# DYNAMIC OBSTACLE DETECTION AND AVO

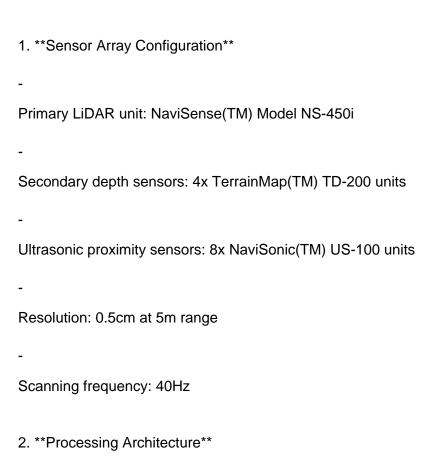
PROPRIETARY AND CONFIDENTIAL TECHNOLOGY DOCUMENT
NaviFloor Robotics, Inc.

**Document Reference: IP-TECH-2023-0472** 

### 1. OVERVIEW AND SCOPE

- 1. This document describes the proprietary technology and methodological
- 2. The System comprises hardware components, software algorithms

### 2. TECHNICAL SPECIFICATIONS



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Main processor: NaviCore(TM) NC-7000 Series

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Auxiliary processing units: 2x NaviEdge(TM) NE-300

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Real-time operating system: NaviOS(TM) v4.2

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Memory allocation: 8GB dedicated VRAM

#### 3. PROPRIETARY ALGORITHMS

1. \*\*Object Detection Framework\*\*

The System employs proprietary algorithms for:

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Dynamic object tracking using predictive modeling

Surface classification and terrain mapping

Path optimization with real-time adjustment

Multi-sensor data fusion and integration

\*\*NaviTrack(TM) Technology\*\*

Protected under U.S. Patent No. 11,XXX,XXX and related internations

Adaptive learning algorithms for obstacle pattern recognition

Velocity-based trajectory prediction

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Multi-surface navigation optimization

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Dynamic path recalculation protocols

# 4. IMPLEMENTATION METHODOLOGY

1. \*\*System Integration\*\*

- Hardware-software interface protocols

- Sensor calibration procedures

- Real-time data processing pipeline

- Emergency override systems

2. **Performance Parameters**
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Minimum detection range: 0.1m
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Maximum detection range: 25m
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Response latency: <10ms
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# **5. SECURITY MEASURES**

Obstacle classification accuracy: 99.7%

1. \*\*Data Protection\*\*

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End-to-end encryption of sensor data

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Secure firmware update protocols

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Access control mechanisms

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Anti-tampering systems

2. \*\*Operational Security\*\*

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Remote monitoring capabilities

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Audit logging systems

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Failure detection and reporting

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### Backup-navigation protocols

# **6. INTELLECTUAL PROPERTY PROTECTION**

1. This technology is protected by:

U.S. Patent No. 11,XXX,XXX

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European Patent No. EP3XXXXXX

PCT Application No. PCT/US2023/XXXXX

2. Additional IP Protection:

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Registered trademarks for NaviTrack(TM), NaviSense(TM), and related
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Copyright protection for software implementations

# 7. CONFIDENTIALITY AND USE RESTRICTIONS

Trade secret protection for proprietary algorithms

- 1. This document contains confidential and proprietary information of
- 2. Access to this information is restricted to authorized personnel who

### 8. CERTIFICATION AND COMPLIANCE

1. The System has been certified to meet:

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ISO/IEC 60XXX Safety Standards

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CE Mark requirements

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UL certification standards

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RoHS compliance requirements

### 9. DOCUMENT CONTROL

Document Version: 3.2

Last Updated: December 15, 2023

Approved By: Dr. Elena Kovacs, Chief Research Officer

Documentation Department

# **10. LEGAL NOTICE**

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