



An introduction to the DIGGS electronic data transfer format

www.diggsml.org

What is DIGGS?

DIGGS (Data Interchange for Geotechnical and Geoenvironmental Specialists) is a standard international format for the electronic transfer of geotechnical and geoenvironmental data. DIGGS is software neutral and non-commercial. DIGGS can be used for transfer of all geotechnical and geoenvironmental data throughout all project stages offering enormous advantages in terms of workflow efficiency, data accuracy and validity, records retention and management, and consequently cost savings.

Who was involved in DIGGS development?

DIGGS was developed with the participation of:

- United States Federal Highway Administration (FHWA)
- United Kingdom Highways Agency (UKHA)
- Eleven United States Departments of Transportation
- United States Geological Survey (USGS)
- United States Army Corps of Engineers (USACE)

- United States Environmental Protection Agency (US EPA)
- United States Navy (USN)
- Construction Industry Research and Information Association (CIRIA)
- United Kingdom Association of Geotechnical and Geoenvironmental Specialists (AGS)
- Consortium of Organizations for Strong-Motion Observation Systems (COSMOS)
- The University of Florida
- The University of New Hampshire
- Petrochemical Open Standards Consortium (POSC)
- Major software vendors including Keynetix, gINT, and EarthSoft

Who is DIGGS designed for?

DIGGS is designed to assist anyone who wants to send or receive geotechnical or geoenvironmental information such as owner agencies, companies associated with software and databases, academic institutions, industry organizations, research organizations, etc.

DIGGS Version 1.0 includes:

- Geotechnical ground investigation data
- Geoenvironmental data
- Deep foundations data
- Borehole geophysical investigation data

Future developments will include:

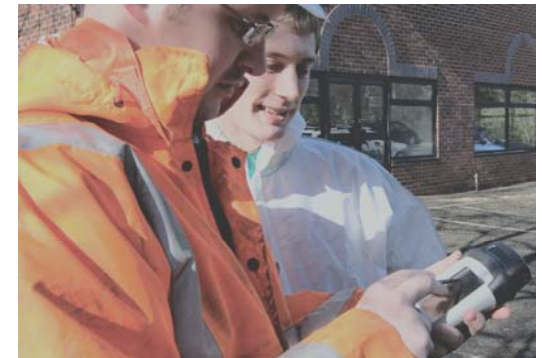
- Geotechnical asset management
- Surface geophysical investigation data
- Electronically stored geotechnical documents

- Geological, geotechnical and geoenvironmental hazard assessment and risk management
- Geotechnical instrumentation

Why should I use DIGGS?

Currently, data can be transferred between parties to a project in many different formats, from paper reports to electronic documents, spreadsheets, etc.. DIGGS has much to offer that will improve the data and information workflow for everyone:

- Electronic data is more efficient than paper-based reports.
- Data transfer is faster and more efficient, and can be undertaken in close to real-time.
- Data validation is carried out using a set of rules that is the same for all parties.
- Data does not need to be re-entered at each project step, reducing time and mistakes.
- DIGGS data, which is geographically located, can be used in CAD and GIS packages.



With DIGGS, data entered in the field can be sent, used with various software programs, stored, and reused.

How do I use DIGGS?

There are several ways in which DIGGS may be used:

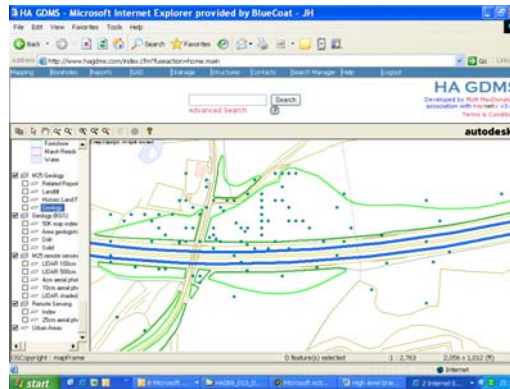
- Within proprietary or non-proprietary software packages
- As part of a searchable online system that allows data to be accessed over a network (such as the Internet)
- As a means to electronically transfer data, such as between clients and customers or between agencies or organizations

What are the costs/benefits of DIGGS?

The DIGGS format is freely available to those who wish to use it. DIGGS requires software to read and write the data. As with any software, there will be purchase or development costs, but these will be rapidly recouped in the savings that will result from using DIGGS. Savings can be very considerable and have been proven in the use of the AGS data transfer format used in United Kingdom industry for over 15 years.

The United Kingdom Highways Agency estimates that using AGS data saves a consultant approximately \$60,000 (£30,000) for a medium sized project and expects these savings to increase with the use of DIGGS.

DIGGS will assist state DOTs in utilizing historical subsurface investigation information resulting in estimated savings of 10-20% on project exploration costs. The Ohio Department of Transportation estimates that these savings will amount to \$12-24 million (£24-48 million) annually for their program.



The United Kingdom Highways Agency Geotechnical Data Management System (HA GDMS) is a web based GIS using ground investigation, earthwork condition, reports and survey information generated by a wide range of suppliers. DIGGS implementation will improve efficiency and create opportunities for smarter working.

What languages and units does the DIGGS format support?

DIGGS supports any language, and any unit system. DIGGS can reference any codes, units, or language conventions.

What DIGGS is not.

DIGGS is an electronic data transfer format. It is not:

- A software product
- A database structure

I currently have a data management and transfer procedure in place, why should I change to use DIGGS?

There are key areas in which the DIGGS format has major benefits over existing

formats for electronic transfer of geotechnical and geoenvironmental data:

- DIGGS enables better data validation, reducing errors.
- DIGGS provides more uniform data description.
- DIGGS can be customized.
- DIGGS compatible software will be available.
- DIGGS allows GIS referencing of data.
- DIGGS allows better data consistency and quality.

Do I need specialist staff or training to use DIGGS?

DIGGS is a data exchange format, and as such it is not a requirement that the technical details of the format itself are understood by the end users of the data. Production, receipt and interpretation of DIGGS format data into an easily useable form is the job of DIGGS compatible software and data translators. Therefore, no training in the technicalities of the DIGGS format is needed for the end users.

DIGGS doesn't contain everything that I need of a data transfer format. How can I change this?

DIGGS allows for modification to meet user needs. Extensions are carried out in a standard manner, so that any data created using the new extensions can be fully validated to check for errors.

Where can I find further details of DIGGS and the DIGGS Format?

Details of the DIGGS Format and the project in general can be found at www.diggsml.org.