∴Robotnik

GUARDIAN

GUARDIAN has high mobility and modularity. The Robotnik platform uses architecture ROS and it is suitable for research, security and inspection.

Product

Guardian is a mobile platform specially designed for applications in areas as security, inspection and research, due to its high mobility, that allows it to move in places difficult to access for other kind of platforms (stairs, slopes, rough terrain...). The robot is able to integrate serveral sensors (indoor/outdoor laser, cameras, 3D cameras, inertial measurement units, GPS ...) and actuators (WAM arm, modular arm, LWA 4P arm, stereovision, pan-tilt units ...).

Guardian offers a wide space inside to incorporate multiple CPUs, which allows for greater on-board processing for vision, laser telemetry or RTK-DGPS.

The robot has a weight of 120Kg, so it can carry up to 100 Kg of additional equipment. It just requires a little control briefcase.

The control architecture is open-source and modular, based on ROS (http://www.ros.org).

ROS framework defines a well organized robot software architecture and includes hundreds of user contributed packages and sets of packages called stacks, that implement functionalities as localization and mapping, planning, manipulation, perception, etc.

This characteristic simplifies the software development cycle and allows easy integration and reutilization of software components whether they are device drivers or state of the art algorithms in vision, SLAM, point cloud processing, grasping, planning, swarming, etc.

Applications

- Research and development.
- High mobility indoor / outdoor navigation.
- Search and disposal of improvised explosive devices (IEDD) or explosive ordenance devices (EOD).
- Remote surveillance.
- Remote measurement and mapping.

Technical Specifications

Mecánicas

Dimensions	1.127 x 500 x 450 mm (only tracks)
	1.127 x 747 x 554 mm (+ wheels)
Weight	120 Kg
Load capacity	100 Kg
Speed	1.25 m/s a. configuration
Enclosure class	IP54 (up to IP65)
Traction system	Belts combined with wheels
Traction motors	2 axis, skid configuration
	2 x 1.000W
Batteries	48 VDC/16 Ah
	LiFePo4 Technology
Autonomy	3/6 h normal operation
Temperature range	0º a +50º C
Max. climbing angle	45º

Control

Controller	Open architecture ROS
	Embedded PC with Linux
	(Intel BayTrail J1900 or similar)
Communication	WiFi 802.11n / Radio / Cable
Connectivity	Ethernet / USB External ports
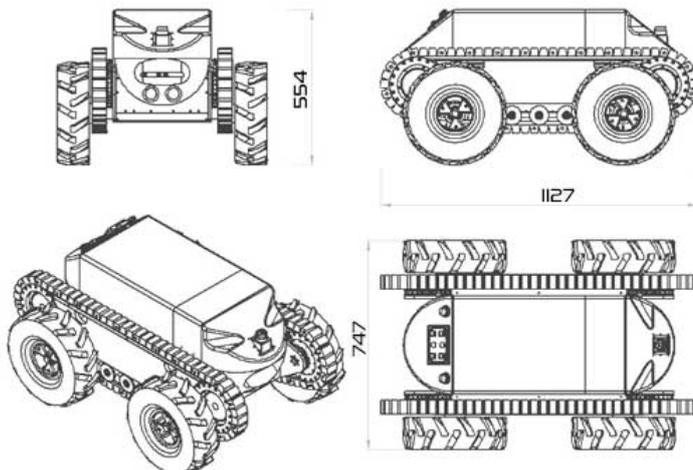
::: ROS.org

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