

Team Information



Picture of vehicle:

Name of vehicle: RAPOSA



Picture of team leader:

Name of team leader: Paulo Alvito

Team Name: IdMind – ISR/IST

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Team Description: The IdMind - ISR/IST Team is composed of engineers from the Portuguese company IdMind and researchers from the Institute for Systems and Robotics (ISR) located at the Lisbon campus of Instituto Superior Técnico (IST). The Team is leadered by Mr. Paulo Alvito (IdMind's CEO).

IdMind and ISR/IST worked together in partnership, from March 2003 to March 2005, to build a Search and Rescue (SaR) robot, conceived to operate in environments hostile to human presence (or otherwise not reachable).

RAPOSA is the result of this partnership. The RAPOSA name is an acronym for "Robot semi-Autónomo Para Operações de

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Salvamento” which means “Semi Autonomous Robot for Rescue Operations”. It’s a cool name as it means fox, a good concept for our robot: both agile and small sized.

RAPOSA is a tracked robot composed of two bodies: a main body and a frontal arm. The first, houses the electrical motors, batteries, computer and electronics. The second body is a frontal arm with variable orientation, allowing the robot to grab higher edges, being able to climb stairs, or to release itself if it becomes stuck due to ground clearance problems.

The robot is tele-operated through 3 conventional cameras, 2 on the frontal arm, featuring additional pan, one on the robots back and a thermal camera to help it find living persons.

It uses a Pentium III processor at 700MHz to encode the video and audio streams and assure the interface with the low level sensors. It also features a Compact Flash (solid state memory) as a hard disk, to make the computer vibration and shock resistant.

The robot can operate both in a wireless and cable configuration, being able to switch between both in real time, with the aid of the back camera mentioned previously.

The robot also features gas sensors from Figaro that allows it to detect explosive and toxic gases (methane, butane, carbon monoxide, hydrogen sulfide).

Sponsors: -----

Selection of scenario:	Urban	X
	Exhibition	X

Proof of citizenship: Please see attached copy of Team Leader Passport