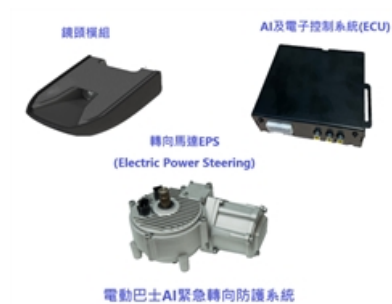## Category Award

Enhanced Lane Assistance Navigator 3.0 (ELAN)

ELAN Microelectronics Corp.
義隆電子股份有限公司

[Company Website](#)

Winning Reason

This product includes three main features: active collision warning and avoidance, vehicle dynamic stability control, and an edge computing multi-task detection model. The company has many years of experience in independently developing image processing chip technology, lens module development, and software platforms. By collaborating with major research institutions in Taiwan and domestic downstream companies, the company is deeply invested in AI algorithms and data computing, system integration, and in-vehicle field verification, earning it high regard for its sensor fusion AI models.

This product can accurately grasp object positions and analyze them to enhance driving safety through AI sensor compensation algorithms, even in cases of signal discontinuity. The initial target market for this product includes large domestic buses and small to medium-sized trucks in the logistics industry. Given the future energy transition and the need to improve driving safety, the market potential is excellent.

Product Feature

1.Active Collision Warning and Evasion: The system takes into account signals from the vehicle's ABS and TCS, limiting lateral acceleration and its rate of change to ensure a smooth evasion of obstacles.

2.Vehicle Dynamic Stability Control: The system adjusts the steering input based on the vehicle's lateral acceleration, speed, and steering wheel rotation to ensure steering comfort.

3.Self-developed Edge Computing AI Multi-task Detection Model (GElanNet): -This model is based on the AI models CSPNET, YOLOv4, YOLOR, YOLOv7, and YOLOv9, developed in collaboration between Yilong Electronics and Academia Sinica. - Optimized for AI SoC, GElanNet can perform multi-task detection at over 30 frames per second, even under the 1 TOPS computational power limit 4.VR/AR/GAI Data Augmentation