



SEPM Products

Release 2024-01

New Features

Document Information	Description
Abstract	This document describes new features in the SEPM product release 2024-01
Version	2024-01
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1 Overview

1.1 Changes Overview

This release **2024-01** covers the following improvements:

- **SEPM X-Translator**
 - Usability improvements
 - A number of functionality improvements
 - Enhanced customization through user applications
 - Improved support for transfer of both geographic and internal data
- **SEPM INTERLIS Interfaces**
 - New product **SEPM Interface NIS-BFE/MGDM** to support export to the ElektrischeAnlagenNennspannungUeber36kV_V1.ili data model
 - Improvements of the SEPM SIA405 product line and its different configurations

1.2 Installation/Upgrade

1.2.1 Upgrade to 2024-01

The upgrade to the present version 2024-01 is achieved through exchange of the layered products supplied by SEPM and taking over of the existing licenses, as described in the Admin Manual.

1.2.2 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\DwgAcp130
```

1.2.3 Smallworld-Versions

This release supports all Smallworld version from Smallworld 4.0 up to Smallworld 5.3 (tested at the date of release version 5.3.3).

1.2.4 Configuration Changes

The setting

```
x_translator_settings.resolved_join_messages
```

is replaced with

```
x_base_settings.x_log_map
```

If you have configured `resolved_join_messages` then these settings must be moved to the more general `x_log_map`.

1.2.5 Support for Multiple User Applications

Due to conflicting configurations and modifications, backwards compatibility could not be retained regarding the return values of the following hook methods:

- ❖ `:pre_transaction`
- ❖ `:custom_insert_method`

- ❖ :custom_update_method
- ❖ :custom_delete_method

These methods must return TRUE or UNSET, if the flow should continue, or FALSE otherwise. If multiple user applications are configured, each defining the same hook method, a logical OR is used to combine the return values of each hook method. This means that if at least one hook method returns TRUE or UNSET, the normal flow will continue.

Please review the method `x_translator_spec.call_user_application_method()` and adapt your hook methods accordingly. The return value of the methods configured for **:custom_insert_method** and **:custom_update_method** *must be changed* to follow the rules described here.

1.3 Future Version

1.3.1 Smallworld Versions

This release **2024-01** will be the last to support both Smallworld 4 and 5 versions. Support for Smallworld 4 will be discontinued in the next release 2024-02 (planned for fall 2024).

1.3.2 DWG Format

The **SEPM X-Translator 2024-01** contains the following support for AutoCAD DWG/DXF:

- ❖ DXF Export (DXF version 12 export implemented in Magik only)
- ❖ DWG/DXF Import/Export (supports DWG and DXF 2004)
- ❖ AutoCAD DWG/DXF Import/Export (based on the latest RealDWG library from Autodesk / Tech Soft 3D)

The "DWG/DXF Import/Export" is now deprecated and will be removed. Please upgrade your configurations from the "DWG/DXF Import/Export" format to the "AutoCAD DWG/DXF Import/Export" format.

2 SEPM X-Translator

2.1 General

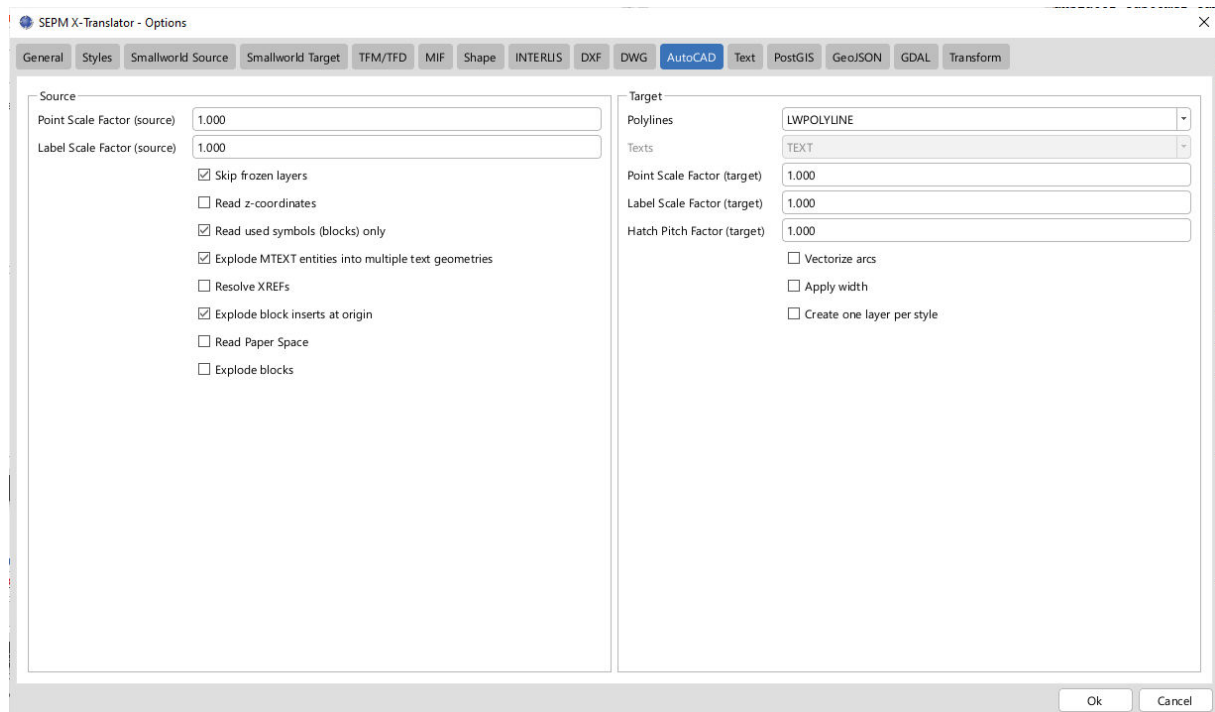
2.1.1 Logfile

The imports and exports of the **SEPM X-Translator** often depend on settings in the Smallworld ACE or Style database. For better traceability, the current ACE and style alternatives are now displayed in the log file:

```
Start Time: 09/11/2023 18:31:24
ACE Alternative: |rober
Style Alternative: ***top***
...
```

2.1.2 Option Dialogs

All options dialogs have been reworked to use group box items for better usability.



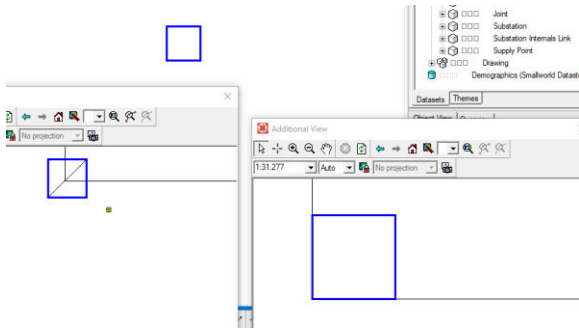
AutoCAD format options with group box widgets

2.1.3 Representation of the import and export area (Ticket#460)

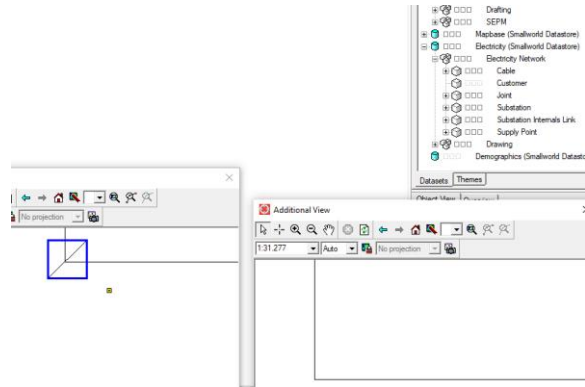
The import or export area is displayed by the **SEPM X-Translator** as a blue rectangle. There is now a new option in the General tab to display import and export areas to switch this function on or off.

Option	Description
Represent import and export area	If activated, the import or export area is displayed as a blue rectangle or polygon.

The import or export area was previously displayed regardless of the source or destination world. This resulted in the area being shown on all maps. From this version onwards, the import or export area is only displayed in the correct world. The following is an example when importing into the world "Electricity (3,2)":



*Version 2023-02 and earlier:
The import area was displayed in all map views.*



*Version 2024-01:
The import area is only displayed in the map view with world (3,2).*

2.1.4 Transfer Shape to DWG

Transfers from Shape files (and similar formats which do not have an inherent style, like GeoJSON) failed in previous releases. This use case now works by providing a default style.

2.1.5 Datasets not shown in the GUI

The default configuration of `x_translator_settings.skip_source_datasets/skip_target_datasets` now includes the key `:tiled_dataset ("Google Maps(TM)")`. This dataset will not be displayed in the model tree in the Smallworld source and target formats.

2.1.6 User Applications Enhancements

The following new features are now available when defining a user application:

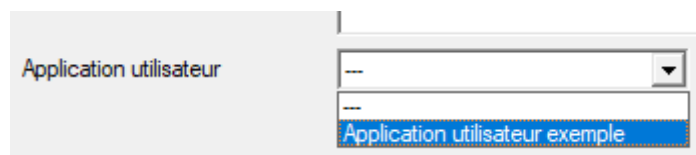
- A description can be given to each user application to give a brief overview of the functionality covered. The description is shown in the Smallworld target spec dialog.

- The external name and the description can be defined using message IDs on the `x_translator_user_application` message group.

```

_block
  x_translator_user_application.register_user_application(
    property_list.new_with(
      :name, :sepm_user_app,
      :external_name, :sepm_user_app_ename,
      :description, :sepm_user_app_description,
      :is_hidden, _false,
      :engine_exemplar, :x_translator_user_application,
      :formats, set.new_with(:smallworld),
      :custom_insert_method, :|sepm_user_app_insert_method()|
    )
  )
_endblock
$

```



User Application external name localized for the French language

2.1.7 Translations for True, False and Maybe

The values for the Smallworld "ds_kleene" data type are now translated in the fixed mapping, value mapping and default menus.

Values for ds_kleen localized for the German language

2.1.8 Separate Transforms for Geographic and Internal Coordinates

One import can cover geographic and internal coordinates, but all coordinates were converted the same way. This is now improved in this release to provide for two coordinate conversions:

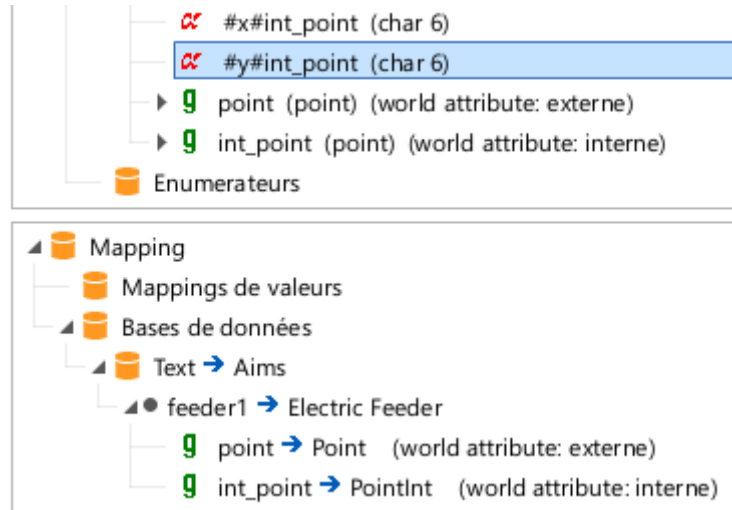
- ❖ GIS coordinates are converted in the usual way using the coordinate and unit systems selected in the source and target dialogs. The corresponding options are now grouped in the "Transformation GIS" group in the Transform options tab.
- ❖ Internal coordinates are not converted by default. An additional affine transform can be applied as selected in the "Transformation Internals" group in the Transform options tab.

Transform options for geographic and internal coordinates

2.2 Smallworld Source Format

2.2.1 Display of the world attribute name

When configuring the world attribute with the model properties menu, the selection is now displayed visually in the GUI:



Display of the selected world attribute

2.2.2 Model Sort Mode 'Migration'

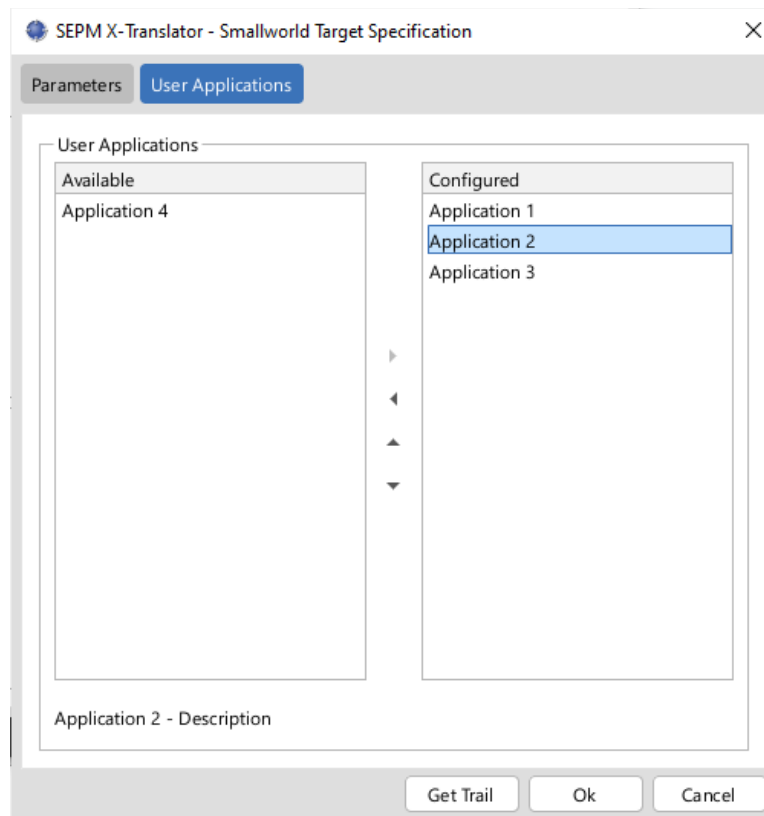
The new model sort mode 'Migration' allows sorting the Smallworld model optimized for migrations. It evaluates the return value of the `x_migration_sort` API on the record exemplar to sort the collections accordingly. For example, to first transfer trenches, then tubes and then cables you could return -300 on the trench, -200 on the tube and -100 on the cable to automatically sort the collections in that particular order.

2.3 Smallworld Target Format

2.3.1 Manage User Application (Ticket#467)

The Smallworld target format can now handle multiple user applications. A new "User Application" tab is available to configure the user applications. It provides the following features:

- ❖ Show the list of available applications
- ❖ One or more applications can be selected and added to the list of configured applications
- ❖ A configured application can be removed again
- ❖ The order of execution can be changed using the "up" and "down" arrows
- ❖ The user application's description is shown for the selected application



New "User Application" tab

This allows users to build a library of unitary user applications, each covering a specific functionality. For each data transfer requirement, the user can then activate the specific behavior to execute by selecting the corresponding user application.

2.3.2 Classification of log messages

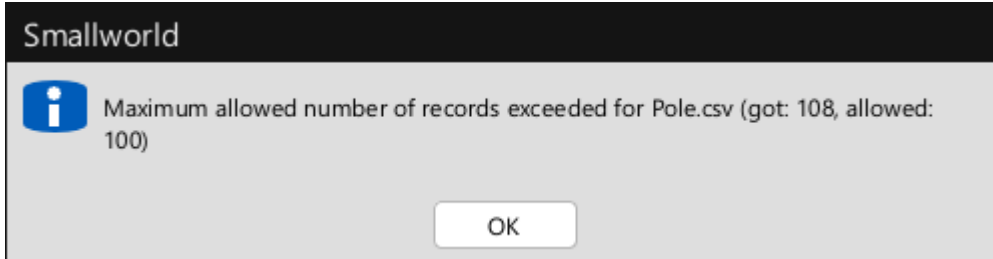
The new API `x_log_mapped` now uses the lookup `x_base_settings.x_log_map` to determine the error type (error, warning or info). This allows adapt messages to specific requirements. Mapping the error ID to the value `:ignore` suppresses the message altogether.

The new API is currently implemented in the `x_translator_smallworld_target` (Smallworld target format) class only.

2.4 Text Source Format

2.4.1 Configuration 'text_max_allowed_records'

With the setting 'text_max_allowed_records' the text import is restricted to a maximum permitted number of objects. This setting is per individual CSV file in the text source format. So if at least one of the text files to be read exceeds the configured limit, the following message is displayed:



In the standard configuration of the SEPM X-Translator, this function is switched off.

See the comments in `x_translator_settings.text_max_allowed_records` for details.

2.4.2 Improved Error Reporting

When reading a point geometry using the `#x#` and `#y#` markers, a missing value for x or y was not reported as an error.

```
ID;#x#position;#y#position;name
1;200000.0 300000.0:AAA
2;200001.0 :BBB
```

When reading object with ID=2 an error will now be shown.

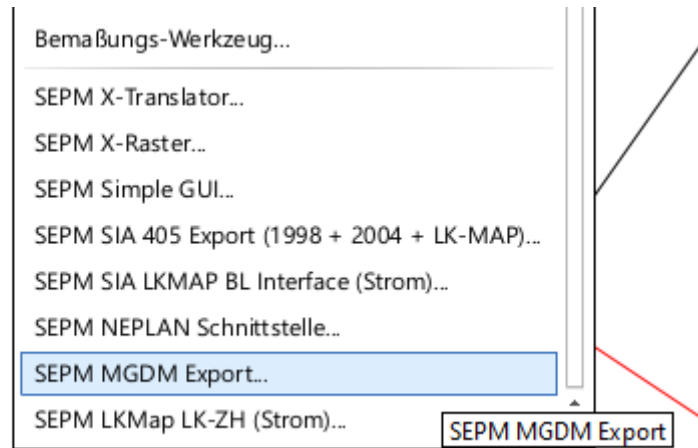
3 SEPM INTERLIS Interfaces

3.1 MGDM Interface

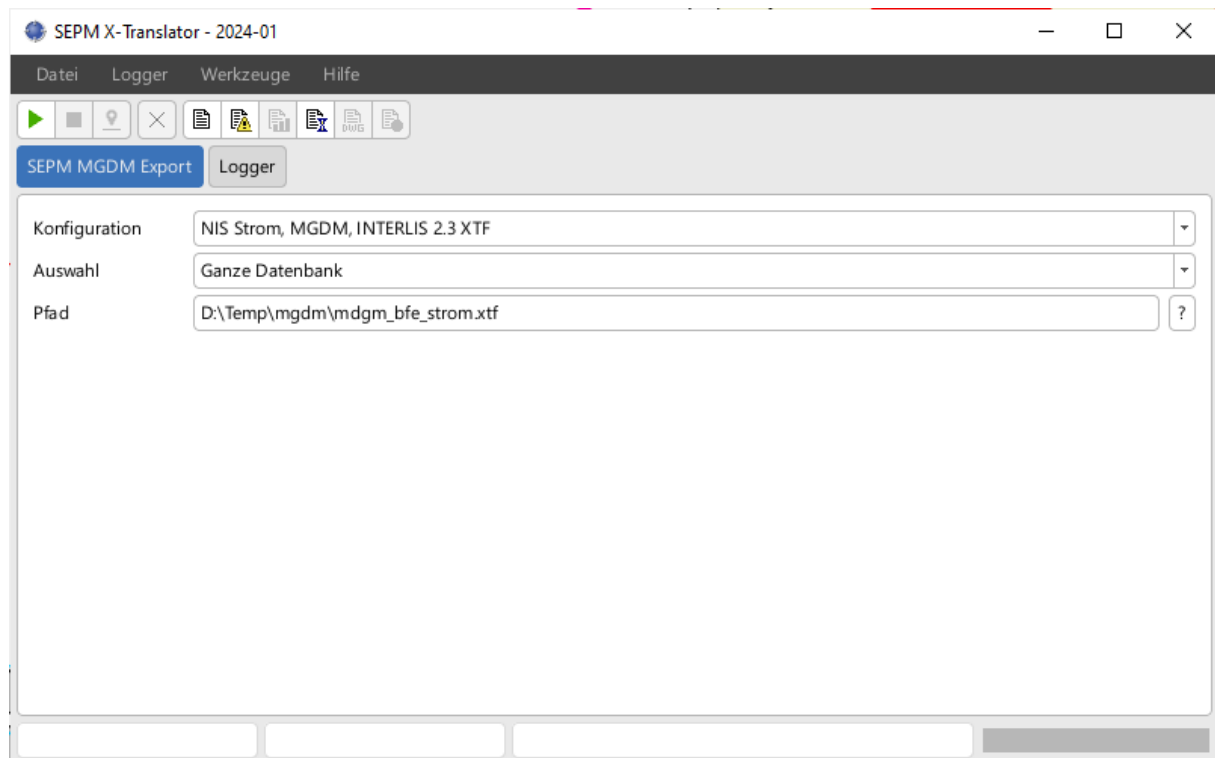
3.1.1 SEPM Interface NIS-BFE/MGDM

As part of the introduction of minimal models according to GeoIG and GeoIV, the BFE created the model *ElektrischeAnlagenNennspannungUeber36kV_V1.ili*. Network operators with corresponding systems should supply data in this model to the BFE.

The new product **SEPM interface NIS-BFE/MGDM** is a configuration for this requirement for the Smallworld application NIS Strom based on the **SEPM X-Translator**.



Menu "SEPM MGDM Export"



MGDM Export for NIS Strom

3.2 SEPM SIA405 LKZH Interface

3.2.1 Export of perimeters from different media

The Canton of Zurich only allows one INTERLIS file per data provider, which contains the project perimeters for all media. Previously, this file had to be created manually from the individual media-specific exports.

The interface for outputting perimeters in the NIS Strom application has been expanded so that multiple organizational units can be configured for different media:

```
_pragma(classify_level=advanced,topic={x_database},usage=redefinable)
x_database_settings.define_shared_constant(
  ##
  ## NIS Nummern der Organisatorischen Einheiten für den
  ## Perimeter Export und ihr Mapping auf das zugehörige Medium.
  ##
  ## Mögliche Werte: "Abwasser", "Elektrizitaet", "Fernwaerme",
  ## "Gas", "Kommunikation", "Wasser", "weitereMedien"
  ##
  :lkzh_strom_perimeter_org_units,
  equality_hash_table.new_with(
    "ORG33", "Elektrizitaet",
    "ORG34", "Wasser"
  ),
  :public)
$
```

Customers who need to deliver multiple media to the canton of Zurich can now manage the different perimeter areas in NIS Strom and export them into a single file.

3.3 SEPM SIA405 LKMAP/BL Interface

3.3.1 Export Manhole with surface geometry

A manhole with surface geometry was previously exported as both an LK point and as a LK area. Such a manhole will now only be exported as an LK area only. (Ticket#479)