



# ROMDAS

## Global Navigation Satellite System (GNSS)



romdas

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# ROMDAS System Overview

ROMDAS® (ROad Measurement Data Acquisition System) has been developed by Data Collection Ltd. (DCL) as a comprehensive, cost effective and modular system for collecting asset and pavement information. Implemented in over 60 countries, it's flexible design allows for installation on locally sourced vehicles and meets widely accepted international standards.

Depending on your needs, a ROMDAS system can be easily customized with a variety of add-on modules to suit the specifications and budget of any project.

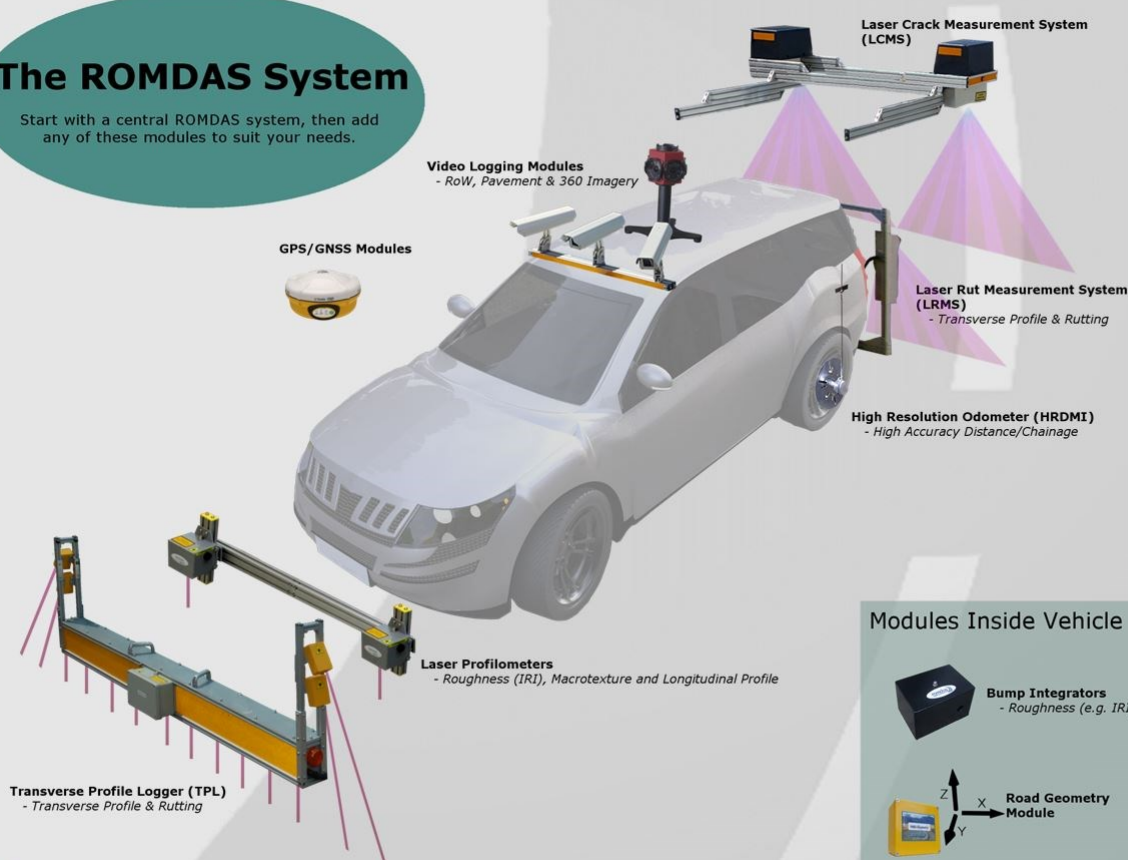
Whether a private consultant, government department or research institution, ROMDAS offers great reliability, flexibility and ease of use for anyone who needs to quickly and accurately collect asset data.

## ROMDAS CAN BE USED FOR...

- ✓ High-speed network level or project specific road surveying
- ✓ Road roughness surveys
- ✓ Transverse profile/rutting surveys
- ✓ Macro-texture (MPD)
- ✓ Visual condition, environment or event rating
- ✓ Automatic crack and surface defect inspections
- ✓ Location referencing (spatial GPS/GNSS data or linear LRP data)
- ✓ GIS mapping of condition data and road alignment
- ✓ Video logging surveys (right of way, 360 and pavement view)
- ✓ Mobile mapping of roadside assets & inventory
- ✓ Road geometry surveying
- ✓ Travel time and congestion surveys
- ✓ iRAP road safety surveys

## The ROMDAS System

Start with a central ROMDAS system, then add any of these modules to suit your needs.



## Software Solutions



## Modules Inside Vehicle





## ROMDAS Module:

# Global Navigation Satellite System (GNSS)

## SPECIAL POINTS OF INTEREST:

- Reference all ROMDAS data with GPS coordinates,
- Options down to 5cm accuracy,
- Integrated INS for GPS fill-in,
- Reference event, condition and asset rating data
- Shows real time coordinates, PDOP value, summary of available satellites, DGPS status and estimates accuracy during survey,
- Convert GPS data in over 650 pre-defined local datums,
- Browser interface for additional status and planning information,
- Secondary output for real-time position in Google Earth while surveying.

Spatial, or GNSS, location referencing is now a standard deliverable for road survey projects. Data that has been referenced with GNSS co-ordinates can be easily imported into GIS mapping platforms like ArcGIS, Map Info, Google Earth and in most Pavement Management Systems (PMS). Displaying survey data in GIS platforms makes data visualisation, quality control and project planning much more intuitive.

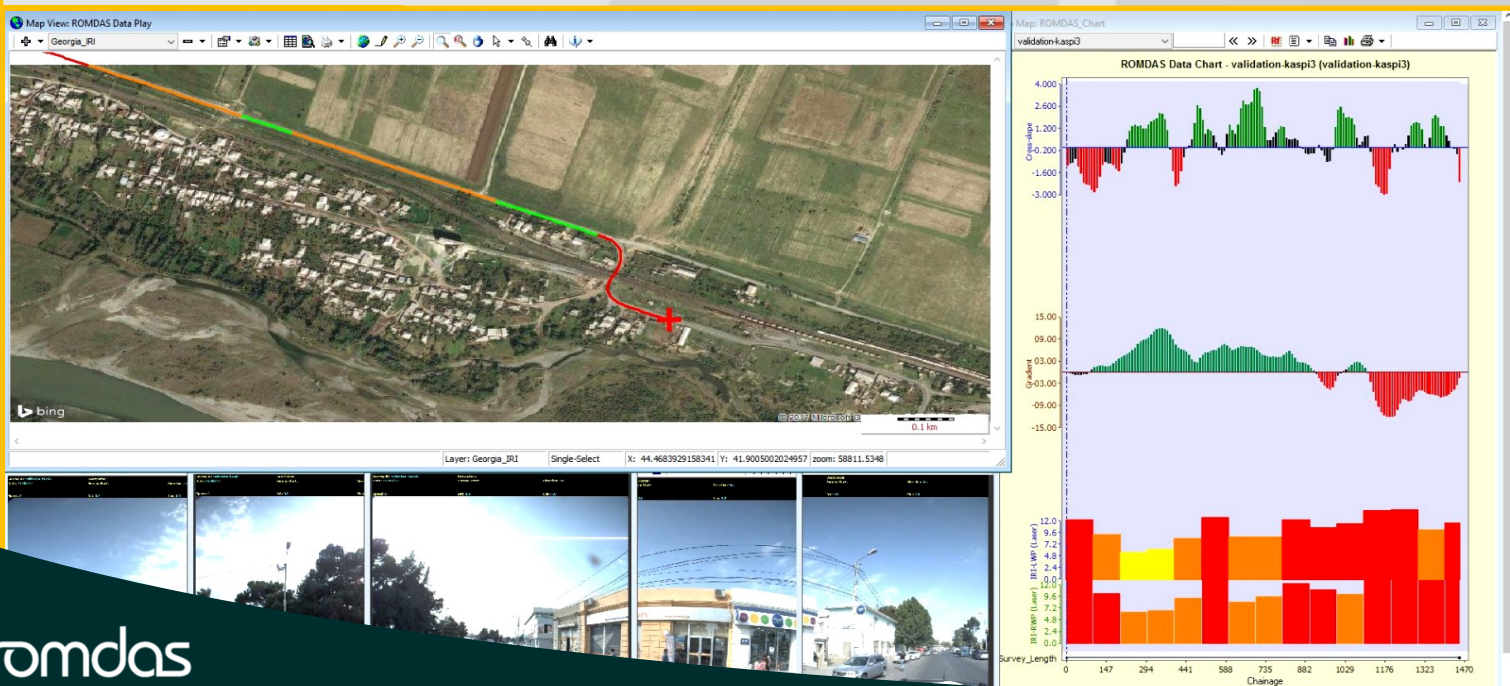
ROMDAS systems can connect to a variety of GNSS/GPS receivers for location referencing survey data. Depending on the needs of the customer, there are options to satisfy different accuracies, price points and performance. Including full Inertial Navigation Systems (INS) for extreme real-time accuracy and dead-reckoning, the latter being critical for reliable operation in urban areas.

## TYPICAL ACCURACY OPTIONS:

With GPS receivers there is a natural balance between price and performance.

- **Integrated Inertial Navigation System (INS)**  
High accuracy receivers with integrated inertial navigation sensors for accurate GNSS fill-in during outages. These are recommended base models for all ROMDAS systems.
- **Real-Time Kinetic (RTK) Base Station**  
Real-time high accuracy centimetre (cm) GPS coordinates.
- **Sub-meter DGPS Receivers**  
Base range receivers compatible with DGPS signals such as SBAS, Omnistar, integrated base stations.

Compatible low cost (though less accurate) GPS receiver units can still be provided, if required.



ROMDAS Module:

# Global Navigation Satellite System (GNSS)

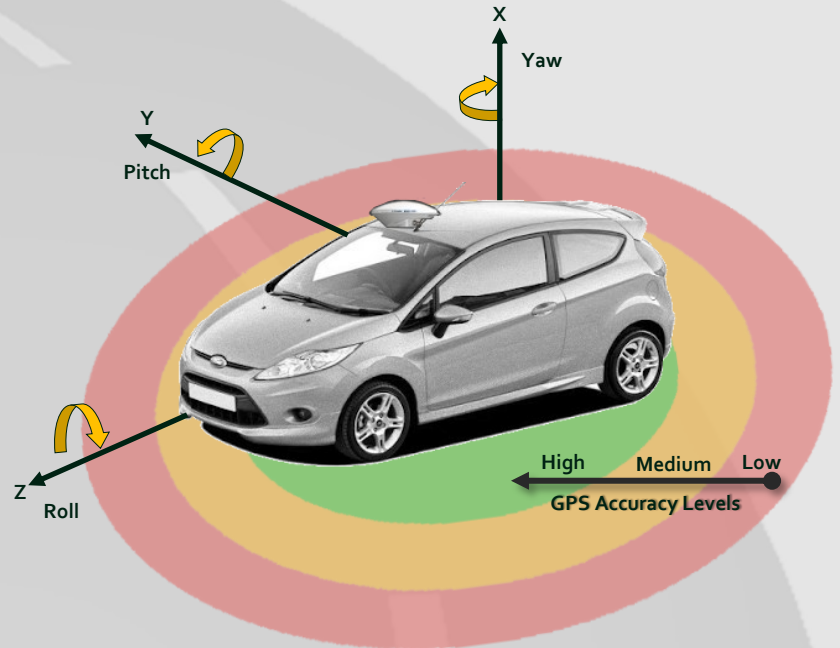
## INERTIAL NAVIGATION SYSTEM:

ROMDAS offers advanced Inertial Navigation System (INS) aimed to improve the accuracy and reliability of your GPS unit.

Designed for small modular systems, this GNSS device utilizes integrated inertial sensors and supports dual antennas for increased heading accuracy. This combination provides highly accurate and continuous position and orientation for all types of road survey.

The INS offered is cost-effective, stable, reliable and repeatable positioning solution in all dynamic conditions. The INS is a great addition to your ROMDAS system giving you —

- *Extremely high accuracy roll, pitch and heading positions.*
- *Fill-in GNSS/GPS coordinates during GNS/GPS drop-outs, aka Dead Reckoning,*
- *Strongly recommended for Mobile Mapping applications*



## Specifications

Available accuracy levels	GNSS: 5cm (RTK) to <1m, receiver depended GPS : 3-10m (low cost, uncorrected)
Update rate	1Hz (low cost) up to 100Hz, receiver depended
Dead Reckoning / GPS fill-in	Inertial Navigations System (INS) only
GIS Layer Output ( <i>Requires ROMDAS DataView Software</i> )	.SHP, .KML, MAPINFO

