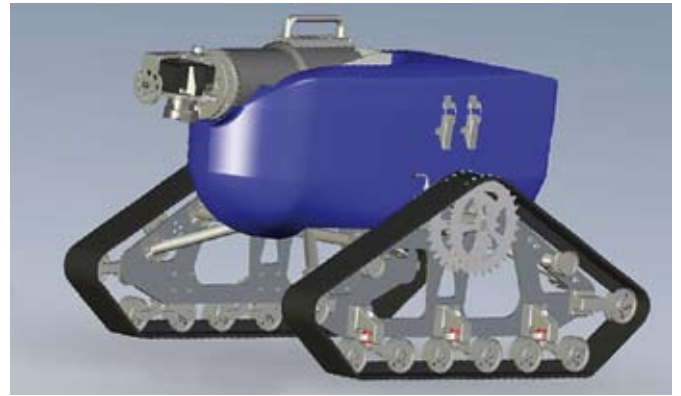


# Introducing the 3D-R1

Quicker  
Easier  
Safer

The 3D-R1 is a remote vehicle designed exclusively to operate in conjunction with the LMS-Z series laser scanners, manufactured by Riegl Laser Measurement Systems of Austria. Its unique design offers automated scanning capabilities to allow 3D surveying to be carried out in dangerous or hazardous environments. It is easy to use, locates the operator in a place of safety, and can dramatically increase the efficiency of the scanner by decreasing the set up time associated with more traditional tripod surveys.



The 3D-R1 has been developed in the United Kingdom by Jobling Purser RSV LLP in conjunction with 3D Laser Mapping. Although designed to operate in underground mining operations, it is light and easy to use and so lends itself to many civil applications. These include tunnel surveying, surveying in buildings damaged by earthquake or fire, and situations in which the speed at which a scan is carried out is critical to the operator.

#### **More efficient and accurate**

The 3D-R1 can make scanning operations safer and, research suggests, by using the 3D-R1 chassis in conjunction with a laser scanner, productivity can be increased up to 75% by eliminating the need to continuously move and set up the scanner by hand. With the scanner securely mounted within the body of the 3D-R1, the operator simply drives it remotely to the next set-up station and gives the scanner the command to perform the scan. Once the scan is completed the data is saved on the internal hard drive, and the vehicle is able to move to the next location.

The limitations of traditional scanning in hazardous situations often lead to substantial blind spots in areas where the scanner does not have a line of sight. In some of these situations the 3D-R1 will allow scanning of areas that are not otherwise safe to enter. Personnel can remain in a safe place while the 3D-R1 enters the high-risk zone. The operator will have a high situational awareness from the video and laser data to guide the 3D-R1 in these areas.

The 3D-R1 is being developed from research conducted on a prototype vehicle developed by Jobling Purser RSV LLP. Modifications to the body and chassis are being carried out to allow the vehicle to work in harmony with the Riegl LMS-Z series laser scanners.

# Technical Specifications

## Vehicle specifications and dimensions

Standard equipment supplied with vehicle:

Overall length:	110cm (43.3 inches)
Overall width:	80cm (31.5 inches)
Overall height:	85cm (33.5 inches) in driving position
Weight:	145kg (319 lb)
Ground clearance:	30cm (11.8 inches)
Drive system:	Independently powered tracks
Power:	24v 85Ah (2 x 12v 85Ah sealed gel batteries)
Range of vehicle from control station:	500m+ line of sight
Cameras:	One permanent navigation camera mounted on the front of the vehicle
Software:	Control software to drive the vehicle (laptop and joystick not included)
Lights:	2 x 10w navigation lights
Batteries:	2 sealed lead acid batteries 24v battery charger

## RSV control computer

Control hardware and software on the machine (only for the control of the vehicle not laser scanner):

CPU:	Intel Celeron M 370, 1.5GHz, 400MHz FSB, 1MB cache
Main memory:	1 x 512MB 184-pin DIMM DDR 266 SDRAM, upgradeable to 2GB
Operating system:	Windows XP Professional™

## Optional Extras not included

Accessories for vehicle:	1x 8 inch monitor Keyboard Mouse Memory sticks for data transfer
Drive control computer:	1 Panasonic Tough Book and Joy Pad to control the vehicle
Other accessories:	Extra navigation cameras Extra lights Transport trolley Riegl LMS-Z series laser scanner and software Extra batteries for ancillary equipment

Other extras can be included to the client's specification.  
Contact manufacturer for details.

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