



Data Analysis & Tunnel Management
DATuM



DATuM

European tunnelling specialists Dr. Sauer & Partners have joined forces with ViewPro to create a new, custom built software to gather, record and track progress on complex construction projects: DATuM.

DATuM is used to capture, store and manage tunnel construction data. It uses a state-of-the-art Android app combined with a web based interface to capture construction activities, photos and documents in real-time. The Android app even lets you work offline so site teams can accurately record progress 24/7 in all locations, even underground.

DATuM is a bespoke system feeding a central cloud-based database, hence freeing projects and users from storing data in multiple Excel Spreadsheets.

It was created to:

- Simplify the collection of construction data
- Automate the creation of project specific daily shift reports
- Be one point of capture, eliminating double entry of data
- Reduce the workload of site engineers
- Increase quality of site data captured
- Share and manage access to multiple stakeholders
- Promote close team collaboration by utilising a shared database



Value to Project

Making a Difference

To ensure smooth data capturing, DATuM software was carefully designed & developed around users with all ranges of computer literacy. By creating an intuitive, friendly, non-complex user interface, it ensures high quality data capturing on top of an enjoyable user experience.

DATuM's focus is on capturing the right data in the right format so that the system could automate as much as possible and deliver its users with detailed, uniform reports and production analysis.

Adding Value

A detailed and complete record of construction activities enables the owner to:

- Document changes and variation
- Demonstrate construction compliance
- Provide a detailed timeline for auditing purposes

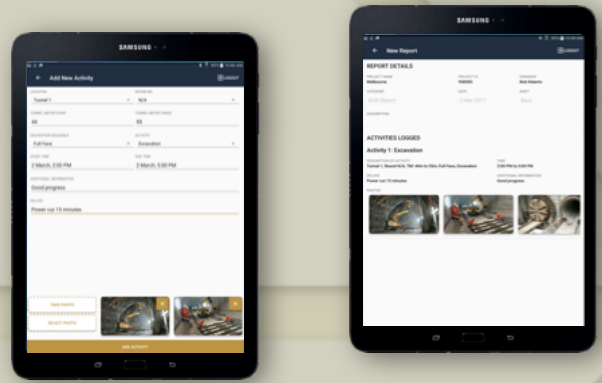


Generating Reports

Step 1: Offline Android App

Application works with or without an internet connection, so user can capture all site data without an active internet connection.

This means site teams can record live data 100% of the time, adding images and observations directly to reports in real time.



Step 2: Syncing data to the cloud

When Engineers have completed their offline observations, they can simply click a “Ready to Sync” button and all data will automatically sync to the cloud as soon their device connects to the internet.



Step 3: Editing & Adding New Activities

Users can then log into the main Web Application via their internet browser and all data will be available for them to complete the report.

Users can edit as well as add new activities with information, images and comments.

All activities are built up from predefined criteria providing uniform reports and allowing for detailed analysis & filtering later in the project.

ADD NEW ACTIVITY

DESCRIPTION OF ADVANCES

Location

Excavation Seq

Round No

Activity

Equipment

Tunnel Meter - from

Tunnel Meter - end

Time Start

Time End

ADDITIONAL INFORMATION

Additional Information

ADD PHOTOS

Drop files here to upload

Photo 1

Photo 2

CANCEL

UPDATE ACTIVITY

MELBOURNE

Edit Report - H004-E-D-20180212

REPORT DETAILS

Project ID

Project Name

Engineer

Date

Select Shift

ACTIVITIES LOGGED

Activities Logged

Activity 1

Tunnel 2, bottom, 1, F&S

Tunnel meters: 4.00 to 5.00

09:15 to 14:45

4 Photos

Activity 2

Tunnel 1, middle, 1, Dig

Tunnel meters: 5.00 to 6.00

09:30 to 14:00

4 Photos

Activity 3

Tunnel 1, bottom, NA, EXPP RT, Concrete

Tunnel meters: 5.00 to 6.00

20:15 to 21:00

2 Photos

ADD NEW ACTIVITY

GENERAL COMMENTS

SIGN OFF

PREPARED BY

NAME

REVIEWED BY

NAME

SAVE REPORT

DRAFT REPORT

REJECT REPORT

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Step 4: Submitting Report for Approval

When the Engineer has completed their report they then submit it as a draft to their manager for approval.

MELBOURNE - HHH-E-D-20180226

REPORT DETAILS

Project ID: HHH
Project Name: Melbourne
Engineer: Bob Roberts
Date: 26/02/2018
Shift: Day

ACTIVITIES LOGGED

ACTIVITY 1 : CLEANING
Description of activities: Tunnel 1, Section 2, EMP 87, Cleaning.
Tunnel meters: 44.00 to 55.00
Time: 09:00 to 11:30
Additional Information:

PHOTOS

ACTIVITY 2 : CONCRETE
Description of activities: Tunnel 1, middle, NA, EMP 87, Concrete.
Tunnel meters: 54.00 to 70.00
Time: 09:40 to 13:15
Additional Information:

PHOTOS

ACTIVITY 3 : DIG
Description of activities: Tunnel 1, bottom, NA, Excavator 001, Dig.
Tunnel meters: 33.00 to 45.00
Time: 11:30 to 16:00
Additional Information:

PHOTOS

ACTIVITY 4 : SHOTCRETE
Description of activities: Tunnel 4, middle, NA, EMP 87, Shotcrete.
Tunnel meters: 45.00 to 49.00
Time: 16:00 to 18:45
Additional Information:

PHOTOS

SUMMARY

GENERAL COMMENTS

TIMELINE: 2018-02-26, DAY SHIFT

SIGN OFF

PREPARED BY
Name: Bob Roberts

REVIEWED BY
Name: Frank Grant

GENERATE PDF

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Step 5: Manager Approves Final Report

Managers can then easily edit / add new activities or extra information using the same techniques as the Engineers.

The manager can either accept and finalise the report or reject it, sending it back to the engineer for further work.

This two step process ensures that all reports have been checked by a senior level team member prior to them being finalised in the system.

HHH - MELBOURNE
Reports

MY SAVED REPORTS **ADD A NEW REPORT**

Locations: Tunnel 4
Excavation Day:
Activities: Concrete, Shotcrete
Tunnel Meter: Start: Finish:
Show reports from: 2018-02-26 00 00:00

UNAPPROVED REPORTS (2)

Shift	Name	Report ID	Status
Night	Bob Roberts	HHH-E-D-20180226	Unapproved
Night	Bob Roberts	HHH-E-D-20180226	Unapproved

APPROVED REPORTS (6)

Shift	Name	Report ID	Status
Day	Bob Roberts	HHH-E-D-20180226	Approved
Day	Bob Roberts	HHH-E-D-20180226	Approved
Day	Bob Roberts	HHH-E-D-20180226	Approved
Day	Bob Roberts	HHH-E-D-20180227	Approved
Day	Bob Roberts	HHH-E-D-20180228	Approved
Day	Bob Roberts	HHH-E-D-20180216	Approved

Powered by **ViewPro**

Step 6: Reports Lobby & Searching

The Reports Lobby is where all historical reports can be accessed and viewed.

Reports submitted for approval but not yet finalised by the manager will be displayed in the Unapproved Reports section for other users to view at the completion of the shift. All approved reports are displayed below this in chronological order.

Filters can be applied above the reports to search for specific criteria. When a search is applied only reports with matching criteria (location or activities) will be displayed. This is a very powerful tool for locating and compiling specific data.

Note: The Image Gallery has the same search functionality.

Shift Reports

For each shift, users create reports that contain detailed activities built up from predefined criteria.

Each activity is assigned a Start and Finish time which enables DATuM to automatically populate a Gantt Chart at the completion of each shift.

Images can be attached to each activity and tagged with additional information for future analysis.

All reports are displayed in a reports index for a full transparent record of the project's history.

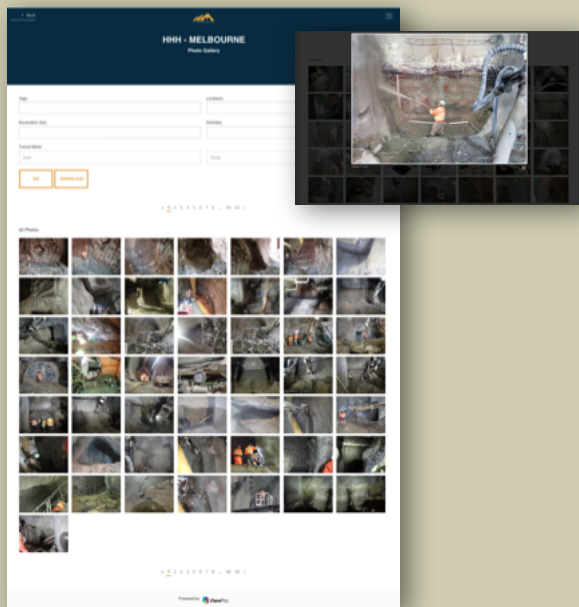
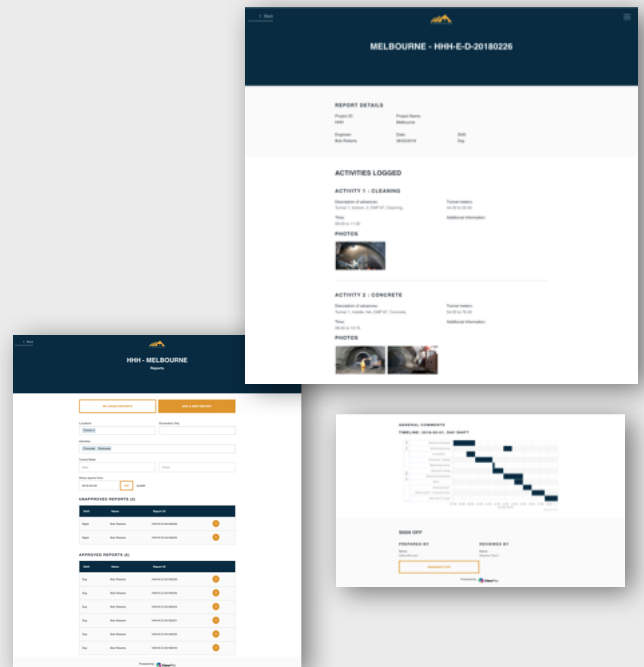


Image Gallery

All images uploaded via the reports section can be viewed in DATuM via the built-in Image Gallery.

Filters can be applied to drill down into the project and search for specific topics. Images can also be download directly to your device with the click of a button.

The Image Gallery is a very powerful Quality Assurance and Referencing tool allowing users to easily investigate potential issues.

Images can be searched by the following criteria: Location, Activity, Date, Tunnel Meter, Image Tags etc. This makes it simple for users to isolate specific data sets.

Charting Analysis

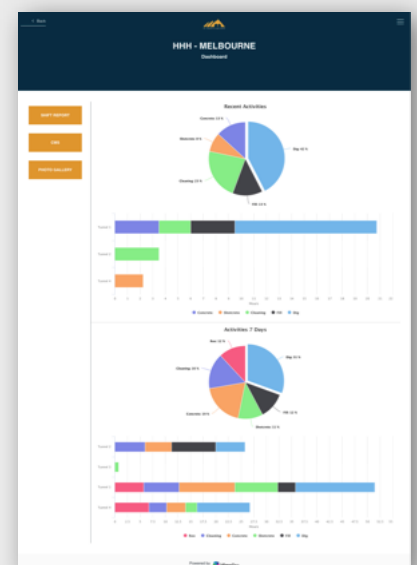
DATuM automatically produces dashboard charting from shift reports to show what the main activities have been and in what locations the works have been undertaken.

Time Periods:

Recent Activities - Last 2 days

Activities 7 Days - Last 7 days

Charting is a very powerful feature that allows users to easily visualise what is happening on the project at a glance.





ViewPro

Projects

**Bank Station Capacity Upgrade
London Underground**

**Client:
Dragados**

**Location:
London, United Kingdom**

**Eglinton Crossrail LRT
City of Toronto**

**Client:
Crosslinx Transit Solutions Group**

**Location:
Toronto, Canada**

Headquarters

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