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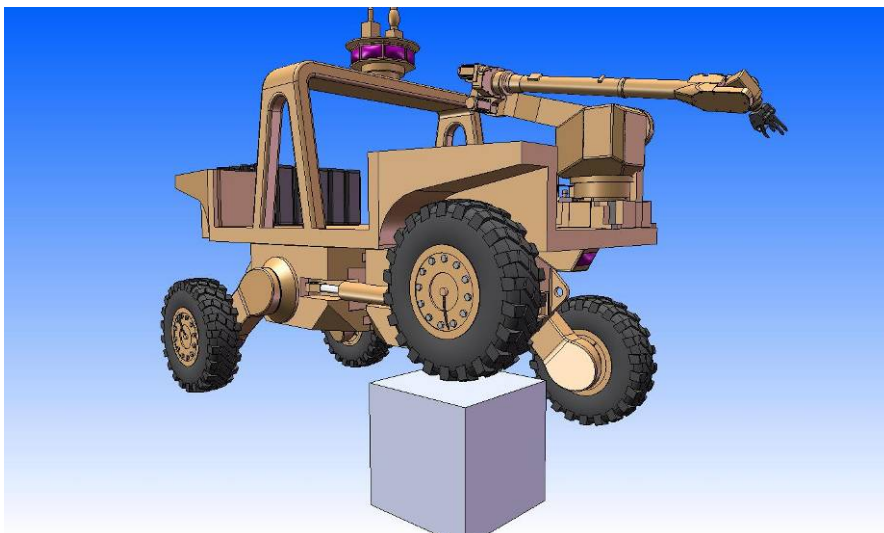
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Abstract:

Parosha Innovators b.v. is founded in 1998 and is a subsidiary of The Parosha Group b.v. Parosha Innovators' core activities are Engineering, Designing, Researching, Developing, and Manufacturing Small Unmanned Ground Vehicles (SUGV's) (Cheatah VTE-2500 and Cheatah VTE-3600) and large UGV's (Cheatah VTE-3900) and hydraulic powered manipulator-arm and robotic-arm systems and grippers and special tools for UGV's purposes. Parosha Innovators b.v. is also developing long-range battery-driven-systems, separate track systems for SUGV's and electrical- mechanical- and hydraulic drive systems, wheel-suspension systems, and remote control systems for third parties. Parosha Innovators b.v. is using the latest 3D-CAD and Stress-Analyses software for all designs and exist of the following departments : Engineering, Research & Development, Machining, Manufacturing, Welding and Construction, Assembly, Test & Evaluation , Field service and Support and has 84 full-time employees and has two production facilities.



Cheatah VTE-3900 Wheel-arm articulation

Detailed research information:

CHEATAH VTE-3500 High Mobility Base Frame Platform for Unmanned Ground Vehicles (UGV) and Explosive Ordnance Disposal Robots (EOD)

From February 2003, a new high mobility multi-purpose platform is designed, developed, and manufactured by Parosha Innovators b.v. of The Netherlands, for the worldwide increasing demand of small inconspicuous, remote operated and autonomous field reconnaissance vehicles and robots. From August 2003, the platform has its endurance trials in which it has driven long distances in the most different parts of the world. The vehicle is fitted with 100mm (4") wide fine pitch wear-resistant manganese steel tracks for smooth and quiet running and long life operation. In contrast with its counterparts, the platform's track-system is fitted with a fully balanced road-wheel suspension, which will ensure a maximum "ride-comfort" for the on-board equipment. Because of its electric power packs, noise production and infrared radiation image is very low. Each track-sprocket is driven by an electric permanent magnet traction motor and gearbox, which is fed by LiFeSO₄ batteries via an electronic control unit for speed and direction control. Because of the watertight hull, and the absence of the need for air, driving in dust- and gas- explosion hazardous areas is possible. Deep wading, driving and hiding underwater is possible up to a depth of 2,5 meter. Provisions are made to accommodate and install day and night video cameras, thermal imaging equipment; an integrated position locating system and laser rangefinder capable of accurately determining the location of targets; acoustic detection system, light vehicle obscuration smoke system, automatic chemical agent detection alarm, AN/VDR-2 nuclear detection system, real-time data-transmitting system, etc.

The platform provides the back-bone and carrier for SUGV's and robots performing scouting, surveillance and target acquisition; direct fire; bunker and light-armour destruction; obstacle breaching; nuclear, biological and chemical reconnaissance; employment of non-lethal weapons; obscurant delivery; engineer reconnaissance and transporting ammunition, explosives or equipment. The platform is rugged and mechanically very tough and reliable, and needs a minimum of maintenance. The payload of the VTE-3500 is 90kg.

Beyond special equipment for field-reconnaissance operations, the platform provides a carrier with accommodation for installing specialized electro-optical and electro-magnetic equipment such as : camera's, sensors, ground-radar, x-ray equipment and robot-arm manipulators for tracing mines and explosives and bomb disposal operations or other triple D operations (Dull, Dangerous and Dirty). In that roles the platform is remote controlled by radio or glass-fibre.

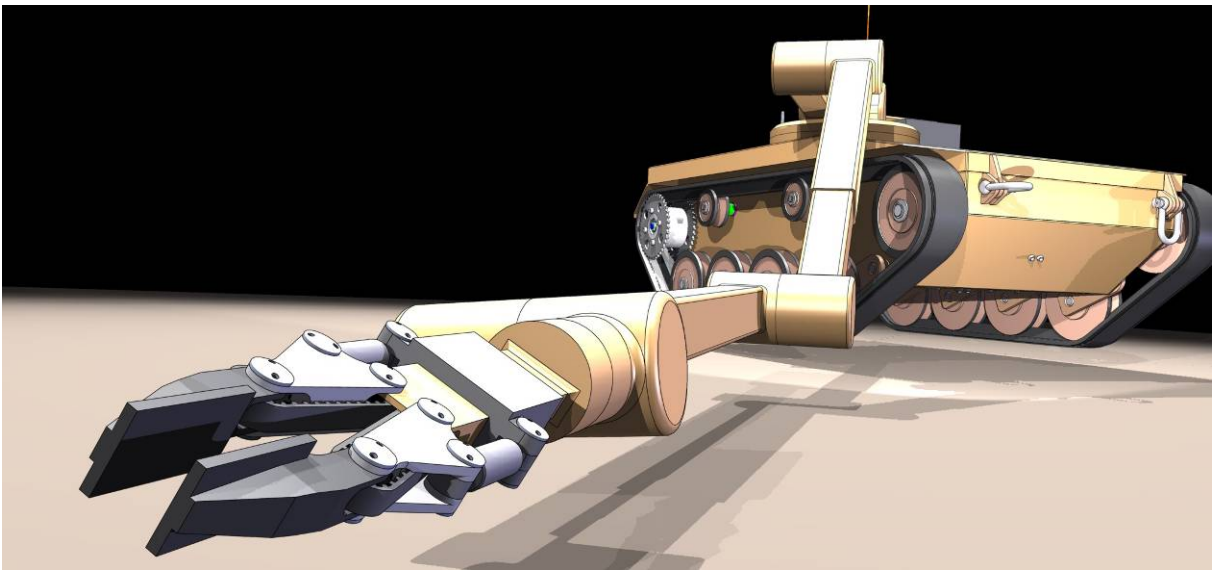
The platform will be operational and maintainable in most types of climates and weather conditions.

Thanks to applying flexible up to date engineering methods, each platform can be designed and adapted exactly according to customer's specifications within a very short timescale. Every platform is delivered with a handheld wire control set, a handheld RC transmitter, an exhaustive 70 pages English language operator's manual for user- maintenance- and troubleshooting instructions, spare traction batteries, charger for traction batteries, some special tools, and an exhaustive spare parts kit.

The VTE-3500 High Mobility Base Frame Platform is transportable by a short wheelbase Land Rover. Heavy-duty D-shackles are fitted at the front-end and rear-end for lifting, lashing and towing purposes. During transport in vehicles, aircraft and helicopters, traction batteries can be charged. The VTE-3500 fits exactly in a closed Euro-box pallet, Cube : L x W x H : 1200mm (47,5") x 800mm (31,5") x 750mm (29,5").



Cheatah VTE-3500



Cheatah VTE-3500 with robot-arm

CHEATAH VTE-3600 High Mobility Base Frame Platform for Unmanned Ground Vehicles (UGV) and Explosive Ordnance Disposal Robots (EOD)

The Cheatah VTE-3600 tracked robot-platform is a bit larger and heavier than the Cheatah VTE-3500 and is developed to provide a more powerful high mobility multi-purpose platform and a better base for mounting heavy-duty hydraulic powered robot-arms. Like the Cheatah VTE-3500 it is designed, developed and manufactured by Parosha Innovators b.v. of The Netherlands.

From August 2006, the platform has its endurance trials in which it has driven long distances in the most different parts of the world. The vehicle is fitted with 130mm (5") wide fine pitch wear-resistant steel-reinforced plastic tracks for smooth and quiet running and long life operation. Further, it has 10 instead of 8 road wheels. Intern it provides more space for

batteries which results in a longer maximum range in comparison with the Cheatah VTE-3500.

Like the Cheatah VTE-3500, each track-sprocket is driven by an electric permanent magnet traction motor and gearbox, which is fed by LiFeSO₄ batteries via an electronic control unit for speed and direction control. Because of the watertight hull, and the absence of the need for air, driving in dust- and gas- explosion hazardous areas is possible. Deep wading, driving and hiding underwater is possible up to a depth of 2,5 meter.

Provisions are made to accommodate and install day and night video cameras, thermal imaging equipment; an integrated position locating system and laser rangefinder capable of accurately determining the location of targets; acoustic detection system, light vehicle obscuration smoke system, automatic chemical agent detection alarm, AN/VDR-2 nuclear detection system, real-time data-transmitting system, etc.

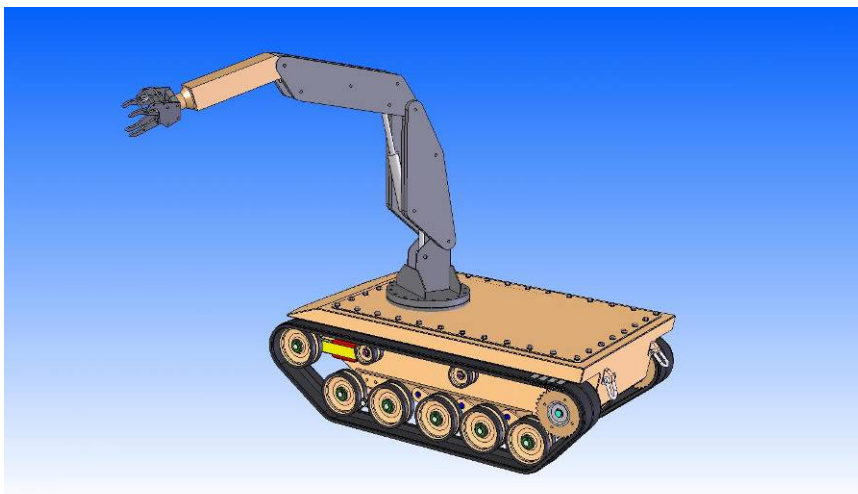
The platform provides the back-bone and carrier for SUGV's and robots performing scouting, surveillance and target acquisition; direct fire; bunker and light-armour destruction; obstacle breaching; nuclear, biological and chemical reconnaissance; employment of non-lethal weapons; obscurant delivery; engineer reconnaissance and transporting ammunition, explosives or equipment. The platform is rugged and mechanically very tough and reliable, and needs a minimum of maintenance. The payload of the VTE-3600 is 110kg.

Beyond special equipment for field-reconnaissance operations, the platform provides a carrier with accommodation for installing specialized electro-optical and electro-magnetic equipment such as : camera's, sensors, ground-radar, x-ray equipment and robot-arm manipulators for tracing mines and explosives and bomb disposal operations or other triple D operations (Dull, Dangerous and Dirty). In that roles the platform is remote controlled by radio or glass-fibre.

The platform will be operational and maintainable in most types of climates and weather conditions.

Every platform is delivered with a handheld wire control set, a handheld RC transmitter, an exhaustive 70 pages English language operator's manual for user- maintenance- and troubleshooting instructions, spare traction batteries, charger for traction batteries, some special tools, and an exhaustive spare parts kit.

The VTE-3600 High Mobility Base Frame Platform is transportable by a short wheelbase Land Rover. Heavy-duty D-shackles are fitted at the front-end and rear-end for lifting, lashing, and towing purposes. During transport in vehicles, aircraft and helicopters, traction batteries can be charged.



Cheatah VTE-3600 with robot-arm

CHEATAH GRIPP RA-1216 Hydraulic Powered Manipulator/Robot Arm.

The CHEATAH GRIPP RA-1216 hydraulic powered manipulator/Robot arm is a 3-section arm, and is developed for UGV's like the CHEATAH VTE-3600. On top it has a rotator with strong hydraulic powered gripper with wire-cutter. The CHEATAH GRIPP RA-1216 has it's own hydraulic power unit and electric powered hydraulic control-valve block. It only needs a 24VDC power and control line from the vehicle. The arm can rotate 360 degrees horizontal by hydraulic motor drive. To extend range, the arm can be fitted with a telescoping section.

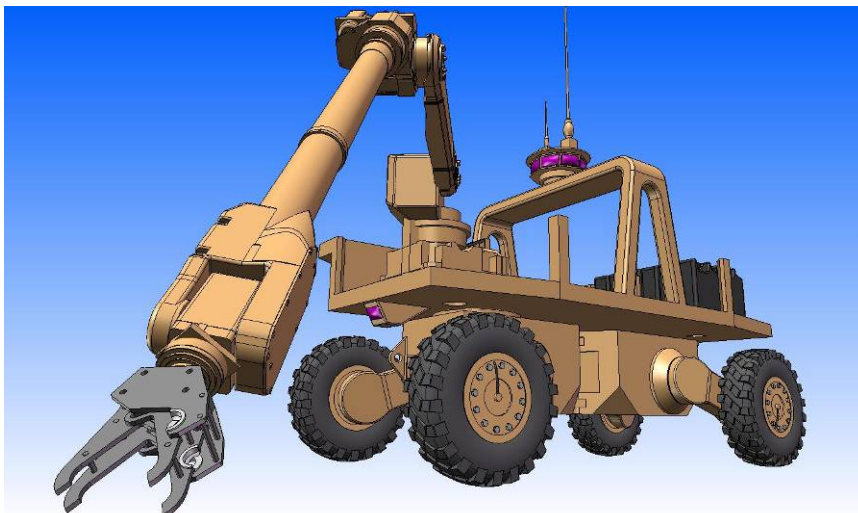
CHEATAH VTE-3900 High Mobility Unmanned Multirole Robot Platform

The Cheatah VTE-3900 is a four-wheel driven unmanned ground vehicle (robot) with a high all-terrain and cross-country capability, which is specially, designed for roles in high risk areas. It can be fitted with a large load-bed (MULE-role), all-round situational-awareness camera-system and software (Reconnaissance-role), long manipulator/robot-arm (EOD-role), weapon-systems (Combat-role) or relay-station equipment (Relay-station-role). The vehicle is fitted with a roll-bar to provide accommodation for antennas and camera's

The CHEATAH VTE-3900 is 4245mm long, 2028mm wide and 2122mm high (top roll-bar)
The Cheatah VTE-3900 is able to drive along a series of waypoints (autonomous transport) or by remote control with live-video-control-data-link (long distance reconnaissance).

Multi-role :

- MULE (Transport)
- EOD
- Long distance reconnaissance, Surveillance, Scouting
- Relay station for UAV's en radio-communication
- Long distance transport
- Etc.....



Cheatah VTE-3900