SEPM Products

Release 2023-02

New Features

Document Information	Description
Abstract	This document describes new features in the SEPM product release 2023-02
Version	2023-02
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1 Overview

1.1 Changes Overview

This release ***2023-02*** covers the following improvements:

- ***SEPM X-Translator***
  - Many small improvements in operation and in individual formats
  - Upgrade of AutoCAD DWG/DXF format to RealDWG 2024
  - Upgrade of the GDAL/ORG. Format on GDAL 3.7.2
- ***SEPM INTERLIS Interfaces***
  - New configuration for the NIS Strom application for the line register of the Canton of Zurich
  - Improvement in the export of surface routes
- ***SEPM NEPLAN Interface***
  - New property 'DoNotUpdate' can be created in ListXML. This allows the update function to be deactivated for individual objects during NEPLAN import.
- ***SEPM ISYBAU Interface***
  - In the following areas, the specifications of the wastewater building guidelines were not implemented correctly; This has been fixed with the current version:
    - When exporting sewer investigations, the KZustand objects, with the same stationing, are now sorted according to their inspection code, first DCA, then DCG and then further observations.
    - For connection lines that are integrated into a shaft, NodeDrain must point to the corresponding shaft.
    - For surface and line geometries, the point attributewastewater attribute was not set correctly on the coordinate object.

1.2 Installation/Upgrade

1.2.1 Upgrade to 2023-02

The upgrade to the present version 2023-02 is achieved through exchange of the layered products supplied by SEPM and taking over of the existing licenses, as described in the Admin Manual.

1.2.2 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\DwgAcp120
```

1.2.3 Configuration x_translator_settings.dxf_style_mapping

The *x_translator_settings.dxf_style_mapping* setting has been changed so that the keys are always specified in lowercase. This avoids problems with different spellings of the Smallworld font names. The following entry covers the spellings "Hershey-Romanp" and "hershey-romanp":

```
x_translator_settings.dxf_style_mapping["hershey-romanp"] << "CALIBRILIGHT"
```

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If customer-specific additions were made in *x_translator_settings.dxf_style_mapping*, then the corresponding keys must be written in lower case.

1.2.4 Smallworld-Versions

This release supports all Smallworld version from Smallworld 4.0 up to Smallworld 5.3 (tested at the date of release version 5.3.2).

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2 SEPM X-Translator

2.1 General

2.1.1 Command 'Clear'

The 'Clear' command clears the current source and target formats and the mapping. However, in previous versions the options have not been changed by this command. The options will now also be reset to their original status.

2.2 AutoCAD Format

2.2.1 RealDWG 2024

The AutoCAD DWG/DXF format was compiled with the current RealDWG 2024 library. This means that DWG and DXF files from all current AutoCAD versions are supported. To use it, the utility program DwgAcp.exe must be installed (DwgAcpSetup.msi).

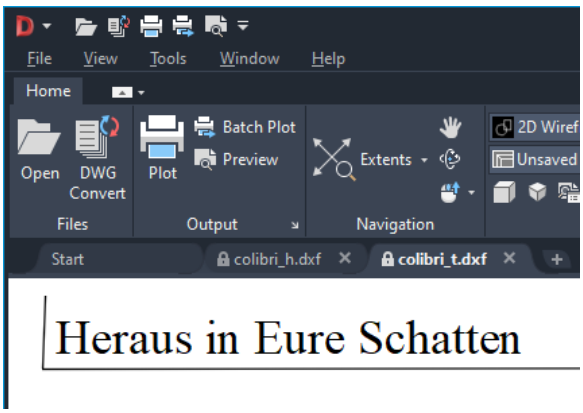
2.2.2 Assignment of Hershey Styles for DWG or DXF export

The mapping for Hershey Fonts was created according to

`Smallworld52103/nrmb/config/font/font_map`

to corresponding *Colibri, Colibri Light* and *Times New Roman* TrueType fonts.

hershey-roman font in NRM 5.2.10.3



Export to DWG in 2023-02 now also uses Times New Roman as in NRMB.

This release also includes new DXF font mappings for the fonts added to

`Smallworld52103/nrmb/config/font/font_map`

Those are: *Calibri, Consolas* and *Segoe UI.*

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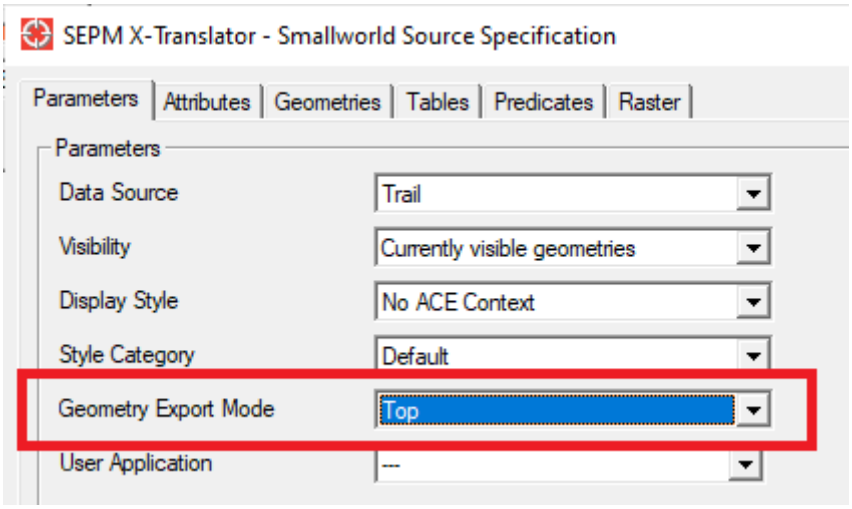
2.3 Smallworld Source

2.3.1 Geometry Export Mode

The Smallworld Source user interface now contains the Geometry Export Mode parameter. This parameter was available in the engine but has been removed from the GUI since 2012.



Geometry Export Mode

Geometry Export Mode	Description
Top	Only the main geometry of a geometry field mapping is modelled in the source. This corresponds mostly to the view in the object editor and remains the default configuration for this parameter.
Explode	All geometries of a collection are modelled, even those internal to a mapped geometry. This corresponds to the geometries available in the object control.

The following use cases can take advantage of the 'Explode' setting:

- To replicate the data model one-to-one in PostGIS including all geometry fields that have been modelled in Smallworld.
- In combination with the new geometry predicate or the skip-if-unset feature, to extract only those objects where one of the internal geometries is not null.

2.3.2 New Option 'Model Sort Mode'

The "Model Sort Mode" option allows to control the sorting of the data model in the source structure.

Option	Description
Model Sort Mode	***Drawing priority*** Databases and collections are sorted according to the drawing priority set in the ACE. This mode is optimized for exports to the DWG/DXF target format. ***Alphabetical*** Databases and collections are sorted alphabetically. This mode is useful when the order in the target format is not relevant, for example when exporting from Smallworld to GeoJSON or Shape.

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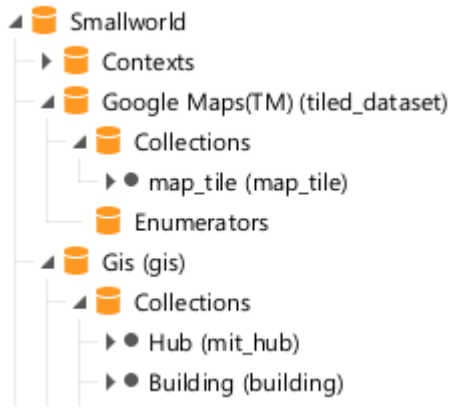
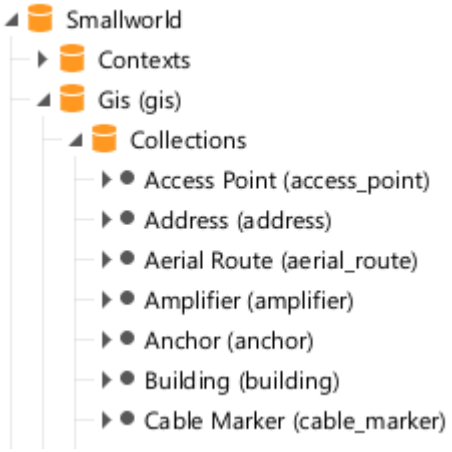


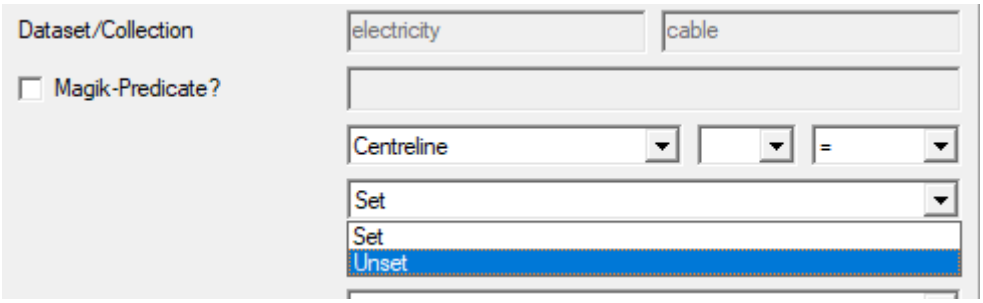
***Model Sort Mode** Drawing Priority*



***Model Sort Mode** Alphabetical*

2.3.3 Predicate for queries on geometries

Predicates can now be defined whether a geometry is set or not.



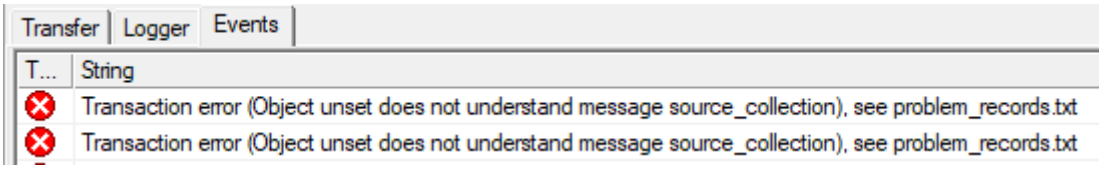
Predicate to query if geometry is set/not set.

This means that in the "All" export mode, a predicate can be configured in such a way that only objects for which a very specific geometry field was captured are exported.

2.4 Smallworld Target

2.4.1 Improved log messages (1)

If hook methods were defined via a user application to customize object insertion, the message "Transaction error, see problem_records.txt" was displayed when a condition happened, but the log file with the not-imported objects remained empty. The error is now logged in the "Transaction error" message and in the log file with the non-imported objects.



The message "Transaction Error" now contains the underlying error.

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2.4.2 Improved log messages (2)

When resolving relations, the parent object is now displayed with the external name. Also updated objects are logged with the external name. This is an improvement, especially for translated data models:

Log message 2023-01 and earlier:

```
Resolved join to parent (Description): m_st_ns_strecke2434:(4788) (ABC)
```

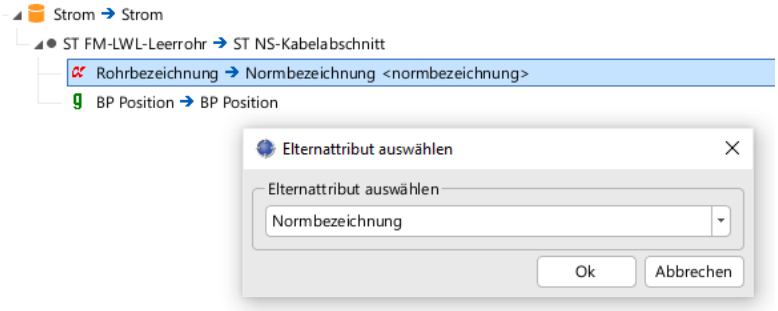
Log message 2023-02:

```
Resolved join to parent (Description): ST NS-Strecke(4788) (ABC)
```

2.4.3 NRM Electric cable types

The following data model-specific enhancements are available in this release:

- When importing into a subclass of m_elec_line_mixin (for example ST NS cable section), the predicate m_elec_line_mixin.owner_predicate() is also applied to the relation to ST line type. This means that the mapping of the standard designation is sufficient to determine the corresponding cable type.
- When selecting a default value for the standard designation, only the line types permitted for the target object class are displayed.
- When selecting a value for a fixed value mapping for the standard designation, only the line types permitted for the target object class are displayed.



Mapping string attribute of the source to the relation "standard designation"

```
Magik> _for i _over
v.collections[:m_st_leitungstyp].select(predicate.eq(:normbezeichnung,"NAYY 4x95")).elements()
_loop write(i.normbezeichnung,tab_char,i.objekt_klasse) _endloop
$
NAYY 4X95       NS-Kabelabschnitt
NAYY 4X95       NS-HA-Kabel
Magik>
```

For example, when assigning the standard designation "NAYY 4x95", the line type for the LV cable section is now automatically selected.

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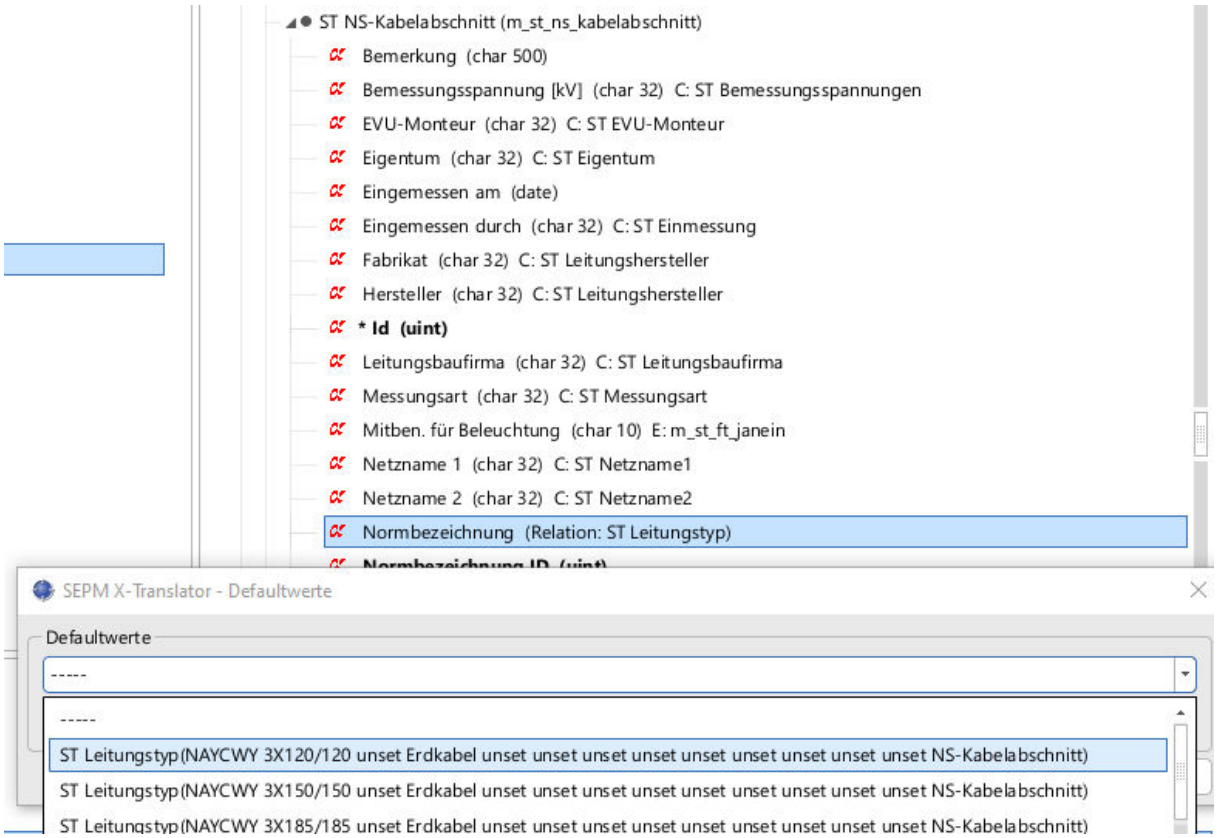
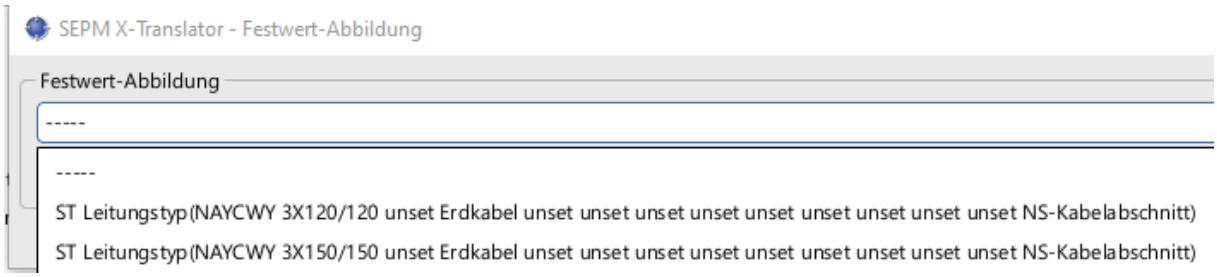


Default values: Only cable types valid for the LV cable section can be selected.



Fixed value mapping: Only cable types valid for the LV cable section can be selected.

2.5 Text Source and Target

2.5.1 New options for selecting encoding

Text format options have been rearranged. Additionally, the following options have been added:

Option	Description
Text Encoding (Source)	Encoding used when reading the text files.
Text Encoding **(Target)**	Encoding used when writing the text files.

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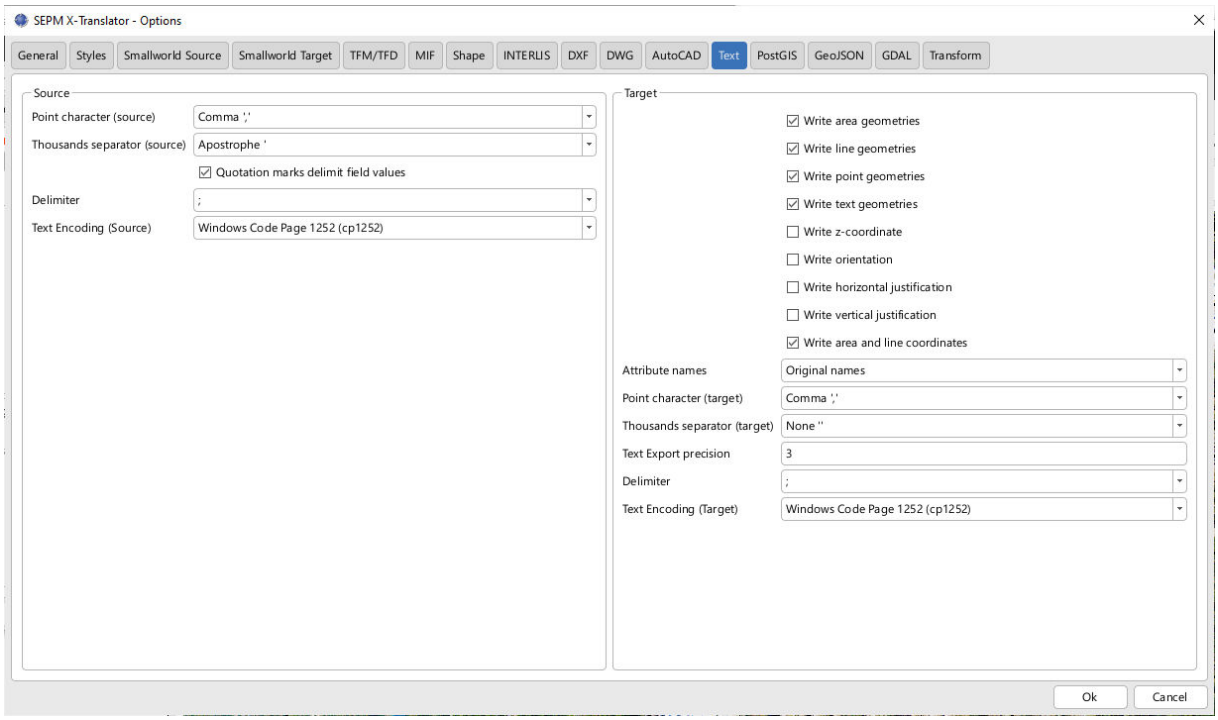

New arrangement of the text options (source format on the left, target format on the right)

2.6 GDAL/OGR Source and Target

2.6.1 Upgrade to current version

The GDAL/OGR format uses GDAL version 3.7.2.

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3 INTERLIS

3.1 INTERLIS LK-ZH

3.1.1 Interface LK-ZH for NIS Strom

A new SIA405 INTERLIS interface has been configured to export data for the line register of the canton of Zurich. Please find details in the German version of the Release Notes.

4 NEPLAN

4.1 SEPM NEPLAN Interface

4.1.1 New Configuration 'DoNotUpdate'

In the NEPLAN target format, the new property 'DoNotUpdate' has been added to all objects. If the *neplan_donotupdate* method on the instance returns a Boolean value, the corresponding information is stored on the node, element or device. If _unset is returned (the default), the information will not be written to the ListXML file.

```
_pragma(classify_level=advanced,topic={x_translator},usage=subclassable)
_method nis_el_int_busbar.neplan_donotupdate
        ## Parameters    :
        ## Returns       :
        ## Function      :

        _if _self.neplan_is_substation()
        _then
                _return _true
        _endif
_endmethod
$
```

```
    <Node>
      <ElementType>Busbar</ElementType>
      <Name>SAM378</Name>
      <DoNotUpdate>true</DoNotUpdate>
      <Description>Unterwerk Nord</Description>
      <LocationInfo>
        <ZoneName>Zone</ZoneName>
        <AreaName>Area</AreaName>
        <IsProjected>false</IsProjected>
        <IsInMaintenance>false</IsInMaintenance>
        <InstallationYear>0</InstallationYear>
        <LatLongX>8.784453</LatLongX>
        <LatLongY>47.040487</LatLongY>
      </LocationInfo>
```

5 ISYBAU

5.1 SEPM ISYBAU Interface

Some changes have been implemented to follow the specifications of the wastewater building guidelines more closely in certain areas. Please find details in the German version of the Release Notes.

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