

romdas

ROad Measurement Data Acquisition System

Data Collection Ltd.

Company Profile



For further information on the ROMDAS road measurement system please visit www.romdas.com

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ROMDAS
Manufactured by
Data Collection Ltd.
New Zealand

Providers of innovative technology for measuring and managing roads

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Overview:



Data Collection Ltd. (DCL) is a company that specializes in developing and manufacturing tools for measuring and managing roads that is marketed under the brand name 'ROMDAS' (ROad Measurement Data Acquisition System).

ROMDAS is the premiere low-cost technology used for collecting data on road condition. Since its inception in the 1990s, Data Collection Limited (DCL) has provided ROMDAS equipment for firms in over 60 different countries spread across all parts of the world from Afghanistan to Zambia.

Mission Statement

"Providing engineers and researchers with innovative technology for measuring and managing roads, which is cost-effective, efficient, reliable, and well supported, while at all times being an ethical business"

The aim of our business is to provide road measurement equipment and software which is innovative, cost-effective, reliable, and better in terms of performance and/or price than any other available products. Our team focuses on understanding our customers' needs and providing recommendations that satisfy their specifications in the most cost effective manner possible.

DCL is a company that has always valued and maintained ethical principles and strived to establish ROMDAS as a brand with honest and reliable business practices. Overwhelmed with the wide range of road data collection equipment available, ROMDAS customers know that the people at DCL are capable of securing the equipment they require and their road management system is cost-effective and sustainable for the long term.

History

ROad Management Data Acquisition System (ROMDAS) was developed in 1989 by Dr. Christopher R. Bennett who led the technical development of the system until 2003 when he sold the company in order to take up a position with the World Bank. The company was purchased by two employees; Paul Hunter and Raj Mallela, who have taken over the management of ROMDAS while keeping to the philosophies with which the company was founded.

ROMDAS is the product of a great deal of teamwork. Gary Carr from the University of Auckland developed the first prototype in 1989 and the early programming of the MS-DOS ROMDAS system was done by Gavin Murray. Paul Hunter was responsible for programming from 1993 until 2002 when he became ROMDAS Technical Manager.

For several years now, DCL has expanded their product range with high end technology modules based on customer and industry feedback. The Laser Crack Measurement System (LCMS) is an example of such modules.

The ROMDAS Remote Support (RRS) is one of the many technical services offered to ROMDAS customers. The RRS allows ROMDAS technicians to log onto a survey computer in order to check settings and resolve issues. The utilization of internet-based services is an integral part of ROMDAS customer service.



Flagship Products :

The ROMDAS System: ROMDAS is a modular system which combines hardware sensors & integration software used to collect a variety of road data at high-speed. The modular design allows customers to add/remove specific modules to collect the specific data type and accuracy they require.

ROMDAS Modules: ROMDAS modules are the hardware components in the ROMDAS system that collects specific road data. These modules are selected according to the customer's specifications and manufactured/integrated into a complete ROMDAS system. Below are the ROMDAS modules available:

- ◆ **Bump Integrator:** The original ROMDAS module, the BI measures road roughness in very tough conditions. It has been routinely updated to utilize newer technologies to become increasing more practical and user friendly.
- ◆ **Laser Profilometers (Roughness & Macro-texture):** The ROMDAS Laser Profilometer is a Class I inertial profilometer. It uses a combination of a laser and accelerometer to measure a high precision longitudinal profile at highway speeds. Longitudinal profiles are then analysed using industry accepted ASTM standards to calculate Roughness (IRI) and Macrotexture (MPD)
- ◆ **Transverse Profile Logger (TPL):** The ROMDAS Transverse Profile Logger (TPL) is used to measure the transverse profile (across the lane) of a pavement surface and calculate rut depth data using a 2m theoretical straight-edge method. Equipped with 15-point full lasers, TPL's defining features are its robustness and price competitiveness.
- ◆ **Laser Crack Measurement System (LCMS):** Industry standard scanning lasers used for creating high-accuracy 3D profiles for the road surface. This multifunctional device outputs; Automated crack and defect detection, macro-texture (MPD), 4000+ point transverse profiles and wheel path rutting data, water pooling, concrete joint/faulting, lane tracking, geotagged pavement images, ravelling, sealed cracks.
- ◆ **Right-of-Way (ROW), Pavement View & 360 Video Logging Camera:** The ROMDAS Video System is used to take a video log of the road ROW, pavement surface or 360 degree images. Post processing software is also available to extract detailed asset and condition data from videos, including the ability to calculate measurements and GPS coordinates of events and add them directly to GIS map layers.
- ◆ **Geometry Unit:** The ROMDAS Geometry System is used to measure the road's Gradient, Radius of Curvature and Cross-slope.
- ◆ **GPS Receivers:** GPS is used to establish the location of the vehicle using GPS satellites. The data can be used to establish the road centreline or linked to other data like the position of roadside events.
- ◆ **Visual Inventory and Condition (Rating Keyboards):** A dedicated keyboard which is used for keyboard rating. With either 20 or 60 keys, they can be programmed by the user to define individual distresses (e.g. cracking, ravelling) or assets (e.g. signs, bridges) of different severities.
- ◆ **High Resolution Distance Measurement Instrument (HRDMI):** The high resolution distance measurement instrument (HRDMI) is used in situations where extremely accurate (< 0.1 m) distance measurements are required.

miniROMDAS: The miniROMDAS system has been designed as a streamlined version of the full ROMDAS system. miniROMDAS is used for roughness surveys with optional GPS. In contrast to the full ROMDAS system, miniROMDAS runs on a Windows Mobile device instead of a PC

Standalone Products: DCL also offers a variety of standalone products which do not require a central ROMDAS/miniROMDAS system. These include:

- ◆ **Z-250 Profilometer:** A class 1 profilometer designed for accurate measurement of longitudinal road profile. The Z-250 is used to measure the road profile for the purposes of either validating/calibrating a roughness meter to IRI or for obtaining a very accurate measure.
- ◆ **Traffic Counters:** Tube and Radar based traffic counters are available for automatic counting of traffic volume & type.
- ◆ **Falling Weight Deflectometers (FWD):** A device performing dynamic plate loading tests with a falling weight as force generator, in accordance with international standards such as ASTM D4694, IRC115 and IRC117 (India), and TRVMB 114 (Sweden).
- ◆ **Light Weight Deflectometers (LWD):** Accredited compaction tester in accordance with international specification ASTM 2835E-11, German standards TP BF StB, part B 8.3 and RIL 836.



Services :

Pavement maintenance budgets today are under intense pressure. Whether it's main arterials, back country access roads, runways or ports the goal is to do more with less; and this trend is likely to continue. Accurate data has become an essential tool to prioritize and manage maintenance activities on these networks.

Data Collection Ltd specialize in surveying roads, airports, ports, railways and providing data & information on the assets surface and sub-surface condition. We operate a fleet of survey vehicles dedicated to collecting accurate, reliable and relevant data used in making sound engineering judgments

Pavement condition data is critical in understanding how the pavement is performing. Traffic speed surveys provide a relatively quick tool to determine network performance, construction compliance as well as the location and condition of surface defects and assets.

Our current surveying fleet of vehicles range from our top of the range ROMDAS Elite to a cost-effective ROMDAS Roughness Profiler. Because our systems are modular we can configure a vehicle depending on the outputs you require. As all data collection has a cost, this helps keep survey pricing down

The survey vehicle will be selected based on your requirements; typical requirements asked for include

- ◆ Roughness Compliance Testing
- ◆ High Speed Data (HSD) Survey
 - ⇒ Roughness
 - ⇒ Rutting
 - ⇒ Texture
- ◆ Road Geometry
- ◆ GIS Information
- ◆ Video Logging
- ◆ RAMM Condition Rating (Surface Defects)
- ◆ Asset Inventory
- ◆ Structural Testing
 - ⇒ Falling or Heavy Weight Deflectometer (FWD/HWD) Testing
 - ⇒ Deflection and curvature results to target geotechnical testing
 - ⇒ Structural Number (SNP)
 - ⇒ Layer moduli results based on pavement layer information.
 - ⇒ Sub-grade CBR
 - ⇒ Remaining life and pavement designs based on traffic count data.



To see a full list of our current surveying fleet capabilities and outputs please [click here](#).

To find the best option that meets your needs, please [contact us](#).

"Working closely with the ROMDAS Manufacturing Division ensures the survey equipment meets client requirements and any problems are rectified in-house, quickly and with negligible impact on the project deadline."

- Diana Scruby, Survey Division Manager





Software :

DCL or its subsidiaries or associates have also developed several software products, including:

ROMDAS: ROMDAS Data Acquisition software is used with the ROMDAS system in the survey vehicle for data collection and in the office for processing data into Microsoft Access files.

DATAVIEW: DataView is an advanced data integration and processing program - specifically for engineers or survey managers responsible for handling and processing road data into visual reports for clients or decision makers.

PROMAN: The Project Management System (PROMAN) is an off the shelf web based, integrated Project/Contract Management, Monitoring and Evaluation system. It is designed and developed on the concept of multi-tier distributed and enables the authorities to manage the contracts for Civil Works, Goods and Consultancy Services.

HIMS Asset Management: HIMS is a powerful asset management and analytical system software with in-built GIS and Reporting platforms. HIMS is designed to meet the needs of consultants and road agencies and is capable of storing data on any type of asset-from pavements through bridges to traffic and managing the data to prepare files for analysis.

Association With SATRA I-MAN Pvt. Ltd (India)

SATRA I-MAN Pvt. Ltd are software creators and providers of PROMAN. PROMAN provides tools for integration of various phases of contracts such as Civil Works, Goods and Services through different software modules. The Company Director and major shareholder of SATRA I-MAN Pvt. Ltd, Raj Mallela, is also a co-owner of Data Collection Limited and the brand ROMDAS. DCL is a shareholder of SATRA I-MAN Pvt Ltd. This close relationship with SATRA I MAN Pvt.Ltd is a valuable asset to Data Collection.Ltd and provides road management software and services for ROMDAS customers.

Association with HIMS Ltd (New Zealand)

HIMS Ltd are software creators and providers of HIMS Asset Management System and NODEM on which the DATAVIEW system was built upon. The Company Director and major shareholder of HIMS Ltd is also co-owner of Data Collection Limited and the brand ROMDAS. This close relationship with HIMS Ltd enables Data Collection Ltd to expand its services in the area of asset management for its customer

Contact us :

Data Collection Limited, manufacturers of ROMDAS will work to develop and deliver road data collection equipment customized to your specific requirements. For further inquiries and to arrange a competitive quotation, please contact us at info@romdas.com. You can find more information on us and our products from our website www.romdas.com.

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