SCENE

Laser/Vison-based Natural Feature Navigation for Autonomous Mobile Robots

An intelligent, laser-based natural feature navigation system.
This means no wires, tapes or navigation marks.

Capable of navigating by reference to existing features within the working environment.

Advanced 2D/3D Laser contour scanning and mapping algorithms combine to generate a navigation map from the available features within the working environment. These mapped features are used to determine vehicle position during vehicle operation.

Options for indoor and outdoor operation. Wide range of laser types supported, e.g. safety scanners, hi fidelity 360 scanners.

Deployment in minutes, easy to adapt to changing demands, infrastructure and processes.

An industry proven navigation solution which accelerates the process of vehicle automation for all vehicles types.

SCENE navigator / localiser solutions can determine a vehicles position by:

- Reference to working area fixtures
- Reference to navigation specific marks

Adopt SCENE software is used during the set-up process to survey working areas and generate precise reference maps which directly link to your CAD drawings for easy integration.

The sophisticated localisation and mapping algorithms within SCENE are then used to guide the AMRs/AGVs as they carry out their tasks autonomously.

Guidance automation

SCENE

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SCENE is designed to maximise your logistical requirements with the minimum of effort across multiple business sectors:

- Automotive production
- Agriculture
- Food and beverage
- Chemical storage
- Healthcare/pharmaceutical processes
- Textiles
- Tobacco
- 3C Electronics
- Warehousing
- Retail

SCENE Navigator Interface Specification

Performance	
Position	± 1cm
Range	0m – 500m (dependent on laser scanner type
Angular Resolution	0.5° typically (dependent on laser scanner type)
CPU	
	Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz SoC, 10W TDP)
BIOS	
	AMI 64 Mbit SPI BIOS
Memory	
	1x DDR3L 204-pin SO-DIMM, up to 8GB (1066/1333MHz, un-buffered)
Storage	
1 x mSATA for full-size mini-PCIe socket	1 x 2.5" SATA 2.0, 1x mSATA (Shared by 1x Mini-PCIe socket)
Graphics	
Integrated Intel® HD Graphics	Two Independent Display
Audio	
Realtek® ALC888S	High Definition Audio
I/O Interface	
1x DVI-I Connector, Up to 1920 x 1080	2x GbE LAN Ports (Support Wake On Lan, Teaming, Jumbo Frame, PXE), RJ45
4x RS-232/422/485, Auto Flow Control, DB9	1x USB 3.0 & 3x USB 2.0 (Type-A)
1x Mic-in and 1x Line-out, Phone Jack 3.5mm	1x ATX Power On/Off Switch Button
1x AT/ATX Mode Switch	1x Remote Power On/Off Connector, 2-Pin Terminal Block
	2 x CANbus / CANopen Connection - 9W D-Sub Male Connector
Diagnostics Ethernet	
Software Upgrade	Remote Software Upgrade and Diagnostics
Electrical	
Operating Voltage	9~48VDC
Power Consumption	Typical 8.3W, Max.15W
Protection	
Reverse Power Input Protection Supported	Over Voltage Protection (OVP) Up to 51V
Over Current Protection (OCP) 120V/ 20A	ESD Protection Air Discharge: 8 kV; Contact Discharge: 4 kV (IEC 61000-4-2)
Other Function	
Instant Reboot Technology (0.2 sec)	Watchdog Timer: Software Programmable Supports 1~255 sec. System Reset
Environmental	
Operating Temp	-25°C to 70°C (SSD) with Air Flow IEC60068-2-1, IEC60068-2-2, IEC60068-2-14
Storage temperatures	-40°C to 85°C with air flow
Shock	50 Grms (With SSD According to IEC 60068-2-27, Half Sine, 11ms Duration)
Relative Humidity:	95% RH @ 40°C (Non-Condensing)
Vibration	Random: 5 Grms (With SSD According to IEC 60068-2-64, 5~500Hz, 1 hr/axis)
Housing	
Dimensions	(W x D x H): 150 x 105 x 56.02 mm
Weight	0.86 kg
2D/3D Laser Scanning Options	
Pepperl & Fuchs R2000	Sick S300/S3000
Omron 0S32C	Hokuyo UAM-05LP-T301/T301C
Others on Request	
Certification	
CE	FCC Class A

An award-winning pioneer in guidance, navigation and control technologies, Guidance Automation has over 25 years' experience in developing advanced solutions for the global robotic vehicle market and has thousands of systems in service.

Our aim is to consistently meet our clients' needs by offering automated guided vehicle technologies which serve the market need and improve operational performance and efficiency.

We are proud to have enabled our clients to automate robotic vehicles, fork lift trucks, floor cleaning equipment and all types of mobile moving systems. These solutions have been applied in a broad range of autonomous transport applications such as airports, warehousing, healthcare, production, bottling plants, printing, retail, marine and more.

We are committed to the continuous advancement of innovative and optimal vehicle automation.

Guidance automation

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