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Sbots usage in ECAGents

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Autonomous Systems Lab

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IRIDIA

<http://www.ecagents.org>

<http://www.swarm-bots.org>

ECAGents

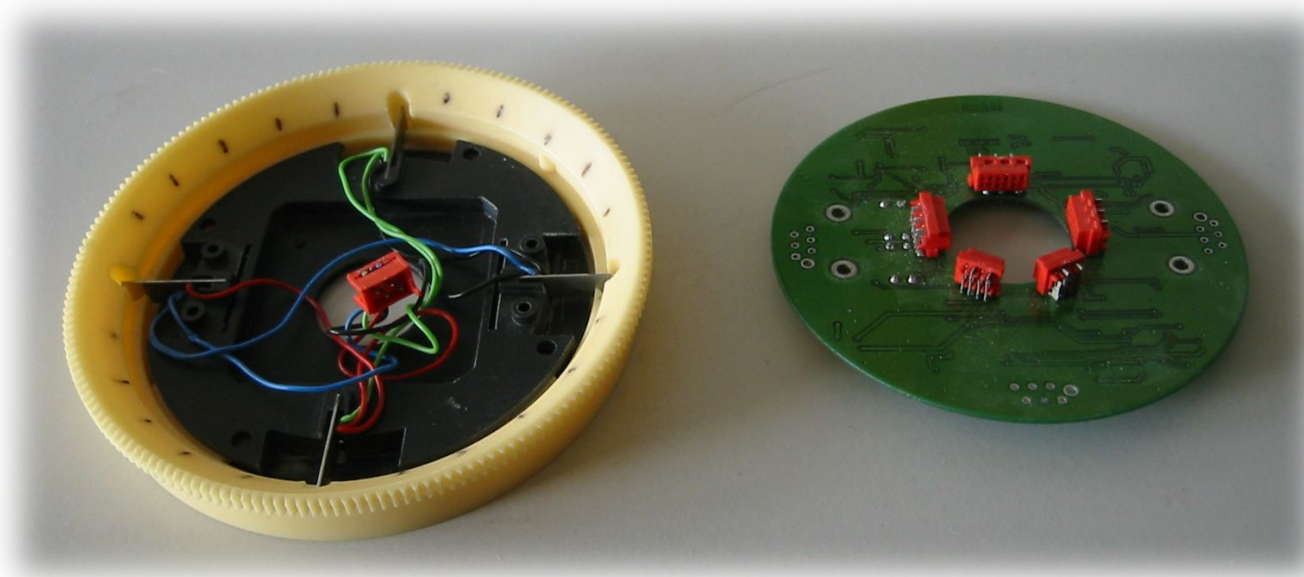
- ECAGents studies the emergence of communication in colonies of embodied agents.
- We are interested in physical agents in the form of mobile robots able to communicate using several means, such as sound and light.
- Communication allows robots to coordinate to perform complex tasks, impossible for a single robot.
- We study the emergence of such communication using artificial evolution and neural networks.

The demonstrator

- Coordinated motion is very complex to design manually.
- Artificial evolution provides the means to generate controllers capable of solving fuzzily defined tasks.
- Such a controller achieving coordinated motion has been evolved in simulation.
- Obstacle avoidance is much simpler to design.
- We used a hybrid approach combining both techniques to achieve the desired behaviour.

Sbots in ECAGents

- Sbots are small, very advanced robots, capable of assembling in a superstructure, the Swarmbot.
- Sbots have many sensors, for light, sound, humidity, distance, etc...
- Sbots are also capable of emitting light and sound.
- They are the ideal platform for ECAGents.



Details of traction sensors integrated in Sbot hull

