

BetterDataSystems

OASIS

Overarching Scientific Information System

Cost effective

***Project Information and Data Management Systems for
Scientific Experiments***

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Overurchung Scientific Information System

PROJECT INFORMATION AND DATA MANAGEMENT

Centralizes all of a projects information and data in one location

POWER BY A HIGH-SPEED CLINET-SERVER DATABASE

- Runs on a secure Internet server
- Fast with large data sets (billions of measurements)
- Open source, No licenses required

DATA-PIPELINE

- Automatically collects sensor data from multiple contractors, 24x7
- Verifies, evaluates, applies metadata and overviews monitoring

INTERNET BROWER APPLICATION

- Easy and fast with the feel of a desktop program
- Works on any PC, Mac or tablet's running a modem Web browser

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Overarching Scientific Information System

PROJECT INFORMATION AND DATA MANAGEMENT

Designed for projects with multiple data sources or numerous data

DATA MANAGEMENT

- Automatically collects data from multiple contractors with multiple file formats, multiple recording rates
- Wide range of sensor types, fiber optic DTS, TDR, chemical analyses
- Verifies, evaluates and assigns metadata; Measurements are NOT deleted
- Daily email status reports and SMS alarms

DOCUMENT CONTENT MANAGEMENT

- All project documentation in one location: MS Word, PowerPoint, PDF, Spreadsheets, Photos, Videos, more
- Complex and complete (Google like) searches

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PROJECT INFORMATION AND DATA MANAGEMENT

Keeps an eye on your project

PROJECT SUPERVISION

- ▷ Overview monitoring data acquisition
 - ▷ Text message (SMS) and email alerts when data are missing
- ▷ Measurement alarms
 - ▷ Low, high and delta (change) warning and critical limits
 - ▷ Custom alarms for critical systems
 - ▷ Text message (SMS) and email and alerts with charts and tables
- ▷ Sensor health overview
 - ▷ Number of sensors missing data, out-of-range, exceeding alarms, etc.
- ▷ Daily project status summary email with charts and tables

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PROJECT INFORMATION AND DATA MANAGEMENT

System administration, security and maintenance

SYSTEM SUPERVISION

- ▷ Password controlled access
 - ▷ User password and access level (rights) set by administrator
 - ▷ User activity logged
- ▷ Access to menu items and data can be restricted by access level
- ▷ System available over the Internet or only from your network
- ▷ Automatic system backups, field data archives
- ▷ System requires very low maintenance
- ▷ Database server can be managed/hosted remotely or locally on site

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PROJECT INFORMATION AND DATA MANAGEMENT

Dynamic and responsive charts and tables

WORK EFFICIENTLY

Easy, fast and efficient review, evaluation and reporting with the feel of a desktop program

- ▶ Charts (2D and 3D) are interactive and provide a fast fluid user experience
 - ▶ Plot all or only valid data; multiple axes with automatic or manual scaling;
 - ▶ Zoom and scroll; show measurement values; customize plot traces, etc.
 - ▶ Edit chart text (titles, axis labels, legends) directly on the chart
 - ▶ Download charts to your computer
- ▶ Data tables are quickly
 - ▶ Tables can be searched; columns sorted, rearranged or hidden
 - ▶ Tables can be downloaded to your computer for documentation
- ▶ Fast data exports to your computer
 - ▶ Data can be downloaded as a CSV file and used in other programs

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PROJECT INFORMATION AND DATA MANAGEMENT

Optimized design makes the system powerful and fast

SYSTEM DESIGN

- ▶ System design extends GIS by modeling the experiment in 3D space
 - ▶ Custom geometric objects and operators use linear algebra making spatial calculations fast.
 - ▶ Images are drawn by the system using the project data. Images automatically update when the data changes.
- ▶ Spatial design allows discovery of relationships and connections easily overlooked with only a 2D perspective
- ▶ R statistical package provides a wide range of statistical routines
 - ▶ Statistics are quickly calculated within the database itself
- ▶ Manual measurements are uploaded or easily entered directly into the system
- ▶ System can be highly customized to meet your project's needs

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PROJECT INFORMATION AND DATA MANAGEMENT

Overview, Workflows, Virtual sensors: Use data effectively

OVERVIEW

- ▶ Diagrams drawn by the system provide a quick up-to-the-minute overview
 - ▶ Diagrams update with the newest data when view is refreshed
 - ▶ Mouse over sensor icons to see current values. Click icons for charts and tables

WORKFLOW

- ▶ Workflows visually show the data flow for your report making the selection of sensors and data simple (no SQL is needed)
 - ▶ Select measurements over a time range and by sensor, measurement parameter, contractor and spatially (proximity to boundaries, boreholes, etc)

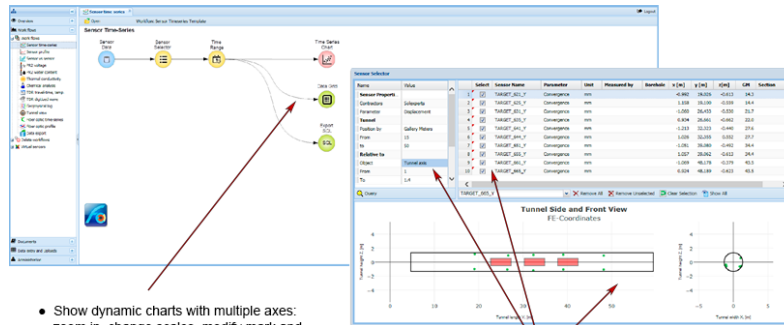
VIRTUAL SENSORS

- ▶ Calculate results using algorithms of mathematical expressions and sensor measurements. Plot and reports virtual sensors with real sensors

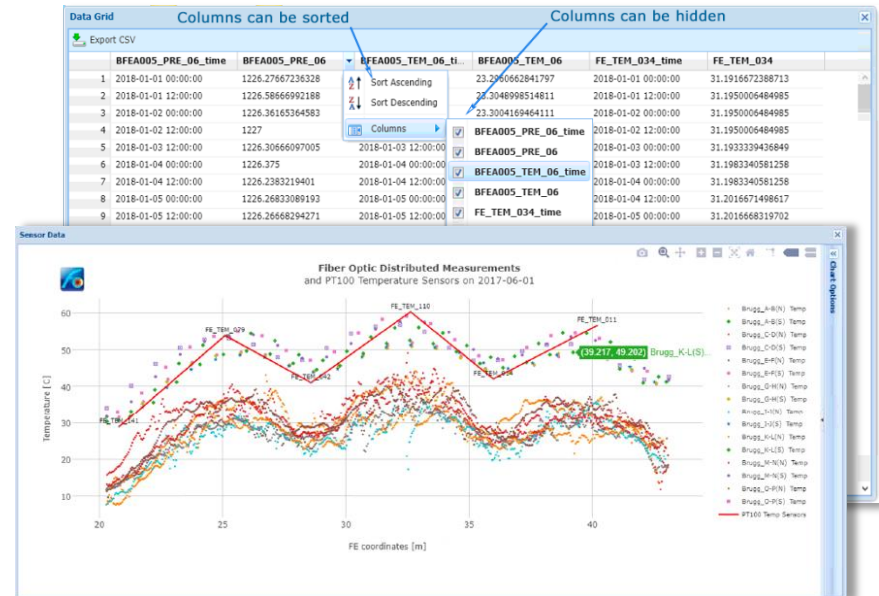
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PROJECT INFORMATION AND DATA MANAGEMENT *Fast and efficient data processing, overview and reporting*

SELECT, REPORT, PLOT



- Show dynamic charts with multiple axes: zoom in, change scales, modify mark and line types, modify text.
- Export the SQL command used to retrieve the data for use or modification within the database or in MS Office, Open Office and other programs providing an ODBC connection.
- Drilldown to quickly focus on just the desired sensors: specify parameters, query, choose some results, and then specify other parameters, query and choose again.
- View location of selected sensor



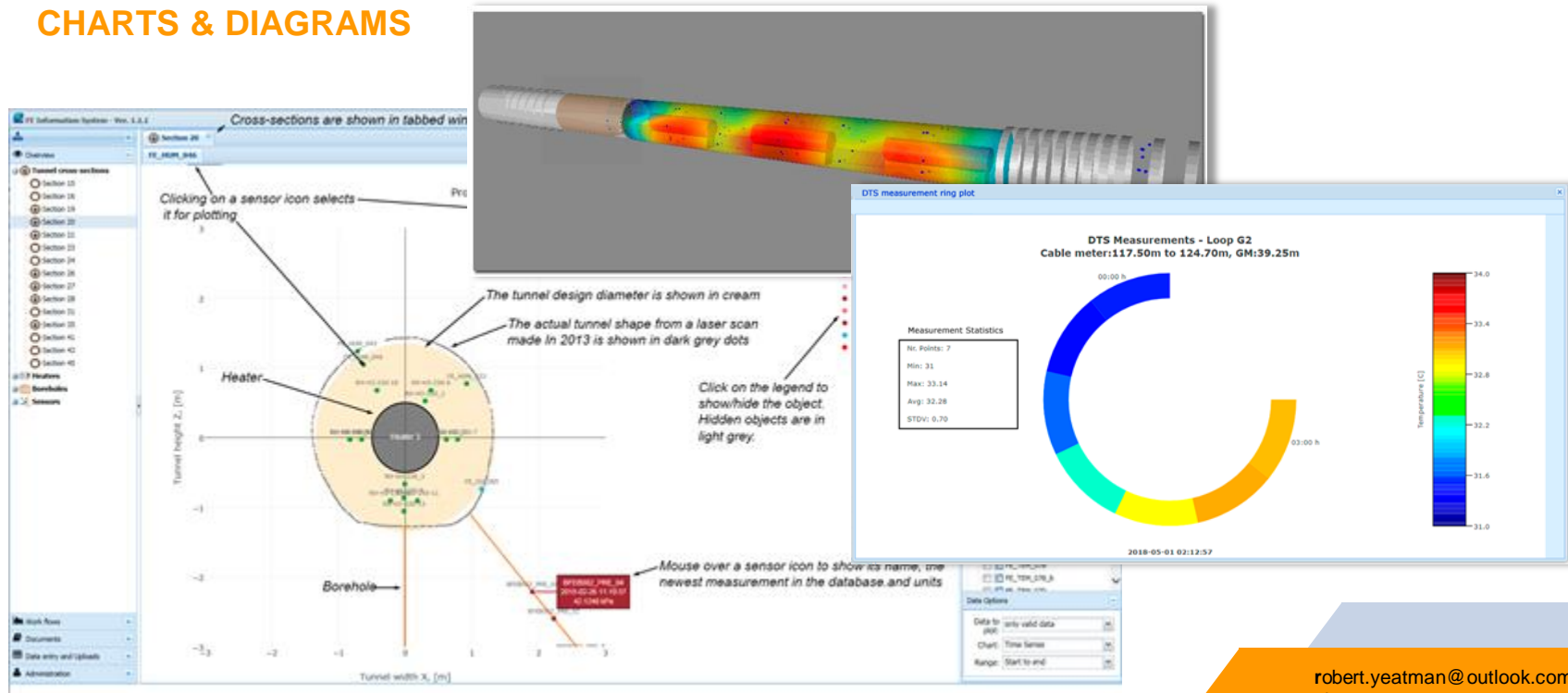
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PROJECT INFORMATION AND DATA MANAGEMENT

Project overview diagrams are dynamic – drawn using the system data

CHARTS & DIAGRAMS



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PROJECT INFORMATION AND DATA MANAGEMENT

Dependable and fast project information and data management

BETTER DATA

- ▶ Centralizes all project information and data in one location
 - ▶ Overviews monitoring with status reports and alarms
 - ▶ Verifies, evaluates and applies meta-data. Data are available within minutes
- ▶ Improved stewardship
 - ▶ Automatically archives field data files, manual measurements, documents
 - ▶ Data become searchable, retrievable and interoperable and easily available to authorized stakeholders
 - ▶ Instead of deleting data the meta-data is simply tagged. No data are deleted
- ▶ Web app feels like a desktop program
 - ▶ Fast, user-friendly and easy
 - ▶ Filter and sort reports, edit and zoom plots, quickly download data
 - ▶ By linking data sets across different systems the complexity and nuances of data relationships can be discovered

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PROJECT INFORMATION AND DATA MANAGEMENT

Leveraging information quickly and easily makes your project more cost effective

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