

# AMR INTEGRATION SPECIFICATIONS - AUTOZONE

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### Integration Requirements Document

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### 1. PARTIES

This AMR Integration Specifications document ("Specifications") is provided by NaviFloor Robotics, Inc., a Delaware corporation with its principal place of business at 2500 Innovation Drive, Boston, MA 02210 ("NaviFloor") for

Inc. ("Client").

2. PURPOSE AND SCOPE

1 These Specifications detail the technical and operational requirements

2 This document serves as Exhibit A to the Master Services Agreement

3. SYSTEM REQUIREMENTS

1 **\*\*Hardware Specifications\*\***

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Model: NaviFloor PRO-3000 Series AMRs

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Quantity: Initial deployment of twelve (12) units

- - 2 -

Payload capacity: 1,500 kg per unit

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Dimensions: 1.2m x 0.8m x 0.4m

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Power: 48V lithium-ion battery system

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Runtime: 12 hours continuous operation

## 2 \*\*Software Integration Requirements\*\*

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NaviFloor Command Center(TM) v4.2 or higher

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Client's WMS integration via REST API

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Secure VPN connection with minimum 100Mbps bandwidth

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Real-time data synchronization capabilities

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Redundant backup systems with 99.9% uptime guarantee

## **4. FACILITY REQUIREMENTS**

1 **\*\*Environmental Conditions\*\***

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Temperature range: 0 C to 45 C

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Humidity: 10-90% non-condensing

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Floor levelness: FF75/FL50 minimum

- - 4 -

Lighting: Minimum 150 lux at floor level

## 2 \*\*Infrastructure Requirements\*\*

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Wi-Fi coverage: Minimum -65dBm throughout operational areas

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Charging stations: One (1) per three AMR units

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Network drops: Cat6A ethernet at each charging station

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Clear navigation paths: Minimum 2m width

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Floor marking: NaviFloor-specified QR positioning markers

## 5. SAFETY AND COMPLIANCE

### 1 \*\*Safety Standards\*\*

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ISO 3691-4:2020 compliance

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ANSI/RIA R15.08-1-2020 certification

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Emergency stop systems per ISO 13850

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Obstacle detection: 360 LiDAR coverage

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Maximum speed: 2.0 m/s in automated zones

### 2 \*\*Operational Safety Requirements\*\*

- - 6 -

Designated AMR-only zones

-

Human-robot interaction protocols

-

Safety training for all facility personnel

-

Emergency response procedures

-

Monthly safety audits

## **6. IMPLEMENTATION TIMELINE**

1 **\*\*Phase 1: Site Preparation\*\*** (Weeks 1-4)

-

Facility assessment and mapping

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Infrastructure modifications

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Network setup and testing

-

Safety system installation

2 **\*\*Phase 2: System Deployment\*\*** (Weeks 5-8)

-

AMR delivery and setup

-

Software installation and configuration

-

Initial testing and calibration



- - 8 -

Staff training

3 \*\*Phase 3: Integration and Testing\*\* (Weeks 9-12)

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WMS integration

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Full system testing

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Performance validation

-

Final adjustments

## **7. PERFORMANCE METRICS**

## 1 **\*\*Required Performance Standards\*\***

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Navigation accuracy: 10mm

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Path optimization: 95% efficiency

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Battery utilization: 85% minimum

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System availability: 99.5%

-

Pick accuracy: 99.9%

## 2 **\*\*Monitoring and Reporting\*\***

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Real-time performance dashboard

- - 10 -

Daily operational reports

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Weekly efficiency analytics

-

Monthly performance reviews

## **8. SUPPORT AND MAINTENANCE**

1 NaviFloor shall provide:

-

24/7 remote technical support

-

Quarterly preventive maintenance

-

Software updates and patches

-

Spare parts inventory management

-

On-site emergency response within 4 hours

## **9. ACCEPTANCE CRITERIA**

1 System acceptance requires:

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Successful completion of all implementation phases

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Achievement of specified performance metrics

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Staff training completion

- - 12 -

Safety compliance verification

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Client sign-off on acceptance testing

## **10. PROPRIETARY RIGHTS**

1 All NaviFloor proprietary technology, including but not limited to the

## **11. AMENDMENTS**

1 These Specifications may be amended only by written agreement s

IN WITNESS WHEREOF, the parties have executed these Specificati

Effective Date.

NAVIER@QOR ROBOTICS, INC.

**By:**

Name: Dr. Sarah Chen

Title: Chief Executive Officer

**Date:**

AUTOZONE, INC.

**By:**

**Name:**

**Title:**

**Date:**

