Multi Tracked Robot for Motion in Tunnels, Pipes and Confined Spaces

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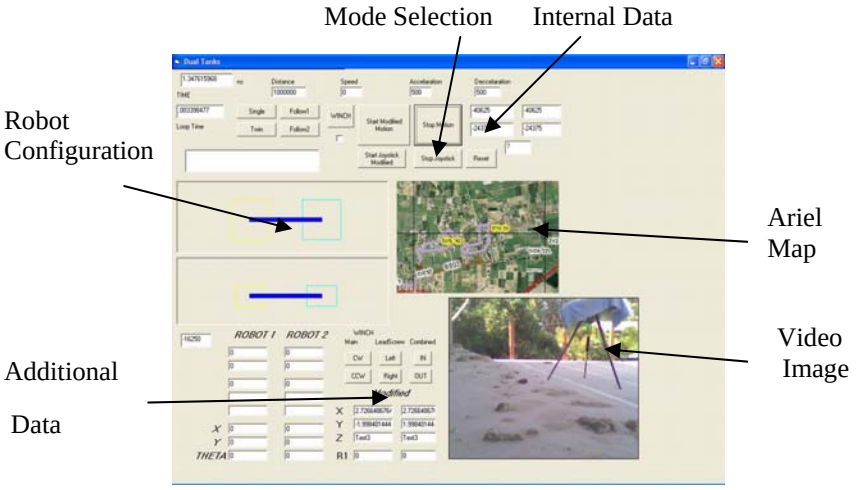
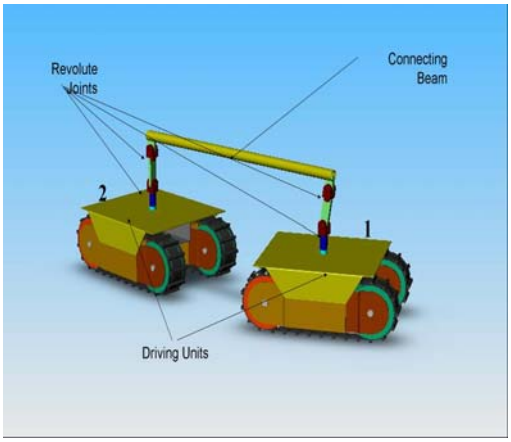
Mission

To develop an autonomous and semi-autonomous mobile platform for safe, reliable, accurate, fast and efficient motion in tunnels, pipes and confined spaces



Control Screen (Laptop)



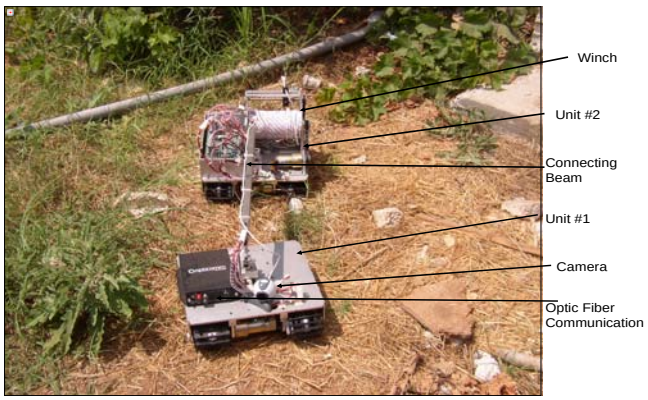
Operation Modes

- **Single mode** - Operator controls each tracked unit independently, using the two joystick handles. Can transfer power between the two tracked units, according the relative configuration between the driving units.
- **Twin mode** –Tracked units perform identical motion according to data from a single joystick handle.
- **Follow mode 1**– Operator uses a single joystick handle and the back unit follows the front unit.
- **Follow mode 2** –Operator controls the system using a single joystick handle, similar to the follow mode 1, and the rear unit follows the front unit such that it aligns itself with the connecting bar.
- **Fully autonomous operation**

Dual Action Joystick (Logitec)

Current Features

- Dimensions: 50X40X30 cm each
- Weight: 20 Kg each
- Power: Onboard
- Operation Distance: 600 meters
- Speed: 2 meters/second
- Payload: 150 Kg each (300 kg total)
- Communication: Wire/Wireless



Future Features

- Quick Assembly/dismantling
- Increased operation distance (1000 meters)
- Chain more platforms
- Add DOF to tracks and connecting bar to adjust for various tunnel dimensions
- Improve communication and operator interface