SYMBOLICA I
SYMBOLICA-Extract

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english

Ingenieur Studio Hollaus

General

The primary gloals for the development of SYMBOLICA were and are on the one hand a structuring and, on the other hand, analyses and of existing drawings.

Basically trouble arises by handing over of engineering plans by the following aspects:

- *Different office standards between different companies*
- *Different CAD systems between different companies*
- *Different AutoCAD addin-applications / tools*
- *Low education of the CAD employees*
- *Outdated data, at that time by slightest mightiness of CAD software less structured*

Additional advantages in drawings arise at all places which use more than just paper:

- *Automated parts lists, which can also be included in:*
- *Cost calculation, material lists, …*
- *Production control (CNC, ordering system.)*
- *Lists for documentation management systems*
- *Building administration / Facility management*

SYMBOLICA is a product of Ingenieur Studio HOLLAUS which is a developer and licenser of the software basing on AutoCAD (current Symbolica version is built for AutoCAD 2010 and 2012, for older versions you can request the previous setup).

Licenser

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Regulations of utilization

The regulations of utilization are obviously from the license term attached to the software.

If the licensee has received the license for the use from the company OMV AG, the use is limited to the editing of drawings whose production / editing were instructed by the OMV.

Installation

Authorization / login

- *For the installation it is absolutely necessary that AutoCAD Version 2007 or 2010 or 2012 is installed and executable and you are logged in with a username in the system which has same rights as the administrator has (under Windows2000/XP/Win7 main user has enough rights).*

Uninstalling of previous versions

- *If older versions of SYMBOLICA are installed, it is not necessary to remove/uninstall them as well as you can use older versions of AutoCAD parallel to version 2007.*

- *To remove the older version goto Windows SystemControl ➔ Software, look for the item "ISH_Loader", activate it and click on 'remove'. After the deinstallation has finished you can remove the directory (if you have installed with standardoptions)*

  C:\Programme\ISHAcadAppsBase   (if running german version of Windows:)
 C:\Program Files\ISHAcadAppsBase   (if running english version of Windows)

  IMPORTANT: if you have modified any files within that direcory you should first create a backup of your modified data.

  You should also be carefull of using symbols defined with new SYMBOLICA as they may be saved with the fileformat of AutoCAD 2010 which is not readable by older AutoCAD-versions.

Installation

- *In Windows explorer change to the directory, where the temporary setup-files are stored*

  In the following as 'C:\Temp\SymbolicaSetup' designated, this can differ on your system by another drive/directory name depending of where you have these files placed.

  IMPORTANT: it is necessary to have these directory copied onto a local drive, starting the setup from a network-drive could result in an permission-error.

- *Within that directory you find a subdirectory 'ISH_AcConfNET' an in that directory the Installation-/Updatetool called ISH_AcConfNET.exe. Double-Click it to get the Setup-Dialog.*
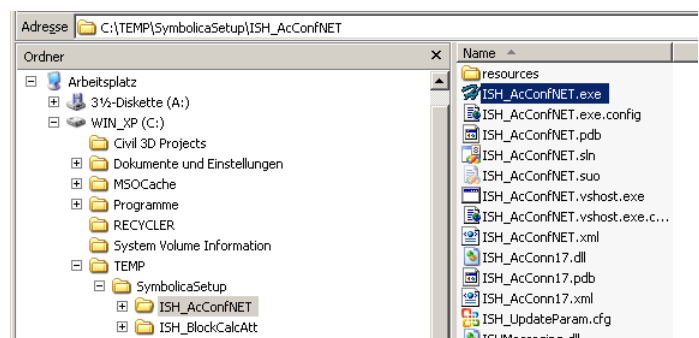
- *The Dialog for the setup-process will startup:*
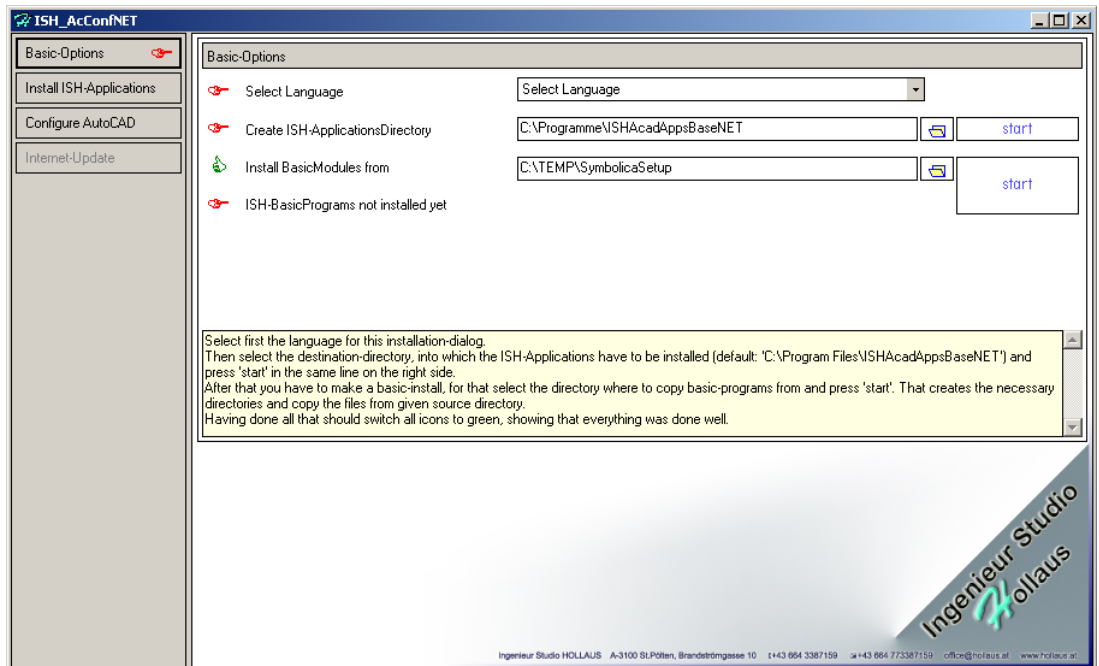
● *First select the language the dialog should have*

● *Create the ISHAcadAppBaseNET-directory*

> This is the directory, where the ISH-Applications/-modules should be installed to, the default (preconfigured) directories are:
>
> C:\Programme\ISHAcadAppsBaseNET   (on german versions of Windows)
> C:\Program Files\ISHAcadAppsBaseNET   (on english versions of Windows)
>
> If you want to change this directory, click on the 'select directory'-button, choose another one as your destination of ISH_Applications/-modules.
>
> Press 'start' right beside in the same line, this will create the directory as base for the next steps.

● *Install Basic-Modules*

> After having defined the destination-directory you should just press 'start' one line below. This will create directories and files, which are at least necessary to do the ISH-Applications setup.
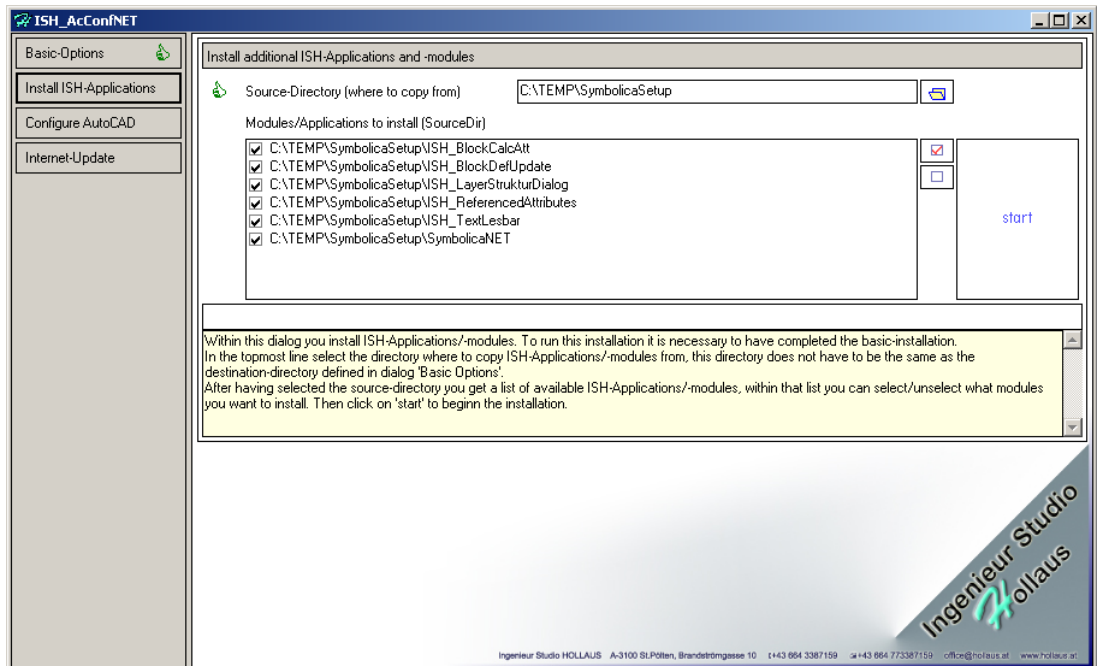
● *Finalized installation of Basic-Modules*

> Having done the above steps, every icon should have changed to green, that gives the confirmation that all basic steps have finished successfully.
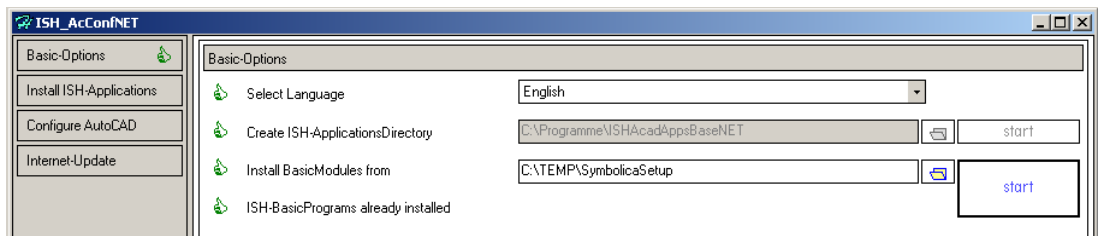
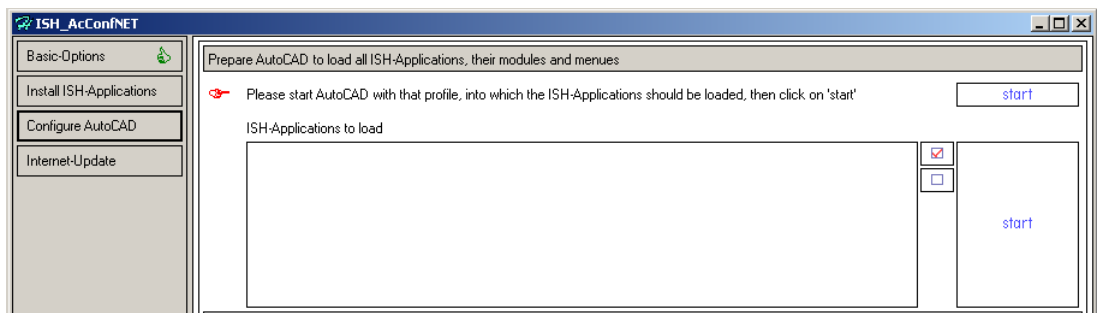● *Install ISH-Applications/-modules*

> Click on 'Install ISH-Applications' on the left side of the dialog (the content of the screenshot may differ to your installation-dialog)

Click on 'start' to copy the marked ISH-Applications/-modules to the destination-directory, under normal conditions you will not have to check/uncheck individual modules, all will be activated.

● *Configure AutoCAD*

Click on 'Configure AutoCAD' on the left side of the dialog. Within this part of the installation the setup-programm will set all AutoCAD-specific options, load menues and register modules. Therefor it is necessary that you start AutoCAD (2010 or 2012, only one session) and set the profile active in which you want to run the ISH-Applications/-modules.

Start AutoCAD and press 'start' in the first line.
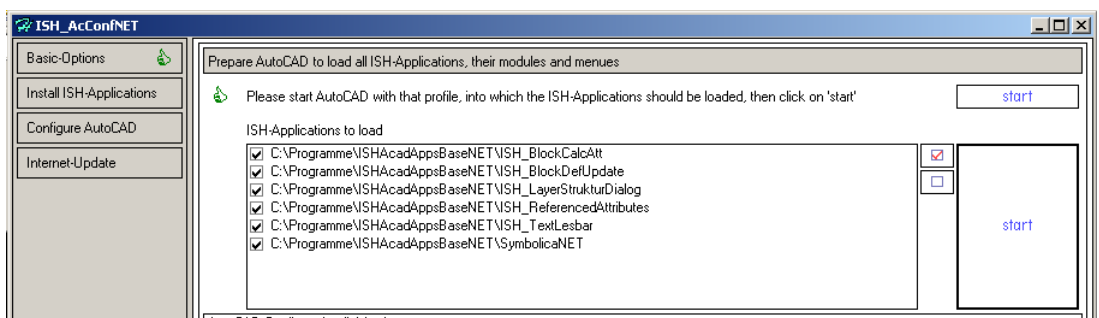
● *Select ISH-Applications to be loaded*

After you started AutoCAD and clicked to the 'start' in the first line you will get a list of modules

that you want to be registered in the current profile of AutoCAD.

Just press 'start' right beside the list of installable ISH-Applications/-modules.

AutoCAD should load all menues you selected, the installation is finished, you can quit ISH_AcConfigNET.exe and delete the temporary directory from which you installed from.

IMPORTANT: if you installed new applications which are to be registered, you will get the requests of the authorization-codes at the next start of AutoCAD. Make a screenshot and send this sreenshot together with company-name, -address, contact person, phone and mail-adress to 'hotline@hollaus.at' the auth.-code will be returned as fast as possible. In the meantime you can work with AutoCAD with another profile.
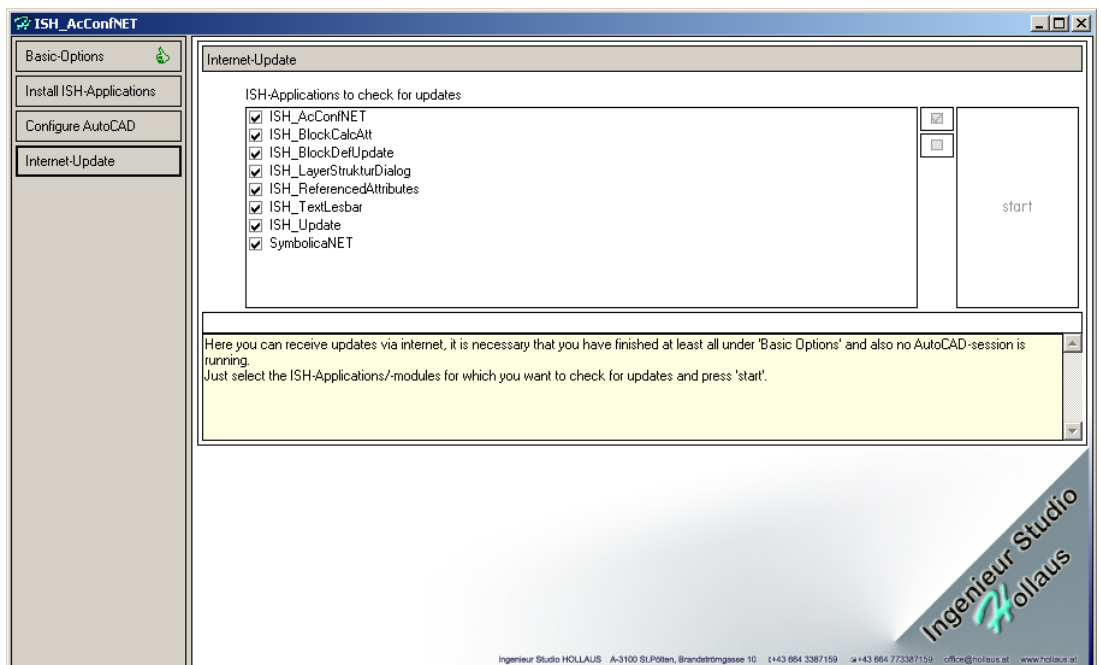
Update via Internet

● *Start ISH_AcConfNET.exe from your <installation-directory>\ISH_AcConfNET*
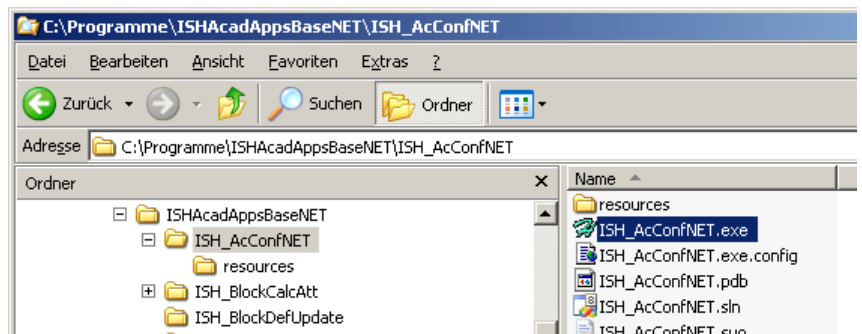
● *Activate Internet-Update*

As all installation has allready be done, you can jump directly to internet-update by cklicking on 'Internet-Update'-button on the left side.

You will get a list of your installed options, check/uncheck them to decide which of them to check for updates. Then press 'start' to initialize the update-process. The time of getting all updated depends on your internet-access speed.

IMPORTANT: There has to be no AutoCAD-session running, if so, stop it first.

IMPORTANT: if you have made any modifications, for example to symbols, make sure to have

first created a backup of these files as they will be overridden without any question.

It may be possible that the update-process needs to end ISH_AcConfNET, don't worry about it, the installation of the updates will get finished without this open dialog.

SYMBOLICA offers 2 basic procedures:

○ construction of symbols / blocks with attributes (for text information)

○ automated replacement of existing (non-structured) geometry/text by symbols

SYMBOLICA-Extract:

○ Output of the information in and about the drawing in various file formats

ISH_LayerStrukturDialog

○ Offers in an easier way the possibility to control layer status for whole groups

General

Starting / Ending of SYMBOLICA

● *One single menu button has been added by the loading of the SYMBOLICA menu:*
SYMBOLICA load:

○ the SYMBOLICA interface will be loaded and all AutoCAD monitoring functions (see block replace, -paste) are active

SYMBOLICA unload:

○ unloading SYMBOLICA will not be necessary anymore, if you want to you can first close the SYMBOLICA-Window and then type the command 'SymbolicaUnload'.

SYMBOLICA-Dialog

Handling

● *Parallel to the new AutoCAD-handling of tool-palettes the new dialog of SYMBOLICA is dockable to the border of the AutoCAD-window or to other tool-palettes, resizeable and minimizable as other tool-palettes do.*

● *The SYMBOLICA-userinterface is divided into 4 groups:*

○ MainMenu: where you do the work

○ OMVExport to export drawing-information according to advices of the documentation-system of OMV

○ AppProperties: to configure SYMBOLICA

○ DevEnv: for use in case of support between user and developer
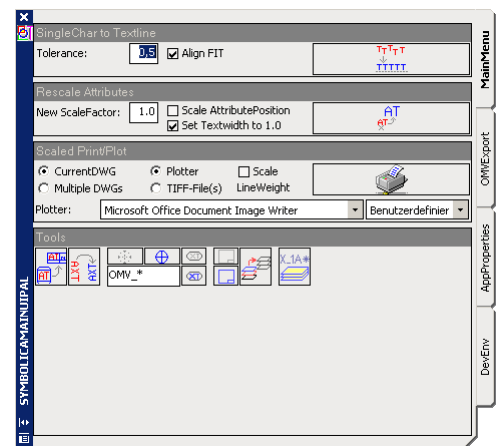
Configuration

Click on group 'AppProperties' to get to the configuration of SYMBOLICA. All configuration-settings will be saved at AutoCAD-Quit, so setting these properties should only be done once.

Language

- *SYMBOLICA supports German and English, select your favoured language, the whole dialog will be translated and all messages will come on your prefered language. The selected language must not correspond to the AutoCAD linguistic version.*
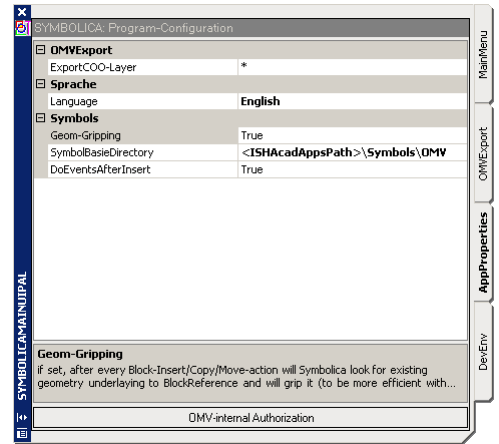
OMVExport

- *ExportCOOLayer*

  In this field you can define layers, from which geometry has to be extracted. The default is "*" (star).

  The contents of this text field can contain of wild-character ("?" or "*"), by use several Layer names, these Layer names are distinguish by ";" (semicolon)..

Symbols

- *Geom-Gripping*

  If activated, at block insert the geometry to be replaced will be selected (griped), see this SYMBOLICA symbols in AutoCAD ☐ Detection of lying underneath geometry

- *SymbolBasicDirectory*

  Directory where the OMV-specific symbols are stored. If this directory is placed under the ISH-ApplicationsPath you can use '<ISHAcadAppsPath>' instead of writing the whole pathname of the installation-directory. Under normal circumstanced (default installation) this directory-setting is prepared correctly.

- *DoEventsAfterInsert*

  If activated, SYMBOLICA takes over the control about AutoCAD after block-insert- and -editing functions. With deactivation of this setting SYMBOLICA discontinues the monitoring of the AutoCAD function, remains as in application, however, loaded.

SYMBOLICA Blocks in AutoCAD

One of the main functions of SYMBOLICA is exchanging existing (unstructured) geometry into a new structured form, besides, blocks by evaluation play a special role. With the block creation functions you create symbols, with AutoCAD commands you insert/copy blocks in the drawing to be reworked and SYMBOLICA takes over the necessary operations.

The action signifies simply expressed, place your blocks above existing geometry, SYMBOLICA take over the tasks to take over text information (text of the underlaying geometry will be saved into block-attributes) and you following delete the "oversubscribed" geometry.

Basic

- *SYMBOLICA monitors functions which are executed in AutoCAD together with blocks. Besides, it is checked constantly if symbols come to lie above existing geometry elements, be it by insert a new Block, by moving, copy or something like that.*

  IMPORTANT: AutoCAD-based applications can execute this running command monitoring only if the file was opened as an existing file. That's why it is necessary at the creation of a new file to save, to close and to reopen. To us was assured by Autodesk that they take care around a solution of this problem very much. As soon as there is a solution, we will update Symbolica immediately.

- *This check is only executed, if the setting under AppProperties ➔ Symbols ➔ DoEventsAfterInsert.*

- *Only with this functionality it is possible for the user, to transfer a plan from single geometry to a modern structured drawing very actual, quick and under highest possible error exclusion.*

- *If the check proves a positive result (single geometry lies under new placed block), the following steps are executed:*

Detection of lying underneath factually information

- *On each position of every attribute in the new placed symbol lying underneath texts or attributes are searched.*

  IMPORTANT: requirement for this is the putting of the AutoCAD-system variable "ATTREQ" to "0" (null).

  If those are identified and as allocatable valued, the new attributes receive automatically the factually information from the elements under it.

  INFORMATION: With the insert of new blocks with manual attribute declared value "ATTREQ" must be set before on "1" the user is thereby queried after the new attribute contents.

  TIP: the query of the block attributes in the text line occurs through setting of the variable "ATTDIA" on "0" (null), should the query occur over dialog box, "ATTDIA" is to be placed on "1".

Detection of lying underneath geometry

- *All elements which lie completely under the new symbol are selected (AutoCAD: grips). This selection serves the user to recognize the correctness of the selection (by the*

replacement to elements to be deleted) visually fast and to delete with the button "Del". This selection occurs only, if in the setting under AppProperties ➔ Symbols ➔ Geom-Gripping is activated.

MainMenu

In the MainMenu-part the routines are placed which simplify the work with AutoCAD generally and with blocks especially.

SingleChar to Textline

⚫ *If have been written in the drawing to be reworked a text from single characters (e.g., earlier for microfilming sometimes assigned), it would be necessary in order to convert the whole text to an attribute, to convert these single letter-geometry elements to one text element. Nevertheless, the existing text must be arranged within the tolerance to be entered (distance from horizontal).*

Start the function and select the elements which should be concatenated

⚫ *The setting "Align FIT" controls the alignment property of the text in AutoCAD:*

Active: the text generated anew is stretched so far that the length of the new text of the distance corresponds between the first and last original character.

Not active: the new text is constructed in the position of the first original character with the alignment attribute flush left.
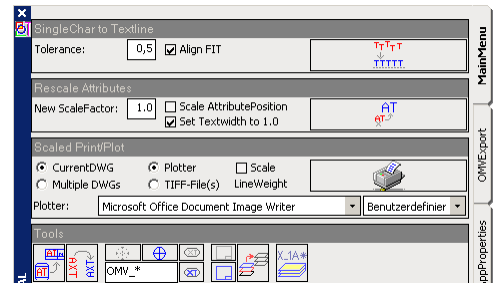
Rescale Attributes

⚫ *By scaling blocks, also the attributes will be scaled, it means that attributes will be resized with the same scaling factor, if X or Y scaling are different, then the aspect ratio will be calculated by the X-Y ratio.*

With "Attributes scaling" the attribute becomes scaled independent of the block scaling in proportion to original size. With the value "1" the original type size becomes in accordance with Block definition recovered.

„Scale Attribute position "causes that the new scaling is calculated in proportion to block insertion point (the distance to the block base point likewise becomes scaled), otherwise the attribute maintains their own insertion point.

„Set TextWidthFaktor to 1.0 " helps in distorted blocks (e.g., X-Scale = 3 to Y-Scale = 6) put back the relation character font wide to character font height again on 1.0.

Scaled Printing/Plot

⚫ *Here drawings can be scaled on plotter or in form of a raster file displayed.*

The drawing elements in the model range are drawn basically always 1:1, with this option the user receives the easy possibility to display the data from the model range of AutoCAD scaled on printer/plotter or to save as raster files (TIFF).

Options:

Current DWG: the drawing currently opened in AutoCAD has to be written (to plotter or to file)
Multiple DWG's: all drawings which are saved in the folder under „Directory of DWG files to Print/Plot" are opened with AutoCAD, then written to plotter/to file and again closed.
Plotter: it is written to the plotter which is given in the accompanying PC3 choice, after the choice of the PC3 file (plotter definition) the suitable page setup can be selected. The page setup determines with it also the scaling of model range-borders for paper size.
TIFF-file(s): the drawing contents are saved as a TIFF file, the scaling arises from the drawing borders and the accompanying Tiff pixel entry.
Scale Lineweight: with this option the user determines whether the line weights with the scaling drawing with output format scaled by or the line strengths are preserved.

In addition is to be mentioned that the output of several files is possible only as TIFF files and not in the direction of plotter.

With entry of several drawings and with it to the directory in which these files are removed is to be paid attention to the fact that these files are not opened on another workplace.

The TIFF files are saved always in the same directory like the drawing with changed extension.

Update description blocks

⬤ *Symbols can be formed so that the attributes of different blocks update themselves mutually.*

In the range of equipment-symbols of the OMV symbols, e.g., the block „ swimming roof tank quietened "is seated and his attributes are filled completely. With the insert of the matching labeling block "OMV_EQUIP_T_RAHMEN" is enough filling the first attribute "TAG_NUMMER_OMV02", this attribute must have the same value like the equipment icon. The remaining attributes are taken over with loaded Symbolica immediately independently.

Automatic taking over of the attribute information of another block is also carried out by update by attribute information. It is important that Symbolica is loaded and that the attributes in each case in the "active" block (in this case the equipment block is the "active" block, the labeling block "passive").

If updates have been carried out in the attributes, while Symbolica was not active, then it is possible with "update" under global tools to check all block attributes.

Text readably rotate

⬤ *If attributes or texts stand in a non-readable direction, this is aimed with "Rotate" anew. Texts and attributes rotate when required on 180 ° and, besides, maintain their position.*

For block attributes there is a configuration file (To set in SYMBOLICA➜CONFIG) which is rotated for every block one of the following settings, how "readably" specifies:

0... attribute is rotated in itself

1... attribute is rotated around Block-InsertionPoint

2 ... whole block is rotated

Visibility of Blockreferences

⬤ *To simplify the overview which geometry elements were already converted to blocks, all blocks of the drawing can be switched with these functions obviously or invisibly.*
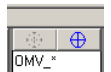
CARE: if the drawing is saved, the function „turn on blocks" must be carried out before. Otherwise, it would not be possible for other editors of this plan recovering the visibility without SYMBOLICA.

Visibility of Attributes

⬤ *You can now switch each visible attribute to invisible by starting the function and select the attribute to hide. To unhide (as the attribute isnot selectable any more) you have to select the block from which all hidden attributes have to get visible.*

IMPORTANT: if the drawing is saved with hidden attributes, the only way to make them visible is to use SYMBOLICA or application-programming. A user with stand-alone AutoCAD will not be able to get the hidden attributes back.

Visibility of Xref-depending drawing-borders and –titleblocks

⬤ *If your current drawings contain Xref's and within them borders and titleblocks you can switch the Xref-depending layers for these elements on and off.*

Coloring Xref-depending layer

- *With that function you get a dialog where you can change colors of Xref-depending layers. So if you have Xref's in the current drawing, you can for example switch all Xref-depending layercolors to light-grey.*

LayerStructureDialog

- *starts the LayerStructureDialog to rapidly switch structured layers on/off, freeze/thaw them or to make with a 'readable selection' a layer active, where the layername is not primary readable, but out of a list of structure-characters.*
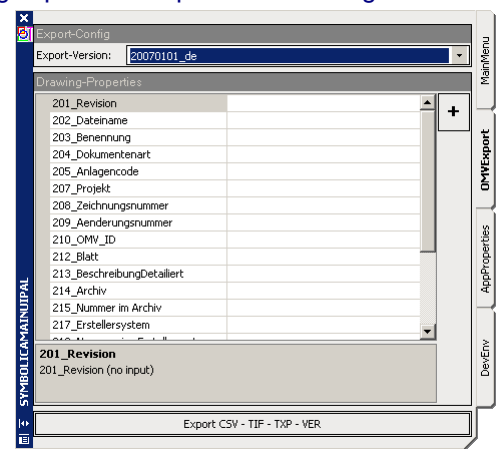
Export (only OMV-edition)

From the analyzable data within the drawing a process exports data in a given OMV structure to make it possible to import the drawing into one (or more) document-manangement system((s).

The data to be displayed arise from:

- ○ Information in blocks of the drawing
- ○ Information from the title block
- ○ User's entries

Export-Version

- *In uppermost Pull-down-List the single versions of format descriptions stand for the choice, it is to be paid attention to the fact that the version most current in each case is selected or the version which is arranged between contractor and principal.*

- *Within a format description the single variables whose values are to be determined are stated under it.*

- *These variables are covered to the general structure of the document management system OMV. Not every value is to be specified to jump over such fields automatically and also values which can be read without manual adding from the drawing is beside the values pull down list a function button which unwinds this automatic filling and waits only in the variable positions for user's entries which cannot become reading out from the drawing.*

Manuell entry

- *Manual text entry:*
  Can be written directly into the field.

- *Choice from a list of given values:*
  Select one of the given values by click with the mouse.

- *Entry of the plot range (last property):*
  SYMBOLICA passes the activity to AutoCAD by this query, you have to show according to the request in the AutoCAD command line the left lower corner and then the right upper corner.
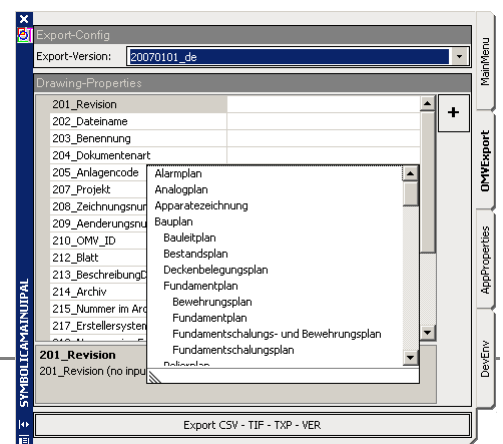
Export CSV-TIF-TXP-VER

As soon as the list of the input fields is worked through, the function „export ..." gets enabled. Execute the function; SYMBOLICA generates in the same directory like the drawing and with same names (other extension) the files necessary for the document management.

To import data from PDS and from ISketch SYMBOLICA has been extended with an import-routine. This import-process modifies the DWG-files exported from PDS-/ISketch-exporters that the drawing-/layerstructure fulfills the OMV-specifications for drawing-files.
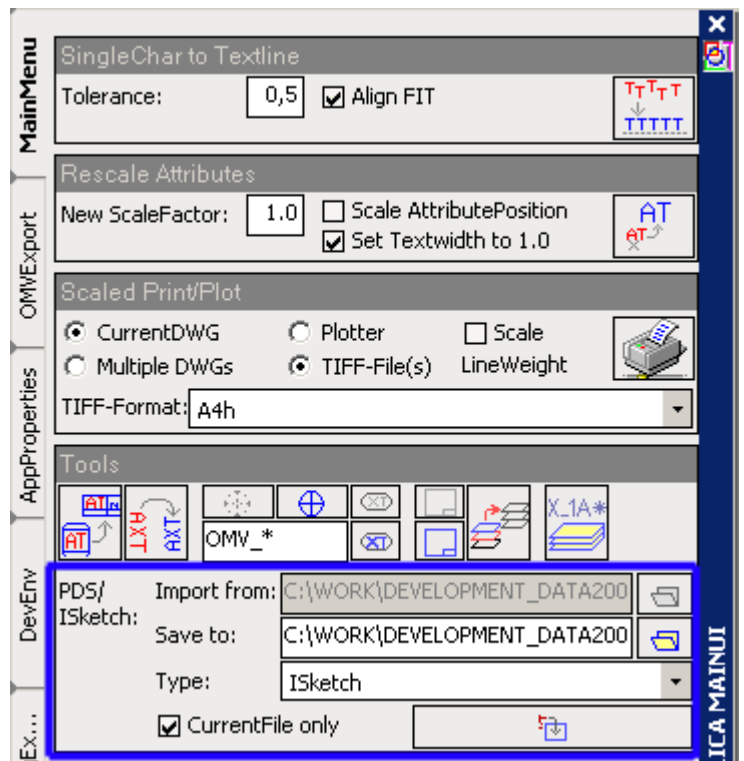
The import could be done file by file or by specifying a directory with DWG-files that have to be all converted within one step. The converted files will be stored within the directory specified by "Save to", the filename will be set by attributes-data of the titleblock.

⚫ *CurrentFile only:*

If checked the DWG-file currently loaded (and active) in AutoCAD will be converted, if not marked all DWG-files within the directory "Import from" are processed.

The finished file(s) is(are) stored in the directory given by "Save to".

⚫ *Type:*

With that control the user has to define wether the drawing-file(s) where exported from PDS or from ISketch.

Specials within import-process from PDS:

The import-programm checks, wether there exists a drawing within the destination-directory, having the same name like as it would have when beeing created newly. If so the version-number will be increased and a new file will be created that has the geometry combinded from the PDS-exported file and the "non-PDS" geometry from the existing file in the destination-directory.
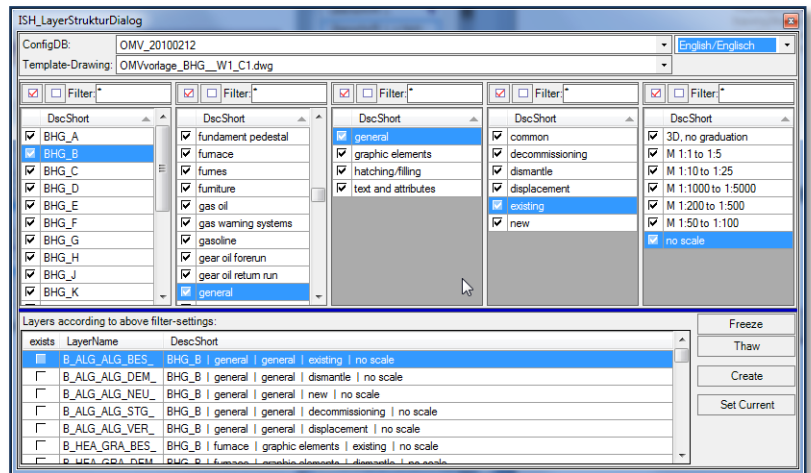
This application helps to find layers, to switch visibility (freeze/thaw) and to create layers not already existing in the drawing.

Config-settings

The basic settings for that are:

- Directory where the config-files are placed (first line)
- AutoCAD Template-Drawing (second line)
- Language for layer structure-information (top right)

These settings are saved on your machine, so set these values just one time (except you change between different templates or config-directories).

ConfigDB: a list of settings (for future variants prepared)

Template-Drawing: The source-drawing that is used to show all available layers, and, in case of creation of layers in the current drawing, the layer-settings (colour, line type, line weight) are copied from this drawing.

Layer Structure

According to the definitions of the layer structure the dialog is splitted into columns, each column for a part of the definition.
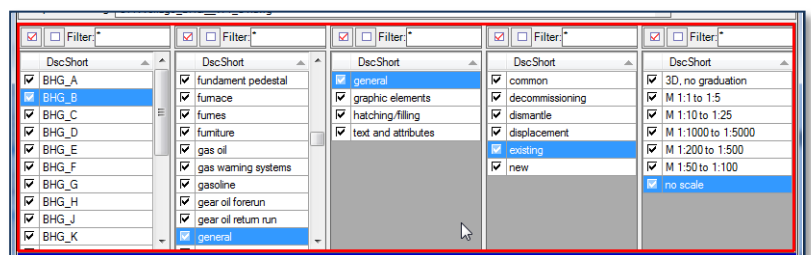
For each column you can active/deactivate the filtering by checking/unchecking the box in each row manually or globally with the icons above the grid.

Result of the filtering is that the list of resulting layers get's as short as possible to find the layer you are searching for.

When you move the mouse-cursor to one element of the grid and stop for a second, you will receive some additional information to the item.
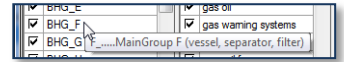
Layer Functions

Changing any filtering results in an update of the list of resulting layers. If this list is empty, the above filtering does not find any matching layers within the template-drawing.

In the first column of the resulting layer list you will see, if the layer already exists in the drawing currently opened within autocad.
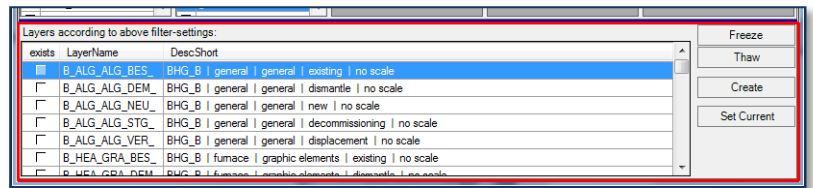
Now you have following options by selecting layers (selected means rows with blue backcolor):

Freeze: freeze selected layers in the current drawing

Thaw   thaw selected layers

Create   create layers selected by copying these layers from the template-drawing. If the layer already exists, it remains unchanged.

Set Current: make the layer active in the current drawing (only one layer should be selected, the layer already has to exist in the active drawing)

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