ENVIRONMENTAL MAPPING SENSOR INTEGRATION GUIDE

ENVIRONMENTAL MAPPING SENSOR INTE

NaviFloor Robotics, Inc.

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Document Classification: CONFIDENTIAL

1. INTRODUCTION AND SCOPE

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1. This Environmental Mapping Sensor Integration Guide ("Guide") is a prop

2. This Guide applies to all Series N-2000 and N-3000 AMR platforms manu

2. DEFINITIONS

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1. "Environmental Mapping System" or "EMS" means the integrated hardwa

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2. "Sensor Integration Protocol" or "SIP" means the Company's proprietary n

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3. "Certification Requirements" means the standards and specifications detai

3. TECHNICAL SPECIFICATIONS

1. Required Sensor Components

a) Primary LiDAR Array (Model NF-L420X or later)

b) Secondary Depth Sensing Units (minimum 3 units, Model NF-D300 series

c) Environmental Data Processing Module (EDPM-2024 or equivalent)

d) Terrain Analysis Computational Unit (TACU-V3)

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2. Integration Parameters

a) Sensor mounting angles must maintain 120° ±2° separation

b) Maximum latency between primary and secondary units: 8ms

c) Minimum scanning resolution: 0.1° horizontal, 0.05° vertical

d) Operating temperature range: -10°C to 45°C

4. REGULATORY COMPLIANCE

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1. All sensor integrations must comply with:

a) ISO/TS 15066:2016 for collaborative robotics

b) IEC 61496-1:2020 for safety-related sensor systems

c) Company Standard CS-2024-003 for EMC compatibility

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2. Required Certifications

a) CE marking for European Union deployment

b) UL 3100 certification for North American markets

c) IP65 rating for industrial environment operation

5. PROPRIETARY RIGHTS AND CONFIDENTIALIT

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1. All technical specifications, integration methodologies, and associated inte

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2. Recipients of this Guide shall:

a) Maintain strict confidentiality of all contained information

b) Use the information solely for authorized integration purposes

c) Not reverse engineer or attempt to replicate the Company's proprietary systems

d) Return or destroy all copies upon Company's request

6. WARRANTY AND LIABILITY

1. The Company warrants that sensor systems integrated according to this Gu

2. This warranty is void if:

a) Integration is performed by unauthorized personnel

b) Non-approved components are utilized

c) Specified calibration procedures are not followed

d) Environmental operating parameters are exceeded

7. IMPLEMENTATION PROCEDURES

1. Pre-Integration Requirements

a) Completion of Company certification training

b) Verification of component compatibility

c) Environmental assessment documentation

d) Safety protocol validation

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2. Integration Sequence

a) Primary sensor mounting and alignment

b) Secondary sensor array installation

c) EDPM configuration and testing

d) System calibration and verification

8. QUALITY CONTROL

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1. Required Testing Protocols

a) Individual sensor calibration verification

b) System-wide integration testing

c) Environmental stress testing

d) Performance validation under varying conditions

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2. Documentation Requirements

a) Test results for each integration step

b) Calibration certificates

c) Environmental compliance reports

d) Final integration certification

9. DOCUMENT CONTROL

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