Data Conversion Feedback Tool

Getting Started Guide

Convert any Excel Spreadsheet, AGS File, HoleBASE SI or gINT project to DIGGS, CSV, gINT or KeyLAB

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Introduction

The Keynetix Data Converter Feedback tool allows you import CSV, HoleBASE, gINT into Excel and export it to either CSV, gINT or DIGGS. The process of converting from one format to another therefore requires two stages; importing and exporting.

The tool has been produced for several uses.

- 1) Creating DIGGS data from HoleBASE CSV file and gINT Project files
- 2) Cleaning and importing gINT data into HoleBASE SI
- 3) Exporting data from HoleBASE for DOT's that require gINT project files as a deliverable (this feature is coming soon).

Installation

There is no installation program for this version of the Data Converter Feedback tool. To be able to use the program follow the instructions below

- 1. Save the downloaded ZIP file to a location on your machine.
- 2. Extract the contents of this file to a directory on your machine and you will have the following files in your directory
 - a. DataConverterFeedbackTool.xlam
 - b. DataConverterFeedbackTool.PDF

- c. Templates Folder with import and export mapping
- d. Demo Data folder with example data in it.

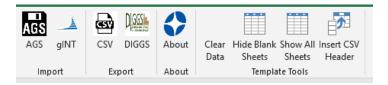
Opening the Data Converter Feedback Tool

The tool is an Excel Add-in file and can be loaded by double-clicking on the DataConverterFeedbackTool.xlam file in Windows Explorer or opening the file using Excel's normal file open methods.

On opening you may see the following message. It is important to Enable Macros on this form otherwise the tool will not load.



Once loaded the tool will add a Ribbons in Excel 2007, 2010, 2013 and will add a customer menu in Excel 2003.



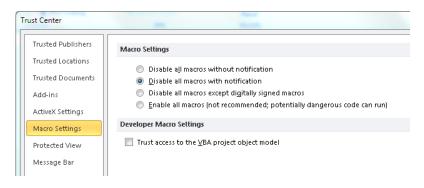
Troubleshooting

If you are unable to see this ribbon it is likely that the security settings on your copy of Excel are set to not allow macros. If so you need to set your Excel security level to medium by following the steps below.

1. From the *Developer* tab select the *Macro Security* option as shown below



2. Select the second option in the list (as shown below). This option will ensure that you are prompted to enable macros each time you load a spreadsheet with code in it.



If the menu still does not appear then it may be that Excel is blocking the use of add-ins from untrusted locations on your hard drive or network. To check this follow the steps below.

- Open Excel and go to File>Options>Trust Center>Trust Center Settings>Trusted Locations.
- 2. If the location you save the 'DataConverterFeedbackTool.xlam' is on a network tick the option for 'Allow Trusted Locations on my network"
- 3. Use the 'Add New Location' button to then add the path through to the folder that contains the 'DataConverterFeedbackTool.xlam'
- 4. Following this, save the changes, close Excel and try running the tool again.

Getting Started

DIGGS users

If you are working on creating DIGGS files then a few example files have been included in the ZIP package that will help you understand how the system works. The following steps will guide you through importing the example AGS file and exporting a DIGGS file.

- 1. Select the AGS icon from the Import section on the Data Converter Ribbon.
- 2. Select the example1.ags file in the dataconverter/demo data/ags folder that was unzipped with the converter application.
- 3. Select the AGS4Minimal.XLSM file when prompted then click Use Template button
- 4. The AGS file will now be imported into the Excel Spreadsheet and the Excel file will be saved in the demo data directory with the same name as the AGS file, but with extension XLSM. That is the import process completed!

Next you need to export the spreadsheet data to DIGGS following the steps below:-

- 1. Select the DIGGS icon on the Export Section of the Data Converter Ribbon.
- 2. Select the "AGS example Template.xml" file and click Use Template Button.
- 3. The DIGGS file will now be produced using the instructions in the "AGS example Template.xml" and will be saved in the same directory as the Excel file, with the same name and extension -DIGGS.XML.

You have now successfully created your first DIGGS file using the Data Converter Feedback Tool. To learn more about DIGGS you will have to learn how to modify the export template but before you dive into that it is probably more important to learn about the files that can be imported into the system.

Importing Data

Currently, data can be imported from gINT GPJ files or AGS files. CSV import will follow in a future release.

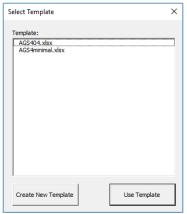
You can import all the data from the selected file or, by using a predefined template, you can define what to import and how any subsequent export will be created.

Importing data into a template is a powerful way to manipulate data before you convert it.

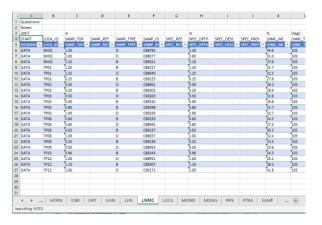
To illustrate how this technique works you can follow the steps below to import the example AGS file shipped with the program.

Importing without template

- 1. Select the AGS Icon on the Import section of the Data Importer Ribbon
- 2. Select the example1.ags file from the demo data\AGS directory



- 3. Click the Create New Template button on the "Select Template" form.
- 4. A new worksheet is created for each new group in the AGS file and all the columns are imported for each group. The file you have after import will look like the image below.



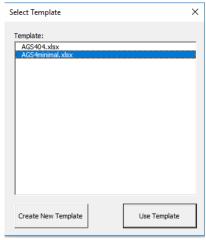
Example AGS File imported using no template.

5. Exactly the same process works when you import a gINT project file

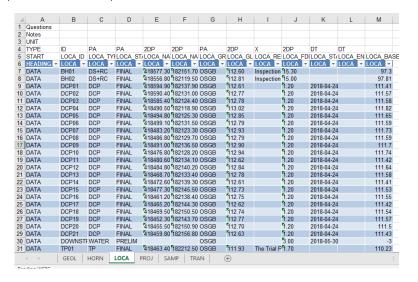
Importing with template

The process is exactly the same as the previous example but in step 3 you will select the AGSmininal template.

- 1. Select the AGS Icon on the Import section of the Data Importer Ribbon
- 2. Select the example1.ags file from the demo data\AGS directory



- 3. Select the AGS4Minimal.XLSX file and then Click the Use Template button on the "Select Template" form.
- 4. A new worksheet is created but only the groups and columns that were included in the template have been imported into the spreadsheet. It is also important to note that the last column on the LOCA sheet is a calcalulation column that was predefined in the spreadsheet.



Example AGS Project File imported using a template.

5. Exactly the same process works when you import a gINT project file

Top Tip:-

When importing gINT project files into a blank template several worksheets will be created without data in them. These are generated from blank tables in the gINT file. You can use the "Hide Blank sheets" option from the template menu to hide these sheets and easily allow you to see which ones have data in them.

Creating Import Templates

An import template allows you to:-

- Specify which tables and fields to import
- Allows you to manipulate the data ready for export
- Predefine output field and table naming

Import templates can be created from blank templates or existing templates you have used.

To create a template follow the steps below:-

- 1. Open an existing template with data or create a blank template from a gINT or AGS project file.
- 2. Set up any additional calculated columns at the end of each grid. It is recommended that you create the calculation columns to the right of the existing table.
- 3. Click the "Clear Data" icon on the Template section of the Data Converter Ribbon. This removes all the data that is in the spreadsheet (but will not remove the equations).
- 4. Save the file using Excel's Save As option. The file must be saved in the Templates folder for the Data Converter under the directory for the file type the template is designed for. For example AGS templates are stored under Templates\import\AGS and gINT templates are stored under Templates\import\gINT

Your template should now be listed in the drop-down list when running the import command and is ready to use.

Exporting Data

DIGGS

DIGGS data can be created from any data imported by the Data Convertor (AGS, HoleBASE CSV or gINT)

Creating DIGGS templates

A DIGGS template is a DIGGSML file with export commands built into it.

An example of this is shown below where the creationDate and remarkDateTime values have been replaced by Excel equations in double brackets. {{}}

```
<Diggs xmlns="http://diggsml.org/schemas/2.5.a"</pre>
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://diggsml.org/schemas/2.5.a https://raw.githubusercontent.com/DIGG
    xmlns:diggs_geo="http://diggsml.org/schemas/2.5.a/geotechnical"
    xmlns:witsml="http://www.witsml.org/schemas/131" xmlns:glr="http://www.opengis.net/gml/3.
xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:g3.3="http://www.opengis.net/gml/3.3/ce"
    xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:diggs="http://diggsml.org/schemas/2.5.a"
    xmlns:glrov="http://www.opengis.net/gml/3.3/lrov"
    qml:id="NTM1YTEwMzUtYmRmZS00NTIxLTk10WItZjk4NGEwOWRjZDcx">
    <documentInformation>
        <DocumentInformation gml:id="{{AUTOID}}}">
             <creationDate>{{TEXT(NOW(),"yyyy-mm-dd")}}</creationDate>
             <!--<author>--
             <!-- <BusinessAssociate gml:id="BA 1">-->
             <!-- <gml:name>1</gml:name>-->
             <!--</BusinessAssociate>-->
             <!--</author>-->
             <!--<author>1</author>-->
             <disclaimer>Not specified in AGS file</disclaimer>
             <auditTrail>
                 <Remark>
                      <content>Generated by Keynetix Diggs Feedback Tool</content>
                     <remarkDateTime>{{TEXT(NOW(),"yyyy-mm-dd")}}</remarkDateTime>
                 </Remark>
             </auditTrail>
        </DocumentInformation>
    </documentInformation>
```

Inserting Data from spreadsheet

The example above shows how excel functions can be reference. However the main purpose of the tool is to insert the Excel data into the DIGGS file. To do this you must use a command that loops through all the rows of data on a spreadsheet.

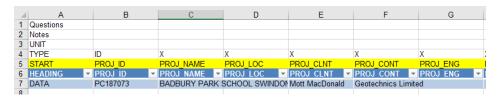
This command is KYNLoop and is shown below. In its simplest form this has 3 properties

Name This is for your reference and can be anything

loopby Always set this to "table" for Excel spreadsheets

loopon This is the column name of the worksheet (as it appears on the tab at the bottom of the worksheet)

Data from the spreadsheet can be referenced in the loop by using the following format Sheetname. In the above example the routine will insert the column headed PROJ_ID from the PROJ spreadsheet. It is important to note that the column headings are entered into the row above the grid of data (highlighted in yellow below). This row has the row "START" in the first column.



Nesting Loops

Is it common for you to next loops within a DIGGS file. For example when exporting grading results the paired table approach is required with the outer loop containing the results from a parent table and the data for each sieve nested within each set of results.

```
<KYNLoop name="GRAT" loopby="table" loopon="GRAT" filterfields="loca_id,samp_top" filtervalues="{{GRAG.loca_id}},{{GRAG.SAMP_TOP}}">
</idgs_geoigradingflata>
</idgs_geoigrading_ml.id="{{AUTOID}}">
</idgs_geoigrading_scire_uom="mm">{{GRAT.GRAT_SIZE}}<//idgs_geo:particleSize><!--Reading-->
<!--<diggs_geo:sieveNumber>-->
</idgs_geo:sieveNumber>-->
</idgs_geo:sieveNumber>-->
</idgs_geoigerenthrasing_uom="%">
</idgs_geoigerenthrasing_uom="%">
<!--<diggs_geo:weightRetained_uom="kg">>24.73999977</diggs_geo:weightRetained>--> <!--95.37769318--><!--Soil_Tare-->
</diggs_geo:gradingPata></diggs_geo:gradingPata>
```

When nesting loops that require only a subset of the data to be exported you need to use two additional parameters within your KYNLoop command

filterfields A CSV list of the headers in the data you are filtering in.

filtervalues A CSV list of values that you are filtering by. This list can be specific (i.e. "TP,WS" or can be dynamically created using the field references from the parent table (as shown above)

Data Conditions

There will be times when you only want to add data is there is data present in your spreadsheet. To specify this you can use the <KYNCondition> command as shown below.

< KYNCondition command="ISDATAPRESENT" sheet="LOCA" Column="LOCA_FDEP">

Command = "ISDATAPRESENT"

This command has 3 parameters

command Enter ISDATAPRESENT in here to check for Non blank cells in your spreadsheet

sheet This is the worksheet that the check is going to be carried out on

Column This is the column name that is going to be checked

<KYNCondition command="ISTABLEPRESENT" table="HDPH">

Command = "ISTABLEPRESENT"

This command has 2 parameters

command Enter ISTABLEPRESENT in here to check for missing sheets and tables in your spreadsheet

table

This is the worksheet that the check is going to be carried out on

<KYNCondition command="IF" condition="'{{LOCA.LOCA_TYPE}}}'<>TP"">

Command = "IF"

This command has 2 parameters

command Enter IF in here to check for a condition statement

condition The Excel statement that you would normally put at the first parameter in the Excel IF statement. Note when comparing text values both the spreadsheet value and the text value must be enclosed in single quotes as shown above.

This command can only be inserted inside a KYNloop command and will check the current row that is being processed by the loop.

CSV

The CSV export uses the same logic as the HoleBASE SI Data Entry Feedback Tool. More documentation will be included in the next release.

KeyLAB

KeyLAB export allows you to create XML files for import into KeyLAB. There are some specific commands that allow you to find values in a TXT file or and XML file

TXT commands

TXTSingleVALUE

Returns all the values within a tables in a CSV file

command	
Filenumber	The number of the input file as specified with the
	"SelectFile" Command
Header	The text string that the program looks for before it
	starts to look for the header. This enables you to
	find the right section of the file if the table is
	repeated. Set to "" if there is no section header
	required.
LeftText	The text to the left of the required text
RightText	The text to the right of the required text. Set to ""
	if the text goes to the end of the line
Name	The name that is to be exported to the KeyLAB field

type	"Parameter" or "Measurement" depending on the type of element you want created in the XML file.
Delimiter	The character used to mark the gap between data between the left and right text
Column	The column number of the data to return if there are multiple values

TXTARRAYVALUE

Returns all the values within a tables in a CSV file

command	
Filenumber	The number of the input file as specified with the "SelectFile" Command
SectionHeader	The text string that the program looks for before it starts to look for the header. This enables you to find the right section of the file if the table is repeated. Set to "" if there is no section header required.
TableHeader	The text string that marks the start of the table after the sectionheader.
TableFooter	The text string that marks the end of the table after the Tableheader. Conversion will continue until a blank line is found if this is no included.
Delimiter	The character used to mark the gap between columns in the table
Equation	The equation required to combine values from a table.
Name1	The name that is to be exported to the KeyLAB field
Column1	The column number to be exported
type	"Parameter" or "Measurement" depending on the type of element you want created in the XML file.

TXTARRAYVALUETHINNED

Returns thinned values within a table in a CSV file

command	
Filenumber	The number of the input file as specified with the "SelectFile" Command
SectionHeader	The text string that the program looks for before it starts to look for the header. This enables you to find the right section of the file if the table is repeated. Set to "" if there is no section header required.
TableHeader	The text string that marks the start of the table after the sectionheader.
TableFooter	The text string that marks the end of the table after the Tableheader. Conversion will continue until a blank line is found if this is not included.
Delimiter	The character used to mark the gap between columns in the table
Equation	The equation required to combine values from a table.
Name1	The name that is to be exported to the KeyLAB field for the first field
Column1	The first column number to be exported

Name2	The name that is to be exported to the KeyLAB field
	for the second field
Column2	The second column number to be exported
type	"Parameter" or "Measurement" depending on the
	type of element you want creating in the XML file.
ThinnedDistancePercentage	Percentage of allowed deviation expressed as a
	decimal percentage of the maximum deviation of
	the dataset e.g. 0.5

TXTARRAYTHINNED3RDVALUE

Returns thinned values within a table in a CSV file

command	
Filenumber	The number of the input file as specified with the "SelectFile" Command
SectionHeader	The text string that the program looks for before it starts to look for the header. This enables you to find the right section of the file if the table is repeated. Set to "" if there is no section header required.
TableHeader	The text string that marks the start of the table after the sectionheader.
TableFooter	The text string that marks the end of the table after the Tableheader. Conversion will continue until a blank line is found if this is not included.
Delimiter	The character used to mark the gap between columns in the table
Equation	The equation required to combine values from a table.
Column1	The first column number to be used for thinning equation
Column2	The Second column number to be used for thinning equation
Column3	The column to be thinned and exported
Name3	The name that is to be exported to the KeyLAB field for the thinned field
type	"Parameter" or "Measurement" depending on the type of element you want creating in the XML file.
ThinnedDistancePercentage	Percentage of allowed deviation expressed as a decimal percentage of the maximum deviation of the dataset e.g. 0.5

XML commands

XMLNODEVALUE

Returns the value within a node in an XML file

command	XMLALLTABLEVALUES
Filenumber	The number of the input file as specified with the "SelectFile" Command
Name	The name of the element to be written to the XML file. i.e "Stage StageReadings ConsolTimeElapsed"

Type	"Parameter" or "Measurement" depending on the type of element you want creating in the XML file.
Node	The Node in the XML file that contains the table.

The following commands are written to help with VJtech XML script files

XMLSINGLENAMEVALUE

Returns value when the results are single values and not stored in a table structure

command	XMLALLTABLEVALUES
Filenumber	The number of the input file as specified with the
	"SelectFile" Command
XMLname	The name of the column to return from the XML
	file. e.g. "ipvLoad"
Name	The name of the element to be written to the XML
	file. i.e "Stage StageReadings ConsolTimeElapsed"
Type	"Parameter" or "Measurement" depending on the
	type of element you want creating in the XML file.
Node	The Node in the XML file that contains the table.

XMLALLTABLEVALUES

Returns all the data in an XML table.

command	XMLALLTABLEVALUES
Filenumber	The number of the input file as specified with the
	"SelectFile" Command
XMLname	The name of the column to return from the XML
	file. e.g. "ipvLoad"
Name	The name of the element to be written to the XML
	file. i.e "Stage StageReadings ConsolTimeElapsed"
Type	"Parameter" or "Measurement" depending on the
	type of element you want creating in the XML file.
Node	The Node in the XML file that contains the table.

Example:

<KYNCommand command="XMLAllTableValues" XMLName="Time" name="Stage_StageReadings_ConsolTimeElapsed" Type="parameter" Node="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]" FileNumber="1"/>

XMLSINGLETABLEVALUE

Returns a single value from the data in an XML table.

command	XMLSINGLETABLEVALUE
Filenumber	The number of the input file as specified with the
	"SelectFile" Command
XMLname	The name of the column to return from the XML
	file. e.g. "ipvLoad"
Name	The name of the element to be written to the XML
	file. i.e "Stage StageReadings ConsolTimeElapsed"
Type	"Parameter" or "Measurement" depending on the
	type of element you want creating in the XML file.
Node	The Node in the XML file that contains the table.
ValuePosition	Position of the value to return. Options are "Last",
	"10" (returns 10 th value)

Example:

<KYNCommand command=" XMLSINGLETABLEVALUE " XMLName="Time"
name="Stage_StageReadings_ConsolTimeElapsed" Type="parameter"
Node="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]" FileNumber="1"
ValuePosition="1"/>

XMLTHINNEDTABLEVALUES

Returns two sets of data from an XML table thinned based on the distance model.

Command	XMLThinnedTABLEVALUE
Filenumber	The number of the input file as specified with the "SelectFile" Command
XMLname1	The name of the 1 st column to return from the XML file. e.g. "ipvLoad"
XMLname2	The name of the 2nd column to return from the XML file. e.g. "ipvTime"
Name1	The name of the 1st element to be written to the XML file. i.e "Stage StageReadings ConsolLoad"
Name2	The name of the 2nd element to be written to the XML file. i.e "Stage StageReadings ConsolTimeElapsed"
Туре	"Parameter" or "Measurement" depending on the type of element you want creating in the XML file.
Node1	The 1 st Node in the XML file that contains the table for 1 st XMLname.
Node2	The 2nd Node in the XML file that contains the table for 2 nd XMLname.
ThinnedDistancePercentage	Percentage of allowed deviation expressed as a decimal percentage of the maximum deviation of the dataset e.g. 0.5

Example:

<KYNCommand command="XMLTHINNEDTABLEVALUES" XMLName1="Time"
XMLName2="Settlement" name1="Stage_StageReadings_ConsolTimeElapsedthinned"
name2="Stage_StageReadings_ConsolGaugeReadingthinned" Type="parameter"
Node1="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]"
Node2="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]" FileNumber="1"
thinneddistancepercentage="1" />

XMLTHINNED3RDVALUE

Returns single set of data from an XML table thinned based on the distance model using two different datasets.

Command	XMLThinned3rdVALUE
Filenumber	The number of the input file as specified with the
	"SelectFile" Command
XMLname1	The name of the 1st column to use for thinning
	algorithm. e.g. "ipvLoad"
XMLname2	The name of the 2nd column to use for thinning
	algorithm e.g. "ipvTime"
XMLname3	The name of the column to thin and return from
	the XML file. e.g. "ipvTime"
Name3	The name of the element to be written to the XML
	file. i.e "Stage_StageReadings_ConsolLoad"

Туре	"Parameter" or "Measurement" depending on the
	type of element you want creating in the XML file.
Node1	The 1 st Node in the XML file to use for thinning
	algorithm.
Node2	The 2nd Node in the XML file to use for thinning
	algorithm
ThinnedDistancePercentage	Percentage of allowed deviation expressed as a
	decimal percentage of the maximum deviation of
	the dataset e.g. 0.5

Example:

```
<KYNCommand command="XMLTHINNED3DVALUE" XMLName1="Time"
XMLName2="Settlement" XMLName3="Settlement"
name3="Stage_StageReadings_ConsolTimeElapsedthinnednew" Type="parameter"
Node1="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]"
Node2="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]"
Node3="/Clisp/Test/Specimen[0]/Stage[0]/Schedule[0]" FileNumber="1"
thinneddistancepercentage="1" />
```

Updates

Version 1.4

XML escaped characters added for the following items:-

- > >
- < <
- & &
- "" "
- ' '

IF statement added to snippets to exclude sections

NULL statement removed as this is now covered with IF statement.

Version 2.0.1

Complete rewrite of the tool.

Wish list

If you need more features in this tool then please send us feedback to support@keynetix.com

We are currently working on:-

- UOM parameters from UNITS line in spreadsheet
- ABBR Abbreviation for AGS file conversion