drivers’ sight, and the solution combining low beam and passive night vision (infrared thermal image) system is the best choice.

Still, some vendors are sparing no efforts in making the technology more feasible for automotive application. Examples include Veoneer whose third-generation night vision system capable of detecting both pedestrians and animals is integrated with rotary LED headlamps which will automatically turn to the front object detected by the system; and Adasky’s Viper system that can classify the obstacles through convolutional neural network-based unique algorithms and display them on the cockpit screen to remind the driver.



Vendors will also work on laser-based night vision, low-light-level night vision, bionic night vision and head-up display (HUD) as well as headlamp fusion.

In brief, as long as price comes down to an affordable level, “the chicken ribs” will become “a delicious homely dish”.

Global and China Automotive Night Vision System Industry Report, 2019-2025 highlights the following:

- ◆Automotive night vision system (definition and classification, technical features, development trends, etc.);
- ◆Global night vision system industry (market size and competitive pattern);
- ◆China night vision system industry (market size and competitive pattern);
- ◆Night vision system installation of some global and Chinese OEMs (Audi, BMW, Mercedes-Benz, Rolls-Royce, etc.);
- ◆10 global automotive night vision system suppliers (operation, turbocharger business, etc.);
- ◆11 key Chinese automotive night vision system suppliers (operation, turbocharger business, research and development, development strategy, etc.).

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