# MOVE YOUR BUSINESS SMARTER

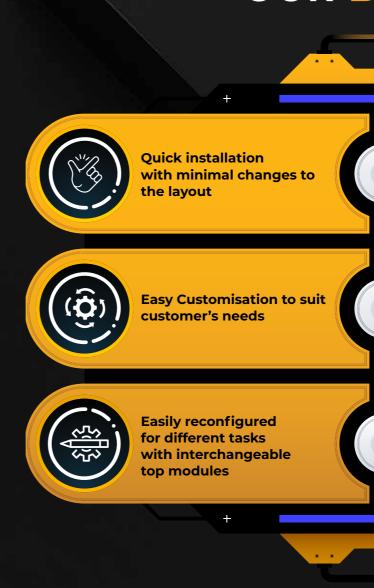
# SIMPLE SOLUTIONS FOR COMPLEX PROBLEMS



Robotics designed to make operations smoother. KAZE specialises in Automated Material Handling Solutions (AMHS), which reduces the need for human involvement in performing tasks to improve the working and safety conditions, production quality, and ultimately, the efficiency, productivity and profitability of your business.

We design and build robotics products with our core technology of Autonomous Mobile Robots (AMRs) developed for a full-suite of Industry 4.0 automation solutions and robotics application. Our robust and flexible line of AMRs, managed with our very own Fleet Management System, are easily deployed across industries. Together with our in-house manufacturing capabilities, it allows us to build customised solutions to achieve superior performance and offer unparalleled price-performance outcomes.

KAZE's vision is to be the leader in moving materials smartly and efficiently, providing smart mobile robots and solutions to perform various applications and operations for businesses across all industries. We seek to create inventive solutions with robotics and automation technology.



# FLEXIBLE RELIABLE SAFE EFFICIENT

# **OUR BENEFITS**

Reduction in labour costs: Allow employees to take on higher value work



Enhanced Productivity: Eliminates material flow bottlenecks and improves production processes without compromising operational safety



Ease-of-use: User-friendly and easily reconfigurable





#### **DELIVER THE REQUIRED QUANTITY OF THE RIGHT** PRODUCT TO THE RIGHT LOCATION AT THE RIGHT TIME.

KAZE Automated Material Handling solutions minimise errors, increase pick rates and throughput, and reduce labour costs. The modular solutions and AMRs allow businesses to adapt smarter to dynamic load shifts and increase your ability to add new product lines. A flexible and reliable logistics systems allow you to ship products to customers quickly at a lower cost. to maximise customer satisfaction.

### **ENHANCE PRODUCTIVITY OF** WORKER AND INCREASE EMPLOYEE SATISFACTION

GoldenRetriever AMRs autonomously navigates through busy, dynamic work environments and down narrow aisles alongside humans while avoiding obstacles safely. Relieve skilled workers of the tedious chore of delivery to focus on higher value tasks for a more efficient and uniform workflow. Most importantly, lower inventory expenses, reduce waste and improve the quality of the product by delivering just in time rather than bundling raw resources.





#### **AN OPTIMISED AMR FLEET TO** MANAGE YOUR OPERATIONS **SMARTER**

GR-FMS is our Fleet Management System and works with most Warehouse Management System (WMS) to allow you to monitor and control your mobile robots. Supervise your business with real-time data, with complete and reliable tracking of all products for easy analysis and reporting. The Artificial Intelligence of the FMS optimises order execution, routing and utilisation of fleet centrally, maintaining continuous material flow. It offers operational robustness and flexibility for bi-directional scaling of operations & rapid commissioning to adapt to changing demands.

# **GR200 AND GR500**

The GR200 and GR500 are safe and cost-effective Autonomous Mobile Robots.

The flexible GR200 automates your material handling needs and navigates through busy, dynamic work environments and narrow aisles easily with its smaller footprint. On the other hand, the robust GR500 is ideal for the transportation of pallets and heavy loads across industries. The rugged AMRs are designed to manoeuvre on uneven grounds and travel up and down ramps. It can communicate with lifts and doors to serve multiple floors.

All the AMRs are built on a common Mobile Drive Unit (MDU). These MDUs can be configured by mounting any required module - Deck Lift, Collaborative Robotic Arm, TUG and Conveyor, to suit your application needs. The modular structure allows businesses to easily interchange these load handler modules to adapt to changing demands, providing businesses the competitive advantage.





A Goods-to-Person system that delivers shelves between workstations to the workers

The MDUs come in different options for navigation to fit your application. All units are equipped with machine vision to accurately transport materials and have the option to add-on LiDAR or Magnetic Strip navigation. CUSTOMISABLE NAVIGATION OPTIONS



**OR CODED LABELS** 



#### MANIPULATOR Autonomously serve multiple

workstations to perform precise retrieval of small, delicate material as well as machine tending by providing a mobile base for a robotic arm

2D LIDAR

## **BESIDES THE GR200 AND GR 500 MDU, WE HAVE SPECIALISED AMRS TO MOVE YOUR BUSINESS SMARTER.**



# **GR-1500SRC**

Ideal for transporting heavy and bulky up to 1500kg to transport materials between multiple fixed conveyors. It allows easy adaptability during product changes, extending the useful life of the investment.

# **GR-1500UPS**

Ideally suited for high density pallet storage and retrieval. It works in different storage configurations and logic, such as First in, First out (FIFO) or Last in, First out (LIFO) to maximise your facility's cubic storage capacity.



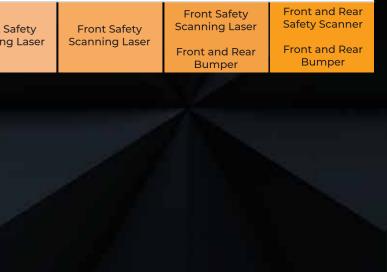


# **GR-20 CP**

An innovative Goods-to-Person system that retrieve and transport items placed within bins or totes in production, warehouse, fulfilment and distribution centres. The AMR deliver the totes to the workstation, reducing the traveling path for workers and increasing efficiency.

	GR-100	GR-200DLR	GR-500DLR	GR-20CP	GR-1500SRC	GR-1500UPS
Weight	80kg	145kg	240kg	120kg	800kg	250kg
Payload	100kg	200kg	500 kg	20kg	1500kg	1500kg
Dimensions (LxWxH) (in mm)	720 x 520 x 380	900 x 660 x 280	1100 x 750 x 300	900 x 650 x 2400	1830x 1550 x 850	1080 x 1030 x 150
Speed	1.2m/s	1.2m/s	1.2m/s	1.2m/s	1.0m/s (1.2m/s without load)	1.2m/s
Charging Mode	Manual / Smart Dock Opportunistic Charging					
Operation Duration	8 hours	8 hours	8 hours	8 hours	8 hours	8 hours
Battery	24V 30 Ah Lithium Ion (LFP)	24V 40 Ah Lithium Ion (NMC)	48V 60 Ah Lithium Ion (LFP)	24V 50Ah Sealed Lead Acid Battery	48V 300Ah Lithium Iron (LFP)	48V 60Ah Lithium Iron (LFP)
Navigation Method	Inertial Measurement Unit (IMU) aided by LIDAR, Magnetic Tape and/or Vision Rail Guided					
Fleet Management System	Web API for interface with ERP/MES/WMS					
Communication	Wi-Fi 2.4 GHz / 5GHz , 802.11 a/b/g/n/ac					
Safety	Front Safety Scanning Laser	Front Safety Scanning Laser	Front Safety Scanning Laser	Front Safety Scanning Laser	Front Safety Scanning Laser	Front and Rear Safety Scanner
	Bumper Sensor				Front and Rear Bumper	Front and Rear Bumper

# **TECHNICAL SPECIFICATIONS**



KZZE

# MOVE YOUR BUSINESS SMARTER

Website: www.kazerobotics.com Email: sales@kazerobotics.com | Tel: +65 6298 8076 Facebook: @PBA.Robotics | YouTube: @KAZE Automated Material Handling

#### Singapore (Headquarters)

Address: 505 Yishun Industrial Park A, Singapore 768733

#### Malaysia

No. 20, Jalan Anggerik Mokara 31/50 Seksyen 31, Kota Kemuning 40460 Shah Alam Selangor, Malaysia

93 Solok Bayan Lepas, Taman Perindustrian Bayan Lepas FASA IV, 11900 Bayan Lepas Penang, Malaysia.

#### Thailand

13th Floor, Sathorn City Tower, 175 South Sathorn Road, Sathorn District, Bangkok 10120, Thailand

#### Taiwan

2F.-5B, No.7, Sec. 3, New Taipei Blvd. Xinzhuang Dist., New Taipei City 242 Taiwan 24250

