SURFACE DAMAGE DETECTION AND RECORDING SYSTEM

SURFACE DAMAGE DETECTION AND RECO

TECHNICAL SPECIFICATION AND INTELLECTUAL

Document Reference: IP-SDDR-2023-001

Last Updated: December 15, 2023

1. OVERVIEW AND SCOPE

1. This document describes the proprietary Surface Damage Detectio

2. The SDDR System comprises both hardware and software compon

2. TECHNICAL SPECIFICATIONS

1. System Components

a) Multi-beam LiDAR sensor array (Model NF-LDR-2023)

b) High-resolution depth cameras (4x NaviDepth(TM) HD-420)

c) Surface analysis processing unit (SAPU-V3)

d) Real-time mapping module (RMM-2023)

e) Data storage and transmission system

2. Detection Capabilities

a) Minimum detectable surface variation: 0.5mm

b) Maximum scanning width: 2.5 meters

c) Operational speed: 0.1-2.0 meters per second

d) Surface type compatibility: concrete, epoxy, vinyl, metal, composite

3. Recording Parameters

a) Data capture rate: 120 frames per second

b) Resolution: 1024 x 1024 pixels per frame

c) Data compression ratio: 10:1 lossless

d) Storage capacity: 1TB onboard, cloud-synchronized

3. INTELLECTUAL PROPERTY RIGHTS

1. Patents

a) US Patent No. 11,XXX,XXX: "Method and System for Real-time Su
Detection"

b) US Patent Application No. 17/XXX,XXX: "Advanced Surface Mappi
Multi-Modal Sensor Arrays"

c) International PCT Application PCT/US2023/XXXXX

2. Proprietary Software

a) NaviScan(TM) Core Processing Engine v4.2

b) Surface Analysis Algorithm Suite v2.1

c) DefectMap(TM) Visualization Software v3.0

3. Trade Secrets

a) Sensor calibration methodologies

b) Surface pattern recognition algorithms

c) Data fusion techniques

d) Error correction protocols

4. IMPLEMENTATION AND INTEGRATION

1. The SDDR System is designed to integrate with Company's autonc

a) REST API v2.0

b) WebSocket real-time data stream

c) Secure cloud synchronization protocol

d) Local mesh network communication

2. System deployment requires:

a) Initial surface baseline mapping

b) Sensor array calibration

c) Environmental parameter configuration

d) Integration validation testing

5. CONFIDENTIALITY AND PROTECTION

1. All information contained herein is deemed Confidential Information

2. Access to technical specifications and implementation details is res

a) Authorized Company personnel

b) Licensed integration partners

c) Approved maintenance contractors

6. WARRANTY AND LIMITATIONS

1. The SDDR System is warranted to perform according to the specifi

2. The Company makes no warranties beyond those expressly stated

7. CERTIFICATION AND COMPLIANCE

1. The SDDR System has been certified to meet:

a) ISO/IEC 27001:2013 Information Security Management

b) CE marking requirements

c) FCC Part 15 Class A certification

d) RoHS compliance

8. DOCUMENT CONTROL

1. This document is controlled by the Company's Technical Documen

2. Modifications to this document must be approved by:

a) Chief Technology Officer

b) Chief Research Officer

c) IP Counsel

APPROVED AND AUTHORIZED:

By:

Dr. Marcus Depth

Chief Technology Officer

NaviFloor Robotics, Inc.

Date: December 15, 2023

By:

Dr. Elena Kovacs

Chief Research Officer

NaviFloor Robotics, Inc.

Date: December 15, 2023