

# AURIGA I

The Auriga I mobile robot has been designed as an all-terrain robotic platform.

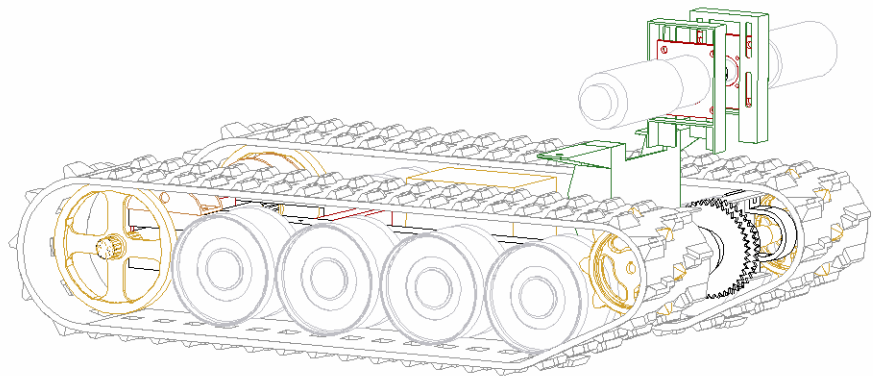
Auriga I is a tracked vehicle with skid-steering based on two independent DC motors. Each motor is powered by a servo-drive and DSP controllers. The maximum speed of each track is 1 m/s. The Auriga\_I can also operate in a multi-trailer configuration.



## THE AURIGA I MOBILE ROBOT

### General characteristics:

- Dimensions: 0.75 m width, 1.35 m length, 0.84 m height.
- 260 kg tracked vehicle for outdoor navigation.
- Powered by an on-board petrol-fed ac-generator of 4 kW.
- Locomotion system is based on the skid-steering principle.
- Top speed: 1 m/s in straight line movement.



### Control System, Communications and Sensors:

- DSP for low-level control.
- 2 Industrial PC with real-time operating system LynxOS 4.0.
- Time-of-flight range scanner Sick LMS 200.
- 2 pan & tilt CCD cameras.
- Encoders. 3 Degrees of Freedom. Gyros.
- Ethernet wireless access point and switch, a serial IP server and a GSM module.

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**CROMAT:**  
**Air and ground mobile robots coordination**

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**SPAIN**

The main objective of the **CROMAT** project is the development of new methods and techniques for the cooperation of aerial and ground mobile robots. It is intended to develop technologies that could be used in applications such as inspection of utilities, infrastructure and large buildings, disaster detection and monitoring (fires, floods, volcano eruptions, earthquakes), exploration, surveillance, urban safety, humanitarian demining. The project also intends to contribute to the development of aerial robotics, which is a field that will have an important advance in this decade, fuelled by the progress in Microsystems, with many new applications.

**CROMAT** is a coordinated project with three Subprojects that share a common Workpackage to design and develop of a new control architecture for the cooperation of aerial and ground mobile robots. The first Subproject, led by the University of Sevilla, is devoted to the development of a platform for aerial robotics based on a RC helicopter and its integration with a ground mobile robot. The second, led by the University of Malaga, deals with teleoperation and cooperation of mobile robots, and the third Subproject, led by the University of Vigo, is devoted to the development of helicopter control techniques



HERO



AURIGA I



ROMEO-4R



AURIGA II

The Robots involved in the **CROMAT** project