Neousys Technonlogy
AMR Cleaning Vehicle

Neousys Technology Inc.

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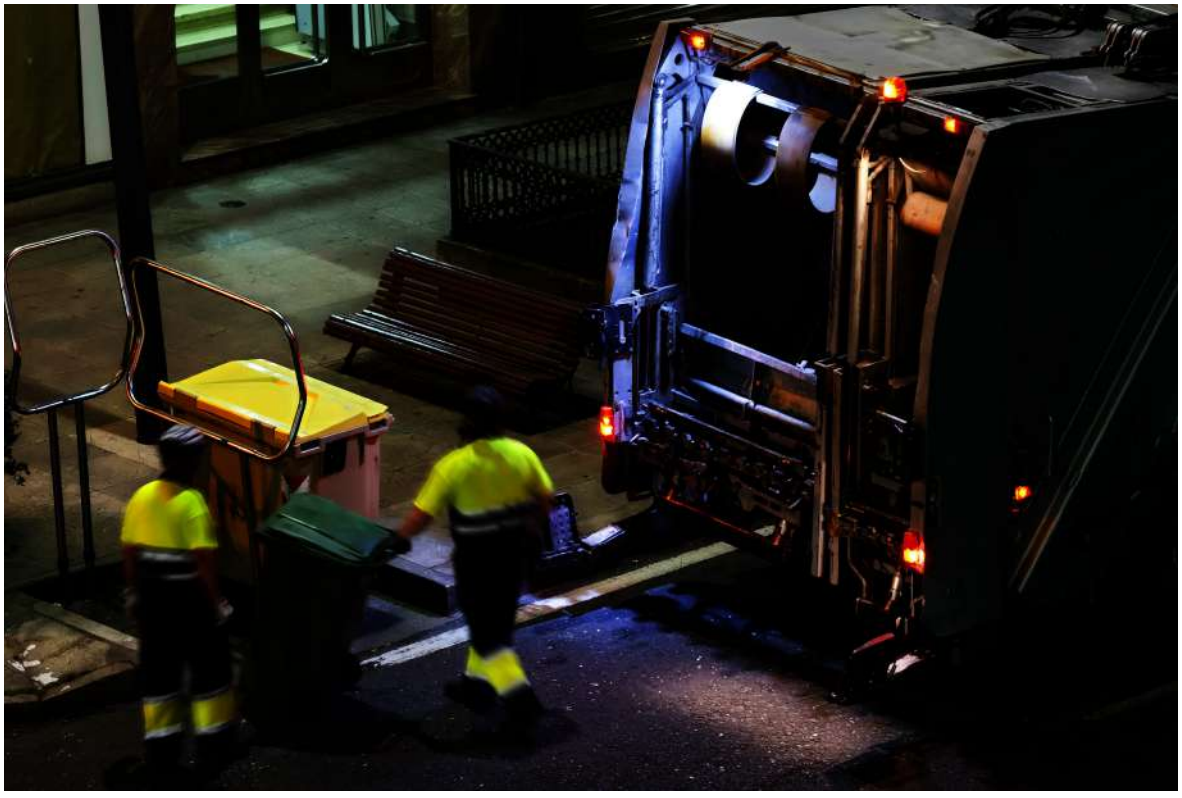
General overview

When the night falls, the cold and battered city streets are left with nothing but memories of the people who utilized the city to go about their daily business.
To restore the city to its fresh looks to face another day of challenges, the responsibilities fall upon a group of people that work silently into the night. When people are at home with their families, these people sacrifice their time with their loved ones to tuck away the trash we left behind. As cities develop and evolve, the area that needs to be covered becomes greater, which will require much more manpower and time.



Problem-solving

With ever-expanding megacities around the globe, new streets are being developed daily that require regular maintenance and cleaning. This would mean more manpower, equipment, waste-carrying vehicles, etc. to accommodate the city's expanding needs. Working late into the night on roads also causes concern for worker's safety as we often hear news of late-night road workers involved in accidents due to poor visibility, whether it is a badly-lid street or blind spot around corners.

Problem-solved -
AMR cleaning vehicles utilizing Neousys edge AI GPU platform

Auto deployment

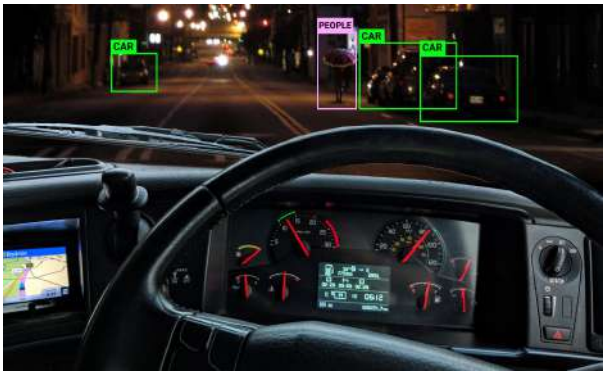
By deploying AMR cleaning vehicles, only minimum time and manpower are required to monitor multiple vehicles that can complete cleaning tasks that would otherwise take a team of 10+ members a few hours to complete.

Route specific

Designated vehicles are deployed into specific areas and routes during certain hours of the night. The deployment can be fully automated, AMR vehicles will leave on-time and return to charge when needed without human intervention.

Obstacle/ object detection

When the AMR vehicle comes across obstacles, the LiDARs and sensors recognize and automatically maneuvers out of the way while staying on its designated route.

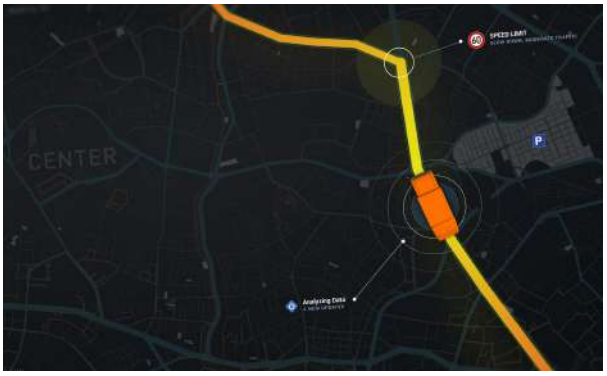


Traffic recognition

In addition to obstacle detection, the AMR cleaning vehicle also recognizes traffic lights so it can stop-and-go accordingly; identifies pedestrians to give way; and locates other nearby and; oncoming road vehicles for accident avoidance.

GPS aided, tracked for precision

Coupled with a GPS system, the central monitoring personnel knows exactly where each vehicle is, ensuring they stay on-course, intervene when needed, with better precision.



Auto parking capability

Upon returning to the station, the AMR vehicle auto-parks into position for charging or garbage disposal.

Auto garbage disposal

The AMR vehicle is capable of auto-maneu-vering itself into position to dump the collected garbage.

The above AMR cleaning vehicle has been widely employed in Shanghai, the largest city in the world, occupied by more than 24 million people. To cope with the population and the waste it generates daily, the local government has implemented the solution since 2018 and has been adding new AMR vehicles to their fleet ever since.

Benefits of Neousys edge AI GPU platform

Neousys ruggedized edge AI GPU platforms offer the following advantages:

Environmental

- IP67 water/ dustproof GPU computer
- Shock and vibration proof for in-vehicle use
- True -25°C to 70°C wide-temperature operations for harsh, volatile environments
- Patented Cassette design for segregating thermal/ electrical interference

Connectivity/ expandability

- PoE+ connectivity for GigE cameras
- USB3.1 Gen1/ Gen2 connectivity for USB cameras
- Connection ports with screw-lock for rugged connectivity
- WiFi 6/ WiFi 5/ 5G/ 4G wireless communication, expansion via mini-PCIe module

Inference processing power

- Support up to dual NVIDIA RTX 30/ 20 series graphics cards
- Support up to NVIDIA® RTX 30/ 20 series graphics cards
- Support up to NVIDIA® Tesla/ Quadro inference accelerators

Electrical

- Patented SuperCAP UPS to counteract unforeseen power interruptions
- Wide-range DC input
- Ingition power control

Some features may be model specific, please refer to the Neousys website for details.

NOTE

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