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MSO V2.05

Release Notes

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Version Highlights

-  Several Microsoft *Windows 10* compatibility problems have been addressed.
-  *Surpac* 64 bit compatibility issues have been solved.
-  A user macro interface to the MSO upload functionality has been implemented.
- 3D line work upload corrected.
-  *Surpac* V6.7+ problems when generating GSI files have been fixed.
- Fixed several colour issues on the upload to display better on the Leica screen.
- Now possible to leave the file id blank when processing jobs.
-  Error saving the MSO configuration has been fixed
-  New versions of the Forward Station application now available under the MSO installation folder.



Important Note on Surpac 64 Bit Compatibly

Please note that *MSO V2.03* and all previous versions **will not function** on the 64 bit versions of *Surpac*.

MSO V2.04/V2.05 are now **compatible with 64 bit versions of Surpac**. Note that both 32 bit versions and 64 bit versions of *Surpac* with *MSO* can coexist on the same computer.



Recommendations

The following versions of *Surpac* have been tested with *MSO* and appear to be stable;

- Surpac 6.3+
- Surpac 6.4+
- Surpac 6.5+
- Surpac 6.6+
- Surpac 6.7+

Important note for *FlexiSurv* users: It is **not recommended** to use *Surpac V6.7.4* if you also use *FlexiSurv*. The survey memo and overbreak functions in *FlexiSurv* result in *Surpac V6.7.4* crashing. These issues are currently under investigation.



Version Details

A number of compatibility issues with *Windows 10* have been resolved. *Windows 10* does not ship with some older dynamic link library (DLL) files as standard. This caused the *Leica DBX* utilities to fail. A new version of the *Leica* modules has been built in which are now statically linked to avoid this problem.

The *Tcl twapi* package distributed with *Surpac* contains a bug preventing it to load on *Windows 10* when running the 64 bit version of *Surpac V6.7+*. This issue is detected and an endeavour to automatically correct it made. If *MSO* cannot fix the issue (due to administrator rights) you will be instructed to copy a file into the *Surpac* libraries directory.

A new user macro interface has been implemented into the *MSO* upload function. Many users have requested this ability as they have macro



systems that pull in various data such as stations and setouts to upload onto the SD card. The macro interface is documented below.

The format that 3D lines were written to the *LandXML* format file has been corrected. The *LandXML* log file is also now removed once the upload has been processed.

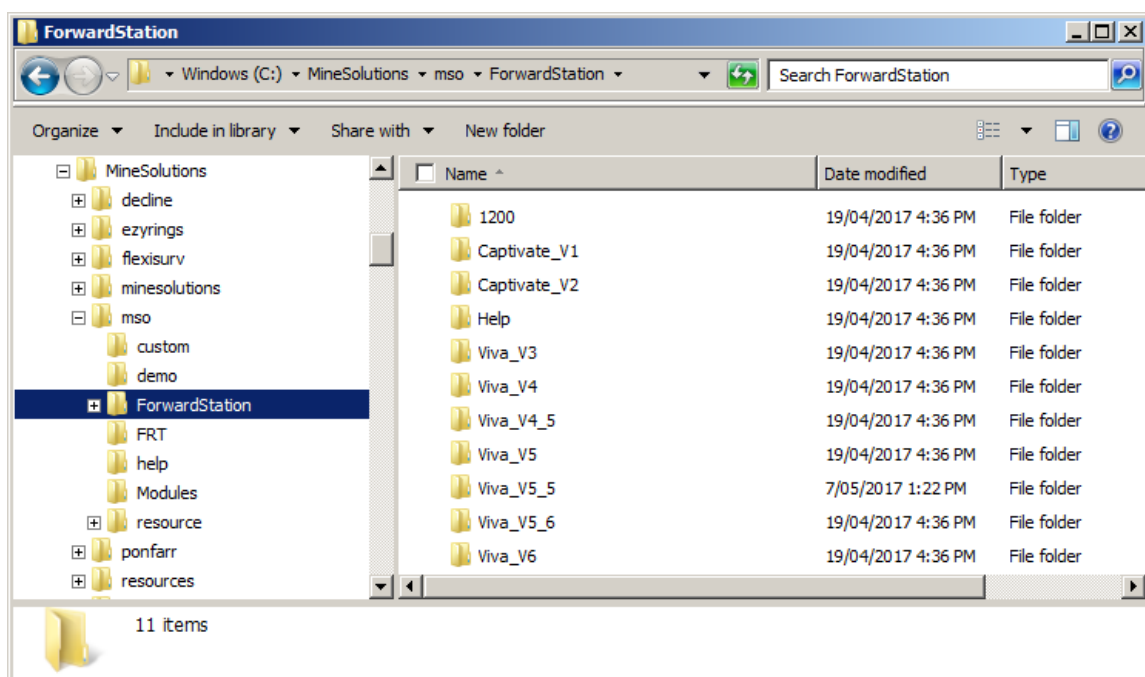
Surpac V6.7+ included and upgraded Tcl interpreter to *Tcl 8.5*. The upgraded interpreter exposed a few issues with the generation of GSI files. These problems have been rectified.

Upload of colours has been improved. There was a problem when uploading white coloured lines which cannot be seen on the white *Leica* screen. Now white lines are automatically converted to black lines during the upload process.

When download jobs to string files if the string file id field was left blank, the resulting string file name would end in either a '0' or a doubled up '.str.str'. This issue rectified such that the id field can now be left blank.

A minor bug was introduced into the last *MSO* version with regard to the new custom directory and *MSO_SHARE* point system. In certain instances the configuration file would not be save to the correct area. This problem is now fixed.

A full complement of the *Forward Station* program for the various *Leica* instruments has been included in the *MSO* distribution.





Request for Enhancements

If there are any new features that you would like to see in upcoming versions of *MSO* please email support@minesolutions.com your requests or telephone David on +618 9312 6158.

MSO requires you the users input in order for it to grow and improve into the future. Your comments and suggestions are encouraged and are welcome.



Upload Macro Interface

It is possible to incorporate the MSO upload options into a custom macro to assist with site specific requirements. This requires an intermediate level of Tcl/Sql macro experience.

MSO macro variables

Note that the macro variables described below are case sensitive as are the values they can be set to.

msoAutomode

Setting this variable to a value of 1 will invoke the macro interface. In this mode the normal upload form is not displayed as it is assumed your macro will provide all required inputs using the variables described below.

msoOutputFormat

This variable determines the output format to create. It must be set to one of the following values

- DBX - create the DBX database files
- GSI - create a GSI file
- FLD - create a field file
- DXF - create a DXF file
- RefSet - create RefSet files according the MSO configuration



The following variables are used when msoOutputFormat is set to DBX, GSI, or FLD.

msoInputType

The input type determines the data you want to upload. It must be set to one of the following

STR – Upload points from a string file

SDB – upload station coordinates from a survey database

DTM – upload stakeout data from a DTM file

msoInputFile

Set the input file according to the setting of msoInputType. This will be either a string file (.str), a survey database (.sdb), or a DTM file (.dtm). Note that the filename must be valid and contain the file extension.

msoOutputDir

This variable determines the directory to place the generated output. It would usually be set to the appropriate directory on the SD card (ie E:\DBX)

msoJobName

Name to identify the job you are uploading. If your MSO configuration is set to use the job name as a directory then a subdirectory of this name will be created under the directory specified in msoOutputDir.

The following variables are used when msoOutputFormat is set to DXF.

msoDxfFile

Name the dxf file to create. This is usually placed directly onto the SD card (ie E:/Data/area1.dxf)

msoStrFile

This is a Tcl array that contains any number of string files that you want to upload into the dxf file. The array indexes must be sequential and begin at element 0. An example

```
set msoStrFile(0) "drive1.str"  
set msoStrFile(1) "drive2.str"  
set msoStrFile(2) "drive3.str"
```





msoStrRange

This is an optional array that may accompany the msoStrFile array. If it does not exist then all strings from the specified string file will be uploaded. If it does exist then only the string numbers specified in the range will be uploaded. An example

```
set msoStrRange(0) "1,5;20"  
set msoStrRange(1) "1"  
set msoStrRange(2) "100;105"
```

The following variables are used when msoOutputFormat is set to RefSet. Note that all other RefSet options are determined by your settings in the MSO configuration File

msoInputFile

Set the input file according to the setting of msInputType. This will be either a string file (.str), a survey database (.sdb), or a DTM file (.dtm). Note that the filename must be valid and contain the file extension.

msoPtId

This variable determines where to get the point Id from. It must be set to either PTNo/D1/D2/D3/D4/D5/D6/D7/D8/D9. When set to PTNo the point numbering is sequential from point 1.

msoJobName

Name to identify the job you are uploading. If your MSO configuration is set to use the job name as a directory then a subdirectory of this name will be created under the directory specified in msoOuptDir.

source MS MSO:mso_create.tbc

Placing this statement into your macro will invoke the MSO upload function. Note that you must have set the various MSO variables according to the descriptions above prior to using this statement.



Macro Examples

```
# create a DBX job from a string file

set msoAutomode 1           ;# this turns mso automatic mode on
set msoOutputFormat DBX    ;# the output format to use
set msoInputType STR       ;# process a string file
set msoInputFile lev1.str  ;# the string file to use as input
set msoOutputDir E:/DBX   ;# the output directory on the SD card
set msoJobName setout      ;# the job name to use

source MS_MS0:mso_create.tbc ;# call MSO upload
```

```
# Upload stations to DBX from a survey database

set msoAutomode 1           ;# this turns mso automatic mode on
set msoOutputFormat DBX    ;# the output format to use
set msoInputType SDB       ;# process a string file
set msoInputFile DB:stns.sdb ;# the string file to use as input
set msoOutputDir E:/DBX   ;# the output directory on the SD card
set msoJobName stations    ;# the job name to use

source MS_MS0:mso_create.tbc ;# call MSO upload
```

```
# create a DXF file from string files

set msoAutomode 1           ;# this turns mso automatic mode on
set msoOutputFormat DXF    ;# the output format to use
set msoDxfFile E:/Data     ;# the output directory on the SD card
set msoStrFile(0) "lev1.str" ;# first string file
set msoStrRange(0) "1,5"   ;# only include strings 1 to 5 from lev1
set msoStrFile(1) "lev2.str" ;# the second string file (load all strings)

source MS_MS0:mso_create.tbc ;# call MSO upload
```