ENCARDIO RITE

ONE STOP MONITORING SOLUTIONS | HYDROLOGY | GEOTECHNICAL | STRUCTURAL | GEODETIC
Over 50 years of Excellence through ingenuity

— DATASHEET —

DRISHTI

DATA MANAGEMENT SYSTEM

MEANINGFUL INFORMATION 24 x 7 AT FINGERTIPS
MULTIPLE CHARTS ON SAME PAGE FOR EASY DECISION MAKING
SINGLE PLATFORM FOR COMPREHENSIVE DATA | EARLY WARNING

INTRODUCTION

The heart of any online monitoring instrumentation system is effective and powerful data management. Encardio-rite offers Drishti, a web based real time automated monitoring system that collects data from multiple sensors used in geotechnical, geophysical, environmental, hydroelectric, structural, mining and landslide applications. It is an advanced data management system that can store data from different sources and process large amount of data to provide meaningful data for risk management at your fingertips, 24 x 7, with automated alarms.

FEATURES

- Save time and money by automatic processing of data
- Single data portal for project data
- Supports data from various dataloggers and sensors
- Data presentation in graphical as well as tabular form.
- Offers web service/cloud hosting that enables user to monitor project instrumentation data remotely from an internet connected computer
- Real time display. Users can view the data and alarm status in real time

- Data access to multiple authorized users at different locations simultaneously
- Can run on customer's server, giving full control of the system
- Automatically checks for alarms. Two alarm limits can be set by the site administrators
- Can be programmed to send SMS and email alert messages to selected users
- Intuitive and user friendly. Can be customized.

OVERVIEW

Advanced data-management system

Drishti data-management system can be installed on a customer's server or a secure cloud based server. It has powerful tools for retrieving data from automatic data loggers, archiving data in a SQL database, performing required calculations on data and presenting the processed data in tabular and most suitable graphical forms for easy interpretation and generating alarm messages.

The host computer, on which Drishti is installed, periodically collects data from remote dataloggers, which can be geographically spread over a large area. Drishti then makes this data available over the internet so that user can view the logged data or report using any convenient web browser.

Encardio-rite also offers web based data management as a service through Drishti hosted on a reliable cloud server. Data is made available to multi users 24x7 with very low downtime in customer soecific graphical and tabular form. .

Meaningful project information 24 x 7:

With Drishti, meaningful instrumentation data is available at a mouse click to monitor performance of any civil engineering project, asset, infrastructure, mine, high rise building, landslide area etc., in real time, with instant warnings.

The early warnings help in taking timely corrective actions to prevent damages/delays and in reducing operational costs.

Drishti offers Google Map navigation, graphical navigation, expandable graphs and a quick view of data sitting at the laptop..

Single platform for comprehensive data

Drishti can accept input from a wide variety of dataloggers such that the user has an easy access to all the information on a single platform for risk management, evaluation, interpretation and decision-making. Drishti also accepts manual monitored data, images, diagrams, drwings, etc.,
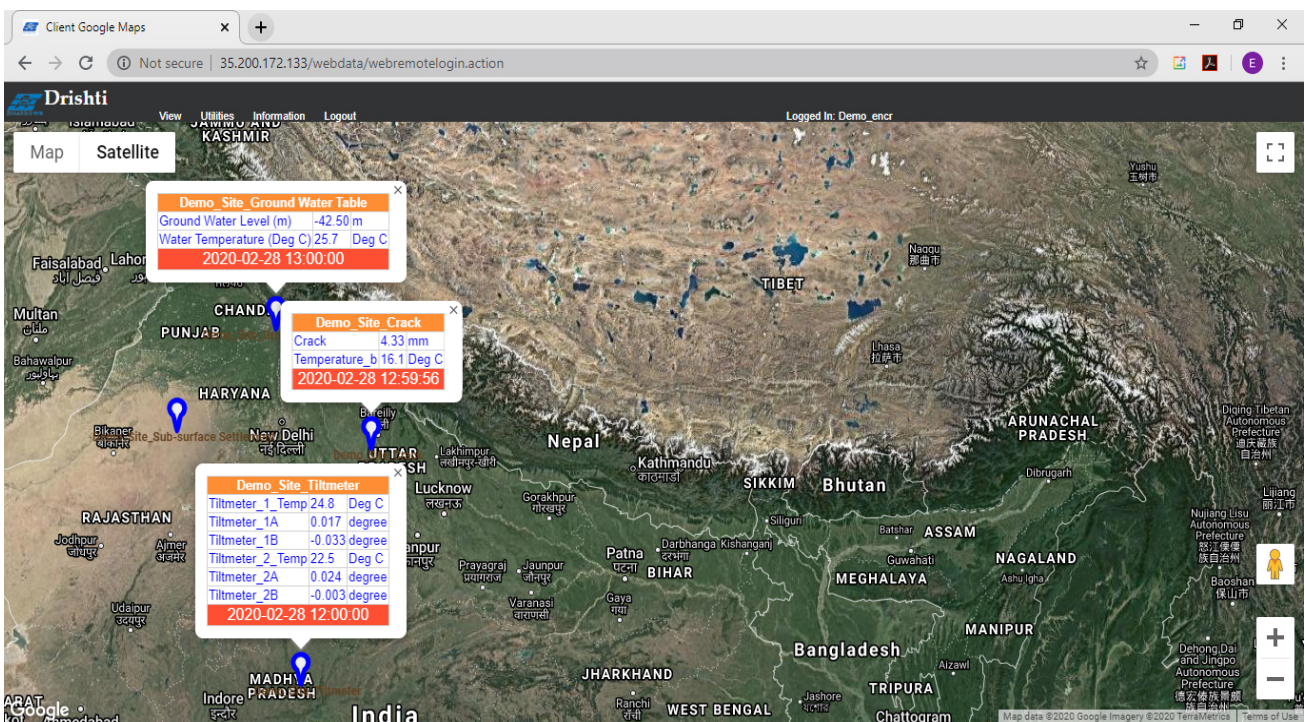

Geotechnical and Geodetic data from a deep excavation, existing bridge and high rise building

Geotechnical and Geodetic data from tunnel monitoring

Geodetic data from existing bridge monitoring near deep excavation

Scalable & intuitive

The database management system is scalable to meet any project size, small or large and suitable for long term measurement. Drishti can support multiple dataloggers per project site and the individual dataloggers can be spread out over a wide geographical area.

Using an intuitive interface, Drishti only takes a few mouse clicks to configure data storage, data visualization and alarm settings as per user's requirement.

Access controls

Any number of user profiles may be created with any combination of access rights - full access to stake holders, with limited access to other users.

Supported inputs

- Geotechnical sensors data
- Environmental sensors data
- Optical survey data
- Automatic as well as manual data
- Images, diagrams, layout drawings, manuals, calibration sheets in PDF, Word, Excel or jpeg/png formats.

Google navigation

Drishti gives users many options to organize and present their data. Over Google Map, user can have a quick access to numerical values for the graph being viewed at any time. Users can also directly go to image navigation from Google Map.
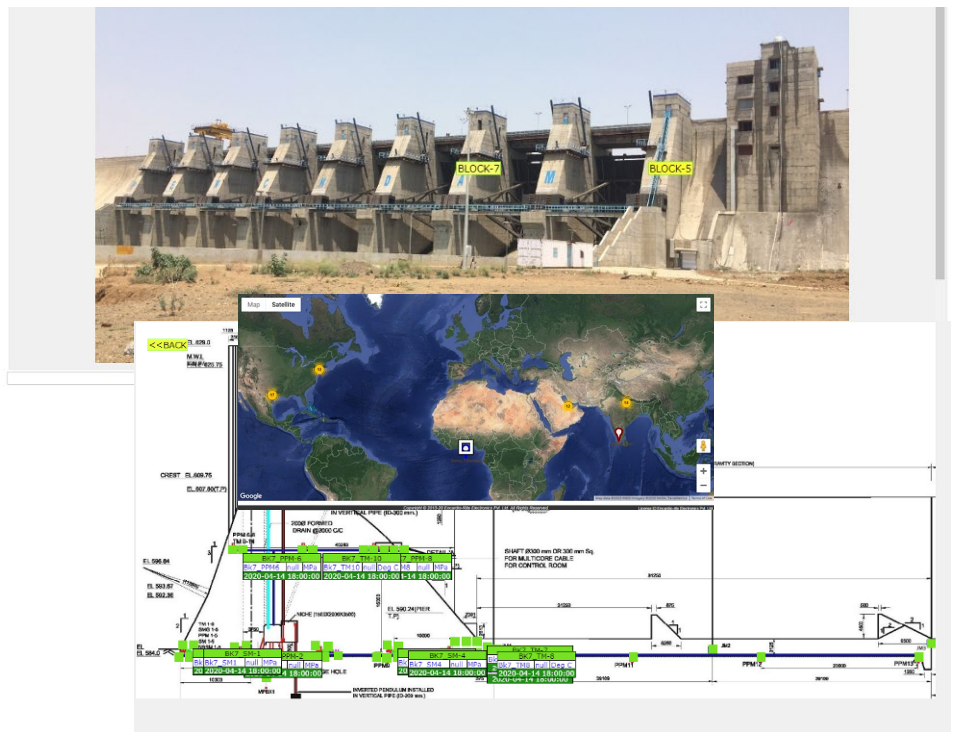
Graphical navigation

Drishti has facility of graphical navigation to give users a clear overview of all data on a single page or on multilevel pages. Latest data can be viewed as numerical indicators.
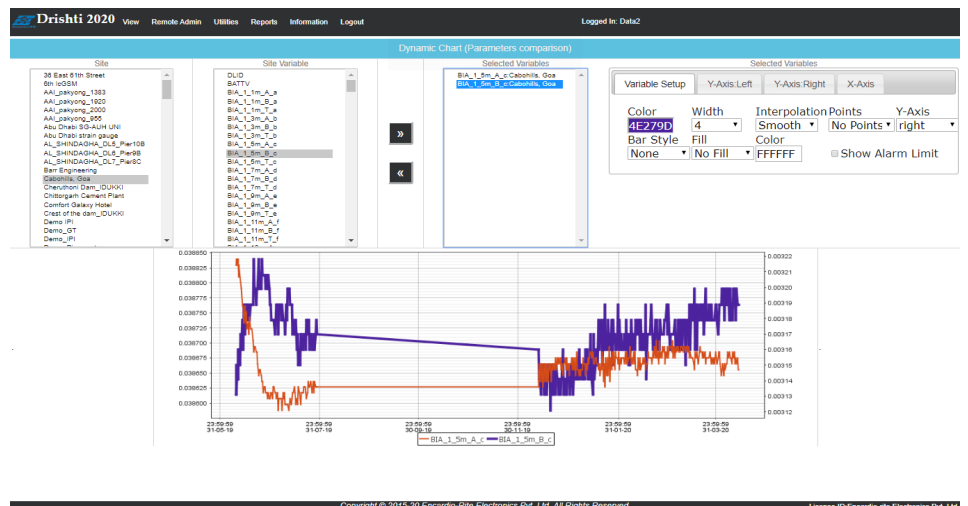
Dynamic Chart

This unique feature of Drishti is very useful to analyze and correlate readings from two or more sensors, in case any variation is found. User can select different parameters, even from different sites, and plot them on a single graph at run time for comparative study.

Site locations in different geographical region can be viewed via Google Map

Graphical navigation

Dynamic chart selection

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Graph zooming

The user can select a portion of the graph, using a selection window, for zooming in on x-axis to magnify and study the data within that area.

History logged data

In geotechnical safety monitoring, history of data holds a significant importance. Drishti provides overview screens with summarized information in concise form on data updates, alarms and site status.
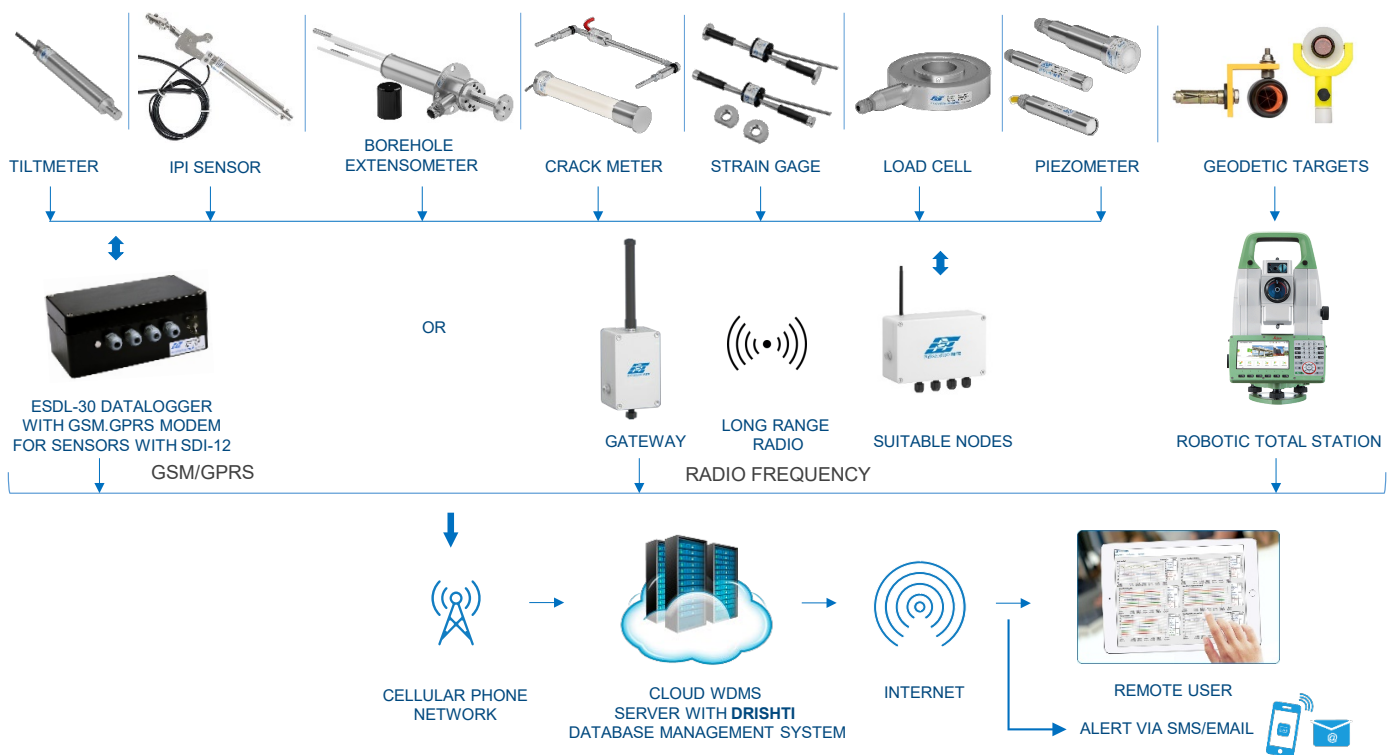
Reports

Drishti provides Reports with summaries on sites, data and parameters. Site and parameters can be selected by user. Also, user can include the summary actions to be performed (average, max., min.), summaries update and alarm status. Reports can be exported as a delimited text file or in Microsoft excel format.

User selection zoom-in for closer inspection
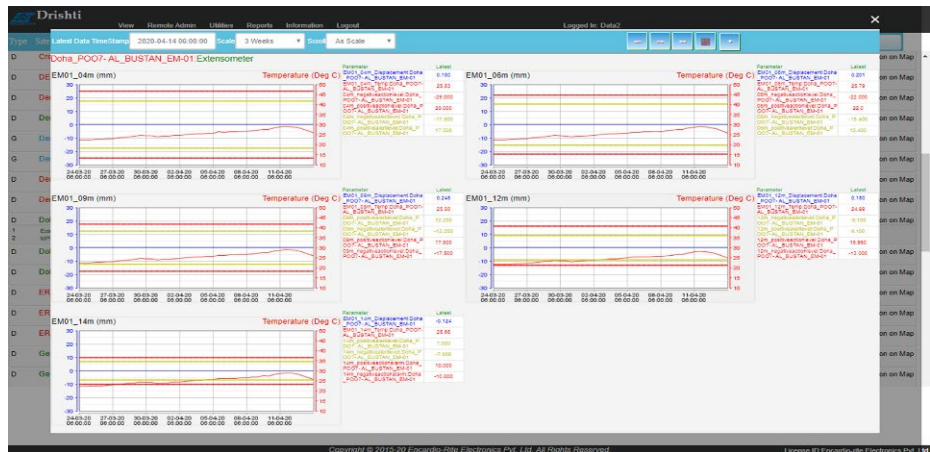
Summarised information on one screen

GEOTECHNICAL, STRUCTURAL, ENVIRONMENTAL SENSORS   OPTICAL SURVEY

| TILTMETER | IPI SENSOR | BOREHOLE EXTENSOMETER | CRACK METER | STRAIN GAGE | LOAD CELL | PIEZOMETER | GEODETIC TARGETS |

OR

ESDL-30 DATALOGGER WITH GSM.GPRS MODEM FOR SENSORS WITH SDI-12

GSM/GPRS

GATEWAY

LONG RANGE RADIO

SUITABLE NODES

RADIO FREQUENCY

ROBOTIC TOTAL STATION

CELLULAR PHONE NETWORK

CLOUD WDMS SERVER WITH **DRISHTI** DATABASE MANAGEMENT SYSTEM

INTERNET

REMOTE USER

ALERT VIA SMS/EMAIL

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BENEFITS

Advantages of the Drishti data management software can be summarized as follows:

- Data from multiple sensor types is converted into meaningful information in graphical as well as numerical format
- Layout plan can be incorporated with locations of each monitoring sensor.
- Access to all sensors in one platform
- Instant automatic alerts via SMS or email to authorized personnel
- Generate combined charts of related parameters
- Create graphs from any combination of parameters and time period
- Variety of visualization and analysis tools to identify potential failure scenarios
- No special software required for accessing the user sites as information can be viewed using most standard and popular web browsers
- Can be accessed using tablets and smartphone
- Drishti offers an interactive user interface with no coding needed. Drishti takes care of all database interactions automatically.
- Cloud or installation on local server - both possible.
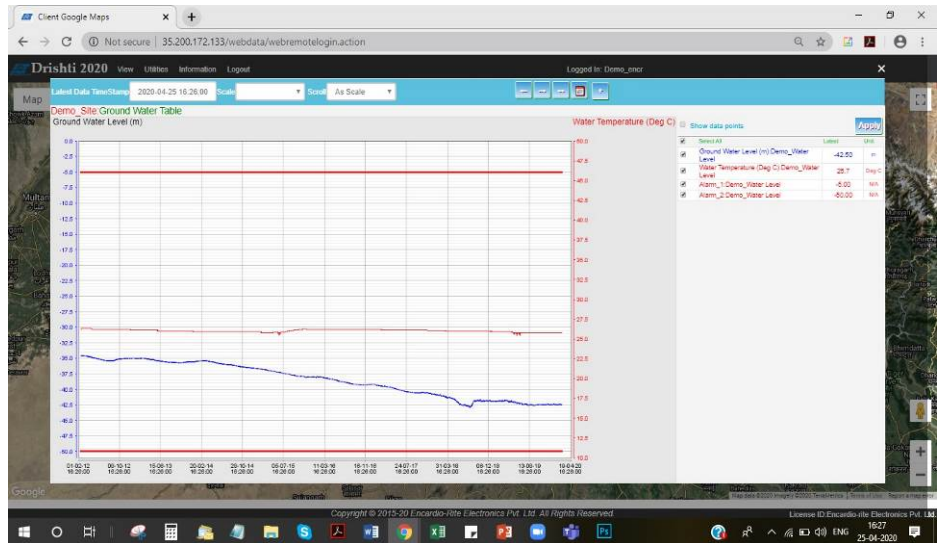
Over eight years' data of groundwater level & temperature with alarm settings

Google image with sensor locations of a project in UAE

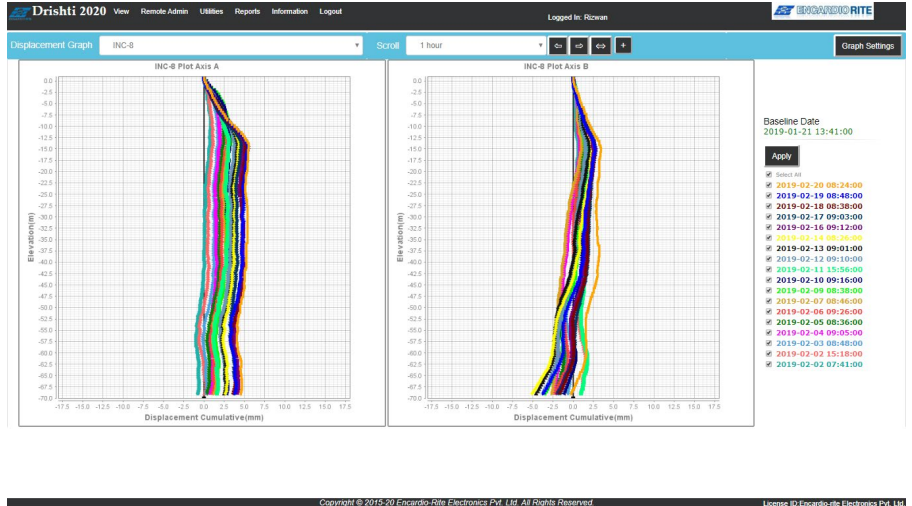Real time geodetic monitoring from an underground station of metro

Real time geotechnical monitoring from a historical monument on a hill.

APPLICATIONS

- Critical applications where real time monitoring and early warning is required in order to protect life & valuable assets; minimize costs and delays

- Large civil engineering projects like a dam, barrage, tunnel – metro/rail/road/sewer, mine, structure, high rise building, landslide area, slope, bridge, nuclear power plant monitoring etc.

- Existing infrastructures, assets, monuments

- Deformation monitoring of embankment, retaining wall, etc.

- Groundwater level monitoring

DRISHTI AS PART OF PUBLIC CLOUD BASED WDMS

As Drishti is a server based software and has built in web service, it includes everything needed to publish monitored data in real time on internet. Users can interact with Drishti using their web-browser, when connected to the internet, from any location in the world.

It also allows multiple authorized users at different locations to view any data or report from the same project site simultaneously. The real time display, graphs & reports can be viewed using popular web browsers like Microsoft Internet Explorer or Mozilla Fire Fox amongst others.

Data from Encardio-rite cloud based web monitoring service can be accessed from any type of device, like a desktop or laptop, tablet, smart phone, etc., that supports a standard web browser.

Drishti can also be programmed to send SMS and email alert messages to selected users as soon as any sensor data crosses its predefined alarm level. It can also be programmed to send the health status of the system.

Data from an in-place inclinometer installed in a historical building
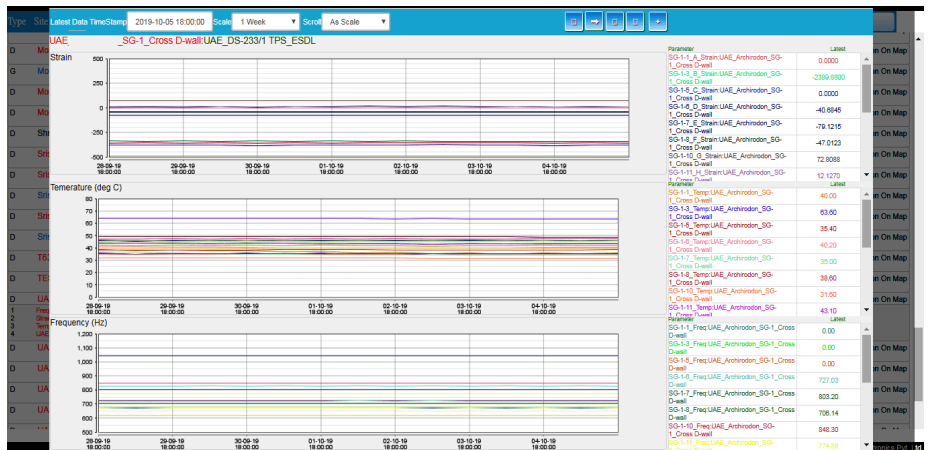
Different parameters of real time data from strain gages installed in a foundation project in UAE
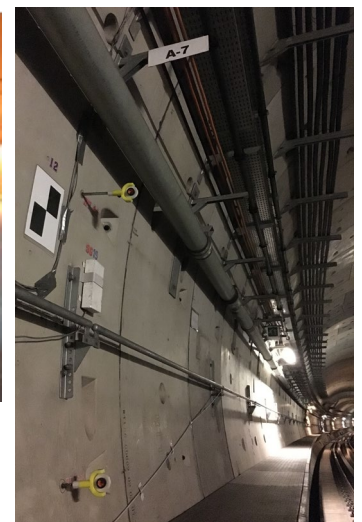
Geotechnical and geodetic data from a road tunnel and rail tunnel in UAE

All specifications are subject to change without prior notice

DATASHEET | 1505-20 R02

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