FLEET OPERATIONS WORKSPACE CORE

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DISCOVER FLOW CORE. OMRON'S SOFTWARE FOR MOBILE ROBOTS

Bringing Continuous Improvement to Your Flexible Material Transport System

OMRON's scalable solution for setting up, integrating and managing complex autonomous mobile robot (AMR) fleets within a factory environment.

FLOW Core provides the software tools to connect the AMR fleet to the factory's manufacturing control solution, establish maps, define operational rules, and ensure safe, consistent operation on the factory floor.

FLOW CORE SOFTWARE INCLUDES THE FOLLOWING

- Fleet Manager
- FLOW iQ
- MobilePlanner (PC & Tablet Editions)
- Fleet Simulator
- Cell Alignment Positioning System (CAPS)
- Navigation & Selectable Autonomy
- Dynamic Obstacle Tracking
- Integration Toolkit (ITK)

CONTINUOUS IMPROVEMENT

- Optimize factory process with flexibility
- Stay ahead with frequent software updates

ZERO DOWNTIME

- 24/7 operation without human interruption

BUSINESS ACCELERATION

- Improve planning and connectivity with WMS/ERP

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FLOW Core Fleet Manager

Centralize your AMR control and monitoring with the Fleet Manager. Optimize your workflow with FLOW Core.

The industry's leading autonomous mobile robot fleet mangement solution for factory and manufacturing applications. Automatically manages AMR traffic and tasks based on your priorty. Deploy flexibly with secure, scalable virtualization options.

BENEFITS INCLUDE:

- Breeze through installation with industry standard IT/OT tools
- Establish and update workflows with minimal-to-no coding necessary
- Ready out-of-the-box charge management
- Powerful job queuing self-optimizes to your facility layout and workflow
- High availability and uptime with virtualization
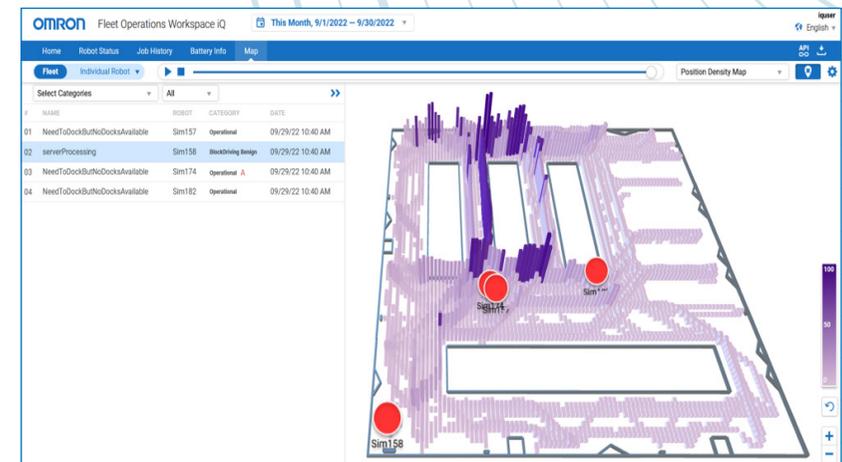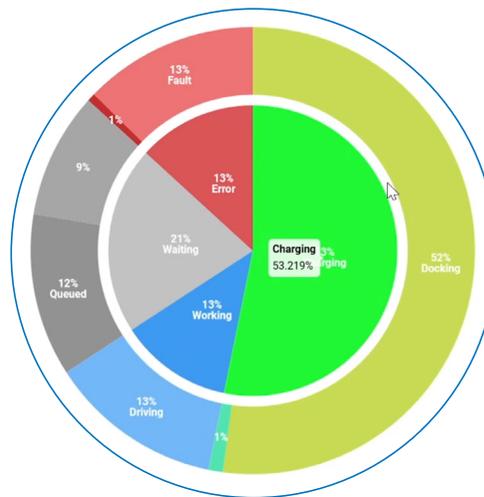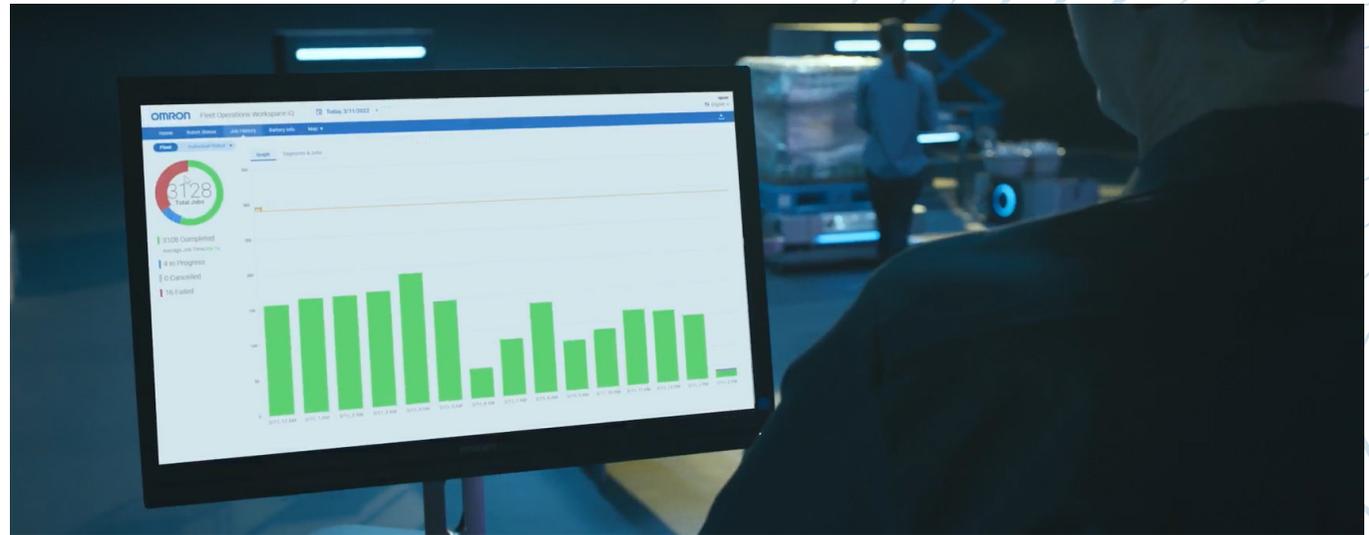- Monitor complex fleets of any supported size

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Fleet Operations Workspace iQ

Enhances the core user experience with powerful data collection and analytics through an intuitive user interface.

FLOW iQ provides the visualization tools to generate graphics on the fly, such as fault maps, robot path map, robot utilization, and more, giving users the information they need to track and optimize their application out of the box.

BENEFITS INCLUDE:

- Quickly view robot status to monitor work-to-idle ratio and maximize productivity
- Visualize the impact of facility changes with the Localization Map
- Diagnose complex network issues with the wireless diagnostics tools
- Track robot health with the fault map overlay over other analytics to find patterns
- Tailor fleet traffic with the Position Density Map to maximize cycle time and minimize time wasted in lockups
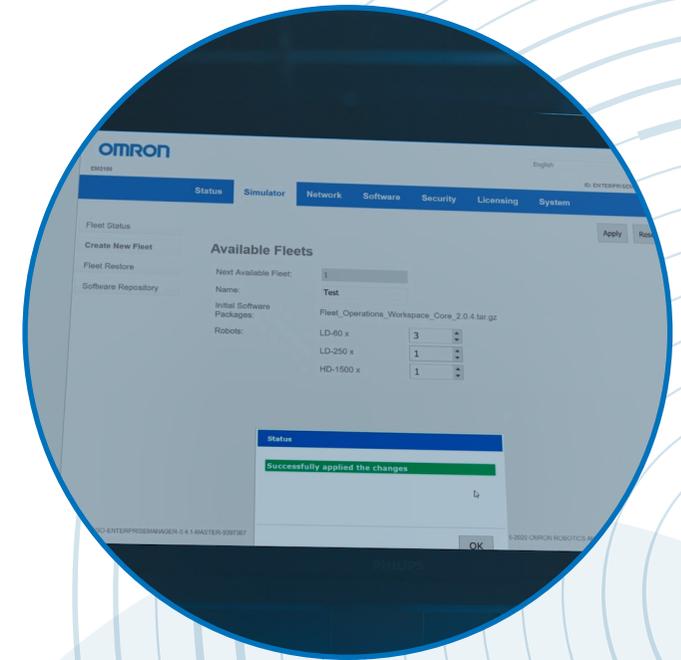
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Fleet Simulator

Solve problems before they arise. Optimize your fleet before you deploy it.

The industry's first autonomous mobile robot fleet simulator for factory and manufacturing applications. Plan traffic and workflows for fleets of autonomous mobile robots to identify potential bottlenecks and optimize workflow without having to deploy a real robot.

BENEFITS INCLUDE:

- Assess impact of map changes, scaling, route changes, and new software features
- Simulate up to 10 robots in as many as three separate fleets
- Visualize individual robot path planning and interaction with other robots
- Simulate custom environments based on real-world facilities
- Identify traffic flow bottlenecks
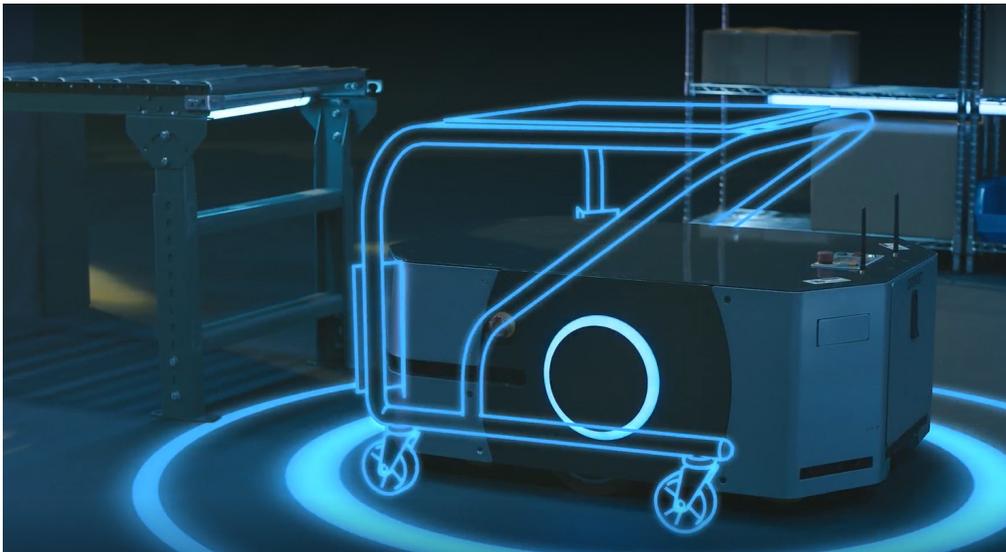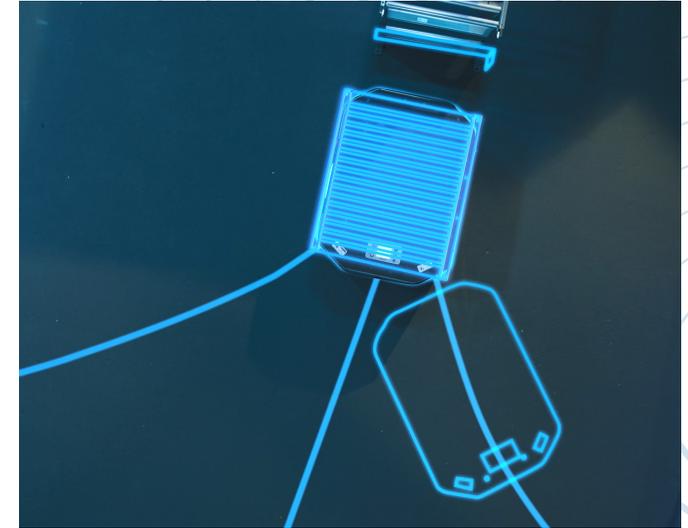- Validate third-party software

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Cell Alignment Positioning System (CAPS)

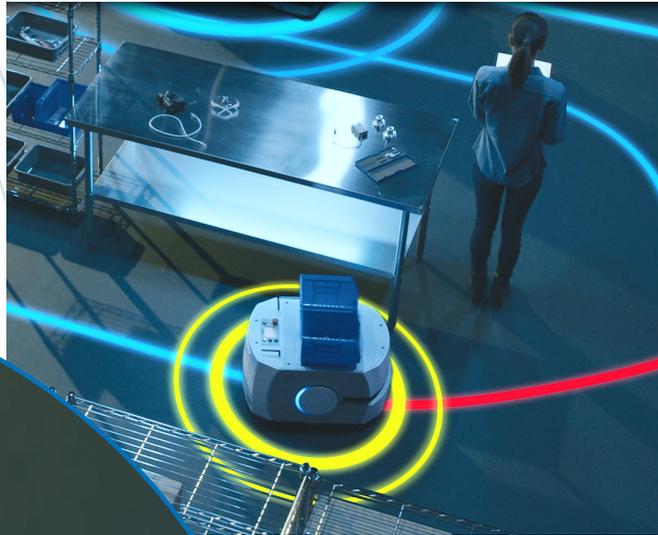**Transfer your products with confidence.**

CAPS technology enables AMRs to position themselves relative to material transfer or work cells with unrivaled precision. OMRON's AMR's can dock to a machine with high accuracy. It can also approach from any angle enabling a smoother handover of material, which contributes to shorter cycle times and increased efficiency.

BENEFITS INCLUDE:

- Improved accuracy enables a smoother and quicker loading & unloading of material, leading to shorter cycle times
- Customizable target definition to fit your application constraints
- Align with pickup and dropoff stands and even capture carts with ease
- Able to utilize factory standard sensors or optional sensing accessories for even the most demanding tasks

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Navigation & Selectable Autonomy

Set your AMR's level of autonomy.

OMRON's AMRs best-in-class navigation offers feature-rich tuning on over a decade of innovation while also providing straightforward path mode selection. Choose the continually advancing intelligence of an AMR's unbounded navigation when you need it and the rigid consistency of an AGV when you don't. The OMRON advantage requries no tape or physical guides, bringing a flexible new level of motion control to material transport applications of any complexity.
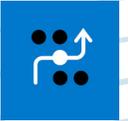
BENEFITS INCLUDE:

- Cycle time improvement up to 15% for actual fleets. Improvement can be greater, depending on the application.
- Eliminate deadlocks in doorways and narrow spaces
- Simplify map design with fewer traffic control zones
- More consistent motion of robots leading to improved sense of safety for operators in the work area

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MobilePlanner

Available for Windows PC as well as Android & iOS tablets
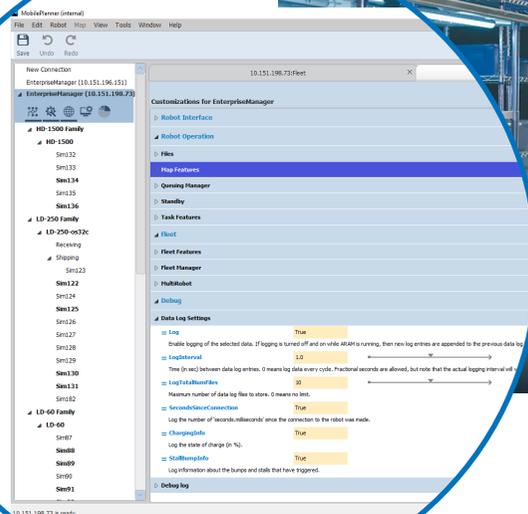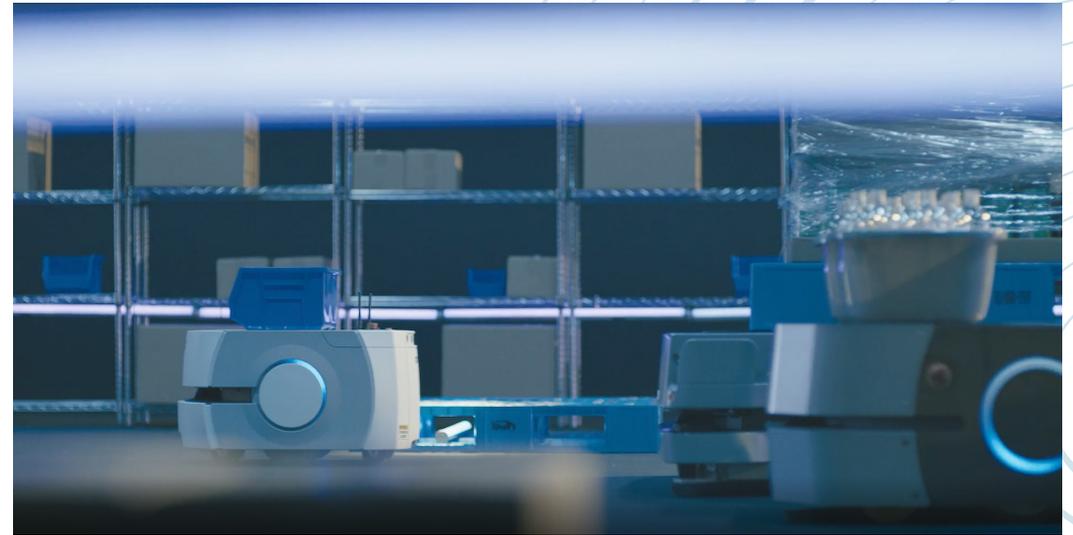
Configure, customize and group your fleet of mobile robots.

Allows customers to easily and effectively customize and monitor fleets of heterogeneous AMR models alongside one another to optimize their automation solution.

The entrance point for the best mobile ecosystem in the industry, MobilePlanner provides a window to all the benefits of FLOW Core.

BENEFITS INCLUDE:

- The Fleet Explorer sidebar groups robots by family and customizable sub-fleets for easy configuration and management
- Easily distinguish between AMR location or functional operation and apply changes
- Acclerated installation of new fleets with configuration inheritance
- Quick access buttons for Fleet observability, Map editing, configuration management, system management, and data analytics
- Fleet Explorer shows enhanced visibility of mobile fleet
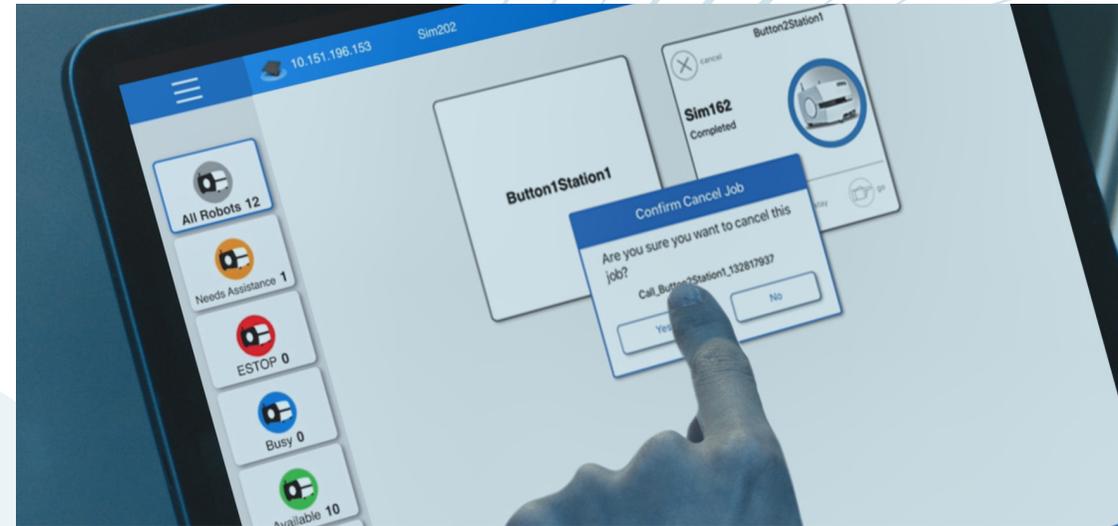
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MobilePlanner Tablet

Monitor and control on the go.

MobilePlanner Tablet Edition is an easy to use interface designed for monitoring and controlling your mobile robot fleet from a tablet. With MobilePlanner Tablet Edition, users can localize or manually drive robots when needed, initiate the map-making process, and monitor the robot fleet anytime from anywhere inside their facility.

MobilePlanner Tablet Edition can also be used as a call button, allowing users to send a robot to up to 6 predefined positions with a single button press.

BENEFITS INCLUDE:

• View the robot's laser readings
• Send robots to dock or to other points on map
• Manually drive robots
• View your fleet anytime & anywhere
  within the facility
• Observe location and status of robots
  in color-coded map

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Dynamic Obstacle Tracking

Avoid collisions and employ safer passage in the warehouse.

Allows for smoother motion around pedestrian traffic, forklifts, or any other moving vehicles. The tracking algorithm projects the path of moving objects in the same space as the robot to avoid collisions and traffic jams. If a person is walking in the path perpendicular to the robot, rather than trying to cross in front of the person's path, a robot with Dynamic Obstacle Tracking will slow down and move behind the person.
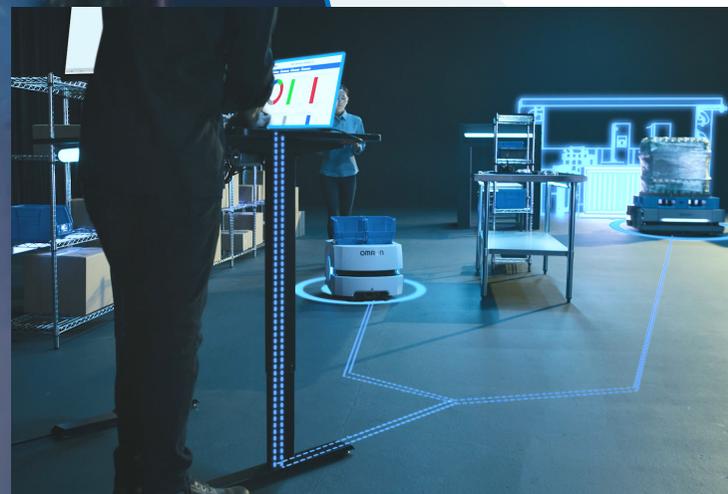
Integration Toolkit (ITK)

Integration Toolkit

The Integration Toolkit is OMRON's interface application that enables communication between the Fleet Manager and your client application, manufacturing execution system (MES), warehouse management system (WMS) and other automation infrastructure.

As the integration layer, ITK facilitates control and monitoring for your fleet of AMRs using secure, standard communication protocols including REST, SQL, and more. The Integration Toolkit facilitates queuing and monitoring of all AMR jobs.

BENEFITS INCLUDE:

- Provide a single, secured contact point for managing a fleet
- Automate collection of robot and fleet data for use in MES or WMS systems
- Flexible job assignment allows tasks to be submitted in bulk or dynamically in response to external input

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OMRON Corporation   Industrial Automation Company

Kyoto, JAPAN

Contact: www.ia.omron.com

Regional Headquarters

OMRON EUROPE B.V.
Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ASIA PACIFIC PTE. LTD.
No. 438A Alexandra Road # 05-05/08 (Lobby 2),
Alexandra Technopark,
Singapore 119967
Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON ELECTRONICS LLC
2895 Greenspoint Parkway, Suite 200 Hoffman Estates,
IL 60169 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ROBOTICS AND SAFETY TECHNOLOGIES, INC.
4225 Hacienda Dr., Pleasanton, CA 94588 U.S.A.
Tel: (1) 925-245-3400/Fax: (1) 925-960-0590

OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

Authorized Distributor:

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