SEPM Products

Release 2022-01

New Features

Document Information	Description
Abstract	This document describes new features in the SEPM product release 2022-01
Version	2022-01
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Contents

1 Overview

1.1 Changes Overview

This release ***2022-01*** covers the following improvements:

- ***SEPM X-Translator*** : Numerous detail improvements have been implemented: Keyboard shortcuts have been implemented for the most common commands; Line and area geometries can be generalized during import; Detail improvements for individual formats.
- ***SEPM ISYBAU Interface*** : Numerous improvements, especially when importing ISYBAU files, based on specific customer suggestions and requirements.

1.1 Installation/Upgrade

1.1.1 Upgrade auf 2022-01

The upgrade to the present version 2022-01 is achieved through exchange of the layered products supplied by SEPM and taking over of the existing licenses, as described in the Admin Manual.

1.1.2 AutoCAD DXF/DWG Format

This version comprises a new version of the helper program ***DwgAcp.exe***. If you use the "AutoCAD DWG/DXF" format you'll need to uninstall the existing *DwgAcpSetup.msi* and install the new setup. The installation directory in this release is:

```
C:\Program Files\SEPM\DwgAcp100
```

1.1.3 Smallworld-Versions

This release supports all Smallworld version from Smallworld 4.0 up to Smallworld 5.3.

1.1.4 SEPM NEPLAN Interface

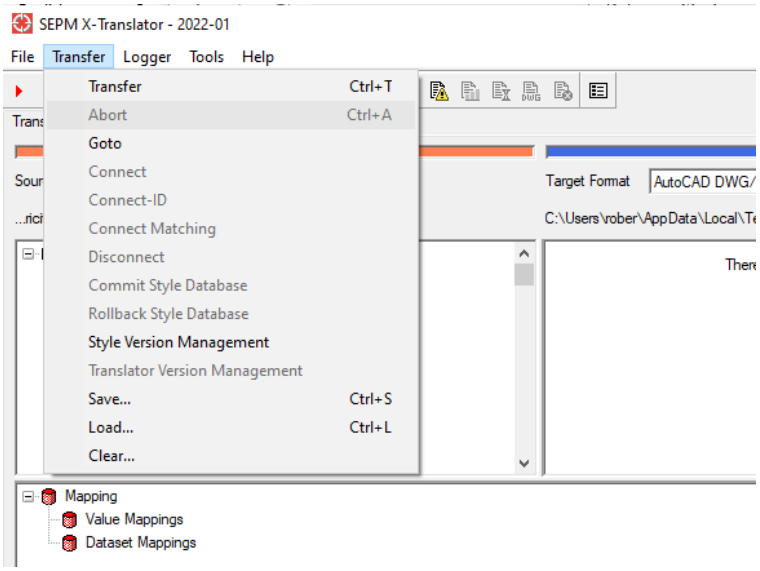
The **nis_sch_geoms_for_neplan** module is no longer included in the product. These functions are now included in the **nis_sch_export_base** module in the **nis_schematics** product. When upgrading to 2022-01, module references must be changed or deleted accordingly.

2 SEPM X-Translator

2.1 Functions

2.1.1 Keyboard Shortcuts

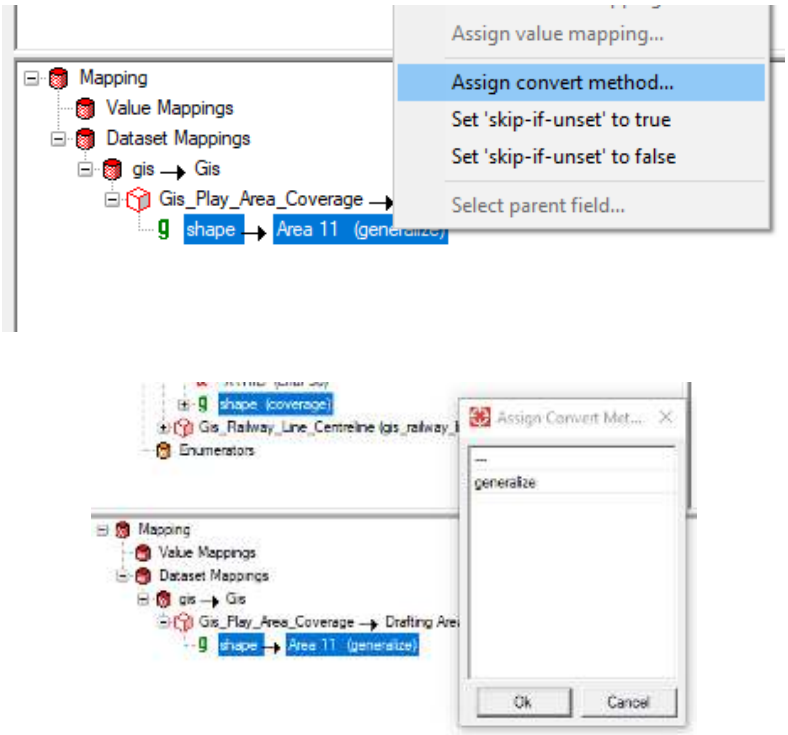
Keyboard shortcuts have been defined for some commands. For example, the transfer can be started with Ctrl-T and interrupted with Ctrl-A:



Commands with Keyboard Shortcuts

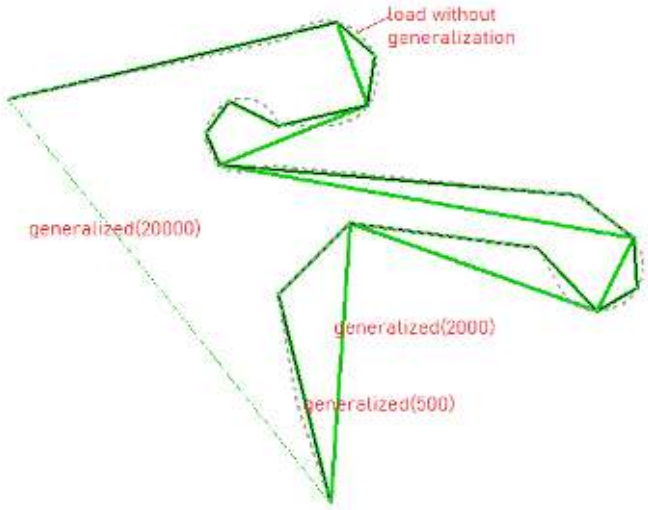
2.1.2 Generalization of geometries

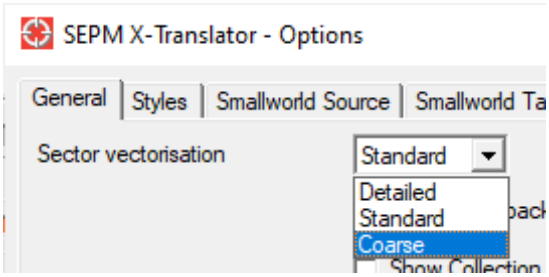
Conversion methods can now be defined on a geometry mapping. The generalization of line and area geometries was implemented as the first conversion function.



Assignment of the generalization function to a geometry mapping

Example of the generalization function






```
_pragma(classify_level=advanced,topic={x_translator},usage=redefinable)
x_translator_settings.define_shared_constant(
        ##
        ## Tolerance values for generalize convert method
        ##
        :coords_factor_tolerance_values,
        property_list.new_with(
                :detailed, 500.0,
                :standard, 2000.0,
                :coarse, 20000.0
                      ),
        :public)
$
```

The specific generalization parameters used depend on the *Sector vectorisation* option and are configured in *x_translator_settings.coords_factor_tolerance_values*.

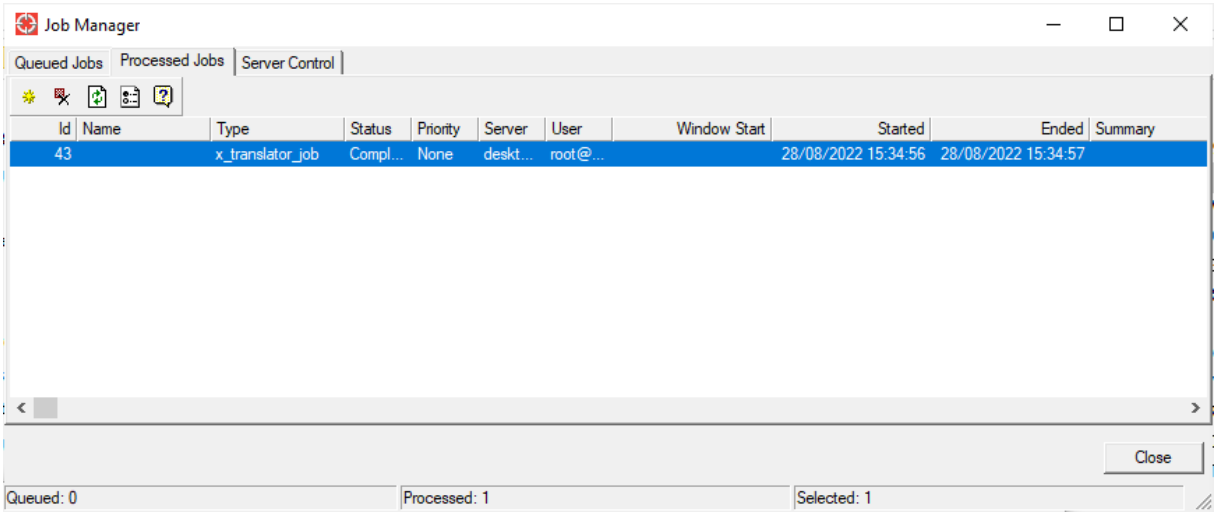
2.1.3 Job Server Integration

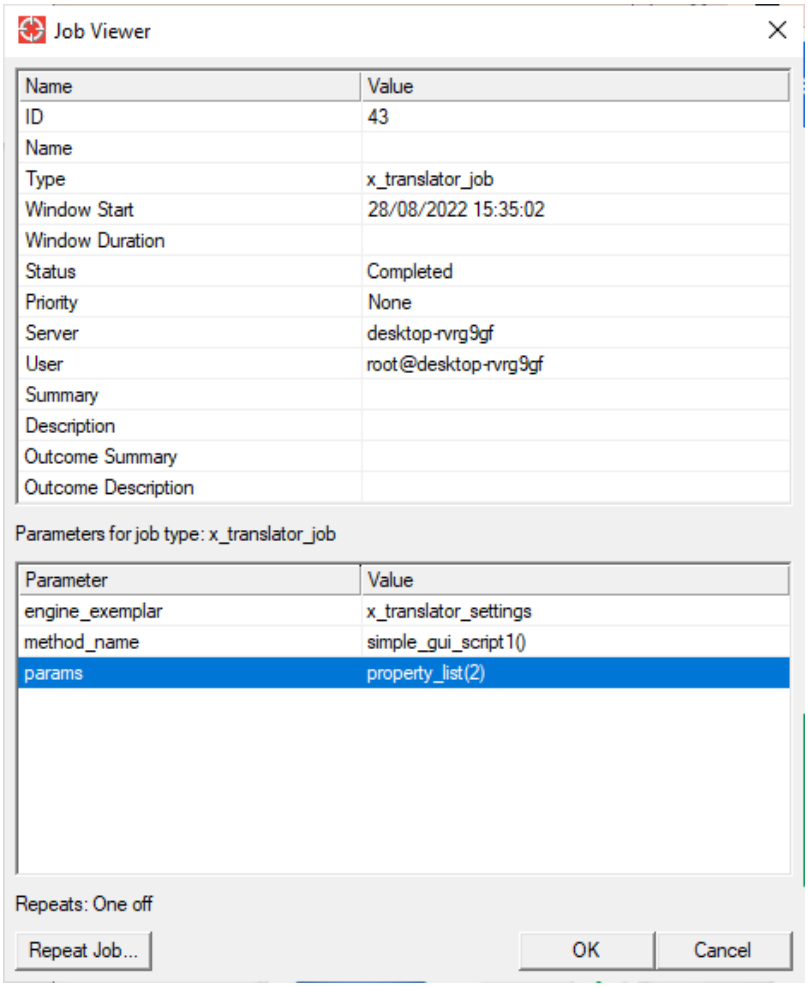
SEPM X-Translator transfers can be carried out in the Job Server Framework using the ***x_translator_job_engine*** class defined in the module of the same name.

Simple GUI configurations can be performed as shown in the following example:

```
_pragma(classify_level=restricted,topic={x_translator})
_method x_translator_settings.cambridge_job_server_test()
        ## Parameters     :
        ## Returns        :
        ## Function       :

        a << smallworld_product.application(:cam_db_swaf_professional)
        m << a.plugin(:maps)
        t << m.current_map.trail

        _local l_export_area << t.sectors.x_coords()
        _local l_path << "C:\Temp\simple\js1.dxf"

        _local l_engine_exemplar << :x_translator_settings
        _local l_method_name << :|simple_gui_script1()|
        _local l_props << property_list.new_with(
                                :export_area, l_export_area,
                                :path, l_path )

        x_translator_job_engine.create_job(
                l_engine_exemplar,
                l_method_name,
                l_props )
_endmethod
$
```

Note that only parameters that implement the *store_on()* API are allowed. To use an export in this form, the export area must be passed as *coords_rope*.





DXF Export Job executed in the Job Server

2.2 AutoCAD DWG/DXF Format

2.2.1 General

The AutoCAD DWG/DXF format was compiled with the latest RealDWG™ library from TechSoft3D (RealDWG™ 2023).

2.2.2 AutoCAD Source Format

The following new options are now available:

Option	Description
Resolve XREFs	XREFs present in the file are resolved and the data they contain is also read.
Explode block inserts at origin	Explode and read Blocks with insertion point 0/0 or not. Previously, such blocks were always exploded and read. If this is not desired, this can now be switched off.
Read Paper Space	When this option is selected, the data from paper space is also read.

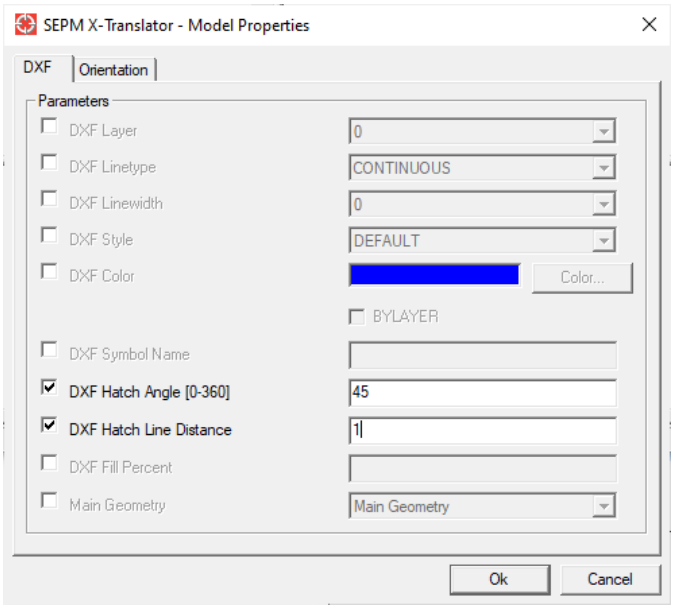
2.2.3 AutoCAD Target Format

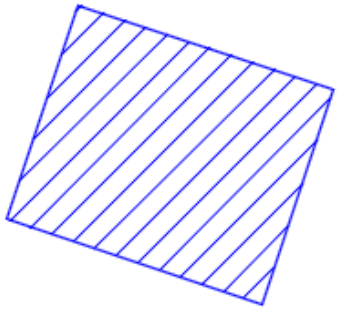
DXF Hatch Angle and **DXF Hatch Line Distance** are now implemented as hatches of type *76/Hatch pattern type = 0/User-Defined* as follows:

```
[DwgAcp/RealDWG Code-Listing]
Hatch h = new Hatch();
...
h.SetHatchPattern(HatchPatternType.UserDefined, "_USER");
h.PatternAngle = mCurrentPolygonGeom.hatchAngle;
h.PatternSpace = mCurrentPolygonGeom.hatchPitch;
h.HatchStyle = HatchStyle.Normal;
```

This creates a user-defined hatch with the specified angle and spacing of the hatch lines. The specification of the parameter **DXF Hatch Line Distance** has been changed compared to the DWG format, the value must now be entered in target units (e.g. in meters).

Parameter	Description
DXF Hatch Angle [0-360]	Hatch angle , specified in degrees
DXF Hatch Line Distance	Hatch line spacing, specified in the target unit





Output of an area with 45 degree hatch angle and 1m line spacing..

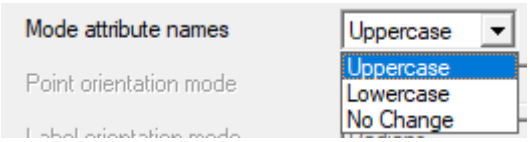
Note: More complicated hatches with multiple hatch lines with different linetypes, spacing and angles are not possible with the RealDWG-based AutoCAD DWG/DXF format (hatches with 76/Hatch pattern type = 2/Custom).

2.3 Shape Format

2.3.1 Shape Target Format

2.3.2 New option 'Mode attribute names'

Previously, the attribute names were converted to uppercase letters during the shape export. With the new option, the same names can now be retained as in the Smallworld GIS.



New option Mode attribute names

2.3.3 CPG-File

When exporting a shape, a file with the extension CPG is created, which is required by some clients (e.g. Google Earth). This file contains the encoding used in the DBF file.

2.4 GDAL/OGR Format

2.4.1 General

The GDAL/OGR format has been updated to the current version of the GDAL library.

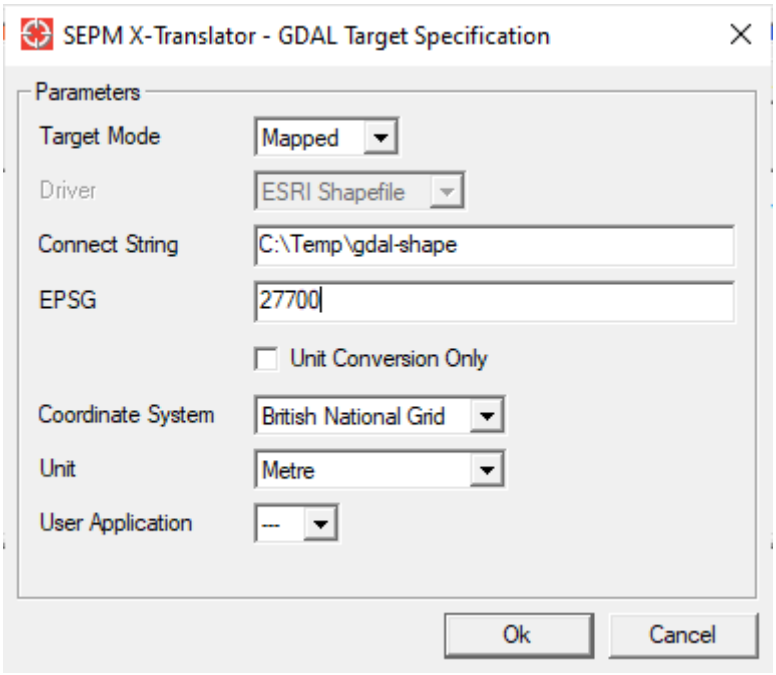
2.4.2 GDAL Source

Some still missing geometry types can now be read, for example:

- OGRwkbGeometryType::wkbPoint25D
- OGRwkbGeometryType::wkbPointM
- OGRwkbGeometryType::wkbLineString25D
- OGRwkbGeometryType::wkbLineStringM
- OGRwkbGeometryType::wkbMultiLineString25D
- OGRwkbGeometryType::wkbMultiLineStringM
- OGRwkbGeometryType::wkbPolygon25D
- OGRwkbGeometryType::wkbPolygonM
- OGRwkbGeometryType::wkbMultiPolygon25D
- OGRwkbGeometryType:: wkbMultiPolygonM

2.4.3 GDAL Target Format

A GDAL target format is now available.



The GDAL/OGR target format supports two modes:

- **Mapped** : Selection of an existing data source
- **Scratch** : Data is generated from scratch based on the source data. *Shape* and *GeoPackage* formats are currently available in this mode.

3 SEPM ISYBAU Interface

This chapter is only available in German.