HiCAD 2013

HiCAD/HELiOS
Getting started

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Getting Started

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1 System Requirements

1.1 Hardware Requirements for HiCAD

For the installation of HiCAD you can use any hardware that possesses current drivers for the operating systems used. Please note, for instance, that the graphics card drivers need to support the complete OpenGL instruction set.

» Hardware requirements (minimum):

- Pentium 4 compatible processor with SSE2 support
- 4 GB RAM
- approx. 3 GB disk free space
- DVD drive
- Screen resolution of 1280 x 1024
- Fully OpenGL capable graphics card with at least 128 MB memory (if the error message **Set Pixel Format failed** is issued during program start, the OpenGL driver does not support the entire instruction set). You can use the **OpenGLCapabilityTester** to check whether the OpenGL capabilities of your computer are sufficient for HiCAD. This tool is available for download in the ISD Wiki at FAQ > System Requirements > HiCAD.

To achieve optimal performance for large assemblies, the system should possess significantly more main memory than is considered sufficient for HiCAD at first glance. This enables the hard disk accessing operations Buffer memory, Undo and Switch drawing to be performed up to 4 times faster.

» Supported operating systems:

- Windows 8
- Windows 7 (with current service pack and security patches)
- Windows XP (with current service pack and security patches)

» Supported database systems (for HiCAD with HELiOS):

- Microsoft SQL Server 2000 / 2005 / 2008 / 2012
- Oracle Database Server 10g / 11g R2

There are no further requirements for the installation of the **HiCAD Version with License Management**; the legal licensing check is performed during runtime.

» Optimal hardware equipment (January 2013):

Computer:	Fujitsu Celsius M470
Processor (CPU):	Intel® Xeon® Processor W3550 (8M Cache, 3.06 GHz, 4,80 GT/s Intel® QPI)
RAM:	16 GB, DDR3-RAM, 1333 MHz
Hard disk:	1 SATA II disk (hard disk: Windows), 1 SSD SATA disk, 128 GB, 2.5 inch (hard disk: HiCAD)
Screen resolution	Full HD (1920x1080)
Graphics card:	NVIDIA Quadro 5000 (2.5 GB)
Operating system:	Windows 7 (64 Bit)

» Graphic cards
The following graphic cards are recommended for HiCAD operation (tested on Windows 7

Supplier	Model	Graphic drivers (tested)
Nvidia	NVIDIA Quadro 2000 (1 GB)	8.17.12.9670 (296.70)
	NVIDIA Quadro 4000 (2 GB)	8.17.12.9670 (296.70)
	NVIDIA Quadro 5000 (2.5 GB)	8.17.12.9670 (296.70)
AMD	FirePro V3900 (1 GB DDR3)	8.911.3.3000
	FirePro V5900 (2 GB GDDR5, 512 Stream-Proc.)	8.911.3.3000

Please note that insufficient graphics hardware will impair the performance and the quality of graphical representation!

1.2 System Requirements for HELiOS Desktop (Standalone)

For the installation of HELiOS you may use any hardware possessing current drivers for the operating systems used. Please note, for instance, that the graphics card drivers need to support the complete OpenGL instruction set.

» Hardware requirements:

- Pentium 4 compatible processor with SSE2 support
- 1 GB RAM

» Supported operating systems:

- Windows XP (with current service pack and security patches)
- Windows 7 (with current service pack and security patches)
- Windows 8

» Supported database systems:

- Microsoft SQL Server 2000 / 2005 / 2008 / 2012
- Oracle Database Server 10g / 11g R2

» Microsoft .NET Framework 4.0 or higher and Visual C++ Runtime Libraries need to be installed on the computer before HELiOS can be used; these packages will be installed by the HELiOS installer if required.

» To be able to work with the HELiOS Desktop, one of the above mentioned database systems needs to be available and prepared for the use of HELiOS. Installation instructions (in .pdf format) and appropriate implementation of the server system can be found in the Readme directory of the HELiOS Installation DVD.

1.3 Hardware Requirements License Server

Processor (CPU):	x86 Processor for 32-Bit / x86-64 Processor for 64-Bit Recommended: 2 GHz Processor
RAM:	Minimum: 1 GB Recommended: 2 GB (with SQL Server: > 3 GB)
Hard disk:	1.2 GB free disk space
Operating System (Server)	Windows Server 2003 (32 & 64-Bit) Windows Server 2008 (32 & 64-Bit) Windows Server 2008 R2 (32 & 64-Bit) Windows Server 2012
Operating System (Client)	Windows XP (32 & 64-Bit) Windows Vista (32 & 64-Bit) Windows 7 (32 & 64-Bit)
IP/MAC Adress	A static IP address is required for an error-free operation of the license server. For virtual servers a static MAC address needs to be available.

A license server program does not need to run on a file server system or any specific hardware server. Suitable is any computer that fulfils the requirements.

1.4 Hardware Requirements HiCAD Spooler

The system requirements for the Plot Spooler are identical to those for a normal HiCAD Client (please see System Requirements for HiCAD). The RAM should be at least as large as the RAM for the existing HiCAD Clients. The reason for this is that the Plot Spooler must be able to perform, besides automation tasks, various other tasks such as the conversion of HiCAD drawings (to 3D-PDF or similar).

Besides the Client operating systems Windows 7 und XP you can also use the Server operating systems Windows Server 2003, Windows Server 2008 or Windows Server 2012. Whether a Server operating system needs to be used depends on the licensing conditions for the Microsoft operating system that you use. The decisive factor is the number of permitted simultaneous device connections. For Windows XP the number is limited to 10, for Windows 7 it is limited to 20 connections.

1.5 Hardware Requirements Vault Server

Processor (CPU):	Pentium III-compatible processor, Minimum: 1,0 GHz
RAM:	Minimum: 1 GB, **Recommended:** 4 GB or more
Graphics Card:	VGA (no special requirements)
Hard disk:	For software: 100 MB For user data: Depending on the amount of data to be expected, plus backup memory of >= 100% (distribution over several volumes/drives possible, redundant array of independent disks (RAID) for primary user data recommended)
Operating system (virtual servers also possible):	Windows XP SP3 Professional Windows XP SP2 x64 Professional Windows 7 Professional Windows 7 x64 Professional Windows Server 2003 SP2 Windows Server 2003 SP2 x64 Windows Server 2003 R2 SP2 Windows Server 2003 R2 SP2 x64 Windows Server 2008 SP2 Windows Server 2008 SP2 x64 Windows Server 2008 R2 x64 Windows Server 2012

1.6 Further Installation Requirements

- Microsoft .NET Framework 4.0 or higher and Visual C++ Runtime Libraries need to be installed on the computer before HiCAD/HELiOS 2013 can be used; these packages will be installed as part of the HiCAD installation if required.

- The graphics card must support Open GL 2.0 or higher. If the hardware or driver does not support this standard, there will be shown a warning message when installing HiCAD and a compatibility mode will be used (with low graphic performance).

- If you use Nvidia graphics drivers, the Common background/Z-buffer needs to be switched Off (in contrast to HiCAD 2007 or older versions).

- To be able to work with HELiOS, a database system must be available that has been prepared for HELiOS. Documents (in .pdf format) describing the installation procedure for the database system and the import and export of the database can be found in the Readme directory of the Installation DVD.

- To be able to work with HELiOS, a database system must be available that has been prepared for HELiOS. For this you require
  - A Microsoft SQL Database Management system on your Server,
  - A HELiOS database imported with the HELiOS Database Creator and
  - An ODBC connection on the Clients.
  - Documents (in .pdf format) describing the installation procedure for the database system and the import and export of the database can be found in the Wiki at Product Know-how > Documentation > HELiOS.

- Current information on system requirements can also be found on the Internet at www.isdgroup.com at Support > ISD Wiki > Product know-how > FAQ.

2 Installation

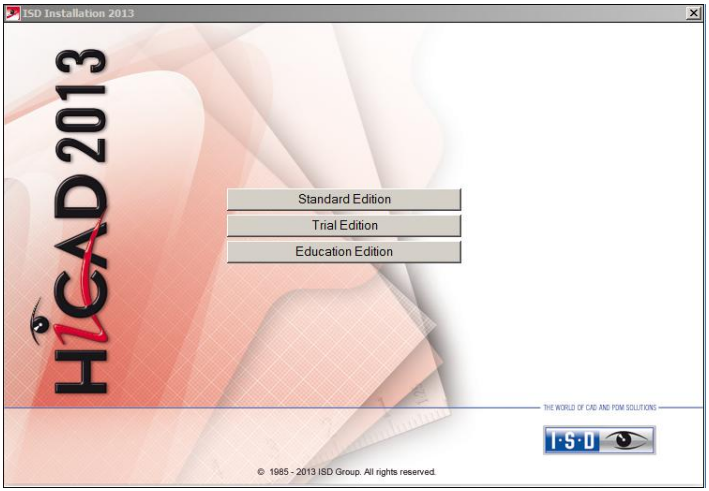
The DVD contains the installation files for:

- HiCAD
- HELiOS Desktop (Standalone)
- The Online Help
- The Vault Server
- The Plot Management
- HiCAD Viewer
- The License Server (the Hardlock driver is normally no longer required)
- The PostScript printer driver (required for the output of several views to a PDF file)
- The HELiOS Database creator (to set up the HELiOS database for the very first time and import/export an existing database)

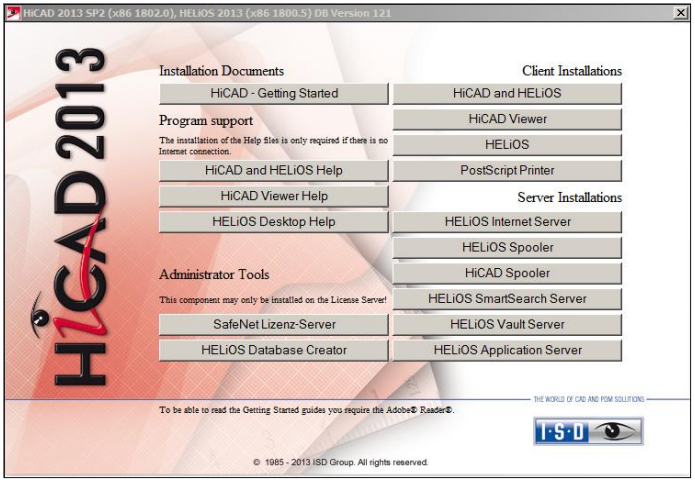
The DVD has been developed for Windows operating systems. When you insert the DVD, an installation wizard will be started automatically.

The HiCAD and HELiOS version must be installed on the hard disk of the computer; it is not possible to start the programs from the DVD.

If the Autostart function has been deactivated in the operating system, it is mandatory for the installation of HiCAD to start the setup.bat file from the root directory of the DVD; only in this way it is ensured that the version of the operation system (32/64Bit) will be recognised correctly, and the matching HiCAD version will be installed.

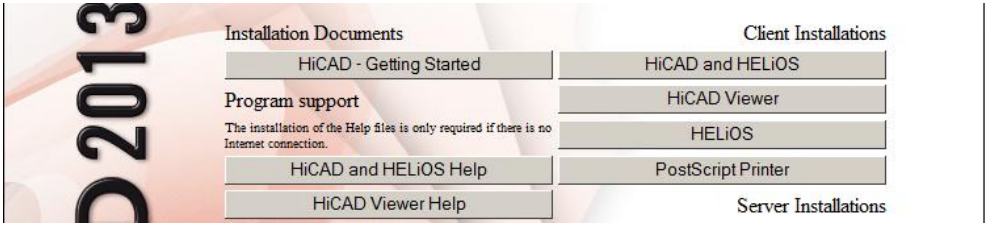


In the installation wizard, click the **Standard Edition** button, which opens a mask with various selection options for software components.



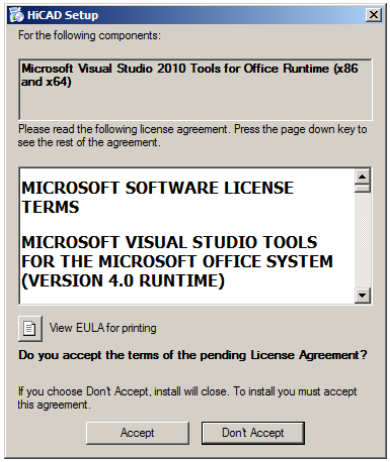
Leave this selection mask open, so that you can, one after the other, select the desired components.

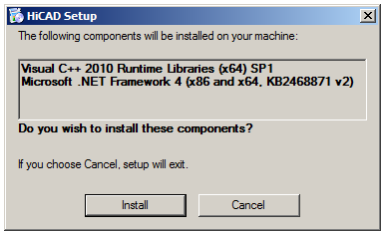
2.1 Installing HiCAD

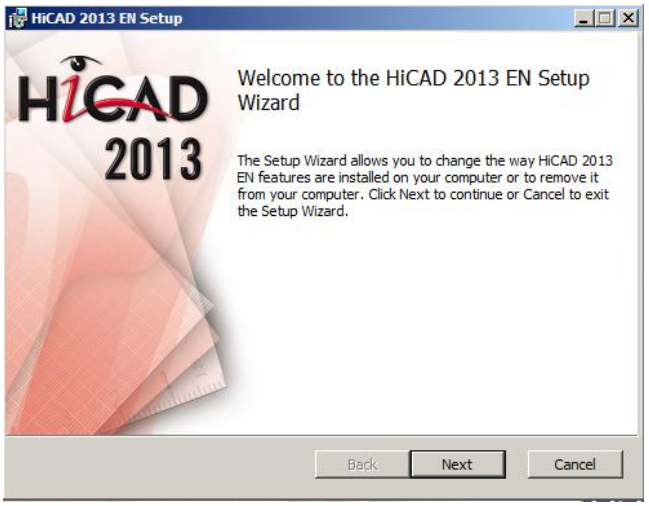


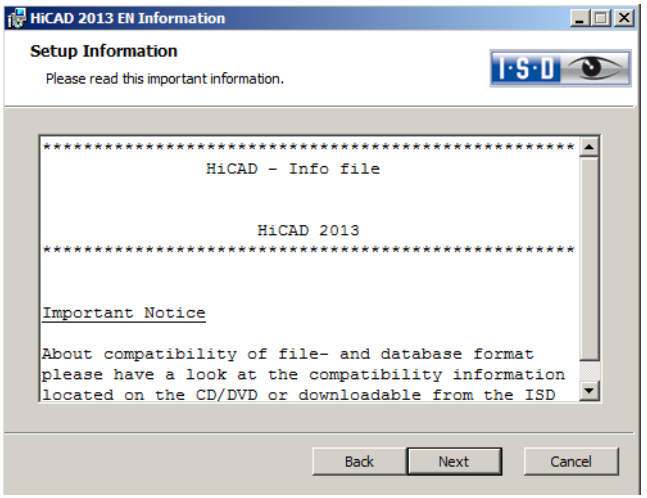
Click the **HiCAD and HELiOS** button to start the installation.

Microsoft .NET Framework 4.0 or higher and **Visual C++ Runtime Libraries** need to be installed on the computer before HiCAD/HELiOS can be used; these packages will be installed as part of the HiCAD installation if required.

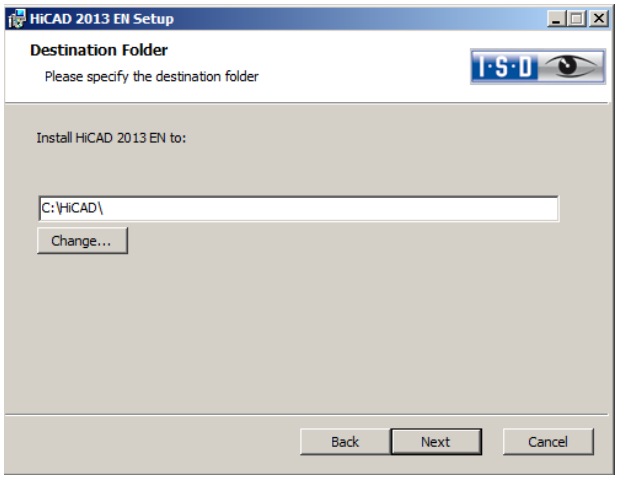




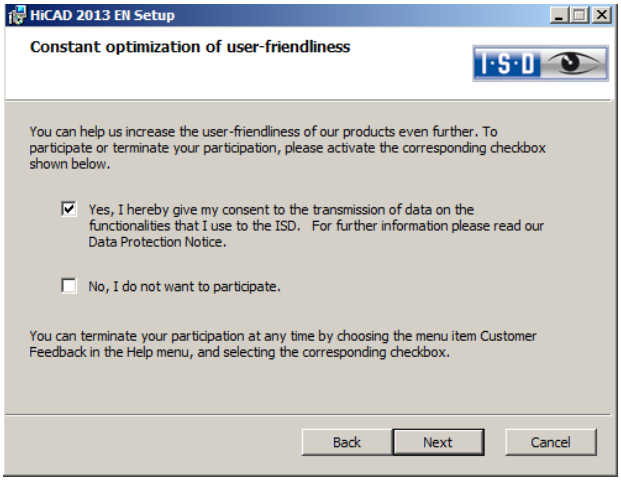




First, important information about **data compatibility** will be displayed. Please read this information carefully.



Specify an installation directory.



You can help us increase the user-friendliness of our products even further. To participate or terminate your participation, please activate the corresponding checkbox.

You can terminate your participation at any time by choosing **Help > Customer Feedback**, and selecting the corresponding checkbox.

Data Protection notice: Collection of Data for Constant GUI Optimisation

You can help us increase the user-friendliness of our products even further. If you participate, the ISD will collect information on your use of our software, in order to detect trends and use patterns. This information will then be used for a constant optimisation of our user interface, with the aim to make the operation of our software as convenient and efficient as possible for our users.

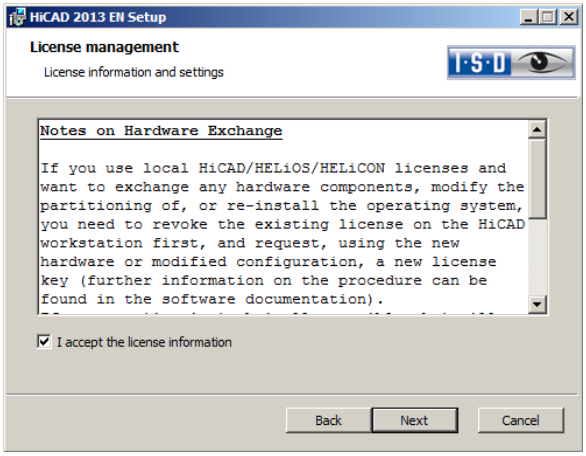
The collected information

- Contains data on the functions that you used (frequency and chronological order).
- Contains a key enabling the identification of your computer. It does not contain any personal data, and will not be used to detect your identity. The key will only be used to obtain data on the diffusion rate of customer feedback. For instance, it is important to know whether a functionality has been used 100 times by 1 customer, or whether another function has been used only once by 100 customers etc.
- Will be automatically removed after transmission to the ISD. In case of a failed transmission (e.g. because of network problems) the information will be automatically removed after 1 week at the latest when the program has been re-launched.
- Will not cause a slowing down of the program operation.

ISD will not

- Store your name, address, or any other personal data.
- Ask any further questions besides asking for your consent to the participation.
- Use the data for any other purposes than those described above.
- Contact you in any form in connection with your participation.

You can choose to participate when installing the product for the first time. To terminate your participation at a later time, choose **Help > Customer Feedback**, and select the corresponding option.



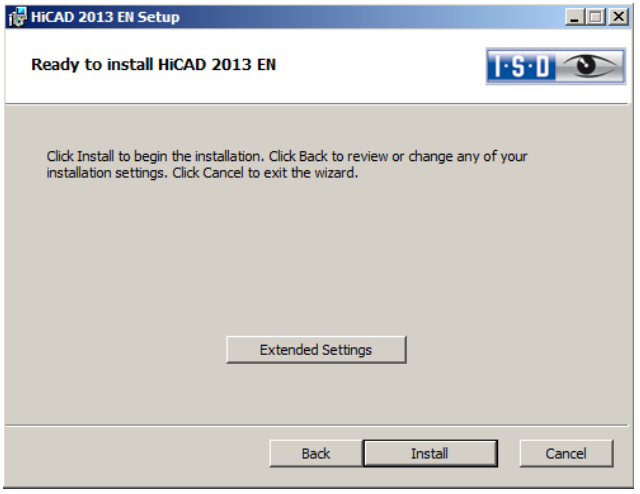
Please read the Notes on Hardware exchange carefully.

Notes on Hardware Exchange

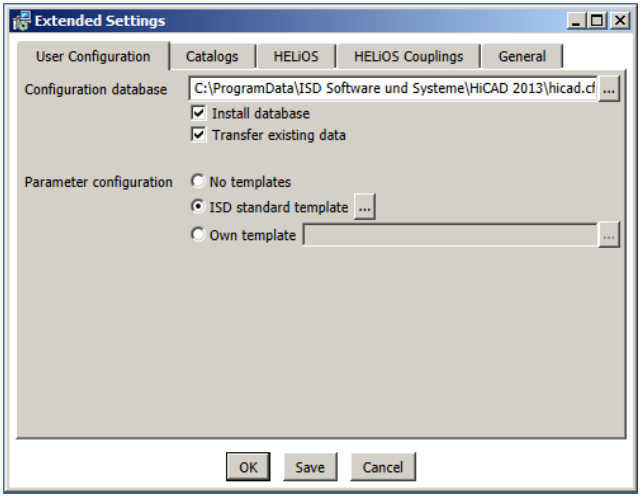
If you use local HiCAD/HELiOS/HELiCON licenses and want to exchange any hardware components, modify the partitioning of, or re-install the operating system, you need to revoke the existing license on the HiCAD workstation first, and request, using the new hardware or modified configuration, a new license key (further information on the procedure can be found in the software documentation).

If a revocation is technically possible, but will not be performed, the ISD reserves the right to charge costs in an appropriate amount for the reissuing of the license. If the license will not be revoked, or if such revocation is no longer **technically possible**, the ISD may request proof that the unrevoked license is no longer utilisable; in case of failure to produce such proof, the ISD reserves the right to refuse the transfer of the license to a new hardware.

Accept the notes to continue with the installation.



You can now start with the installation or modify the **Extended Settings**, e.g. for the user configuration, the catalogues, or HiCAD with HELiOS.

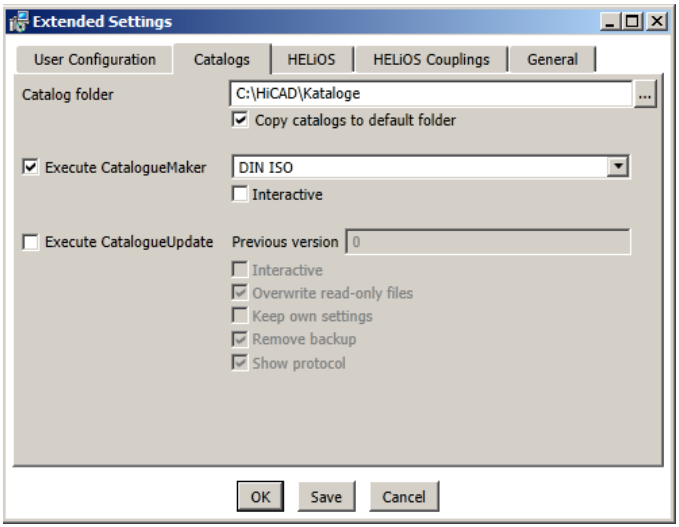


In the **Configuration Database**, customer-specific settings for various features such as dimensioning, annotations, workshop drawing creation or fitting of vertical ladders are stored. When making an update, customer-specific settings can be applied. In addition,

values that have not been modified by the user will automatically obtain the updated pre-settings.

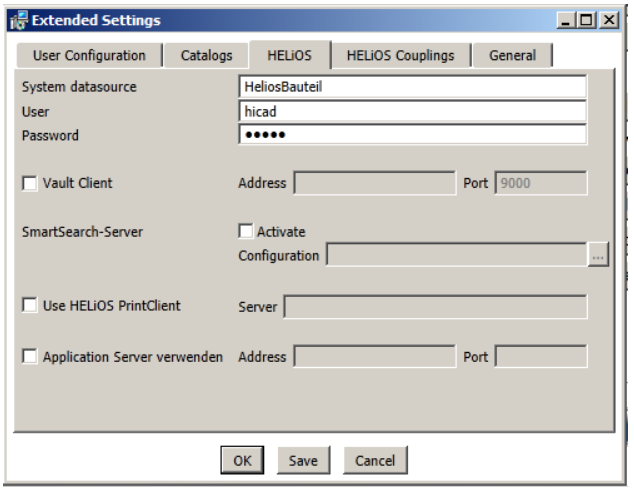
Depending on the selection in this window, the settings stored in the **CSV file**, too, will be applied. The standard CSV files are located in the *templates* directory of the HiCAD installation. CSV files are configuration templates that you can create and edit with Microsoft Excel (please see Online Help).

Parameter configuration: No templates (see 2.6 Parameter Configuration) is activated by default. You can also change this setting subsequently, via the programs ..exe/ParKonfigComp.exe (for the workstation) and ..exe/ParKonfigUser.exe (for the User).



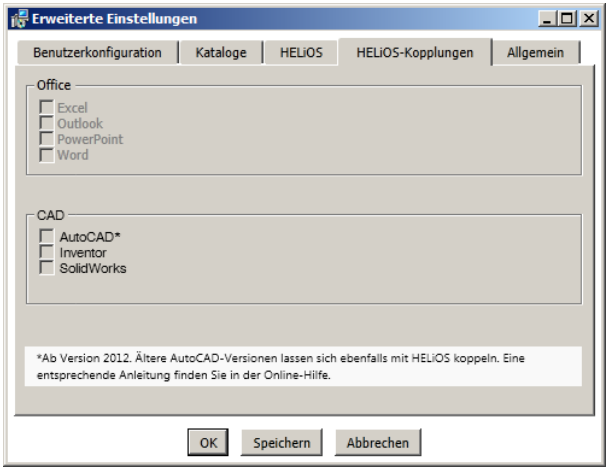
The execution of the **CatalogueMaker** serves the purpose of specifying which standard series are to appear in the standard part catalogues (currently standard series are available for DIN, ISO, EN, ANSI and JIS); the selection of standards in the **CatalogueMaker** only influences the display of standard parts, but not their availability; the availability is still controlled via license selection in the **ISD License Manager**.

When **Updates** are made, the existing configuration will be applied, and the CatalogueMaker will not be started automatically. If you want to add standards to the catalogues, the program can be called via Start > All Programs > ISD Software und Systeme GmbH > Administration.



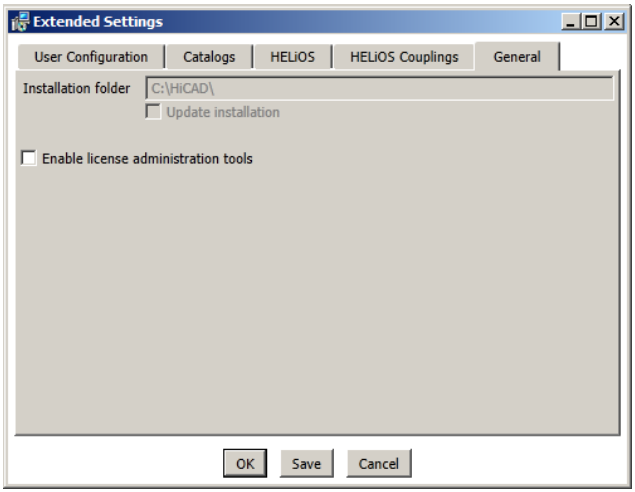
In case of a new installation you can specify an arbitrary name for the system data source. In case of an update, the existing data source will be offered. User and Password will be identical with the ODBC login.

If you want to process your print jobs via the ISD **Plot Management**, you need to install one **PrintClient** on each workstation. In the **Server** field, enter the network name of the computer on which the Spooler is installed. The Spooler collects the print jobs and processes them, taking your settings into account.



The availability of interfaces with HELiOS depends on the programs that are installed on your computer. You can only link 32Bit versions to HELiOS 32Bit versions, and only link 64Bit versions to HELiOS 64Bit versions.Multiple selections are also possible. The HELiOS functions will be integrated in the programs that are linked to HELiOS.

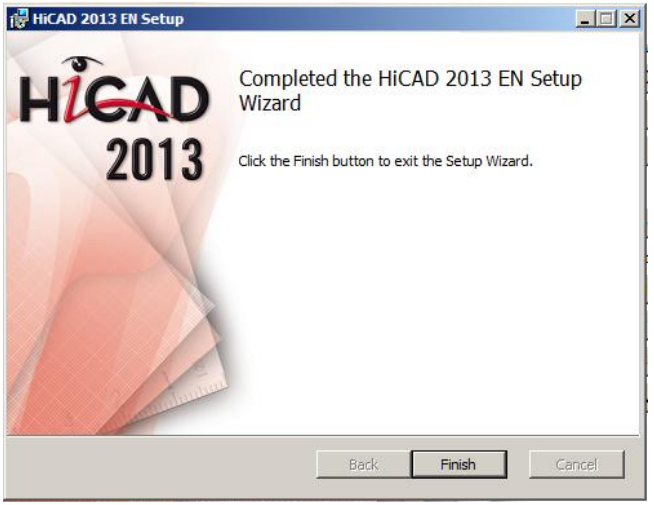
A compatibility matrix for the CAD systems can be found in the ISD Wiki at Product Know-how > FAQ > System & Hardware > HELiOS Desktop.



You use the the **License Administration Tools** for the installation of server licenses.

Click **Save** to save the **Extended Settings** to an INI file. If you place the INI file in the installation directory when installing server licenses, the settings will be applied.

As soon as you exit the Extended Settings dialogue with **OK**, the installation will be started.

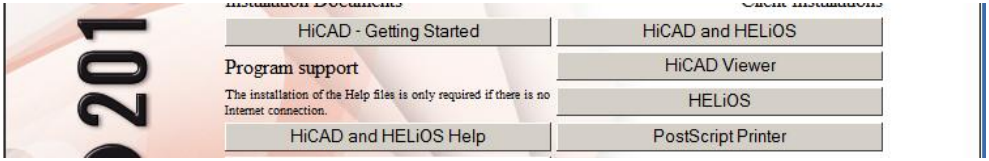


Click **Finish** to complete your HiCAD installation. If desired, you can use the buttons of the installation mask to install further software components.

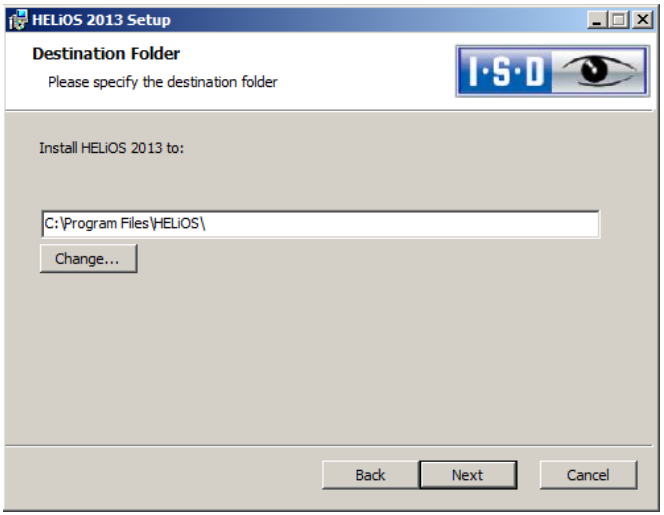
2.2 Installing HELiOS Desktop (Standalone)

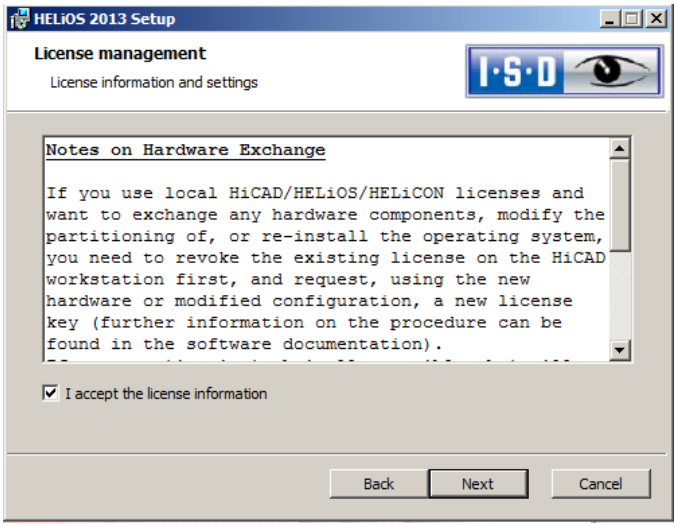
The HELiOS Desktop is normally installed automatically when you install HiCAD. Of course, you can also install HELiOS separately. To do this, start Windows. If Windows is already open, close all other applications. Insert the HELiOS DVD in your DVD drive. The installation wizard will be started automatically. Follow the instructions on the screen.

In the installation wizard, click the **Standard Edition** button, which opens a mask with various selection options for software components. Please leave this selection mask open, so that you can, one after the other, install the desired components.



Click the **HELiOS** button.





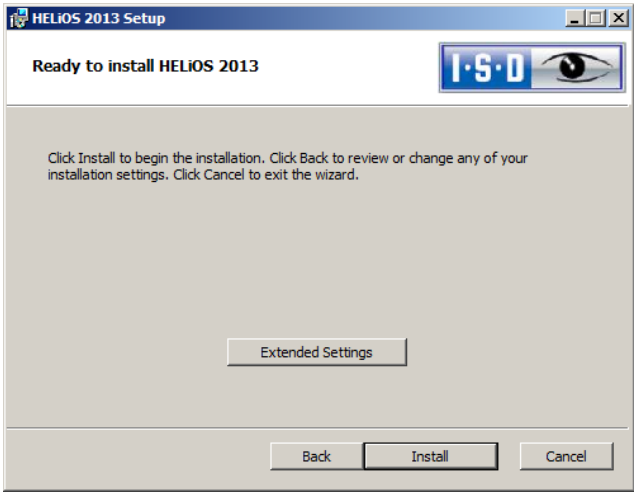
Please read the **Notes on Hardware Exchange** carefully.

Notes on Hardware Exchange

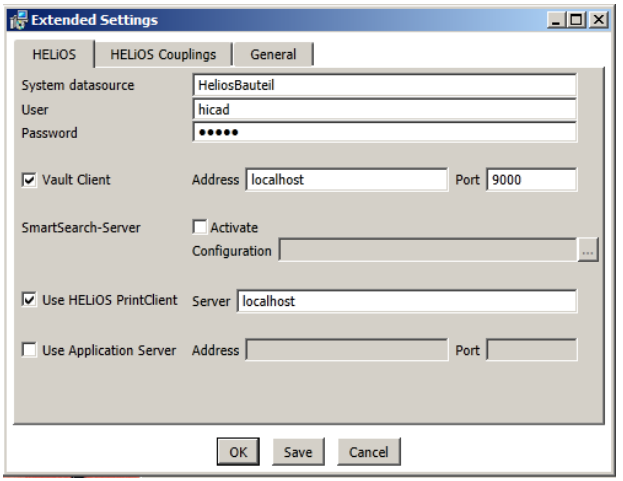
If you use local HiCAD/HELiOS/HELiCON licenses and want to exchange any hardware components, modify the partitioning of, or re-install the operating system, you need to revoke the existing license on the HiCAD workstation first, and request, using the new hardware or modified configuration, a new license key (further information on the procedure can be found in the software documentation).

If a revocation is technically possible, but will not be performed, the ISD reserves the right to charge costs in an appropriate amount for the reissuing of the license. If the license will not be revoked, or if such revocation is no longer **technically possible**, the ISD may request proof that the unrevoked license is no longer utilisable; in case of failure to produce such proof, the ISD reserves the right to refuse the transfer of the license to a new hardware.

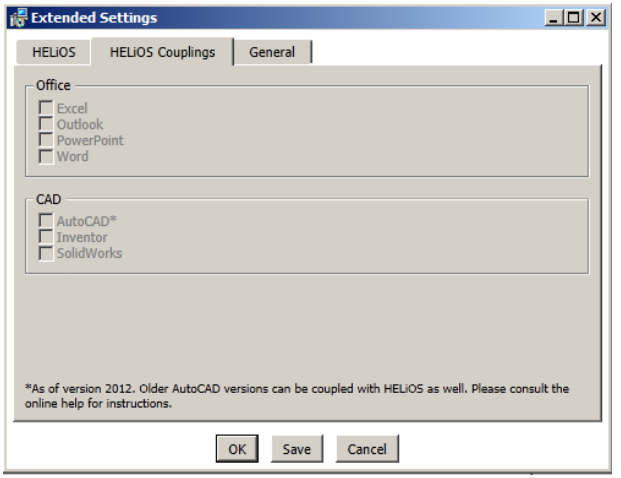
Accept the notes to continue with the installation.



You can now start with the installation or modify the **Extended Settings**, e.g. for HELiOS.

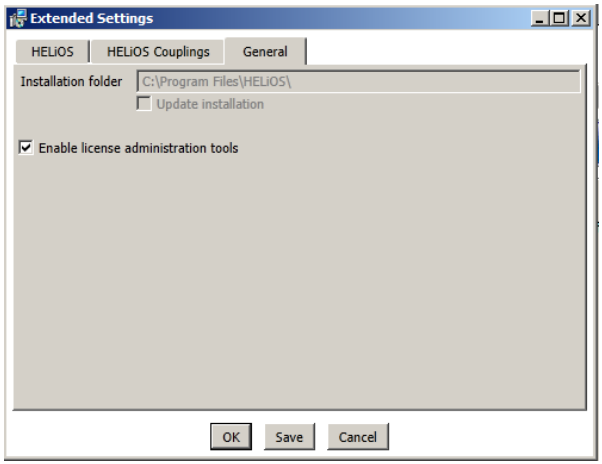


In case of a new installation you can specify an arbitrary name for the system data source. In case of an update, the existing data source will be offered. User and Password will be identical with the ODBC login.



The availability of interfaces with HELiOS depends on the programs that are installed on your computer. You can only link 32Bit versions to HELiOS 32Bit versions, and only link 64Bit versions to HELiOS 64Bit versions.Multiple selections are also possible. The HELiOS functions will be integrated in the programs that are linked to HELiOS.

A compatibility matrix for the CAD systems can be found in the ISD Wiki at Product Know-how > FAQ > System & Hardware > HELiOS Desktop.



You require the License Administration Tools for the installation of server licenses.

Click Save to save the Extended Settings to an INI file. If you place the INI file in the installation directory when installing server licenses, the settings will be applied.

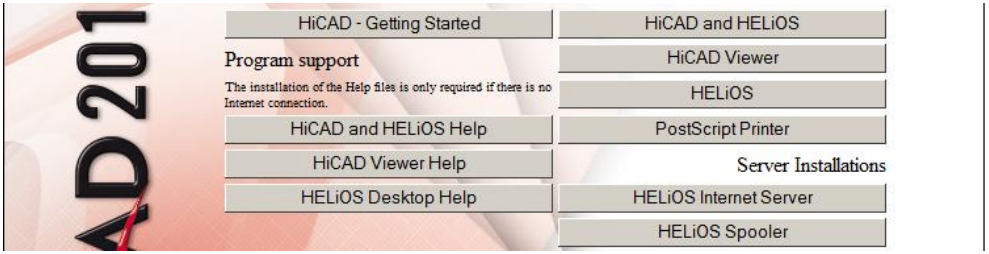
As soon as you exit the Extended Settings dialogue with OK, the installation will be started.

After successful installation, you will find the HELiOS shortcut on the Desktop for program launch.

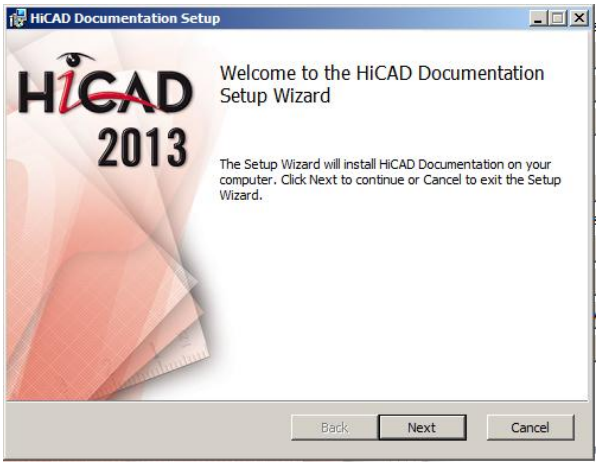
2.3 Installing the Online Help

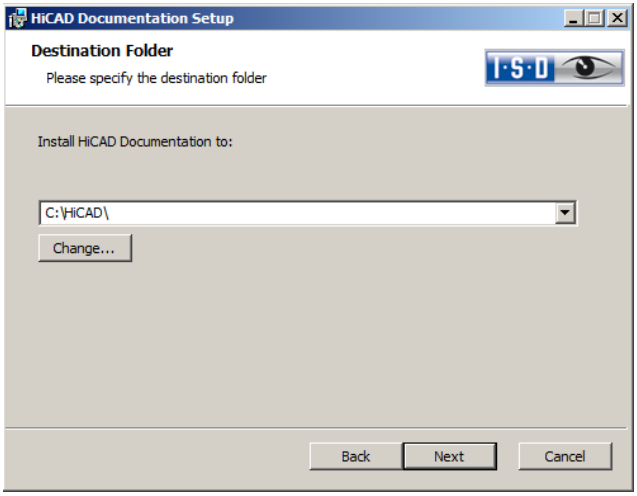
The Online Help is available locally (status of the date of installation DVD creation) and on the Internet (regularly updated) at www.help.isdgroup.com. Both versions of the Help can be directly launched from HiCAD. Please note that corresponding login data are required to access the Internet version of the Help.

Start Windows to install the Help. If Windows is already open, close all other applications. Insert the DVD in the drive, which automatically starts the installation wizard. In the installation wizard, click the **Standard Edition** button, which opens a mask with various selection options for software components. Please leave this selection mask open, so that you can, one after the other, install the desired components.

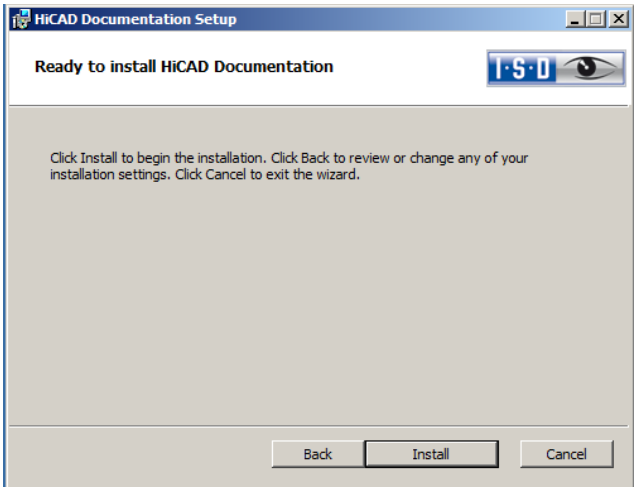


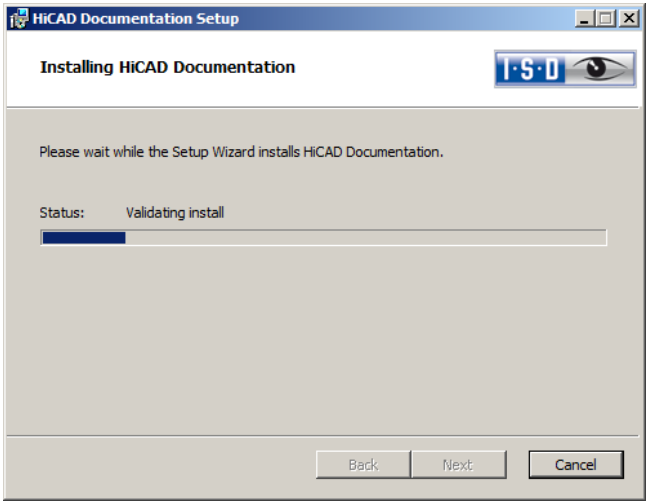
Click the **HiCAD and HELiOS Help** button.

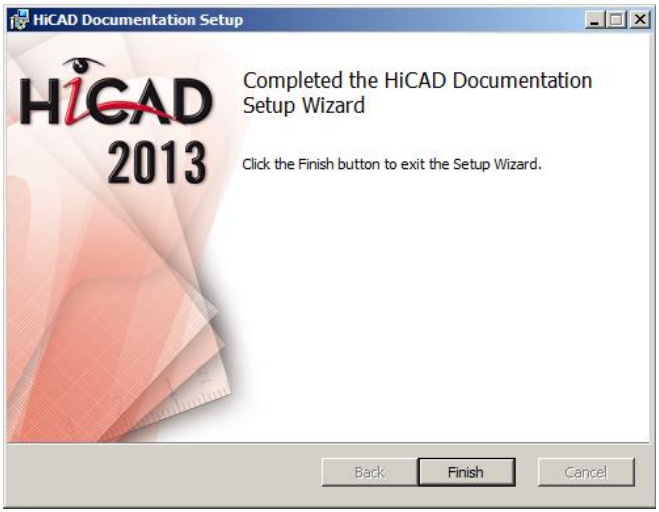




Specify the installation directory for HiCAD/HELiOS.


HiCAD Documentation Setup
Ready to install HiCAD Documentation
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Install
Cancel

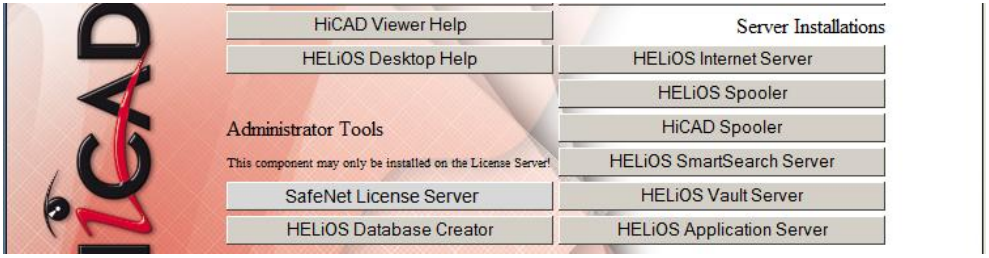

HiCAD Documentation Setup
Installing HiCAD Documentation
Please wait while the Setup Wizard installs HiCAD Documentation.
Status:
Validating install
Back
Next
Cancel



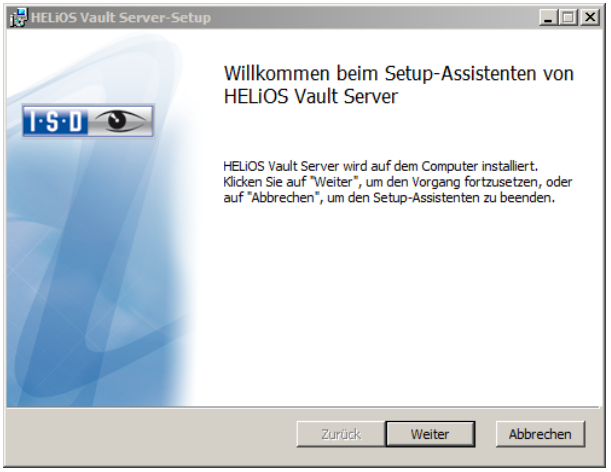
After successful installation, the Help can be found in the program folder and can be called via HiCAD/HELiOS.

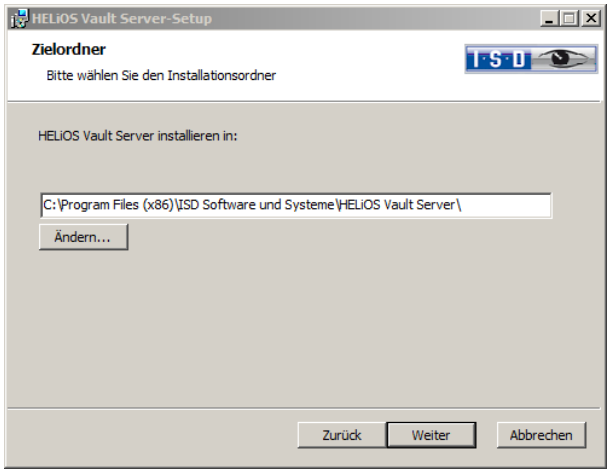
2.4 Installing the Vault Server

Start Windows to install the Vault Server. If Windows is already open, close all other applications. Insert the DVD in the DVD drive, which automatically starts the installation wizard. In the installation wizard, click the **Standard Edition** button, which opens a mask with various selection options for software components. Please leave this selection mask open, so that you can, one after the other, install the desired components.

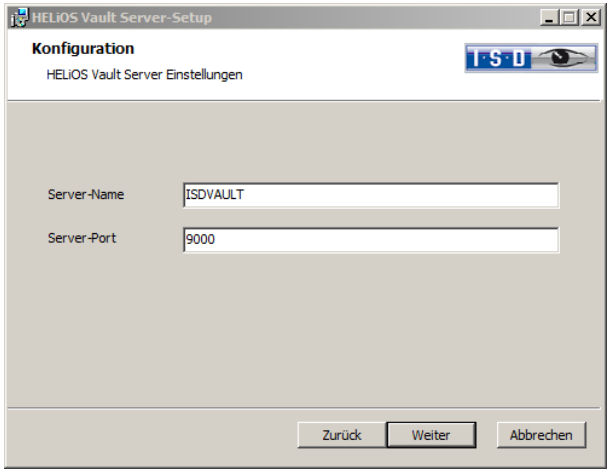


Click the **HELiOS Vault Server** button.

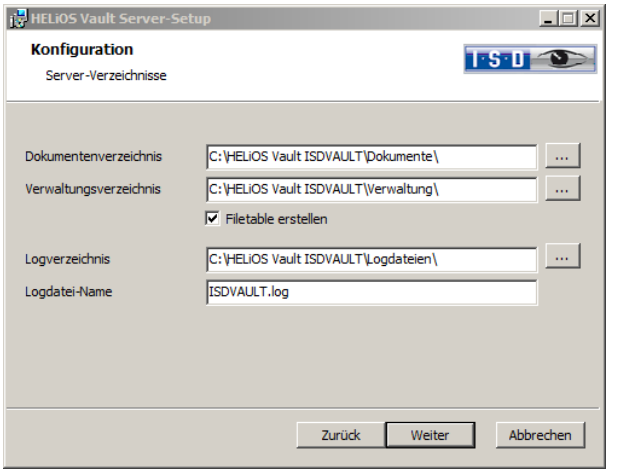




Specify the installation directory of the Vault Server.



Give the Vault Server a name, e.g. the name of your company, plus the location of your company. This name will be shown, for example, when you connect to the Vault Server from the Vault Client.



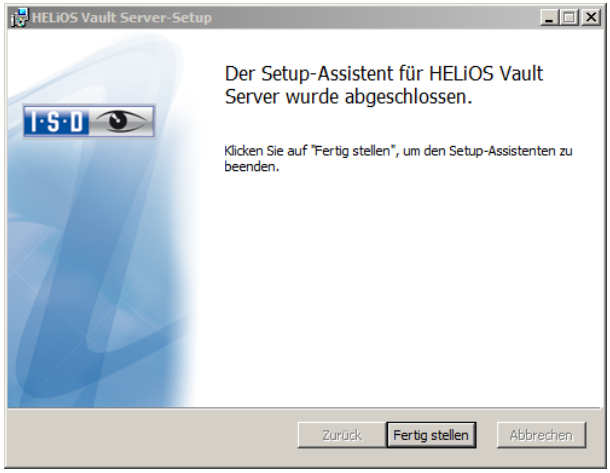
The Vault Server renames all documents that are managed in the database (e.g. SZA, DOC, XLS, …) to *.VDF. These VDF files are saved to the **Document directory**.

The files stored in the **Management directory** contain the assignments of the VDF file names to the “original file names”.

Log files (*.LOG) are saved to the **Log directory**. They record each access to the VDF files.

Enter the name of the log file in the **Log file name** field. The name of the Vault Server would also be possible here. If the log file exceeds a certain length, it will be cut down and suffixed by the current date.

Click the **Install** button.



Click **Finish** to complete the installation of the Vault Server. You can now install further components offered in the selection mask if desired.

2.5 Installing the HiCAD Spooler

The Plot Management consists of the following two components:

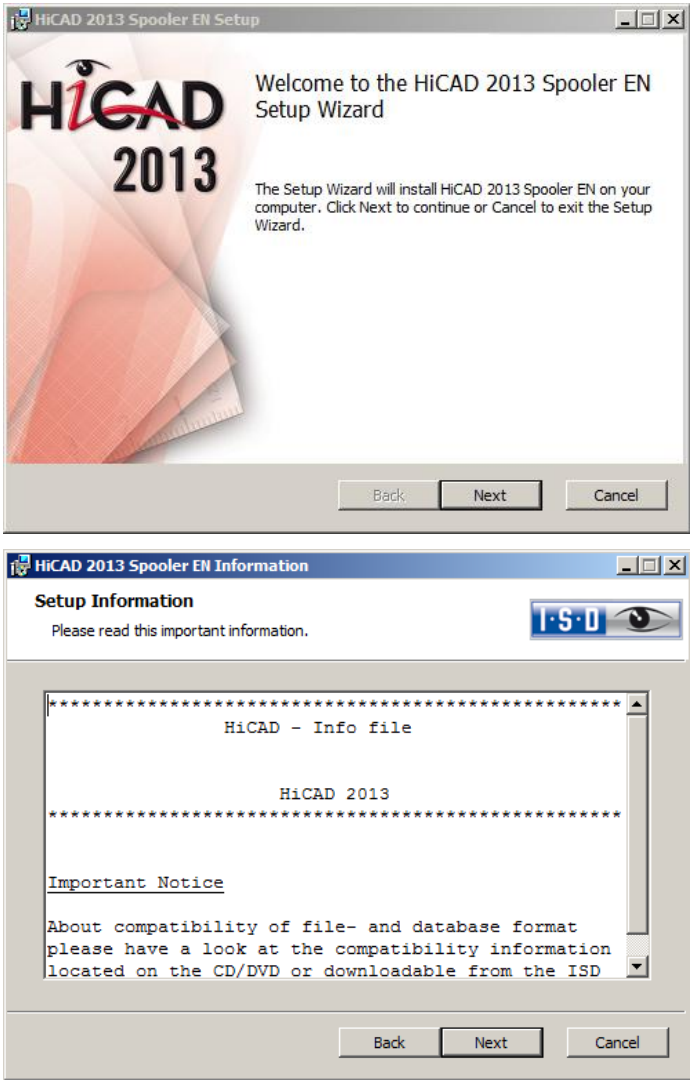
» HiCAD PrintClient (part of the HiCAD installation; is installed on each workstation)

» HiCAD Spooler (is installed on the Server only)

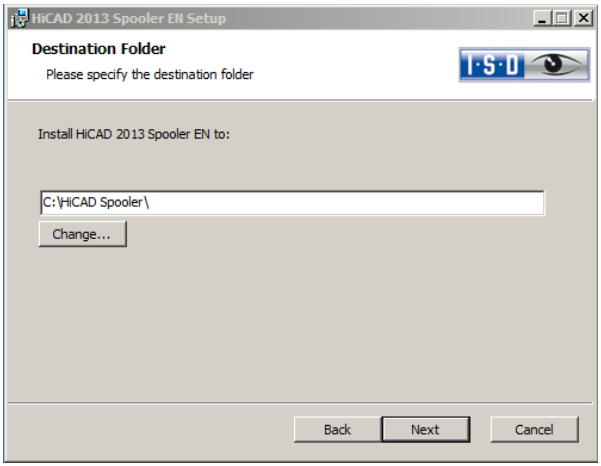
Start Windows to install the components of the plot management. If Windows is already open, close all other applications. Insert the DVD in the DVD drive, which automatically starts the installation wizard. In the installation wizard, click the Standard Edition button, which opens a mask with various selection options for software components. Please leave this selection mask open, so that you can, one after the other, install the desired components.

If you use Windows XP, Service Pack 3 is required for the Spooler.

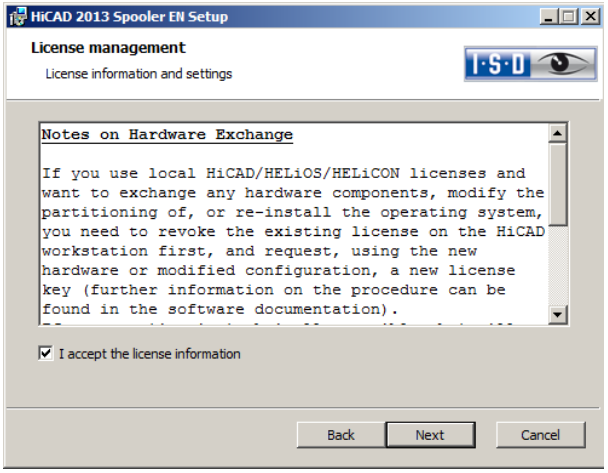
Click the HiCAD Spooler button.



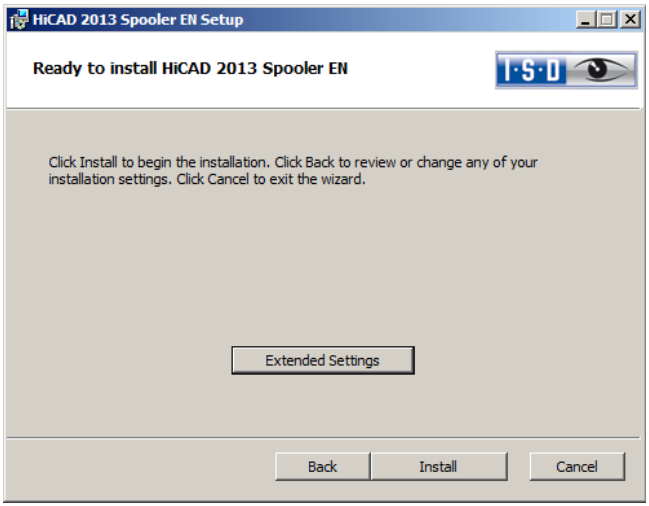
First, important information about **data compatibility** will be displayed. Please read this information carefully.



Specify the installation directory for the software.



Please read the **Notes on Hardware Exchange** carefully. Accept the notes to continue with the installation.



You can now click **Install** to start the installation, or modify the **Extended settings**, e.g. for the user configuration or the catalogues. The **Extended Settings** here are modified in the same way as the **Extended Settings** for the HiCAD.

Then click **Install**.

After successful installation, the HiCAD Spooler will be located in the program folder.

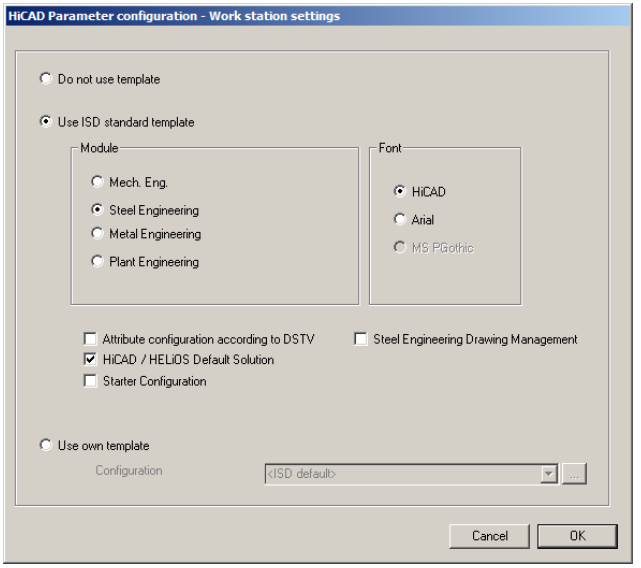
2.6 Parameter Configuration

HiCAD provides suitably customised interfaces and configurations for various fields of engineering, e.g. for Mechanical Engineering, Steel Engineering, Metal Engineering or Plant Engineering. You can select these options during the installation of HiCAD (**Extended Settings > User Configuration > Use ISD Standard Templates**).

To change the parameter configuration subsequently, start the programs

» ..exe/**ParKonfigComp.exe** for the workstation configuration, and

» ..exe/**ParKonfigUser.exe** for the user configuration.



In the dialogue window you have the following setting options:

» Module
Here you choose the required filed of engineering. The common HiCAD parameters are then configured for this area.

» Font
Specifies the text font default setting, e.g. for dimensioning, title blocks, view labelling, annotation etc.

» HiCAD/HELiOS Default Solution
Provides you with a preconfigured database solution for a safe and convenient management of product data. If you want to use it, activate the checkbox.

» Attribute configuration according to DSTV
If you want the HiCAD attribute masks for parts and drawings to obtain the DSTV-relevant attributes, please activate the appropriate checkbox. The files BRW_3DTEIL.HDX and BRW_SZENE.HDX in the HiCAD SYS directory will be preset for DSTV BOM configuration.

» ISD standard template; Module: Steel Engineering:

Short description	Default	HiCAD configuration file	Line
General: Zoom factor <F2>-Zoom	5.0	sys\grapar.dat	50
General: Zoom window size <F2>-Zoom	0.9	sys\grapar.dat	52
Type of weight calculation for beams+profiles (1 = Exact volume * Density, 2 = DIN weight, Commercial weight)	2	sys\stb_parameter.dat	9
Type of weight calculation for plates+sheets (1 = Exact volume * Density, 2 = Length*Width*Thickness * Density)	2	sys\stb_parameter.dat	9
Representation of beams + profiles (0 = Simplified, 1 = Exact, 2 = Axis only)	0	sys\stb_parameter.dat	19
First Steel Engineering part item number	100	sys\stb_parameter.dat	31
Type of detection for first item number of main parts and sub-parts (1 = Start value, 2 = Factor, 3 = Allowance)	3	sys\stb_parameter.dat	34
Itemisation of Standard Parts (0 = No, 1 = Yes)	1 10000	sys\stb_parameter.dat	38
Itemisation of non-Steel Engineering parts (0 = No, 1 = Yes)	1 10000	sys\stb_parameter.dat	40

Short description	Default	HiCAD configuration file	Line
Consider boltings for identical part search	1	sys\stb_parameter.dat	55
Handling of existing item numbers when inserting Steel Engineering parts	1	sys\stb_parameter.dat	86
Consider part attributes for identical part search (0 = No, 1 = Yes)	1	sys\stb_parameter.dat	126
Consider database part master for identical part search (0 = No, 1 = Yes)	1	sys\stb_parameter.dat	128
Set negative item number for modified Steel Engineering parts	1	sys\stb_parameter.dat	143
Increment for assembly item numbers	1	sys\stb_parameter.dat	151
Increment for Steel Engineering part item numbers	1	sys\stb_parameter.dat	153
Increment for Standard Part item numbers	1	sys\stb_parameter.dat	155
Increment for non-Steel Engineering part item numbers	1	sys\stb_parameter.dat	157
Tolerance for identical part search	0.5	sys\stb_parameter.dat	184
3-D Dimensioning Settings			
Dimension line termination	Slash	sys\dimensioning_settings.xml	
Decimal places for linear dimensions	0	sys\dimensioning_settings.xml	
Decimal places for angular dimensions	1	sys\dimensioning_settings.xml	
Height of dimension figure	2.5	sys\dimensioning_settings.xml	
Height of dimension texts	2.5	sys\dimensioning_settings.xml	

» Copy HELiOS standard masks
This option should only be activated if you work exclusively on the basis of the ISD standard database. Please note that changes you applied to database masks will be overwritten.

» Starter Configuration
If you want HiCAD to be preset so that the automatic procedures of the novice configuration apply, activate this checkbox.

» Use own templates
Activate this option if you want to use your own configurations. Then select the relevant configuration file.

2.7 Installing the HiCAD Viewer

The HiCAD Viewer enables you to view drawings in HiCAD format (*.sza, *.szx) and output these drawings (in non-scale representation). This viewer is free of charge and may be provided free, without changing the scope of delivery.

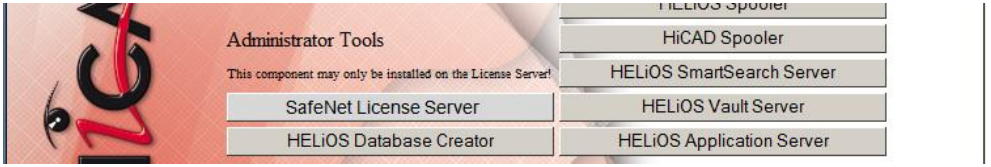
2.8 Installing the HELiOS Database Creator

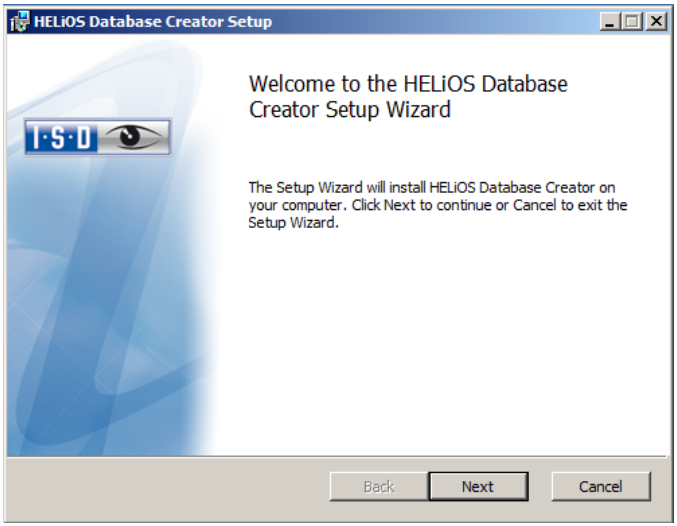
The HELiOS PDM modules (Document management, Part Management, Workflow etc.) are based on a relational database. Before you put HELiOS into operation, the Microsoft SQL Server database administration system needs to be installed on the server, a HELiOS database needs to be imported and a ODBC connection needs tob e set up on the clients.

When you set up a HELiOS database for the first time, the HELiOS Database Creator needs to be installed and executed on the database server first. The database and table structures will then be created, and filled with data records of the HELiOS standard database.

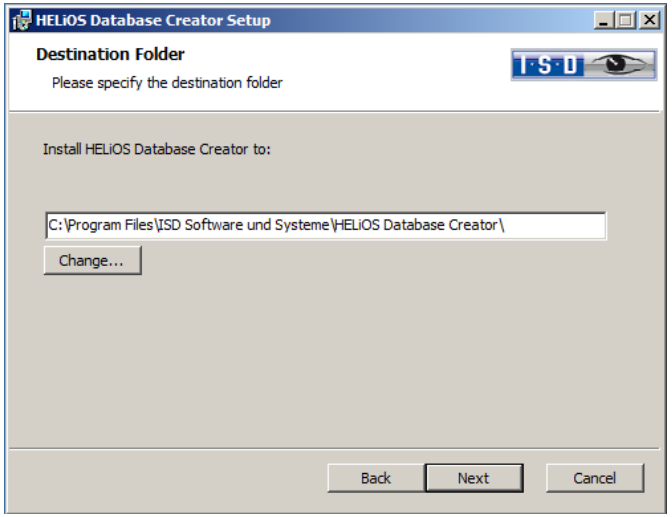
All information about the correct procedure for the execution of the HELiOS Database Creator, as well as the previous and subsequent steps required for the setting up of a database server can be found in the user guide for the installation of the Microsoft SQL Server Version 2012. You can find this document in the ISD Wiki at Product Know-how > Documentation > HELiOS.

To install the HELiOS Database Creator, click the corresponding button in the selection mask. The start mask of the setup wizard will be displayed.

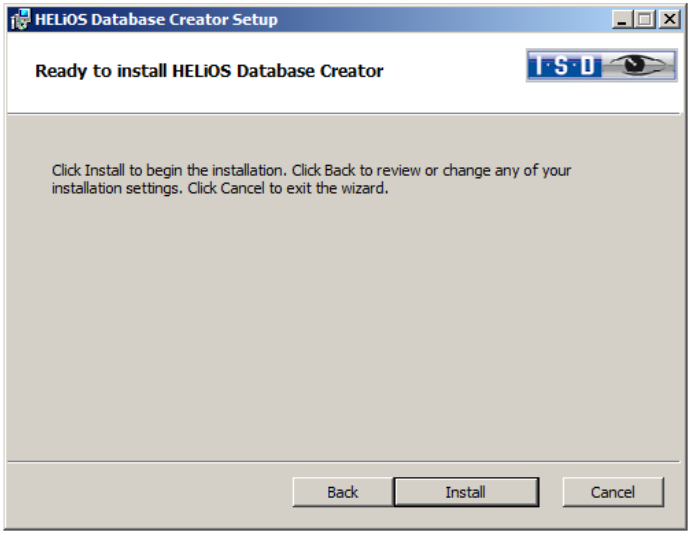




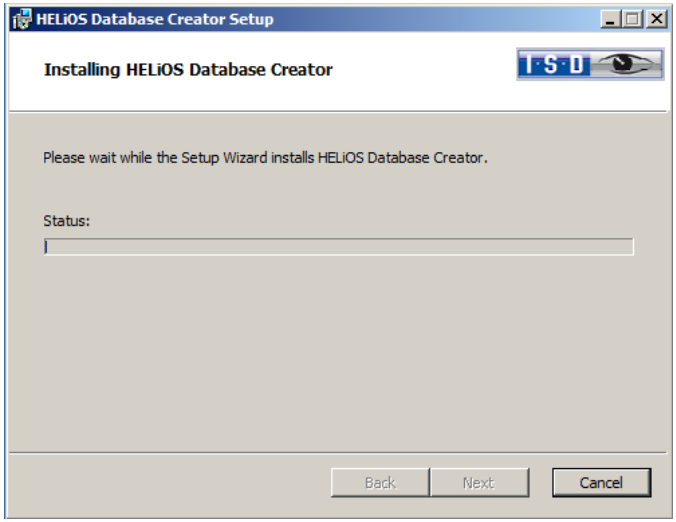
Click **Next** to start the installation.

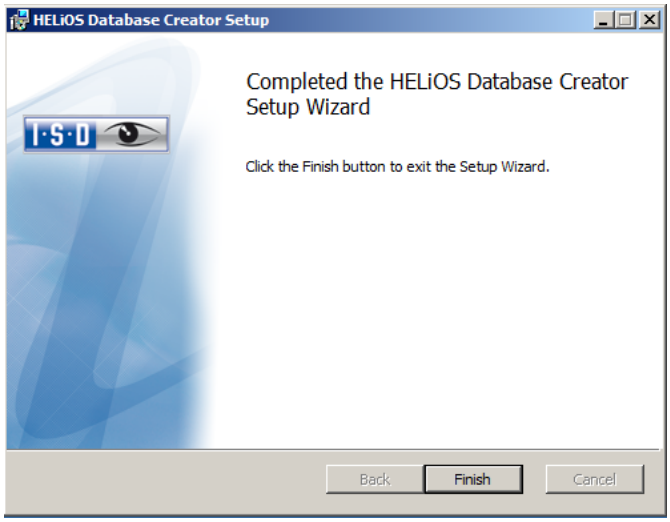


Specify an installation directory for the HELiOS Database Creator, and click **Next**.



Click **Install** to start the installation.





Click Finish to complete the installation of the HELiOS Database Creator. If desired, you can now install further components via the selection mask.

Extensive information on the installation of the SQL Servers, the operation of the HELiOS Database Creator tool and the settting up of the ODBC connection on the clients can be found in the Wiki at Product Know-how > Documentation > HELiOS.

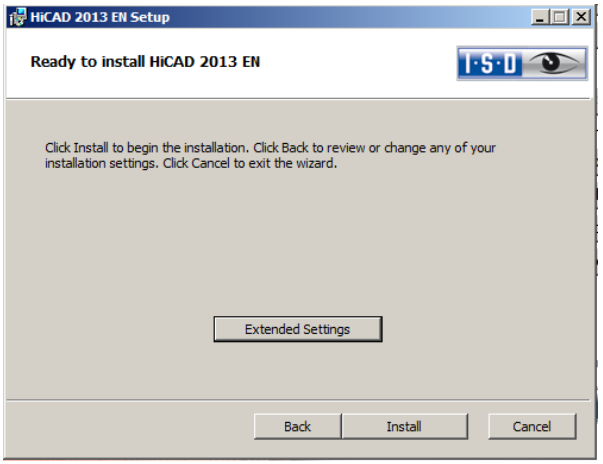
3 Procedure for Silent Installations

The silent installation can, for example, be configured for HiCAD, for HELiOS Standalone or for the HiCAD Spooler. The procedure is always the same.

3.1 Installation Settings

To configure the installation options, start the installation **setup.exe** as usual and make the required settings.

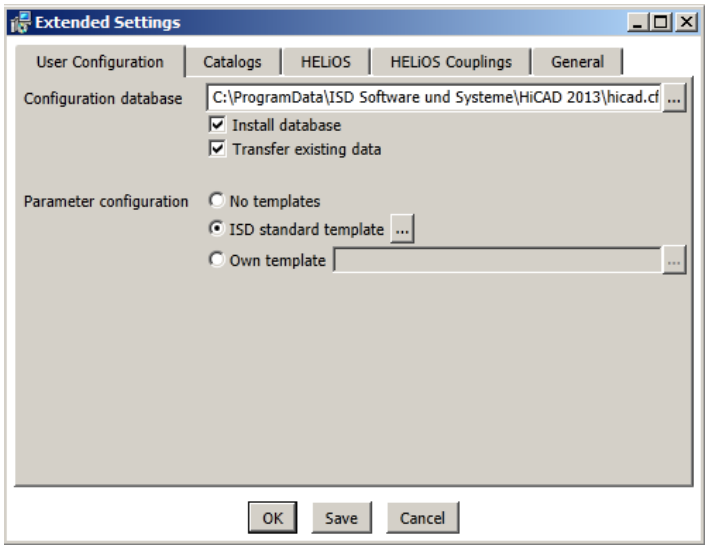
In the last dialogue of the installation, click on **Extended Settings**.

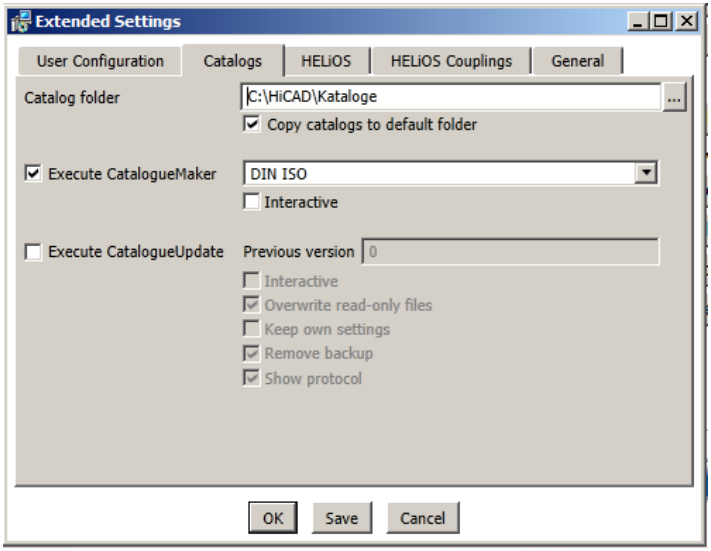


Here you can configure in particular the settings for the **User Configuration** and the **Catalogs** in such a way that user interactions will no longer be required.

» Execute parameter configuration: Via **ISD standard template**,

» Execute CatalogueMaker/CatalogueUpdate: Deactivate **Interactive** button.


Extended Settings
User Configuration
Catalogs
HELiOS
HELiOS Couplings
General
Configuration database
C:\ProgramData\ISD Software und Systeme\HiCAD 2013\hicad.cf
Install database
Transfer existing data
Parameter configuration
No templates
ISD standard template
Own template
OK
Save
Cancel


Extended Settings
User Configuration
Catalogs
HELiOS
HELiOS Couplings
General
Catalog folder
C:\HiCAD\Kataloge
Copy catalogs to default folder
Execute CatalogueMaker
DIN ISO
Interactive
Execute CatalogueUpdate
Previous version
0
Interactive
Overwrite read-only files
Keep own settings
Remove backup
Show protocol
OK
Save
Cancel

Clicking **Save** creates a **setup.ini** file containing the desired settings. This file will be loaded automatically if it is located in the same directory as the Windows Installer package **HiCAD.msi**. Alternatively you can specify a file via the command line:

setup.exe SETTINGS="<Ini-Datei>" /l*v "<Log-Datei>"

or

msiexec /i HiCAD.msi SETTINGS="<Ini-Datei>" /l*v "<Log-Datei>"

In this case the starting will not be “silent”, i.e. the installation dialogues wil appear, but with the default values of the .ini file.

The option **/l*v "<Log-Datei>"** creates a log file of the installation which can be used for the diagnosis of installation problems.

3.2 Redistributables

Before distributing the installation you need to install the required redistributables on the target systems in order to circumvent the Microsoft-EULAs.

Examples:

vcredist.exe /passive

dotNetFx40_Full_x86_x64.exe /passive

The respective command line options of the individual Redistributable Installer can be called via the command line option **/?**.

If required, the .msu files of the Windows Installer 4.5 can be installed with the Windows Package Manager **pkgmgr.exe** (http://support.microsoft.com/kb/934307/de).

You need to install the redistributables that are located on the DVD at Program32 or Program64 (except for the setup.exe and the language-specific folders such as de-de).

3.3 Starting the Installation in the Silent Mode

The installation can only be set to the silent mode via the command line:

setup.exe SETTINGS="<Ini-Datei>" /passive /l*v "<Log-Datei>"

or

msiexec.exe /i HiCAD.msi /qb!- /SETTINGS="<Ini-Datei>" /l*v "<Log-Datei>"

As neither dialogues nor error messages are displayed, **/l*v "<Log-Datei>"** creates a log file of the installation which can be used for the diagnosis of installation problems.

Information on further command line options can be obtained via the command line, by means of the command **msiexec /?** , and via the Internet at

http://technet.microsoft.com/de-de/library/cc759262%28WS.10%29.aspx#BKMK_SetUI
http://msdn.microsoft.com/en-us/library/windows/desktop/aa372024%28v=vs.85%29.aspx

3.4 Example of a Batch Installation incl. Redistributables and Log

```
@set SOURCE=\\entw042\Setups\HiCAD 1800

"%SOURCE%\vcredist_x86_10.0.40219\vcredist_x86.exe" /passive /norestart
@if errorlevel 1 echo Fehler bei Visual C++ Runtime Installation && goto error
"%SOURCE%\DotNetFX40\dotNetFx40_Full_x86_x64.exe" /passive /norestart
@if errorlevel 1 echo Fehler bei .NET Installation && goto error

msiexec.exe /qb!- /i "%SOURCE%\de-de\HiCAD.msi" /l*v
"%SOURCE%\logs\%COMPUTERNAME%_HiCADInstallLog.txt"
SETTINGS="%SOURCE%\Config\setup.ini"
@if errorlevel 1 echo Fehler bei HiCAD Installation && goto error
@exit

:error
@echo Installationsfehler %errorlevel%
@net helpmsg %errorlevel%
@pause
```

4 Important Notes on Configuration Management

As of Version 1700, HiCAD enables a central configuration management with the **Configuration Editor**. This tool allows the creation of customer-specific configurations for a wide range of tasks, such as dimensoning, annotation, workshop drawing creation, fitting of vertical ladders etc. Once adjusted to company-specific requirements, these configurations can directly be used in HiCAD, without having to specify any further settings. The aim of our further developments is a gradual transfer of the previously used system files with their adjustable parameter settings into the Configuration Editor, thus enabling a central and safe configuration management.

This transfer has already been realised for the following files:

- ALGPAR.DAT (ab 1800.0)BEMPAR.DAT (as of 1800.0)
- DIMENSIONING_SETTINGS.XML (as of 1800.0)
- KRPGEN.DAT (as of 1801.0)
- MASPAR.DAT (as of 1801.0)
- FITTABLE_SETTINGS.XML (as of 1801.0)

The settings from these files have been integrated into the Configuration Management. In the Online Help for the Configuration Management you will find the document **Schluesselnamen.pdf**, which shows you where you can retrieve the entries from the DAT files in the Configuration Editor.

In addition, the Online Help provides a description of various scenarios for the utilisation of the tool. An extensive description of the Configuration Management (Performance – Functions – Scenarios) is provided in the document **ISD-Configuration.pdf**. You can find this document

- in the **ISD Wiki** at **Product Know-how > Whitepaper**
- in the Docu\hicad sub-directory of your HiCAD installation sowie
- on the start page of the Online Help at www.help.isdgroup.com

4.1 The Configuration Management after Updates

When performing an update from HiCAD 2011 or HiCAD 2012, your settings from the existing configuration file **HICAD.CFGDB** of your previous HiCAD version will be transferred to the Configuration Management of HiCAD 2013, namely into the Administrator profile.

When the update is performed, only the values predefined by the ISD, i.e. the “factory settings”, will be changed. All other (administrator or user) settings will be preserved.

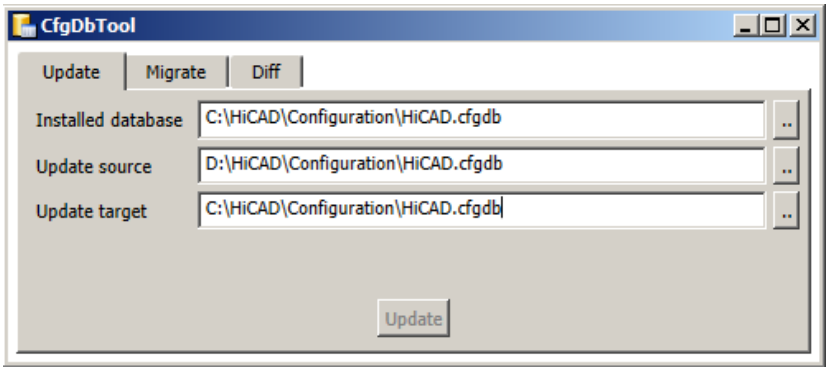
If you use a central configuration database on a server, it will be automatically detected by the update program by means of the aforementioned Registry entry, and will be updated. For an update of several workstations, one single update will be sufficient; a multiple update will, however, not do any harm either (as an already updated setting will not be updated again).

4.2 The Configuration Management after New Installations

If you perform a (new) installation of HiCAD 2013, the settings predefined by the ISD will be initially used in the Administrator profile of the Configuration Management. If you want to transfer your individual settings in the file **HICAD.CFGDB** from HiCAD 2011 or HiCAD 2012 to the Configuration Management of HiCAD 2013, use the program **CfgDbTool.exe** in the HiCAD EXE sub-directory for this.

Furthermore, you are enabled to transfer settings from old DAT and XML files which are now managed in the Configuration Editor, to the configuration database of the version 2013.

» Start the **CfgDbTool.exe** from the HiCAD / exe sub-directory.



Use the **Update** tab of the CfgDBTool you tab to transfer the settings of your previous configuration file (.CFDB) to the configuration file of version 2013.

Installed database — The configuration database to be updated, i.e. (the configuration database of your previous HiCAD version HiCAD-Version 2011/2012).

Update source — The configuration database of the new version; the configuration database with the current ISD settings can be found in the folder: [HiCAD installation directory]\Configuration.

Update target — The result of the update. If you enter the same file here as in the **Installed database**, a backup of the previous configuration database will be created. You cannot enter the same database here that you entered in the **Update source** field.

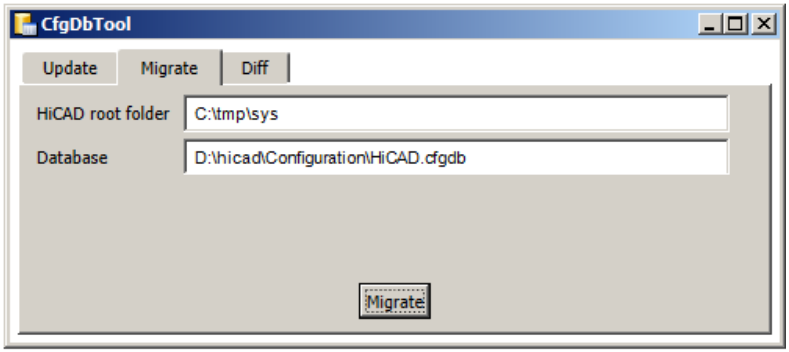
» Select the directories.

» Click the **Update** button to start the process.

Use the **Migrate** tab to transfer your individual settings from old DAT and XML files which are now managed in the Configuration Editor, to the configuration database of the version 2013.

The setting files with their adjustments need to be copied to the HiCAD SYS subdirectory of the new HiCAD version for this purpose.

Start the **CfgDbTool.exe** from the HiCAD / exe sub-directory and activate the **Migrate** tab.



HiCADS root folder Here you enter the directory where your old DAT and XML files etc. are located. Please make sure that the old files have the same name and are located in the same directory structure as in a HiCAD standard installation.

Database Here you specify the database to which the data are to be transferred.

» Select the directories.

» Click the **Migrate** button to start the process.

5 Important Technical Information

5.1 Data Compatibility HiCAD/HELiOS 2013 (Version 180X)

Please note that no changes are made to the HiCAD data format and the HELiOS standard database within a major release. This means that all patches and service packs of a version (e.g. 1800.x, 180X.x) will use the same data format, and no HELiOS update will be required.

When updating from previous versions to Version 180X, please note the following:

Update from version	HELiOS-Update	Changed HiCAD data format
1212.4 or older	X	X
15xx.(x) or older	X	X
1601.(x)	X	X
170X	X	X

» Notes:

- If a HELiOS update is necessary, older HiCAD, respectively HELiOS versions have no access to the database any more. All workplaces need to be converted at the same time.
- If the HiCAD data format has been changed, drawings and parts cannot be loaded with the older version if they were saved with the new version.
- After updating HELiOS, the database needs to be additionally converted from ANSI to UNICODE character set (for more information see the separate documentation).

5.2 Important Notes on Updates

5.2.1 Perform Installation

The installation of version 2013 can be carried out by a technician of the ISD or by the customer. In this context, please note the following recommendations by the ISD:

» HiCAD without HELiOS

- Update of version 2010 to version 2013: Can be carried out by experienced users with sufficient basics.
- Update of version 2008 (or older) to version 2013: An installation by the ISD is recommended.

» HiCAD with HELiOS

- Update of version 2010 to version 2013: An installation by the ISD is recommended.
- Update of version 2008 (or older) to version 2013: An installation by the ISD is recommended. The update installation includes a data conversion to UNICODE format.

» 3rd party CAD with HELiOS

- Update of version 2010 (or older) to version 2013: An installation by the ISD is recommended.

5.2.2 Licensing

Version 2013 can be obtained either on an installation medium (DVD), or via download from the ISD Homepage.

As of HiCAD/HELiOS version 2010 the activation takes place via a software license. The activation is no longer linked to a dongle, but directly to the hardware of a server or an individual workstation.

If you use a Server License, you need to update the License Server Software and the License Management Tools; if you use Local Licenses, you need to install the new version.

Normally, licenses for older HiCAD/HELiOS versions must be revoked first.

After confirmation of the revocation you will receive one or several Entitlement IDs enabling you, in combination with your E-Mail address and your Password, to activate the new licenses. (see 6.3)

Licenses can be deactivated at any time, without having to contact the ISD Group, via the **License Activator** in the ISD License Manager, i.e. they can be temporarily stored on the Server of the ISD. For this you require your Entitlement ID, your E-mail address and your Password. The activation can then be performed on any other computer, i.e. the licenses can be transferred to this computer. For Server Licenses this procedure can only be performed for the entire license pool.

After updating HiCAD and HELiOS (Version 2008 or older) to Version 2013, you must return your workstation dongle to the ISD. You can then no longer use any older HiCAD/HELiOS versions.

5.2.3 CatalogueMaker

The CatalogueMaker is called automatically by the installation program in case of a **new installation**.

It specifies which standard series is to be shown in the standard part catalogues (at the moment standard series are available for DIN, ISO, EN, ANSI and JIS). The selection of the standards in the CatalogueMaker influences the display of the standard parts only, not their availability. This will still be controlled by the license selection in the configuration menu.

The existing configuration will be taken over automatically in case of an **update**; the CatalogueMaker will not be started automatically. If you want to add standards to the catalogues, the program can be called in the ISD program group in the start menu via “Administration".

5.2.4 Material Manager

The Material Manager (materialmanager.exe) that enables a taking over of materials from Catalogue Editor to HELiOS needs to have the same database schema as HELiOS. Therefore the Material Manager will also be updated.

5.2.5 Computer / User Configuration

A computer configuration for HiCAD settings can be activated in case of a new installation, respectively update.

The “Workstation Parameter Configurator” can be started for a subsequent call by the Administrative Tools of the ISD program group.

Depending on the selection in this window, the settings, saved in the corresponding CSV-file, will be configured. The default CSV-files can be found in the templates directory of the HiCAD installation.

Important:

- The settings files in the templates-directory will be overwritten without further queries in case of an update.
- Company-specific CSV files can be filed in the sys-directory of the HiCAD installation; they can then be selected via the drop-down-list of the computer configuration.
- Activate the HiCAD / HELiOS standard solution only when using the database supplied with HiCAD / HELiOS neXt 2007 or later.
- When updating, the copying of standard masks must be activated only if no customized masks or BOMs are used.

5.2.6 *.KRP to *.KRA Conversion (only relevant for updates from HiCAD neXt 2005 or older)

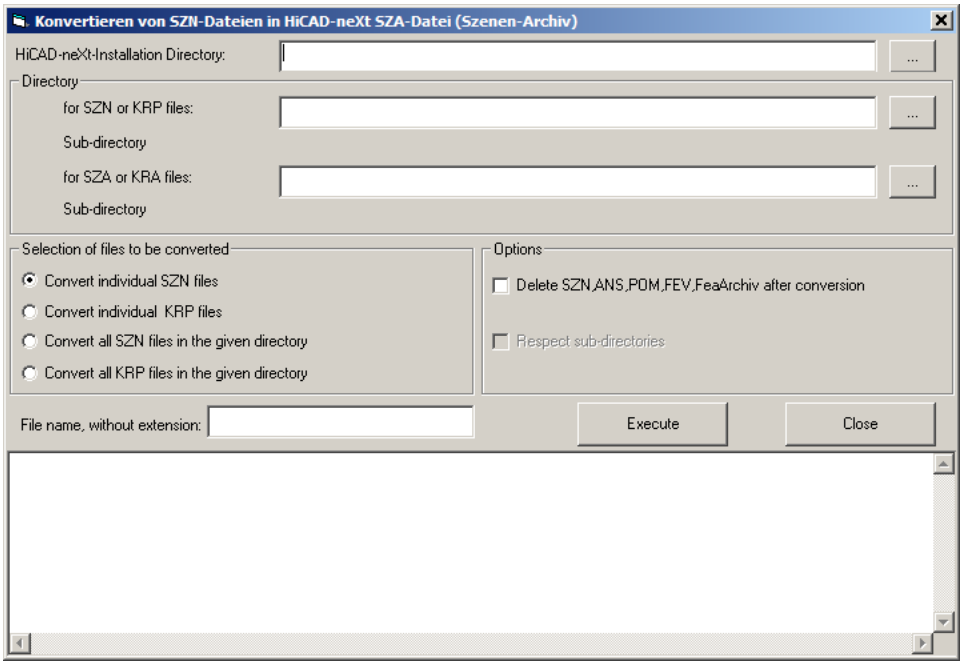
As of HiCAD neXt 2006, the HiCAD 3-D parts (*.KRP and related files) are combined in one archive (*.KRA).

Before making the necessary conversion, you should save the directories, where the HiCAD 3-D parts have been saved (these are usually the paths given for the file groups C:, L: and M: in the FILEGRUP.DAT file; please check further adaptations).

You need the SZN-SZA-Konvertierung.exe program once for the conversion. The program can be found in the \isdtools directory on the HiCAD installation CD.

Copy the UpdateTools directory (with all files and sub directories) to the computer you want to use for the conversion.

Start the SZN-SZA-Konvertierung.exe from this directory. The following window will be shown:



» Enter the UpdateTools directory as the directory of the HiCAD neXt installation.

» Select the directory of the KRP files and the destination directory for the KRA files (these directories may be identical).

» Activate the **Convert all KRP files in given directory** option and decide if KRPs, which are no longer used, are to be deleted in one step and if subdirectories are to be included in the conversion.

The conversion of the given directory will be started after selecting the **Execute** button.

If you need to convert KRP files into different directories, the previous steps need to be repeated accordingly.

We recommend the deletion of the KRP files, in particular when working without HELiOS, as they can still be loaded in HiCAD and can result in different states of KRP and KRA files.

When using HELiOS functions, only KRA files are loaded, the change from KRP to KRA in the database is automatic during the database update with the help of the Helios2toHeliosNext.exe program.

5.2.7 Important Notes on the Modules “Plant Engineering” and “Pipeline Isometry”

HiCAD 2012 introduced a new file format for Plant Engineering parts.

If you have used the modules “3-D Plant Engineering” and “Pipeline Isometry” in the previous HiCAD version, please note the following:

It is assumed that the previous, old HiCAD version was installed at *Y:\hicad* , and the new version will also be located at *Y:\hicad* after the update (*Y* indicates the drive).

1. Before installing the Update, check in the old version the entry at position *6:* in the FILEGRUP.DAT file that is located in the in the HiCAD EXE subdirectory. This entry determines the part directory for HiCAD Plant Engineering.

   Example 1:

   6:\\MyServer\hicad\PlantParts (or *6:\\MyServer\hicad\anlbaut*)

   Here, a network path is specified for the Plant Engineering part directory, i.e. the part directory is located on a different computer. Create a backup copy of this directory.

   Example 2:

   6:X:\hicad\PlantParts (oder *6:X:\hicad\anlbaut*)

   X indicates the drive.

   Create a backup copy of this directory.

   Only if *X* is equal to *Y*, rename the part directory to *Y:\hicad\MyPlantParts*.

If a directory *Y:\hicad\PlantParts* still exists in your old HiCAD version, rename it to *Y:\hicad\PlantPartsOld.*

2. Now perform the **HiCAD Update Installation**. Please do not start HiCAD yet.

3. **After the HiCAD Update Installation:**

   After creating a directory *Y:\hicad\MyPlantParts* as described in Example 2, now rename the directory *Y:\hicad\PlantParts* to *Y:\hicad\PlantPartsOriginal* , and then rename *Y:\hicad\MyPlantParts* to *Y:\hicad\PlantParts* (or *Y:\hicad\anlbaut*)

   In *\hicad\exe\filegrup.dat* at position *6:* re-enter the directory path that was entered there in the old version. Check whether the following subdirectories exist in the part directory that has been entered there:

   CatSearch

   Symbols

   If one (or both) of these subdirectories is missing in the part directory (but only if this is actually the case!), copy it (them) from *C:\hicad\PlantPartsOriginal* to the part directory.

   If *CatSearch* already existed, copy the file **CatDbAttMapping.txt** from the directory *C:\hicad\PlantPartsOriginal\CatSearch* to the subdirectory *CatSearch* of the part directory and overwrite the already existing file.

   Copy the subdirectories

   PartInspect

   TemplateMacro

   VariantStruct

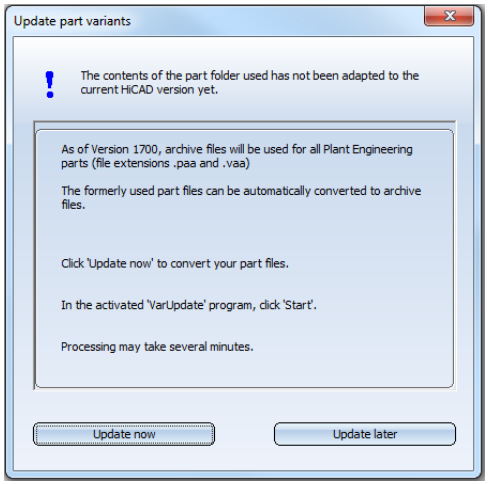
   from *C:\hicad\PlantPartsOriginal* to the part directory and overwrite the already existing files.

4. **Start HiCAD** and perform the update of the Plant Engineering part data as soon as you are prompted to do so by a corresponding dialogue.

5.2.7.1 Automatic update of part files (and database)

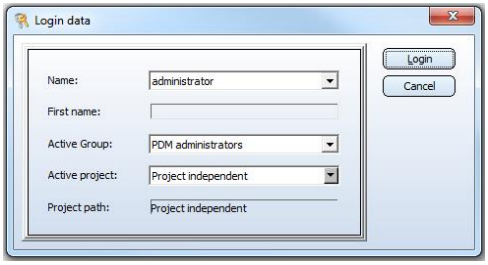
If you have already created your own Plant Engineering parts with an older HiCAD version, you will, of course, want to re-use these parts in newer HiCAD versions. First make sure that you have entered the correct current directory path to your Plant Engineering part files at item 6: in \hicad\exe\FILEGRUP.DAT.

Then start HiCAD. When you now try to load a drawing, or create a new drawing, the following window will be displayed:



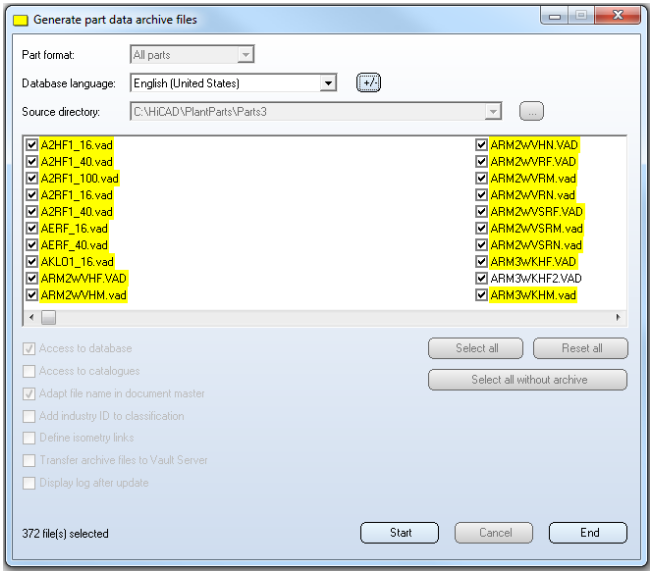
If you do not want to use the Plant Engineering modules right now, click **Update later**, and continue to work with HiCAD as usual. The window will not reappear until the next HiCAD start.

If you want to use HiCAD Plant Engineering, click **Update now.** This will start the tool for the update of your part data. If you use the HELiOS database as part data source, the Login window appears (otherwise, you will be directly taken to the next window):



As you also want to update the database automatically, it is mandatory that you have the necessary write access (rights for the Administration function).

When you click **Login**, the following window appears:



Click **Start**. The update of the part data begins. Depending on the number of existing part files, this process will take 10 – 20 minutes; this time can be significantly longer if the data are transferred via a network. The updating was successful if an archive file could be generated for all parts with part master data (or catalogue entry, respectively, in case of the Catalogue as part data source). For all other parts, too, an archive file will be created if possible. If the updating was not successful, an error log will be displayed, indicating for each part whether or not an archive file could be successfully generated.

If the database is the part data source, the following changes will be made to the database, in addition to the update of the files:

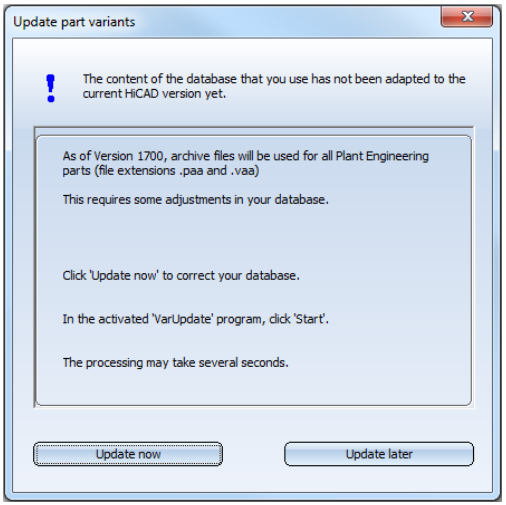
- In the document masters of the Plant Engineering parts, the file names will be modified, i.e. the extension .vad will be replaced with .vaa, and the extension .kra will be replaced with .paa.
- The superordinate classes used for part classification obtain an ID, the so-called “industry ID”. (10001 for the class Plant Engineering, and 10002 for the class Air ducts).
- The link definitions required for pipeline isometry will be entered (pipeline isometry and pipeline layout plan).
- If a Vault Server exists and is activated, the archive files will be moved to the Vault Server. The files can then no longer be accessed via the Windows file system.

After the update, click **End** and re-start HiCAD. Your parts are now available in HiCAD Plant Engineering.

5.2.7.2 Auto-synchronisation of the database

If you have not used an earlier HiCAD version and install HiCAD for the first time, the part files will directly be available in the new archive file format. It is however possible that the installed HELiOS database still needs to be adjusted accordingly.

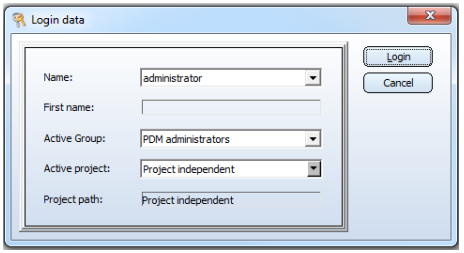
If this is the case, the following window will be displayed when you try to load a drawing, or create a new drawing:



If you are currently not working with the HiCAD Plant Engineering modules, click **Update later**, and continue to work with HiCAD as usual. This window will not reappear until the next start of HiCAD.

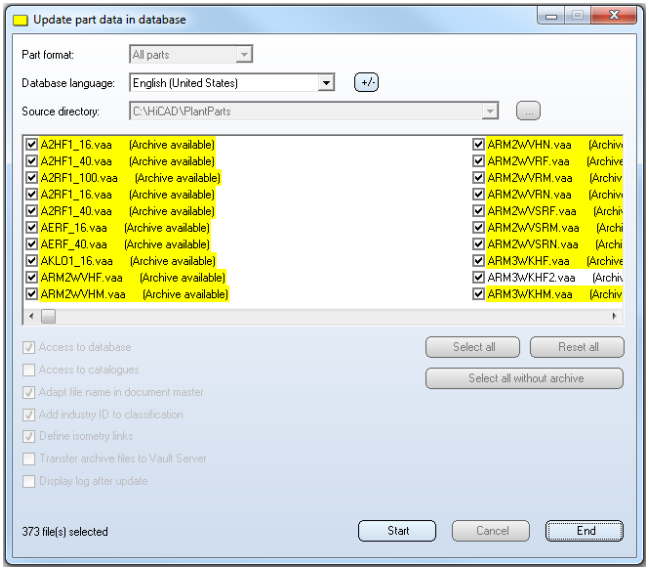
If you want to use HiCAD Plant Engineering, click **Update now**. This will start the tool for the update of your database.

First, the following Login window will appear:



It is mandatory that you also obtain the necessary write access when you log in (rights for the **Administration** function).

After you have logged in, the following window appears:



Click **Start**. The update of the database begins. Depending on the number of existing part files, this process will take 15 – 30 seconds; this time can be significantly longer if the data are transferred via a network.

The following changes will be performed in the database:

- In the document masters of the Plant Engineering parts, the file names will be modified, i.e. the extension .vad will be replaced with .vaa, and the extension .kra will be replaced with .paa.
- The superordinate classes used for part classification obtain an ID, the so-called “industry ID”. (10001 for the class Plant Engineering, and 10002 for the class Air ducts).
- The link definitions required for pipeline isometry will be entered (pipeline isometry and pipeline layout plan).
- If a Vault Server exists and is activated, the archive files of the parts will be moved to the Vault Server. The files can then no longer be accessed via the Windows file system.

After the update, click **End** and re-start HiCAD. Your parts are now available in HiCAD Plant Engineering.

5.2.8 Update Training

ISD now offers a 2-day Update Training for new versions. Further information on training dates can be found on the attached form or our website: www.isdgroup.com / Support / Training.

6 Licensing

HiCAD/HELiOS can be activated via three license types:

- Network licenses
- Standalone licenses (local licenses)
- Commuter licenses

In the HiCAD directory DOCU you can find an Online Help for the Licence Manager. You start the Help by calling the LICENSEMANAGER.HTML file in the folder Docu\tools\Licensemanager.

In the ISD Wiki you can find the PDF document Use Case: Checkout Licenses at Product Know-how > Whitepaper.

6.1 General Information about Licensing

6.1.1 Local (Workstation-Specific) Licensing

If you choose local licensing, the activation will be directly locked to the hardware of the workstation on which your HiCAD and HELiOS Desktop program is installed.

The ISD will send you an E-mail containing the Entitlement ID for local licenses (standalone). This ID will be required for the activation and deactivation of the licenses and software modules. Please keep the Entitlement ID! Without this ID you cannot activate or deactivate any licenses! In case of a defect, no reconstruction of licenses will be possible without the Entitlement ID! After installing HiCAD/HELiOS, you activate the licenses by means of the License Activator in the ISD License Manager.

6.1.2 Network (Server-Controlled) Licensing

If you choose network (server-controlled) licensing, the license will be directly locked to the hardware of the server that centrally manages the HiCAD/HELiOS licenses. These licenses can be used on any workstation in your network that is connected to this server.

The ISD will send you an E-mail containing the Entitlement ID. If you have several network servers, e.g. at several locations, you will receive one Entitlement ID for each network server. This ID will be required for the activation and deactivation of the licenses and software modules. Please keep the Entitlement ID! Without this ID you cannot activate or deactivate any licenses! In case of a defect, no reconstruction of licenses will be possible without the Entitlement ID! You activate/deactivate the network licenses by means of the License Activator in the ISD License Manager.

Individual licenses can be checked out from the server and locked to a workstation within or outside the network (so-called “commuter licenses”). This enables you to continue working at a different location, without being connected to the license server (unless your HiCAD/HELiOS installation requires a connection to a database server). For this purpose you define a specific period during which you want the license to be available on a selected workstation. For this period, this license will be blocked on the license server. After expiry of this period, the license will be made available on the license server again. It is also possible to manually return this license to the server before expiry of the defined period, if the workstation is connected to the server. Licenses for one workstation can be checked out for at least one day, with the counting beginning at 1:00 AM on the day following the checkout date.

If you want to replace/exchange your license server, you need to deactivate all licenses first.

A static IP address is required for correct operation of the license server!

6.1.3 Practical Examples of Network Licensing

» Let us assume that three licenses have been activated on your server. Monday morning (11.00 am) you suddenly need to see a customer for design tasks, and you know that you will still be on-site at the customer's facility on Tuesday. You therefore check out a license for 24 hours on 11.00 am. This means that you can use this license until Tuesday night, 11.59 pm, from your mobile workplace. After expiration of this period, the license is automatically made available again on the server. If you manage to finish your work on Tuesday at midday, you can go back to your office and return the license to the server somewhat earlier.

» Similar situation as the one described above, with the difference that you are not in your office on Monday, 11.00 am. In such cases you can generate a hardware ID, enabling your colleagues in the office to check out a license for you. This license is sent to you by E-mail and can then be activated. In contrast to the previous example, this license is exclusively available to you for a fixed period of time and cannot be returned to the server before expiration of this period.

If you activate a license while the WLAN card is switched on, this license will only be valid and visible when the WLAN card is switched on. If, however, the license is activated while the WLAN card is switched off, the license will always be valid, no matter whether the WLAN card is switched on or off.

The PDF document **Use case: Check out licenses** provides further information on this topic. The document can be found in the ISD Wiki at Product Know-how > Whitepaper.

In the ISD Wiki at Product Know-how > Whitepaper you can find the PDF document Use case: Checkout Licenses.

6.2 Network Licenses

To be able to use network licenses, a License Server needs to be installed on a computer without HiCAD/HELiOS.

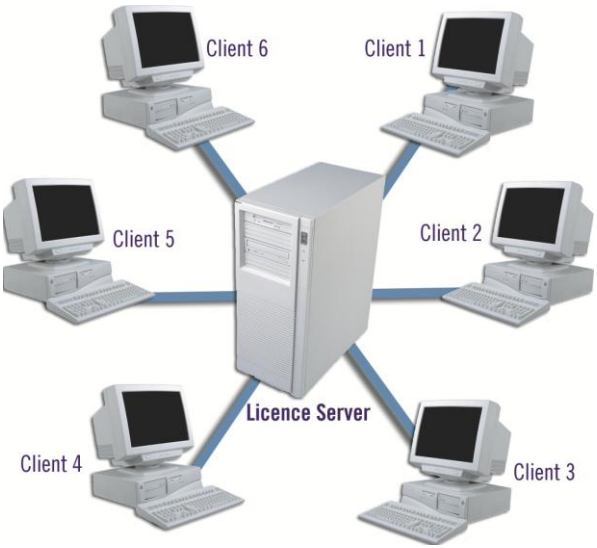
The license server enforces and manages licensing in multi-user environment. It keeps track of all the licenses and handles requests from network users who want to run a

HiCAD/HELiOS application, granting authorization to the requesters, or denying requests if all licenses are in use.

The license server must not be installed on the same computer on which an ISD software product (HiCAD, HELiOS) is installed, as both product share system data concerning the licensing information. Formerly, such parallel installations of license servers and ISD products were performed in cases where a customer occasionally wanted to transfer the license to another computer (Remote Commuter License). As of Version 1700 such scenarios can be realised in a much more convenient manner with a new licensing procedure.

Please note:

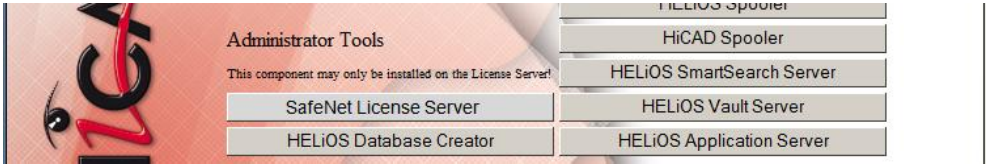
- **As of Version 1700, parallel installations of license servers and ISD products (i.e. on the same computer) are no longer covered by the warranty. The ISD group advises you strongly not to perform such installations.**
- **A static IP address is required for a correct operation of the License Server!**



6.2.1 Server Installation

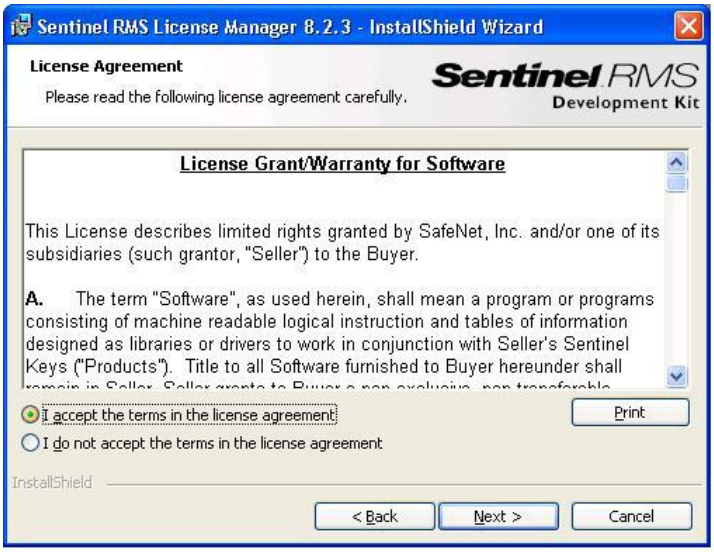
The **SafeNet License Server** is installed from the HiCAD DVD. Start Windows. If Windows is already open, close all other applications. Insert the DVD in the DVD drive. The installation wizard will be started automatically. In the installation wizard, click the **Standard Edition** button, which opens a mask with various selection options for software components.

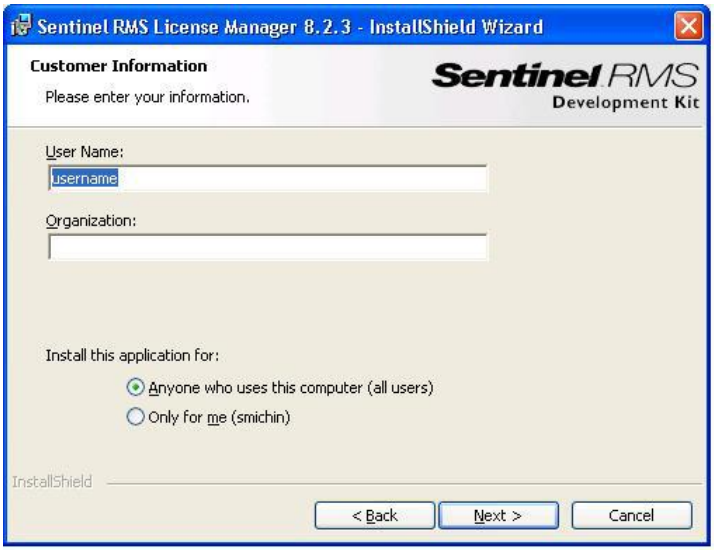
If you want to perform a HiCAD update to Version 2013 and use a license server (i.e. work with network licenses), you require Version 8.5.0.1400 of the SafeNet License Server. If you have installed an older version, you need to uninstall it before re-installing the SafeNet License Server.

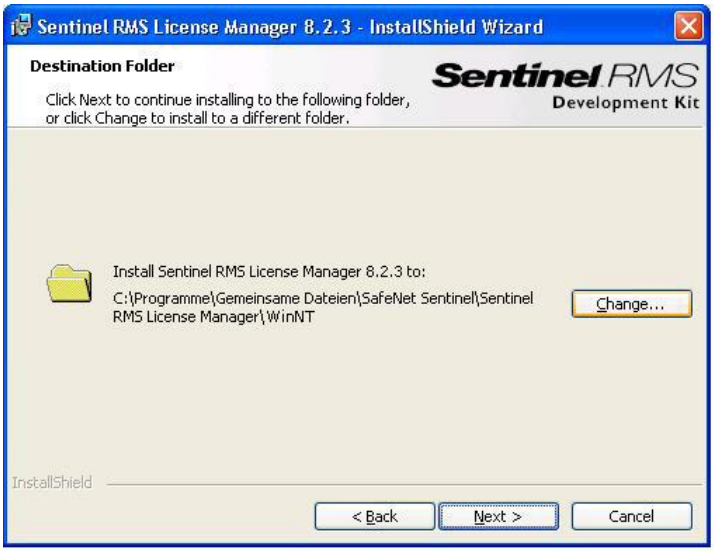


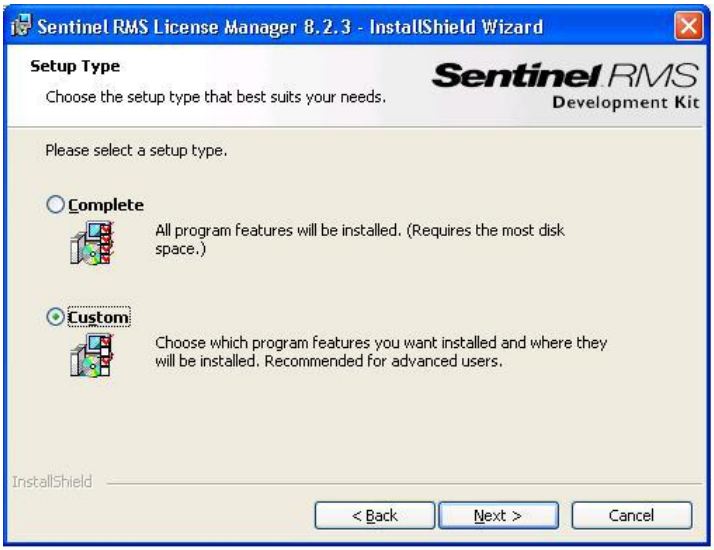
Click the **SafeNet License Server** button to start the installation.

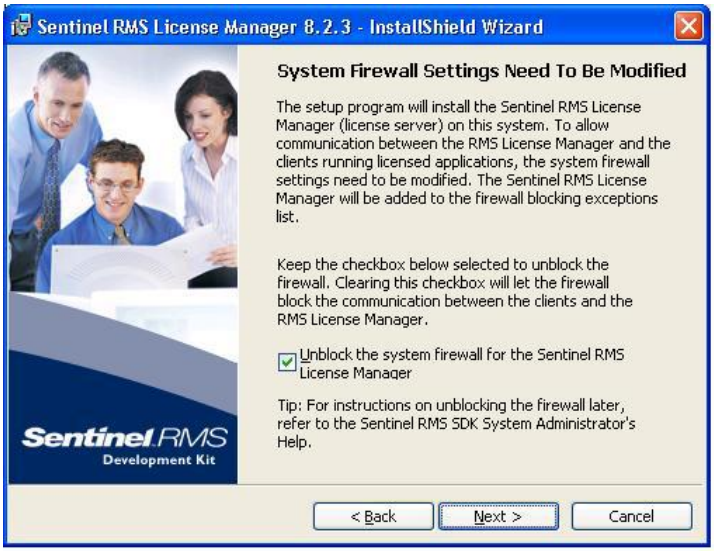

Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Welcome to the InstallShield Wizard for Sentinel RMS License Manager 8.2.3
The InstallShield(R) Wizard will install Sentinel RMS License Manager 8.2.3 on your computer. To continue, click Next. It is recommended that before continuing the installation, the previous version(s) are uninstalled, incase they are not used.
WARNING: This program is protected by copyright law and international treaties.
Sentinel RMS
Development Kit
< Back
Next >
Cancel

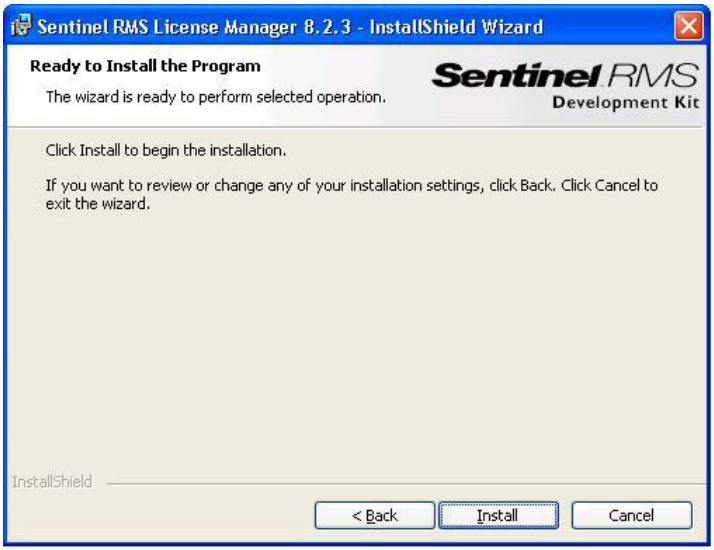

Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Sentinel RMS
Development Kit
License Grant/Warranty for Software
This License describes limited rights granted by SafeNet, Inc. and/or one of its subsidiaries (such grantor, "Seller") to the Buyer.
A. The term "Software", as used herein, shall mean a program or programs consisting of machine readable logical instruction and tables of information designed as libraries or drivers to work in conjunction with Seller's Sentinel Keys ("Products"). Title to all Software furnished to Buyer hereunder shall
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

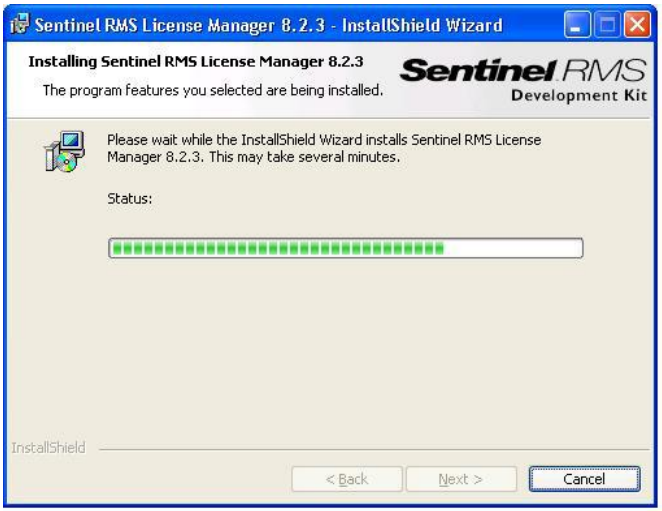

Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Customer Information
Please enter your information.
Sentinel RMS
Development Kit
User Name:
username
Organization:
Install this application for:
Anyone who uses this computer (all users)
Only for me (smichin)
InstallShield
< Back
Next >
Cancel

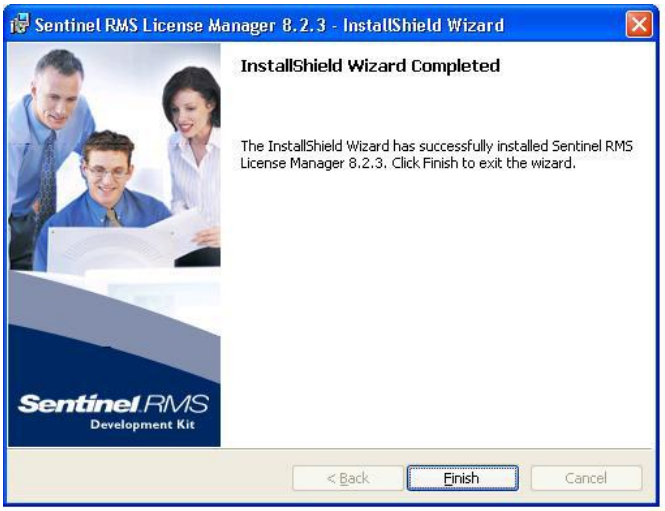

Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Destination Folder
Click Next to continue installing to the following folder,
or click Change to install to a different folder.
Sentinel RMS
Development Kit
Install Sentinel RMS License Manager 8.2.3 to:
C:\Programme\Gemeinsame Dateien\SafeNet Sentinel\Sentinel RMS License Manager\WinNT
Change...
InstallShield
< Back
Next >
Cancel


Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Setup Type
Choose the setup type that best suits your needs.
Sentinel RMS
Development Kit
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Choose which program features you want installed and where they will be installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

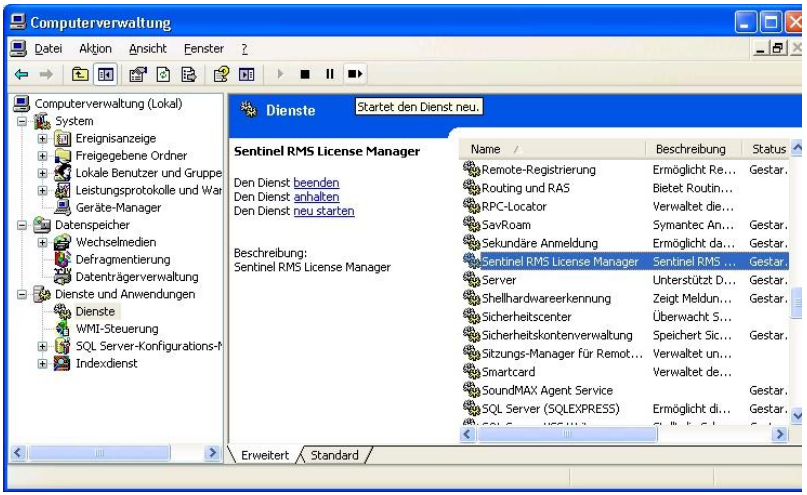

Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Sentinel RMS
Development Kit
System Firewall Settings Need To Be Modified
The setup program will install the Sentinel RMS License Manager (license server) on this system. To allow communication between the RMS License Manager and the clients running licensed applications, the system firewall settings need to be modified. The Sentinel RMS License Manager will be added to the firewall blocking exceptions list.
Keep the checkbox below selected to unblock the firewall. Clearing this checkbox will let the firewall block the communication between the clients and the RMS License Manager.
Unblock the system firewall for the Sentinel RMS License Manager
Tip: For instructions on unblocking the firewall later, refer to the Sentinel RMS SDK System Administrator's Help.
< Back
Next >
Cancel


Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Ready to Install the Program
The wizard is ready to perform selected operation.
Sentinel RMS
Development Kit
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel


Sentinel RMS License Manager 8.2.3 - InstallShield Wizard
Installing Sentinel RMS License Manager 8.2.3
The program features you selected are being installed.
Sentinel RMS
Development Kit
Please wait while the InstallShield Wizard installs Sentinel RMS License Manager 8.2.3. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel



After successful installation you will find the Server (Sentinel RMS License Manager) under Services. From here you can also start and end the License Server.



6.2.2 Client Configuration

To ensure that the HiCAD/HELiOS Client finds the correct License Server, an environment variable LSFORCEHOST should be set on each Client using network licenses. The value HOSTNAME, respectively the IP address of the License Server is assigned to the variable.

6.3 Licensing via Entitlement ID (License Activator)

Thanks to the enhanced ISD License Manager 2.0 the communication between the customer and the ISD could be facilitated significantly.

6.3.1 AutoRequest Licenses

When acquiring a HiCAD/HELiOS license, you will obtain one Entitlement ID for local licenses (Standalone) and another one for network licenses (Network). If you have several network servers, e.g. at different locations, you will obtain one Entitlement ID for each network server. These numbers will be required for the activation and deactivation of the licenses and the software modules.

Von: activation@isdgroup.de [mailto:activation@isdgroup.de]
Gesendet: Mittwoch, 18. Januar 2012 09:36
An: Musterfrau, Nadine
Betreff: EMS - Entitlement Certificate

Dear musterfrau@isdgroup.de,

Congratulations! An entitlement has been created for you with the following details:

Entitlement Details

EID:	2ddbc643-343e-4ec4-aed4-7bd5bc44cfe1	Start Date:	01/18/2012
Customer:		End Date:	Never Expires
Contact:	musterfrau@isdgroup.de		

Associated Products

Product number	Quantity	Remaining quantity	Start Date	End Date	Status
E102SOL1001 1700.0	2	2	01/18/2012	03/31/2012	Enabled
E107BIB1001 1700.0	2	2	01/18/2012	03/31/2012	Enabled
E130SMB1001 1700.0	2	2	01/18/2012	03/31/2012	Enabled
MasterLic 1700.0	2	2	01/18/2012	03/31/2012	Enabled

Now, follow the steps given below to activate and manage your entitlement:
1. Start ISD License Manager 2.0.
2. Change to tab "License Activator"
3. Log on using the EID, registered E-Mail and Password (ISD download area password).
4. Check licenses to activat.
5. Click on Activate button.

For further assistance, contact us using the following details:
Contact No. - Tel. +49-(0)231-9793-166
Email - hotline@isdgroup.de

Sincerely,
ISD Software und Systeme GmbH Team

Please keep the Entitlement ID! Without this number you cannot activate or deactivate licenses. In case of a system crash a reconstruction of the licenses cannot take place without the Entitlement ID!

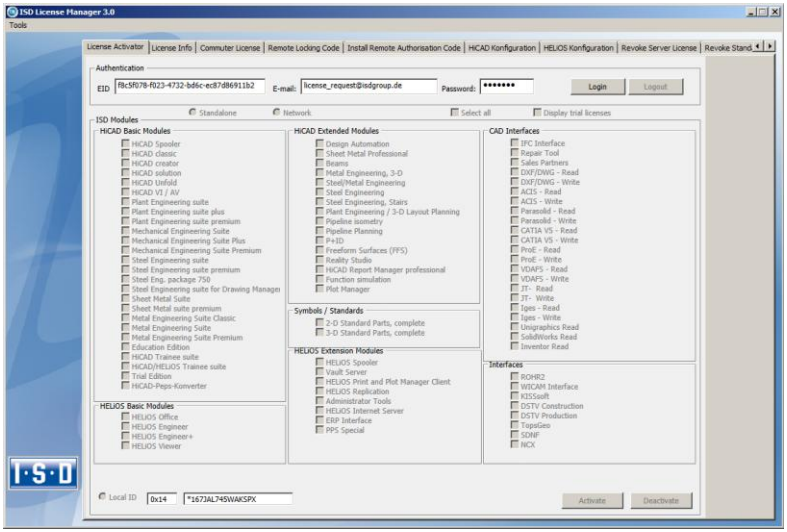
After installing HiCAD/HELiOS you can find the program in the Windows Start menu at ISD Software und Systeme > Administration. Please note that for the execution of some functions, administrator rights are required.

The range of functions of the ISD License Manager depends on the activation of the License Administration Tools option. The information about this setting is entered in the Registry and can also be changed there subsequently if desired (please contact the Hotline).

To activate/deactivate Network Licenses, always start the ISD License Manager via the Windows Start menu: Select Start > All programs > ISD Software und Systeme GmbH >

Administration. To avoid errors when activating/deactivating licenses, perform an update of the new ISD License Manager and/or the License Administration Tools beforehand.

Activate the License Activator tab and enter the Entitlement ID, your E-mail address and your Password. New customers obtain their password from the ISD Hotline. With this password you can also access the Download Area.



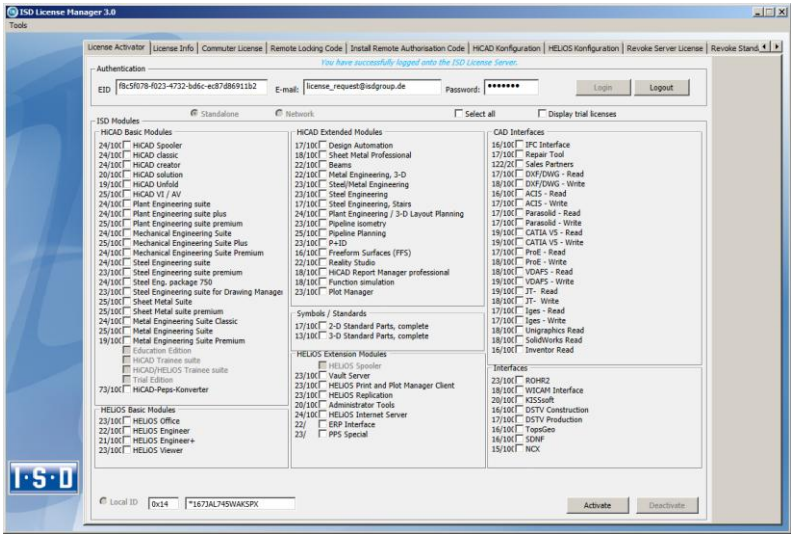
After entering the data, click Login. The ISD License Manager 2.0 connects to the ISD License Server and the acquired licenses will be displayed.

This process may take several minutes. You can then activate the licenses.

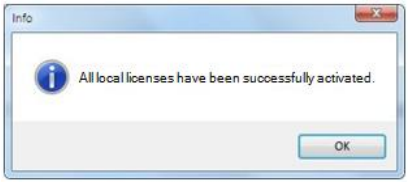
6.3.2 Activate Licenses

After successful login, the number of available licenses and the number of acquired licenses are indicated next to each module. Select the modules to be activated and click **Activate** to start the activation.

For Server Licenses the modules are already pre-selected!



After successful activation a message showing you that all licenses have been successfully activated will be displayed:



You can then log out and start working with the HiCAD/HELiOS modules.

In addition, you will receive an E-mail informing you about the deactivated modules.

For Network Licenses, all modules will always be activated or deactivated (for further information about the operation of the License Manager, please read the Online Help for the **License Manager**.

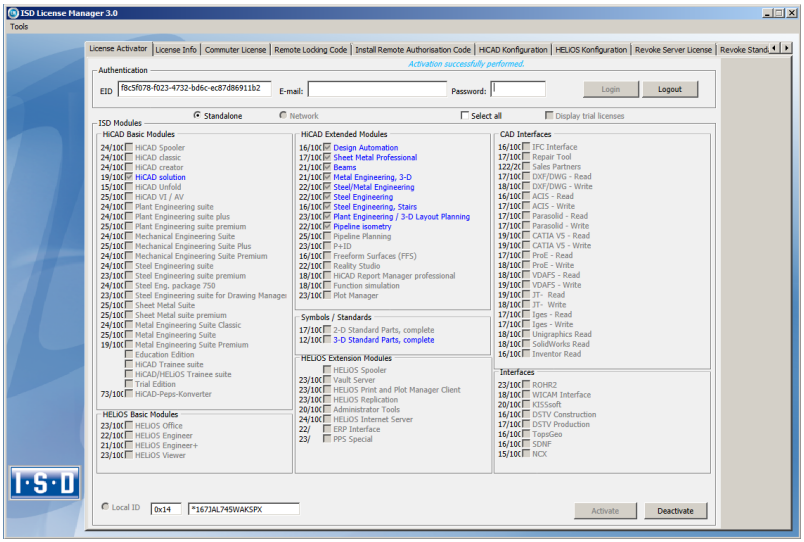
6.3.3 Deactivate Licenses

A deactivation of licenses for modules will be required in the following situations:

- Exchange of hardware or changing of hard disk partitioning
- Update of the operating system (e.g. from Windows XP to Windows 7)
  For updates within one version no deactivation will be required.
- Transfer of local modules from one workstation to another
- Acquisition of further modules, or return of hired licenses
- Switch from local licenses to network licenses

Please note the following: All workstations with modules having the same Entitlement ID need to be deactivated completely before a redistribution of the module licenses can take place.

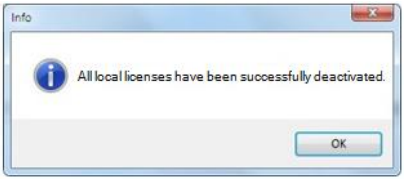
After starting the ISD License Manager 2.0 the activated modules will be highlighted in a different colour. Click the **Deactivate** button to revoke the activation of the modules.



A selection is not possible, as you need to deactivate all modules, no matter whether local licenses or network licenses.

The deactivation must not be disrupted, e.g. by a logout or the closing of ISD License Manager 2.0!

After successful deactivation the following message will be displayed:



6.3.4 Trial Licenses

If you select **Display trial licenses** after logging in, you will be also shown, besides all trial licenses with a limited period of validity, all purchasable licenses which are not simultaneously available as trail licenses.

6.3.5 Reconstruction of Licenses

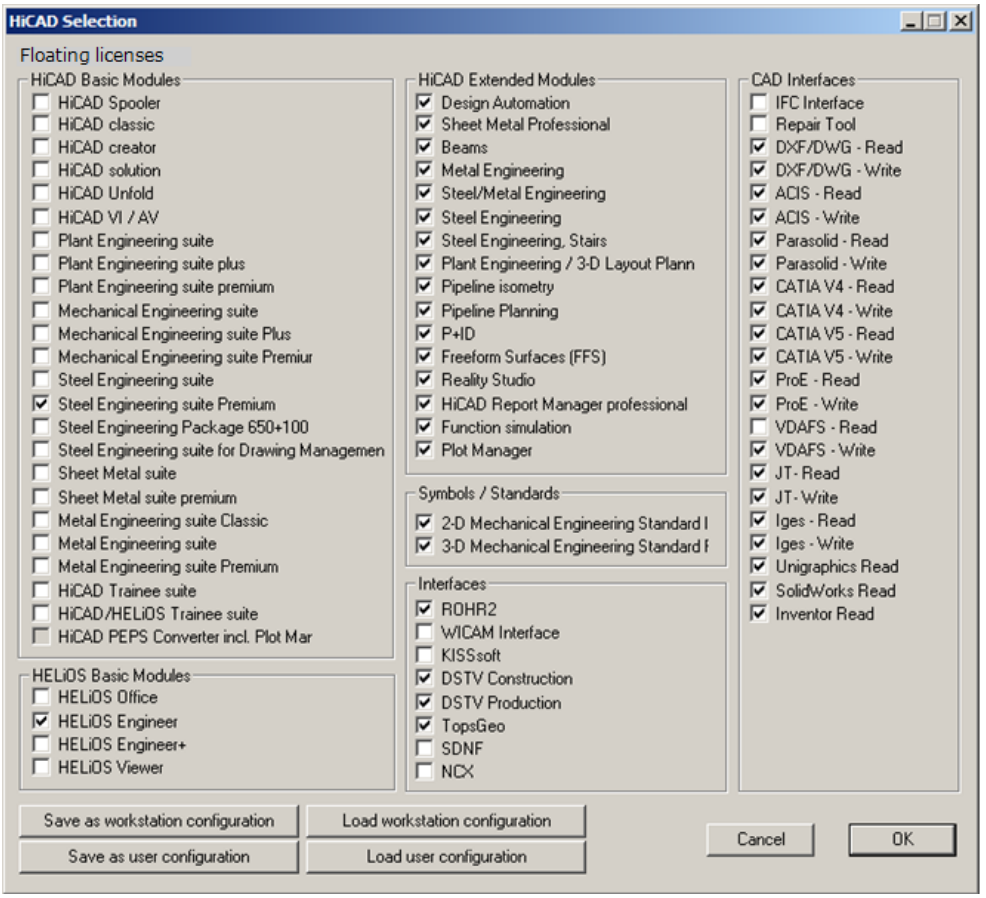
As all licenses are stored on the ISD Server, you can, in case of an interrupted connection or an accidental deletion of licenses, restore all licenses by logging in with your Entitlement ID. The restoring will only function if the hardware was not changed (see 4.2.3.3 Deactivate Licenses).

6.3.6 Notes Regarding the Use of Mobile Computers (Laptops)

If you use a computer with WLAN card, Please make sure that the WLAN card is either always switched on, or always switched off.

6.3.7 Floating Licenses

If you have acquired a HiCAD Extension Module with the property **Floating-able at runtime**, you can activate/deactivate them during the current HiCAD session. The HiCAD Selection dialogue window will be displayed.



If one Extension Module is (de)activated, the Extension Modules that are prerequisites for this module will also be (de)activated (if they are also floating-able at runtime).

6.4 Commuter Licenses

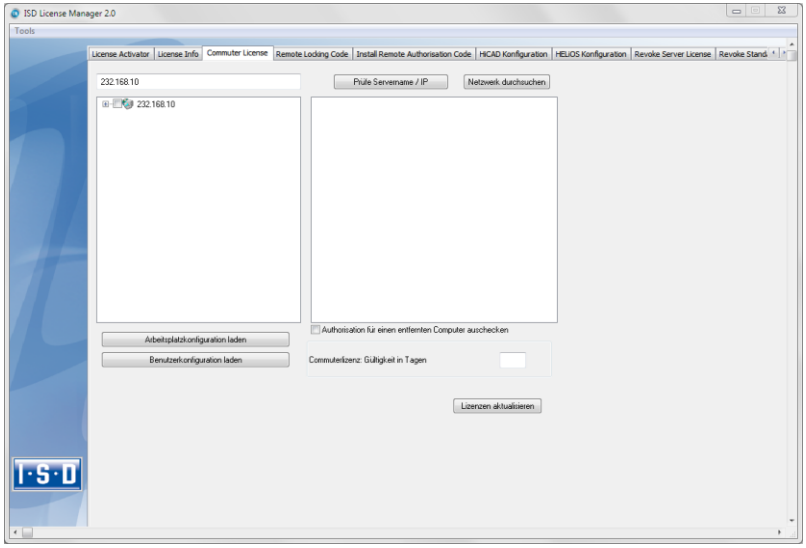
Commuter licenses enable you to use network licenses even if the workstation is not connected to the Server. There are two ways of receiving commuter licenses:

» Via direct checkout from the License Server

» Via checkout from License Server, without network connection

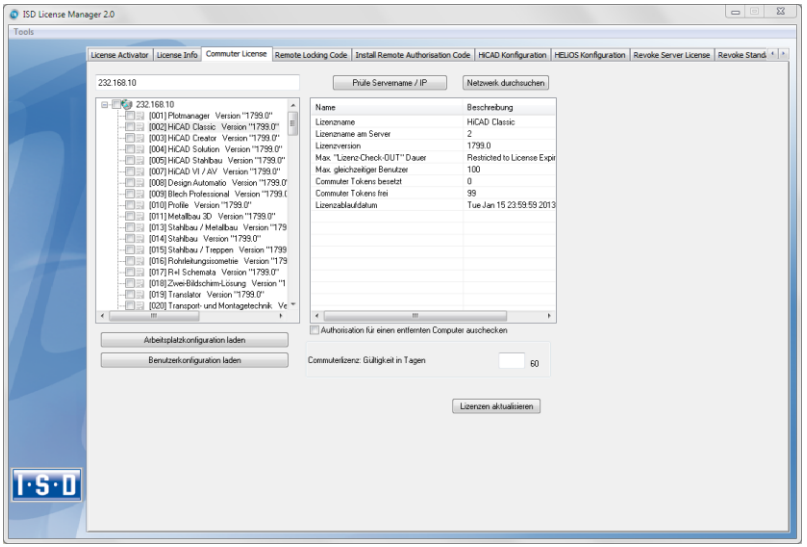
6.4.1 Direct Checkout from License Server

Start the **ISD License Manager** application (while a connection to the Server still exists). Switch to the **Commuter License** tab.



If you have set the system environment variable LSFORCEHOST, the entered License Server is displayed at start-up as pre-selection. Use the **Search network** button to automatically search for License Servers.

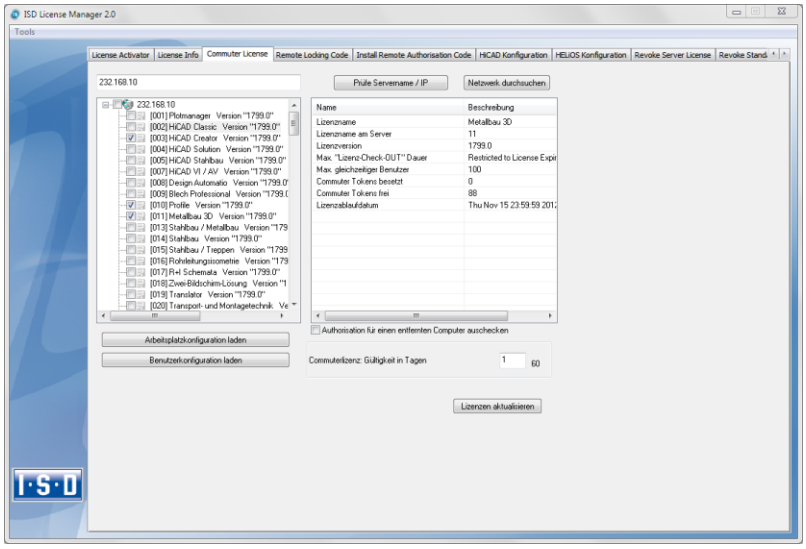
Expand the tree structure of the found Server by a click on the “+”-sign. The result looks as follows:



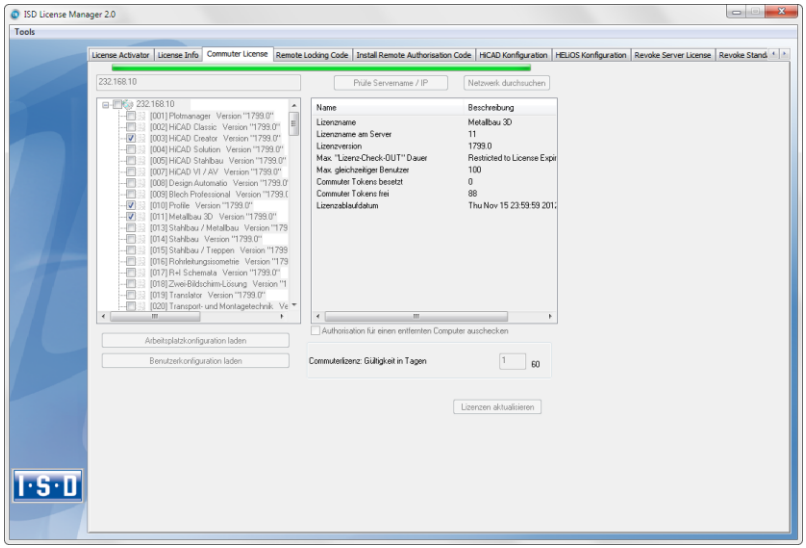
Select the required licenses by activating the corresponding checkboxes on the left hand side. On the right hand side, information on the selected license is displayed.

In the **Commuter license: Validity in days** field, you enter the number of days that you want the commuter licenses to remain checked out from the Server. The maximum number of days is 60. By default (or if a “0” is entered), the value is set to 1.

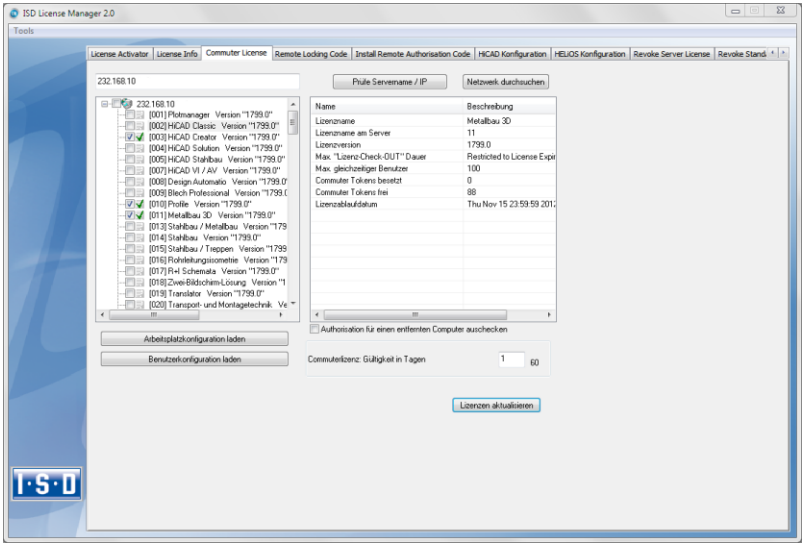
For reasons of safety you should check out the licenses only for the required period! If a commuter license is lost, e.g. because of theft or a defect of the client computer, the license on the Server cannot be used any more before expiry of this date!



After entering the expiry date for the commuter licenses, activate the **Update licenses** button.

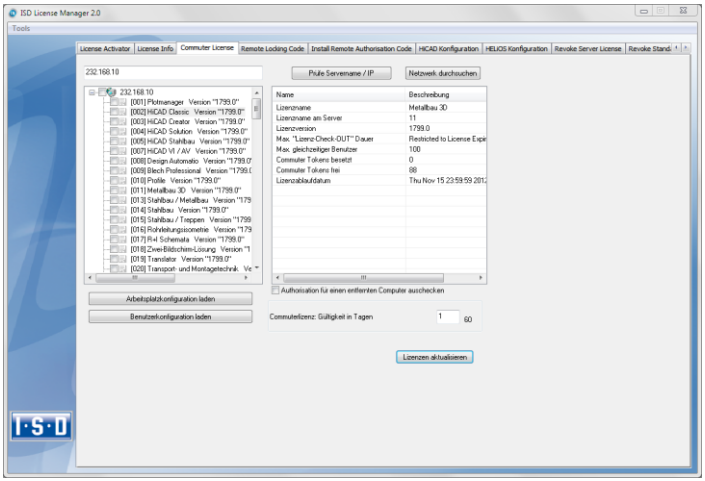


Commuter licenses are checked out from the Server.



All selected licenses are now checked out from the Server and you possess all rights on your computer for the specified validity period for the commuter licenses. This means that you are enabled to work network-independent. The checked out licenses are no longer available to the other computers on the net.

You can however also return the commuter licenses before their expiry date. To do this, you need to connect to the Server, deactivate the checkboxes on the left and click the **Update licenses** button. All licenses are now made available on the Server and locked on your computer, i.e. you can now only use HiCAD/HELiOS if there is a connection to the License Server. The licenses made available again can now also be used from other workstations.



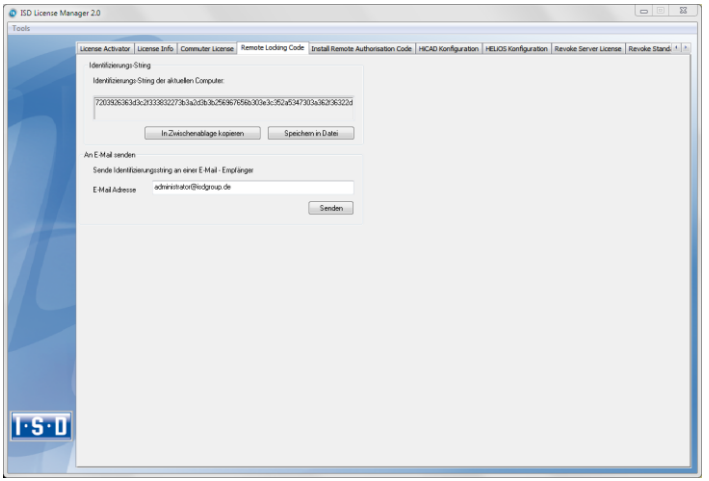
6.4.2 Checkout from License Server, Without Network Connection

Commuter licenses can also be drawn from the License Server without an existing network connection.

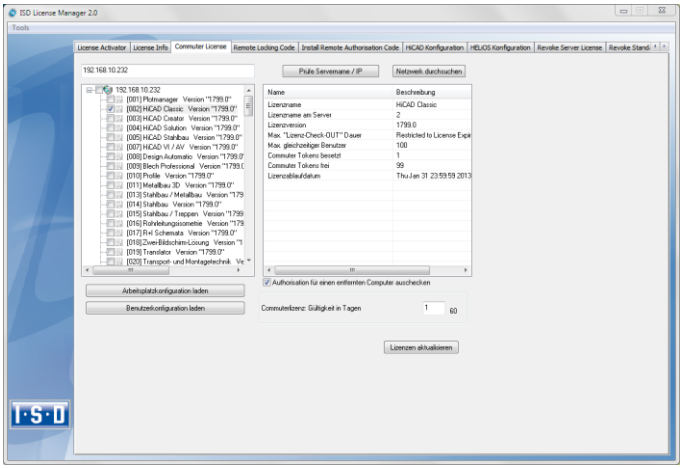
Please note that administrator rights are required.
Commuter licenses checked out in this way cannot be returned to the License Server! This means that the commuter licenses that have been checked out from the Server are only (automatically) made available again after their expiry date.

Several steps are required for this, by the administrator having a network connection to the License Server, as well as by the Client having no network connection to the License Server.

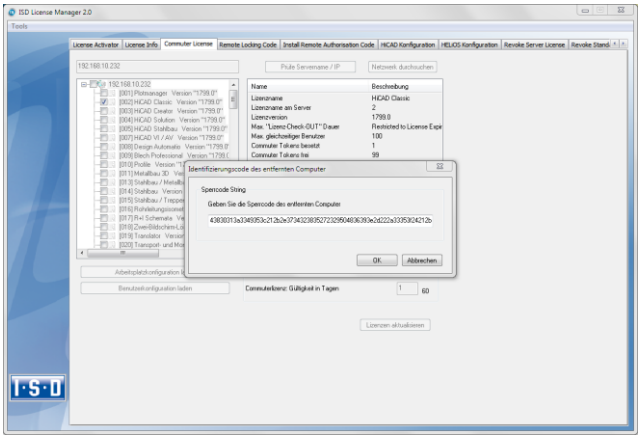
The Client starts the **ISD License Manager** tool, switches to the **Remote Locking Code** tab and sends the generated character set to the administrator (via E-mail or over the phone).



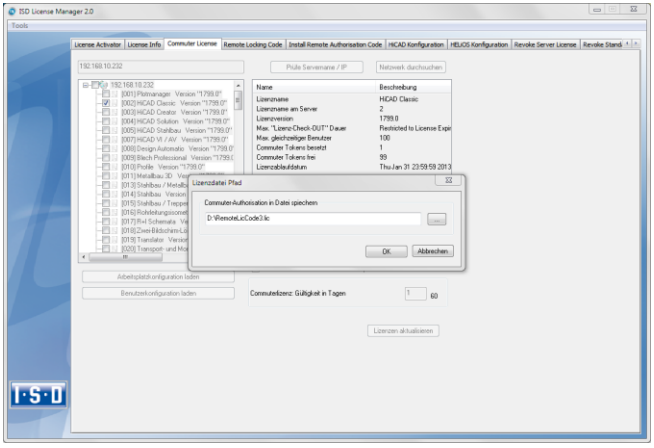
The administrator starts the **ISD License Manager** and switches to the **Commuter License** tab. The License Server is selected, and the required licenses (modules) are activated in the left window. To checkout a remote commuter license the administrator now needs to activate the **Check out authorisation for remote computer** checkbox.



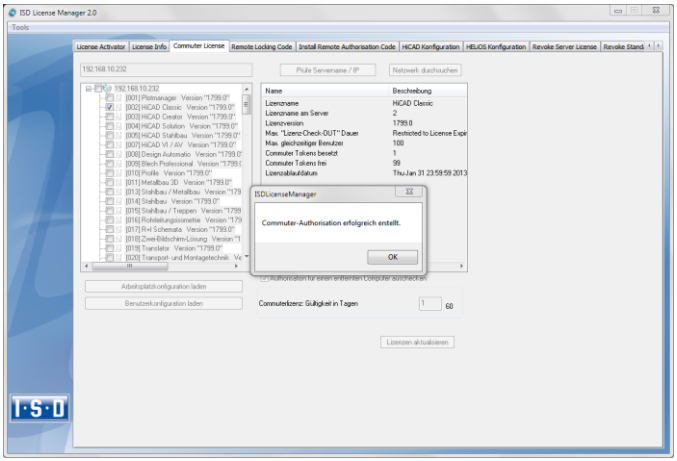
A click on the **Update licenses** button opens a new dialogue window, in which the administrator enters the character set received from the Client.



After selecting **OK**, another dialogue opens, in which you enter the target path and the file name for the licenses to be swapped out.

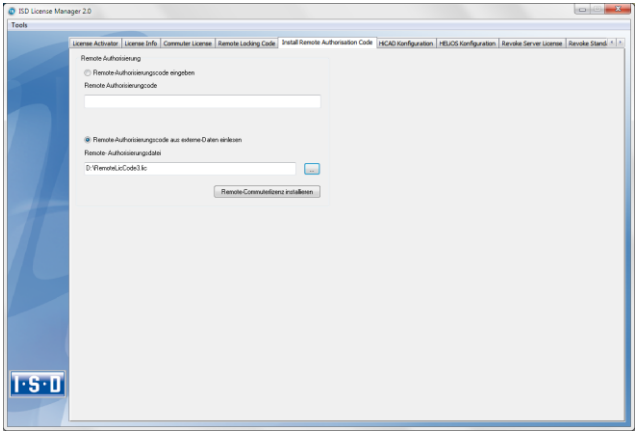


Select **OK** to check out the commuter licenses from the License Server and swap them out to a file, e.g. RemoteLicCode.lic.



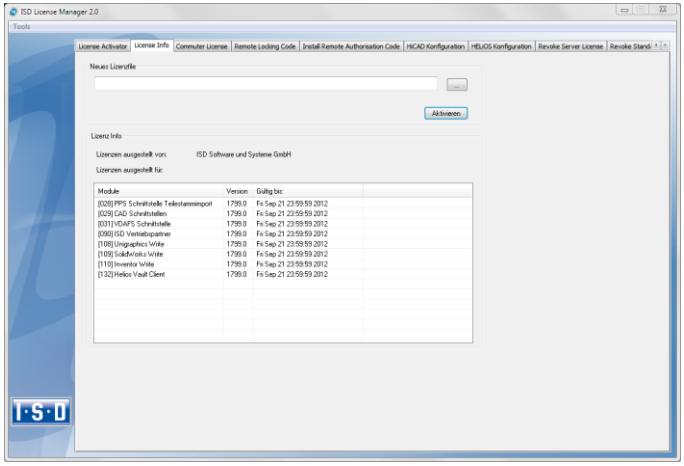
The successful checkout will be confirmed. The administrator then sends the file, RemoteLicCode.lic, to the Client.

After receiving the file with the commuter licenses, the Client starts the **ISD License Manager** again and activates the **Install Remote Authorisation Code** tab. Here the received commuter licenses can be installed directly via file selection or via copying of the file contents.



Click the **Install...** button to install the commuter licenses on the Client.

After successful installation, switch to the License Info tab. Press the F5 (Update) key on your keyboard. You are now informed which licenses are installed locally on the computer.

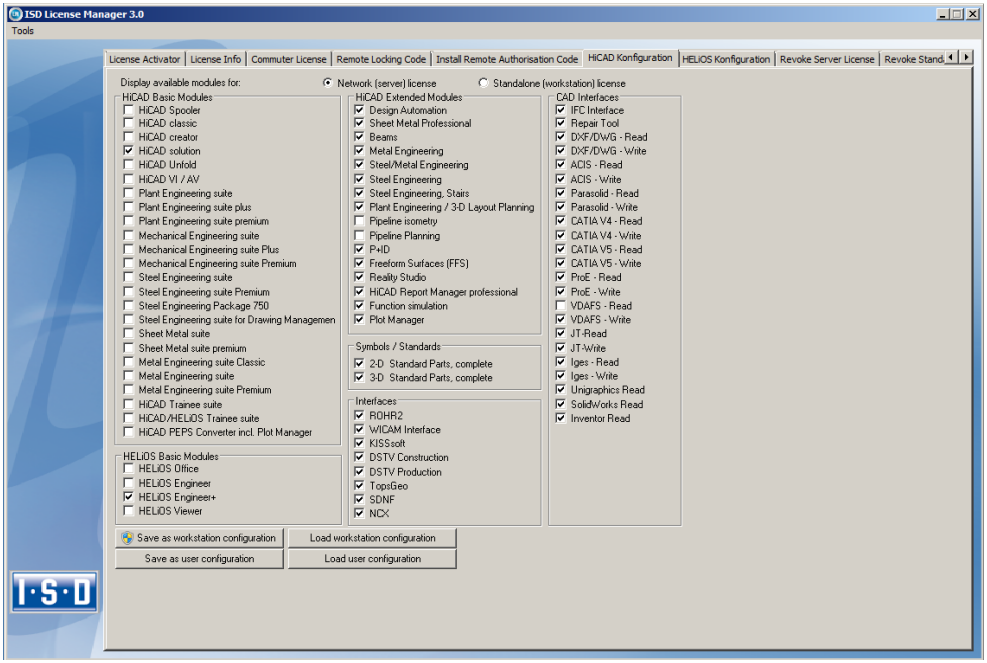


6.5 License Configuration

Some cases may require the use of only certain specific licences on a computer. Example: On the License Server, HiCAD creator and HiCAD solution licences are available. On one Client, HiCAD is to be started with a HiCAD creator license, on another Client, HiCAD is to be started with a HiCAD solution licence. If the selected license is no longer available, an application start is no longer possible.

If there are several basic modules in a standalone (workstation) license (to which also the Commuter Licenses belong), it is mandatory to make a pre-configuration and save it as workstation configuration. If no pre-configuration is possible, the HiCAD/HELiOS configuration tab will be displayed before the start of HiCAD/HELiOS. If the selected configuration does not match the available licenses, a warning message will be issued, with a list of available licenses. After this, the configuration selection will be displayed again.

6.5.1 License Configuration HiCAD



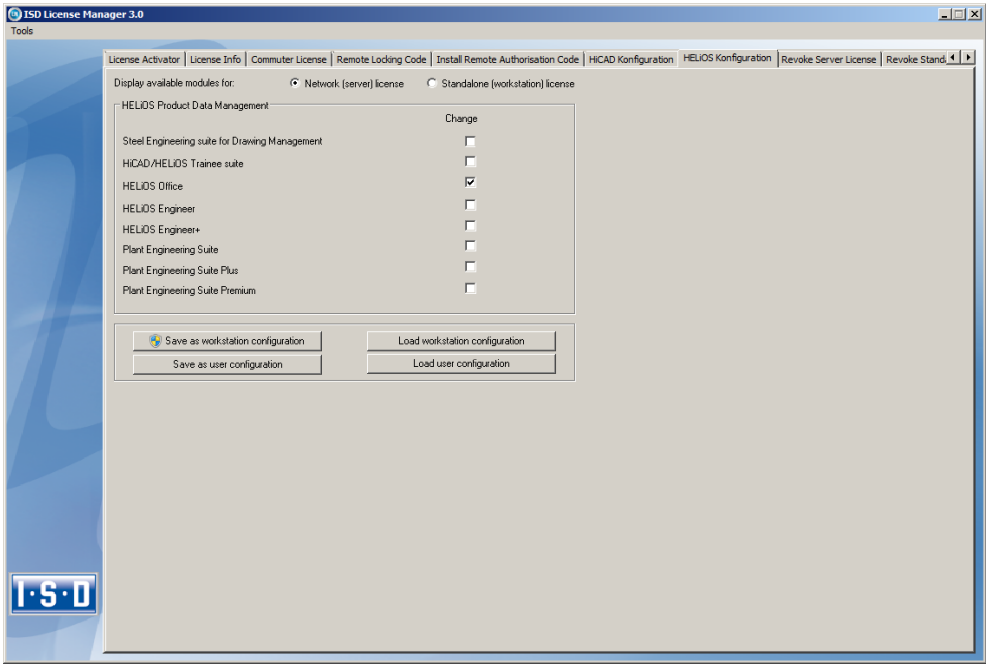
On the **HiCAD Configuration** tab of the **ISD License Manager** tool you have the option to save a workstation or user configuration for individual Clients.

» **Save as workstation configuration:** This configuration will be saved for all users of this computer. When HiCAD is started, the selection window is no longer displayed (administrator rights are required for this).

» **Save as user configuration:** This configuration is only saved for the current user. When HiCAD is started, the selection window with the saved configuration is always displayed.

These licence configurations apply to network licenses and standalone (workstation) licenses.

6.5.2 License Configuration HELiOS



On the **HELiOS Configuration** tab of the **ISD License Manager** tool you have the option to save a workstation or user configuration for individual Clients.

» **Save as workstation configuration:** This configuration will be saved for all users of this computer. When HELIOS is started, the selection window is no longer displayed (administrator rights are required for this).

» **Save as user configuration:** This configuration is only saved for the current user. When HELiOS is started, the selection window with the saved configuration is always displayed.

These licence configurations apply to network licenses and standalone (workstation) licenses.

6.6 Important Softlock/Hardlock Information

When using the softlock/hardlocks as selector for the license file, please note that for system-inherent reasons the date must not be reset! Such resetting causes a blocking of the softlock/hardlock that can only be revoked by the ISD by means of a re-programming. In such cases, we would have to charge you the costs of this unnecessary additional work.

A change of the system time is possible, as long as it is not date-comprehensive.

If you deem such date conversion absolutely necessary, please inform our staff on the hotline in good time.

ISD Software und Systeme GmbH

Phone: 0049 - 231 / 97 93 - 166

Fax: 0049 - 231 / 97 93 - 101

Mailto: hotline@isdgroup.de

IMPORTANT: If you have a 64Bit version of HiCAD/HELiOS, the hardlock can no longer be used as a license file selector due to missing driver support!

6.7 Theft of a Workstation

The user is responsible for appropriately insuring the HiCAD/HELiOS workstations against theft. If desired, we can tell you the reinstatement value of your software. If a workstation is stolen, you will need a new license. In such cases, please send us the police report of the theft first. We will then provide you with a license for a limited period of time, and submit an offer for a new license to you. The ISD will send you the new license after clarification of the case with your insurance and receipt of your payment for the license fee.

7 HiCAD at a Glance

HiCAD is a universal CAD system with true 2-D/3-D associativity, innovative functions, comprehensive industry solutions and an integrated PDM component. Up-to-date working techniques and numerous automatisms help you abridge routine tasks. Simulation and analysis tools enable you to detect and prevent possible collisions within your product models at early design stages.

» Performance characteristics:

- Microsoft Windows standard and GUI based on the Windows “Ribbons” technology
- Combined working in 2-D and 3-D
- Assembly-oriented design engineering providing top performance even for very large assemblies
- Transparency and clearness thanks to convenient search functions, filters and multiple selection options
- Extensive symbol and standard part catalogues
- Simulation and analysis tools
- Standardisation and automation
- Direct modelling and parametric design
- Integrated product data management with HELiOS
- Data transfer from other systems (CATIA, ME10, STEP, DXF, DWG etc.)
- BOM-creation, PPS interface, transfer to NC programs
- Comprehensive industry solutions for Steel/Metal Engineering, Plant Engineering, Sheet Metal processing and Plant Engineering
- Individually extendable due to a modular structure

8 First Steps in HiCAD

8.1 Start HiCAD

You **start** HiCAD by:

- using the Windows task bar (Start) to choose the **Programs** folder and then clicking the HiCAD icon  in the **ISD ...** menu, or
- by clicking the HiCAD icon  on your desktop.

Once you have started HiCAD, the input window for License Management is initially displayed, followed by the HiCAD Start Centre (provided that it has not been deactivated).

During the launch of HiCAD it is checked whether the required version of .NET Framework is actually installed. If this is not the case, an appropriate error message is issued and HiCAD is closed.

8.2 DLL Check

Due to entries in the Windows-Registry, more and more libraries from third parties (DLL file) are integrated when HiCAD is launched, e.g. in order to capture messages or outputs to the screen. Some examples are

- Virus scanners,
- PDF programs,
- Programs for the recording of screen activities,

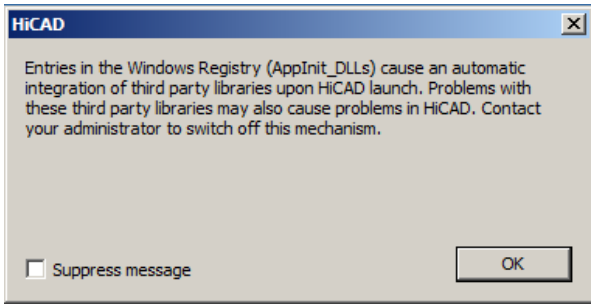
etc. These files can sometimes cause problems.

When you start HiCAD, it will first be checked whether DLL files are assigned to the Registry value AppInit in the Registry key

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Windows (64Bit)

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows NT\CurrentVersion\Windows (32Bit)

If this is the case, the following message will be displayed:



Activate the **Suppress message** checkbox if you do not want this message to be displayed upon future HiCAD starts. Also inform your administrator about the message. The message will not reappear until the Registry value changes again, i.e. not until other DLLs will be loaded!

If you want to suppress the message completely, set the Registry value Check for AppInit_DLLs in the Registry key

HKEY_CURRENT_USER\Software\ISD Software und Systeme\HiCAD2013\HiCAD 2013

to **0**.

Be careful when editing the Registry! The entering of incorrect values or the deleting of values can destablilize the operating system!

8.3 Close HiCAD

To close HiCAD,

» click the Close icon  or

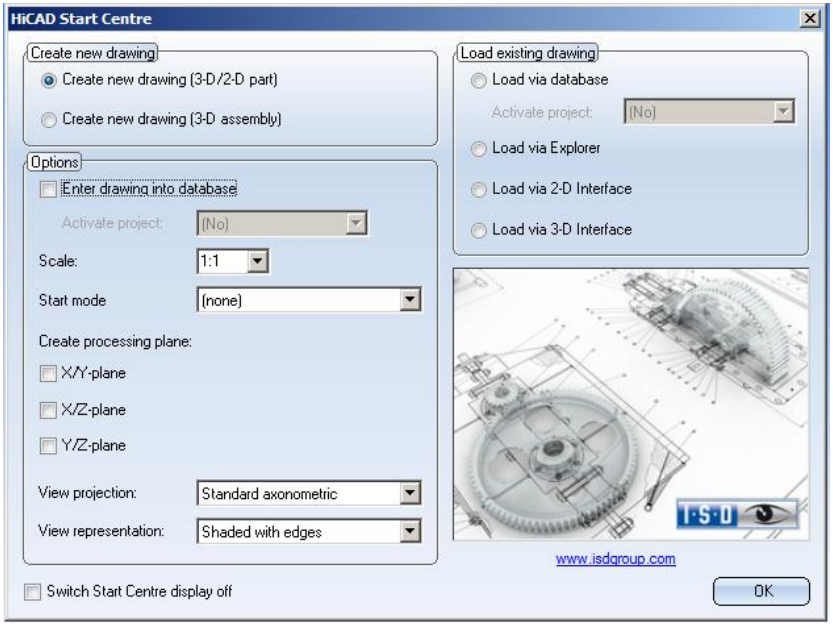
» click the ISD button and select End.

If any HiCAD drawings are still open at this point, you can to save them.

If you activate the Clear temporary directory? checkbox when closing HiCAD, all automatically created data backups will be deleted.

8.4 The Start Centre

When you start HiCAD for the first time, the Start Centre is displayed, which has been designed to facilitate your first steps of drawing creation.



Please note:

- Click on the graphic to obtain information about the version number.
- When you call the Start Centre again, the values that you set last will be displayed as default values.
- The settings you have selected for the **Create new drawing** start action will even be used in HiCAD if you call the **New drawing (without DB)** function.

8.4.1 Create New Drawing

If you want to create a new drawing, specify whether you want to create a part drawing or an assembly drawing by activating the appropriate checkbox.

» **Part drawing (detail drawing)**
In a part drawing (detail drawing) you divide your drawing into main parts and sub-parts. To define the part structure you use so-called dummy parts which symbolise the assembly. You then assign assembly-relevant main parts and sub-parts to these dummy parts. Instead of dummy parts you may as well use the special component type Assembly.

» **Assembly drawing**
You can define 3-D drawings directly when creating the assembly drawing and - if you are working in parallel with HELiOS - enter them into the database. This provides significantly more efficiency, particularly for referencing, itemisation and BOM-creation.

8.4.2 Options

» **Enter drawing into database**
If you are working with HELiOS you can define here whether you want to the new drawing to be entered into the database. If you activate this checkbox, HiCAD will prompt you to specify the document master data once you exit the Start Centre. If not, you will be prompted to enter the name of the drawing file.
Activate, if desired, the project to which you want to assign the drawing.

» **Scale**
Here you can preset the scale of the drawing.

» **Start mode**
Here, choose the start mode you want to be activated once you exit the Start Centre, e.g. **2-D**, if you want to start the drawing in 2-D or **3-D Extruded solid**, if you want to start your drawing by creating an extruded solid in 3-D.

» **Create processing planes (3-D only)**
Here you can specify which of the standard processing planes you want to create. Activate the appropriate checkbox.

» **View projection and View representation (3-D only)**
If you want to work in 3-D, use these functions to pre-set the model view and the view representation.

8.4.3 Load Existing Drawing

If you have chosen **Load existing drawing** as start mode, you can specify whether you want to load the drawing via the database, the Explorer or via an interface. As with a new creation, you may also activate the project directly.

8.4.4 Switch Start Centre Display Off

If you activate the **Switch Start Centre display off** checkbox and click **OK** to exit the Start centre, the current settings will apply as the default settings for whenever you start HICAD again and create new drawings. The Start Centre is then no longer displayed. To re-activate the Start Centre display and to change the settings, choose the Activate Start Centre function. The changed settings will be applied when starting HiCAD again.

If you click **OK** to exit the Start Centre, the current settings are used as the default setting if, on the other hand, you exit the Start Centre by pressing the ESC key or the  icon, the settings are ignored.

9 HELiOS at a Glance

On the way to the finished product, time expenditure, the cost situation and product quality can only be optimised if all departments of a company work together efficiently. This requires a well-structured and efficient exchange of information between the parties involved in the production process - from Manufacturing, Purchasing and Service to Marketing and Sales.

HELiOS is a state-of-the-art PDM/PLM system providing all essential tools for an error-free gathering, distribution and management of the data that is required for the process chain. Once saved, these data can be re-used within the entire company and for the complete product life cycle. HELiOS manages and controls all process cycles by regulating and monitoring the processing and transfer of these data.

Thus, the know-how of the company will be used optimally, redundant work can be avoided and error sources will be eliminated.

HELiOS combines Product, Process and Peripherals Management to form a single system, thus making HELiOS the knowledge reservoir of your company.

HELiOS can be integrated in your overall CAD system or used as a stand-alone system, the so-called HELiOS Desktop.

Thanks to its modular structure, HELiOS can be optimally adapted to company-specific requirements.

10 First Steps in HELiOS

10.1 Program Call

Start the HELiOS Desktop by double-clicking the HELiOS.EXE file in the \HiCAD\exe directory or via the program icon  on your Desktop.

Default setting is the project-independent start. Please note that the list view in the right-hand window will not be shown when you start HELiOS Desktop for the first time. Select a project first and display the list view via **View** and then **Lists**.

If you have not ended HELiOS correctly during your last session, you will receive an error message from the Vault Server.

10.2 Registration

The HELiOS User Management is based on the User Management of Windows. If several users are registered with the same Windows User Name in EDBSETUP, a login mask will appear when starting HELiOS Desktop.

Name and active group enable the user to login with the rights guaranteed by the User Management.

If you select a project from the **Active Project** drop-down list, this project will be opened after starting HELiOS Desktop. If you select the project-independent setting, all documents will be displayed.

Start the HELiOS Desktop with Login (see below).

To ensure that a specific project will be opened after starting HELiOS Desktop, you need to specify a Start Project. On the Ribbon, activate the **Tools** tab, then select **Options**, activate in the dialogue the **General** tab and choose a start project.

10.3 Login

Use the **Login**  function for a new login while working with the HELiOS Desktop, e.g. to work with different rights without having to exit the program.

» Activate the **Login**  function on the QuickAccess toolbar.

» Select a different user.

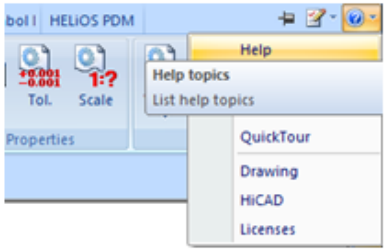
» If required, change the active project and confirm the new settings with **Login**.

11 How to Use the Help

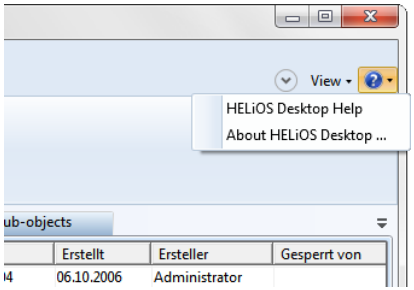
The Online Help provides you with information, descriptions and examples on all functions and techniques which are available in HiCAD – from 2-D and 3-D to the integrated PDM functionality, Sheet Metal Processing to Steel/Metal and Plant Engineering.

Please note that the scope of available functions may vary, depending on the configuration level of your HiCAD product. This means that some of the functions described in the Online Help may not be available.

Since Version 2012, the Help has been available both locally (status of the installation DVD) and on the Internet (regularly updated) at help.isdgroup.com. Both versions of the Help can be called from HiCAD via the Help Topics and Information item ("?" icon on the top right of window). You can select your preferred Online Help type via **? > Help Settings**.



You call the HELiOS Help via the HELiOS Desktop Help menu item. T



To be able to use the Internet version of the Help, you need to register for the ISD's new company Wiki once. This will not only give you access to the new Help, but also provide you with many other information which will be made available shortly in the ISD Wiki (Forum, Download area etc.).

Click **Sign up** in the login window of the Online Help to register. If you have already been registered, enter your access data and click **Login** to get directly to the start page of the Online Help.

Register for the ISD Wiki

After clicking **Sign up** in the Login window of the Online Help, enter the data required for the ISD Wiki in the dialogue window. Confirm the security prompt and click the Sign up button.

After the registration the dashboard of the ISD Wiki will be displayed. A message indicates whether you have been authenticated as an ISD customer.

If you could be identified as an ISD customer, you can now directly launch the Online Help using your registration data.

If you could not be identified as an ISD customer, please perform the steps described in the message.

12 What's New in Version 2013?

The following section provides you with an overview of changes, new features and enhancements in HiCAD 2013.

12.1 Module-Comprehensive News

» **Starting the Configuration Editor**
The Configuration Editor ISDCONFIGEDITOR.EXE can now be started directly from The corresponding option can be accessed via Configuration.

» **Floating Licenses**
If you have acquired a HiCAD Extension Module with the property Floating-able at runtime, you can activate/deactivate them during the current HiCAD session via the Help topics and information menu. The HiCAD Selection dialogue window will be displayed.

» **Complete title block**

- When filling in title blocks subsequently using the **Complete title block (without DB)** function, you can now right-click to jump one step back. Click the middle mouse button to cancel the function (Please note: the cursor must be placed outside the input window in the process).
- When filling in title blocks subsequently using the **Complete title block (with DB attributes)** function, the text attributes will be read from the file SchrFe_ausAttr.DAT in the HiCAD SYS directory. Please note that the presettings in this file have changed in HiCAD 2013.

» **Combined output of HELiOS and HiCAD attributes**
As of HiCAD 2013, a combined use of HELiOS attributes and HiCAD attributes in title blocks of drawing frames will be possible. This applies to the **Insert drawing frame** function with filling in of the title block via HELiOS. This will be possible for both HiCAD drawing attributes and HiCAD part attributes.

» **Settings for drawing derivation**
The settings for drawing derivation can now be found in the Configuration Editor (ISDConfigEditor.exe) at **...> Automatic drawing derivation**.

» Withdrawn system files

The files

- ALGPAR.DAT,
- BEMPAR.DAT
- DIMENSIONING_SETTINGS.XML
- KRPGEN.DAT (SP1)
- MASPAR.DAT (SP1)
- FITTABLE_SETTINGS.XML (SP1)

have been withdrawn. The corresponding settings from these files are now managed via the Configuration management (isdcongigeditor.exe).

The files STBEMPAR.DAT and TXTANSI.DAT are no longer required and have been discarded in Version 1801.0. The other files have been integrated into the Configuration Management.

» Performance

Due to the optimisation of several routines, the performance for large drawings could be increased further. This applies in particular to the loading/saving of drawings with externally referenced parts, and the Hidden Line representation of large models.

» Units of measurement

As of HiCAD 2013, units of measurement will no longer be freely adjustable. The other switching options to defined units (mm, cm, dm, m, km, inch) are, of course, still available.

» Design Checker

- The mountability check of the Design Checker now also includes an insertability check for bolts.
- Tests dealing with very special situations have been removed from the **Design Checker**. (SP2)

» HiCAD Sessions

In the dialogue window for HiCAD sessions, drawings can be opened with a double left-click on the file name. (SP1)

» **Comma as decimal separator**
According to the presettings in HiCAD, a point is used as separator in decimal numbers. If desired, you can also enter a comma as separator - HiCAD will automatically convert it to a point. This also applies to formulae entered in the feature log. (SP1)

» **Steel Engineering with Drawing Management**
The functions for Steel Engineering with Drawing Management can now be found on the **Drawing Management** tab (previously PDM). (SP1)

» **Views in the ICN**
Use the  and  icons to expand and collapse the view structure in the Views window of the ICN. Use the  function to display the active view in red colour. (SP1)

» Performance

- The performance for Hidden Line calculations could be increased significantly for complex individual parts, e.g. parts containing complex spiral surfaces.
- The performance for a simultaneous working with very many views (and dimensions) has been increased significantly (SP2).
- The performance for the cloning of parts in large drawings and a subsequent updating of item numbers, e.g. in Steel Engineering, has been increased significantly (by Factor 6 and more).

» **Industry-specific settings for surface approximation**
Industry-specific settings for surface approximation have been preset in the configuration templates (CSV files) supplied with HiCAD: (SP2)

» **Presettings in FILEGRUP.DAT file**
In the FILEGRUP.DAT file, the HiCAD path Y: now has been preset to the sub-directory CUSTOM of your HiCAD installation (SP2), e.g.: Y:d:\hicad\custom

» **Variables names**
Variables names can now consist of more than 4 characters. (SP2)

» Customer feedback
You can help us increase the user-friendliness of our products even further. If you participate, the ISD will collect information on your use of our software, in order to detect trends and use patterns. This information will then be used for a constant optimisation of our user interface, with the aim to make the operation of our software as convenient and efficient as possible for our users. If you have previously not given you consent to the processing of your data, but want to do this now, select the Customer feedback function in the Help Topics and Information menu.

» Cylinder intersection points
Use the new point option **Cylinder intersection point (CI)** to determine cylinder intersection points, i.e. external points on pipes with are connected by mitre cuts or intermediate pieces. (SP2)

» Updating of variants when opening drawing files
If the drawing file to be opened contains parts or assemblies whose part master belongs to a variant for which a new index exists in the database, HiCAD will ask you whether you want to update the variant. You can specify in the Configuration Editor (ISDConfigEditor.exe) whether you want HiCAD to display this query, or if you want such variants always or never to be updated.

12.2 2-D

» Thanks to the new Configuration Editor, the Dimensioning functions **Default** (**2-D Dimensioning + Text > Process > Settings**) and **Reload parameter list** (**2-D Dimensioning + Text > Process > Extras**) for the loading of Dimensioning parameters are no longer required. If you want to reload the default setting after making changes to the dimensioning parameters via the **Dimensioning settings** function (**2-D Dimensioning + Text > Process**), open the **Drawing** tab and select **Others > Extras > Temporary settings > Reload).**

» **Annotations**

- If you want to use Drawing attributes within an annotation, select them from the right listbox of the Annotation Editor. If drawing attributes are changed, the annotation will be automatically adjusted accordingly.
- Text IDs from the HiCAD text service (as shown in the TEXTTABLESEDITOR.EXE) can now also be used in annotations. This is not realised via the Annotation Editor, but needs to be set accordingly via template files (FTD) that can be loaded via the Annotation Editor. Precede the Text ID with the string %TS.

» **Copy & Paste**
The Copy & Paste functions for 2-D parts in the context menu of the ICN do no longer exist. However, you can still use the functions **Copy to clipboard** and **Paste from clipboard** functions in the same context menu. (SP1)

12.3 3-D

» Hide dimension lines
If desired, you can hide the dimension lines in 3-D dimensionings. This applies to preset dimensioning settings as well as to changed dimensioning settings. Use the **Visible** checkbox in the **Dimension lines** tab of the Dimension settings dialogue to hide and show dimension lines. The hiding of dimension lines enables a representation of dimensionings according to DIN 86062, i.e. dimensionings with dimension figures, without dimension lines, projection lines and arrows.

» Dimensioning parameters and other dimensioning settings

- The settings for the handling of dimension base points during updating of drawings can now be found in the Configuration Editor (ISDConfigEditor.exe), at **Active configuration > System settings > Annotations > Dimensioning**.
- As of Version 2008 HiCAD supports a new data model for dimensioning. When you load drawings from HiCAD versions (before 2008) with the current version, all dimensions will be converted to the new data model. The setting that defines whether the conversion should take place automatically, can no longer be found in the file BEMPAR.DAT, but in the Configuration Editor (ISDConfigEditor.exe), at **... > Compatibility > Annotations > Dimensioning, 3-D**.
- The file BEMPAR.DAT is no longer supported. Instead, the corresponding settings are now defined in the Configuration Editor (ISDConfigEditor.exe).
- The default settings of the dimension parameters are no longer defined in the file Dimensioning_Settings.xml, but via the Configuration Editor, at **... > Drawing > Annotations > Dimensioning, 3-D > Interactive dimensions**. When saving the parameters, the corresponding user configuration will be saved to the Configuration Editor.

» Dimensioning

- When you open the Form/Positional tolerances dialogue window, the input fields will be preset with the last selected values. (SP1)
- If you close the **Element type selection** dialogue with **Cancel**, the function will be ended without creating the dimensioning. (SP1)
- Dimensions and their base points can now be completely transferred from one part or assembly to another part or assembly. The transfer of dimensions is,

however, only possible for geometrically similar parts located at the same position. (SP2)

» Parametric dimensions
The setting that defines whether variables/formulas specified in the feature log should be displayed in parametric dimensions can now be found in the Configuration Editor, at ... > Drawing > Annotations > Dimensioning, 3-D).

» Views and Representation

- When rotating a central projection with the mouse or space mouse, the camera will no longer jump to the point of rotation. The dynamic zooming changes no longer the camera distance, but the image detail.
- Within the framework of the new stereoscopic representation, a greater viewer distance will be automatically selected when you choose the Automatic central projection function.
- The settings for the locking of views can now be found in the Configuration Editor (ISDConfigEditor.exe) at ... System settings > Visualisation > Views.
- The stereoscopic 3-D representation opens up new possibilities for the presentation of your products, provided that a corresponding hardware, driver and 3-D glasses are available. You can access the function via Views > Properties > Stereo.
- When dynamically rotating views with the mouse, the context menu (RMB = Selection) now contains the additional Viewer distance function. The function is available if the active view contains a central projection. Furthermore, you have the option to activate the stereoscopic view.

» Weld seams

- Besides automatic itemisation of weld seams, HiCAD offers the option to manually assign weld seam numbers to weld seams via the weld seam symbol.
- You can include details about processes, quality levels, welding positions, additional materials etc. in the weld seam annotations. These can be saved as Favourites afterwards and can then re-used at any time.
- The default settings for text parameters in weld seam tags (Font, Height, Colour etc.) can now be found in the Configuration Editor, at ... > Drawing > Weld seams.

» Transform surfaces

When moving or rotating surfaces, changing topologies will be considered. These functions can also be applied to freeform surfaces.

» Text and Annotations

- If you want to use drawing attributes in an annotation, you can select them from the right listbox in the Annotation Editor. When drawing attributes are changed, the annotation tags will be automatically updated accordingly.
- Text IDs from the HiCAD text service (as shown in the TEXTTABLESEDITOR.EXE) can now also be used in annotations. This is not realised via the Annotation Editor, but needs to be set accordingly via template files (FTD): %TS(Textid).
- To access this new **Automatic part annotation** function, activate the 3-D **Dimensioning + Text** tab and select **Text > Leader > Automatic part annotation**. The function allows a free selection of the template file with the annotation settings and the use of various filters. (SP2)
- The New pull-down menu in the **Text function** group of the **3-D Dimensioning + Text** tab contains two new functions **Copy text, New point** and **Copy text, 2 points**. You use these functions to copy a 3-D text. You specify the position of the copy either via a reference point or by means of a displacement vector. (SP2)

» Referencing

- The following parameter setting options that could previously be found in the system file ALG3DPAR.DAT:

  Save body without dimensioning when referencing 0:no, 1:yes

  Preserve dimensioning in the drawing when referencing 0:no, 1:yes

  are no longer available in HiCAD 2013. These parameters are now permanently set to default setting 1.

  In the system file ALG3DPAR.DAT the following lines do no longer exist:

  Create KPM file for referenced parts (Polygon model) 0:no, 1:yes - KPM - Datei bei referenzierten Teilen erstellen (Polygonenmodell) 0:nein, 1:ja

  This setting is no longer required.

- The referencing functions are now available via **Drawing > Save/Reference > Update.**
- The performance for the saving of referenced parts could be increased significantly (up to 40%, depending of type and size of drawing).
- Messages that may displayed when when referenced parts are saved, e.g. *The KRA file of the referenced part is newer!* Or *Part ... is simplified and can therefore not be saved.* can be switched off during the current HiCAD session, by activating the Suppress message in this session checkbox. (SP2)

» Data reduction

The Part reduction - Change representatin function can now be found at 3-D Standard > Tools > Attr.> ... . The function also supports multiple selection. There you will also find the new **Remove part reduction** function that enables you to remove the reduction for all parts in a drawing. (SP1)

» Sketches

- Use the new **Transition curve** function to automatically create a curve with a moderated curvature (Hermite spline) between 2 points. You access the function via **Sketch > Draw > Arc.**
- The functionality for the taking over of edges into a sketch has had a redesign. The corresponding functions are now available in the Take over edges menu (Sketch > Derive). The following functions are no longer available.
- A preview will be shown when you select/take over edges, or create transition curves. (SP1)
- The context menu for Sketches now also contains the **Create part via part type catalogue** function from the **Metal Engineering** tab. (SP1)
- The functions for the creation of parallels in Sketches have been combined into the new **Offset** function. (SP1)
- The **Convert 2-D part to Sketch** function as well as the functions for a taking over of graphical elements can now be found at Sketch > Derive > Conv... .(SP1)
- The menu for the deletion of sketches has been revised. With the **Delete edge** function you can now delete, for example, all edges located within a selection rectangle, or all connected edges in one step. The older function Delete GE, Polyline is therefore no longer available. (SP2)

- The **Offset** function for Sketches now also enables the creation of several offsets. This means that the function will remain active after the creation of the first offset, allowing the creation of further offsets of edges using the previously specified distance value. You can also select edges of previously created offsets. Also new is the option to select lines/edges via a defined rectangle. (SP2)
- The **Convert 2-D part to sketch** function can now be found in the **New function** group of the **Sketch** tab. (SP2)
- The **Section** functions for Sketches (previously at Sketch > Process > Trim > Section ...) are no longer available. (SP2)
- The functions **Copy 2-D part from drawing, with transformation**, **Insert 2-D part from sketch, with transformation und Copy 2-D part from file to 3-D** are no longer available. (SP2)
- **The Copy 2-D without transformation (Individual, Polyline, In rectangle)** functions can now be found in the **Take over edges** menu. (SP2)
- When taking over edges from a solid or a part with free edges, coincidence constraints are automatically assigned, if the **Enter constraints** option has been activated in the settings for Sketch HCM constraints (**Sketch > HCM > Tools > Settings**). (SP2)
- When dividing edges of a sketch you have now the option to specify whether curves are to remain curves after the division, or are to be approximated by means of lines. (SP2)

» **New archive format for variants**
For general feature variants an new file format (.VAA) is now available (as for part variants in Plant Engineering). In contrast to the previously used VAD format, variants in the VAA format consist of only one file and can also be stored in the Vault Server. To access the new functions for the management and editing of general feature variants of the new file format, open the **Drawing** tab and select **Save/Reference > Part...** ..

» **Polyhedral filleting**
Only the filleting of individual edges is now possible for polyhedral filleting.

» C-edge sweep
For c-edge sweep creation, the following options are available in a listbox (SP1):

- Minimum rotation (Corresponds to the previous setting  With direction specification)
- Direction specification (Corresponds to the previous setting  With direction specification)
- Constant angle with direction

» Clone parts
The new **Rotate, Parametric with displacement** function has been added to the **Clone** function group of the **3-D Standard** tab. This function enables you to create multi-body structures by moving and rotating of cloned parts. (SP1)

» Clean up intersection
The new **Clean up intersection** function has been added to the Boolean operations menu. You can use this function to subtract intersecting parts from the active part. In contrast to "normal" subtractions, you can select the facets to which you want the resulting hole to be parallel. (SP1)

» Changes in dialogues for part creation
In the dialogues for part creation the name of the **Part name** field has been changed to **Article number**. The assigning of attributes remains unchanged. (SP1)

» Change fillet radii in features
Use the new **Change fillet radii in features** function to change all fillets in the feature log of the active part in one step. You can find the function on the **3-D Standard** tab at **Process > Fillet > Change fillet radii in features**. (SP2)

» Change BOM-relevance
The context menu for pars and part lists now contains the new BOM-relevance function that enables you to assign the BOM-relevant attribute to individual parts or complete part lists, or to remove this assignment again if required. (SP2)

» New "Types of use"
Nnew "Types of use" are available for Steel Engineering and Metal Engineering. They are defined in the **ASSEMBLIES** table of the catalogue **Factory standards > Types of use > STEELWORK** or in the **Metal Engineering** table, respectively. In the Configuration Editor, corresponding "Type of use configurations" for drawing derivation have been predefined. (SP2)

» Weight calculation for main assemblies
Weight calculation is now also possible for main assemblies (e.g. when performing an itemisation, a feature recalculation of parts etc.). The weight of the main assembly will be assigned to the part attribute §01 and will be updated accordingly in the Part attributes mask. (SP2)

» View coordinate system of active part
You can now specify for 3-D parts whether you want the active view of derived drawings to be a **Front view** or a **Top view**. This influences the alignment of assemblies in derived drawings. The parts will be marked appropriately in your model drawing. If you want to remove the marking, select the Reset function.

» Break up sub-part levels
Special cases are parts or assemblies that have only one sub-part with a "genuine" geometry, i.e. surfaces, curves or isolated points. If you apply the Break up sub-part levels function to such parts/assemblies, the sub-parts will replace the part/assembly to be broken up. The following data of the part/assembly to be broken up will be taken over in the process. (SP2)

» Exchange part
When you use the **Drawing > Insert Part > Exchange 3-D part** function to exchange 3-D parts, the dimensions of the part to be replaced will be assigned to the new part.. (SP2)

12.4 Steel Engineering

» **Settings in Configuration Management**
The settings in for workshop drawings can now be found in the Configuration Editor at **... > Automatic drawing derivation**

» Purlin joints

- Use the Design Variant for Purlin joints (1204) to connect one girder and one purlin with a folded sheet (with single or double fold), or with an L-profile that is bolted or welded onto the purlin and the girder. One-sided and two-sided connections are possible. The purlin can be any 3-D part. You can find the function in the **Civil Engineering functions** docking window, at **Steel Engineering > General**.
- The new Design Variants for Purlin joints 1205, 1206 and 1207 enable the generation of further steel beam connections. (SP1)

» Railing configurator

- New in the **Civil Engineering functions** docking window is the Railing Configurator, a tool that allows a fast and easy creation and modification of individual railings for stairs.
- Automatically derived drawings (workshop drawings) of railings created with the Railing Configurator can now also be dimensioned automatically. (SP1)
- The default settings for derived drawings of railings are defined in the ISD Configuration Editor. Select Automatic drawing derivation > Use case-dependent, then select the designation of the desired component (SP1).
- The **Railing Configurator** function has been renamed to **Railing Configurator (Railings along beams)**. The function dialogue has been extended. For example, you can now also configure corner posts, and save the settings in the dialogue window for a later re-use. (SP2)
- An additional Railing Configurator type is now available, which enables you to generate **railings along straight edges**- for example, railings on balcony platforms (solid) or concrete stairs. (SP2)
- If you apply manual changes which are based on features to the elements of a railing, e.g. insert a bore or a material subtraction in a steel beam, or fillet the

corners of a square profile, HiCAD will try to preserve these manual changes when the railing is updated or modified, provided that they still make sense. (SP2)

- The functions **Railing on industrial staircase** and **Railing from sketch** do no longer exist. Instead, you use the Railing Configurator (Railings along beams or along edges) for these tasks. (SP2)

» **K-Bracing**
Two new design variants are available for the K-bracing: **K-bracing, welded** and **K-bracing, bolted**.

» **Derived drawing (Workshop drawing)**
In the **Views for...** dialogue window for derived drawings you can now arrange axonometric views on the left, on the right, at the top and at the bottom. Previously, vertical axonometries could only be placed on the left or on the right, and horizontal axonometries could only be placed at the top or at the bottom. (SP1)

» **Weld seams on connections**
For connections of the Type 1, you can add further information about processes, quality levels, welding positions, additional materials etc. to your weld seam annotations. These can be saved as Favourites and will then be available for re-use at any time (SP1).

» **Stabilizing pipe connection**
Use the new **Stabilizing pipe connection (1701)** Design Variant to to insert a stabilizing pipe connection between two beams or profiles. Possible beams or profiles are I-beams, U-beams and hollow profiles. (SP1)

» **Stairs in the Steel Engineeirng package**
The HiCAD Steel Engineering Package module now also contains functions for stairs. Please note: Since the HiCAD Steel Engineering Package is limited to 750 parts, the size of constructible stairs is also limited. (SP1)

» **Changes in dialogues**
The name of the **Beam designation** field in the dialogues has been changed to **Article number**. The assigning of attributes remains unchanged. (SP1)

» Changed module structure
The Steel Engineering module does no longer contain the functions for the creation of stairs and railings. These functions are now available in the **Steel Engineering Stairs + Railings** module, which is also a part of the Steel Engineering industry suites. (SP2)

» Series beams with BOM-irrelevant cross-sections
In practice, individual beams in series beam groups can consist of several different cross sections.These can also have different materials, which means that they must be hatched correctly in sectional views. In BOMs and in workshop drawings, however, such beams are always interpreted as 1 part. Therefore, HiCAD now also supports series beam groups with individual beams consisting of several, BOM-irrelevant cross-sections. (SP2)

» Structural analyses
You use this function to perform structural analyses for steel and metal beams and profiles, e.g. cantilever beams with single loads or line loads, single-span beams with centred / non-centred single loads or line loads etc. The function replaces the Calculations function in previous versions. You will find the function on the Steel Engineering tab, at **Further functions > Extras > Structural analysis** (SP2)

» View groups for drawing derivations
The creation of view groups for drawing derivations (workshop drawing creation) can be activated or deactivated for different types of use. You specify the setting in the **Configuration Editor** (isdconfigeditor.exe) **at ...> Automatic drawing derivation > Use case-dependent > name**, with name being the name of the corresponding type of use, i.e. for example, BEAM (SP2)

» Dimensioning Rule Editor
Dimensioning rules in workshop drawings are managed via the Configuration Editor (isdconfigeditor.exe). For a fast and easy editing of dimensioning rules, you can use the new, integrated Dimensioning Rule Editor. To activate the Editor, select **Further functions > Settings > Edit dimensioning rules**. (SP2).

» Front plate connection 1320 with reinforcement plates
The Front plate connection 1320 now enables an additional insertion of reinforcement plates on the flange side of the traversing beam. (SP2)

» Pipe connections - Stiffener radius
For Pipe connections1501, 1502 and 1503 you can now choose between an automatic determination of the stiffener radii, and a specification via value input. (SP2)

» New "Types of use"
New "Types of use" are available in Steel Engineering and Metal Engineering. They are defined in the ASSEMBLIES table of the catalogue Factory standards > Type of use > STEELWORK. In the Configuration Editor, corresponding "Type of use configurations" for drawing derivation have been predefined. (SP2)

» Weight calculation for main assemblies
Weight calculation is now also possible for main assemblies (e.g. when performing an itemisation, a feature recalculation of parts etc.). The weight of the main assembly will be assigned to the part attribute §01 and will be updated accordingly in the Part attributes mask. (SP2)

12.5 Metal Engineering

» **Design variant 'Sheet Metal corner'**
For facade sheets in the shape of "puzzle pieces", the new Sheet corner design variant is available in the **Sheet Metal** section of the **Civil Engineering functions** docking window.

» **WinISO integration**
WinIso2D is a heat flow and isothermal calculation software by the German company Sommer-Informatik GmbH. The WinIso2D functions can be found on the on the **Metal Engineering** tab of the HiCAD Ribbon. They support the user with the creation of data for WinIso calculations in HiCAD drawings. Supported are WinIso2D Standard Version 7.62 or higher versions. (SP2).

» **Structural analyses**
You use this function to perform structural analyses for steel and metal beams and profiles, e.g. cantilever beams with single loads or line loads, single-span beams with centred / non-centred single loads or line loads etc. The function replaces the Calculations function in previous versions. You will find the function on the Steel Engineering tab, at **Further functions > Extras > Structural analysis**. (SP2)

» **Types of use for Metal Engineering profiles**
Nnew Types of use are available in Metal Engineering. They are defined in the **Assemblies** table of the catalogue **Factory standards > Types of use > Metal Engineering**. In the Configuration Editor, corresponding "Type of use configurations" for drawing derivation have been predefined.

» **"Mullion connection" Design Variant**
The new Design Variant Mullion connection (1314) enables you to connect two series beams along a beam axis, similar to the Steel Engineering variant DAST-PM (405). (SP2)

» **New facade bolts in the HiCAD catalogue**
The User-defined fasteners catalogue contains hexagon socket head cheese-head bolts for Facade Engineering. (SP2)

12.6 Sheet Metal

» HiCAD Unfold

HiCAD Unfold is a special, lower-cost solution for sheet metal suppliers. This version enables a fast and easy reading of 3-D geometries and the creation of exact developments from them. The developed sheet metal product will then automatically be passed to your CAM solution.

And this is what HiCAD Unfold offers:

- External 2-D data can be loaded via DXF, DWG, Me10 or PC Draft. 3-D data can be imported via STEP.
- Imported drawings are appropriately cleaned up, e.g. colours are changed, double, overlapping lines are deleted etc.
- When converting solids to sheets, radii can be changed, corners can be processed, and the coating or processing direction can be changed.
- HiCAD calculates the correct development and generates the entire drawing with a completely dimensioned blank at the push of a button.
- The DXF interface functions for sheets enable the saving of the 2-D blank as DXF file, which allows a passing of the drawing to the production in a compatible file format.

» Enhanced HiCAD Unfold functionality (SP2)

- Delete 2-D elements via attributes, Delete polyline, Delete dimensioning
- Undo and Redo
- Integration of the **Information** toolbar.

» Connecting sheet

Use the new **Connecting sheet** function to connect two composite edges (guidelines) by a sheet. Proceed as follows:

Use the Sketch functions to draw the composite edges (guidelines) to be connected later.

The arcs of the composite edges (guidelines) will be approximated synchronously by polygon courses, so that two lines each lie in one plane, thus defining a flange. The accuracy of the resulting sheet flanges can be defined in the Accuracy criterion area.

Use the Preview option to check and (if required) modify your entries.

- **Bend zone runouts for connecting sheets** (SP1)
  If several bend zones converge in one corner of the sheet, the sheet corner will be expanded, and the front faces of the bend zones will be adjusted to the adjacent flanges.

» **Sheet from solid** (SP1)

- The **Sheet from solid** dialogue window has been redesigned. The new window enables you, for example, to select the standard for the semi-finished product from the Catalogue Editor. The selection of a semi-finished product does not only affect he sheet thickness, but also the bend radius, the allowance method and the article number. If the semi-finished product checkbox has been activated, sheet thickness and article number cannot be modified. You can, however, change the bend radius and the allowance method.
  Activate the **Clean up corners** option to automatically process the corners of the 3-.D part in such a way that the sheet metal parts are connected neatly and accurately. The same effect can be obtained with the **Cut off corner** function.
- **Automatically from solid** (SP1)
  If you select the **Automatically from solid** (**Unfold** > **Process, 3-D**) function, the reference plane will be selected automatically after you close the window with OK.

» **Length change**

- The **Lengthen flange** function can now also be applied to circular shaped flanges. (SP1)
- The lengthening of sheets will be highlighted in the drawing when you activate the corresponding feature item. The displacement vector will be displayed as an arrow from the start point to the end point of the vector. (SP2)

» **Hinges and Border lips** (SP1)
The functions for the creation of hinges and border lips now allow a taking over of bend radii from semi-finished product tables.

» **Bend zones**
There are 3 different types of bend zones in HiCAD:

- Old Sheet Metal parts with segmented surface bend zones,
- Old Sheet Metal parts with segmented, cylindrical bend zones,

- New Sheet Metal parts with cylindrical bend zones.

When attaching a new flange to a sheet metal part, HiCAD will automatically recognize which bend zone type was used, and change the setting accordingly.

» Export

- DXF-files (SP1)
  When exporting parts as DXF files you have now the following options to support you with the sheet selection: **All sheets**, **Sheets** from list and **Active sheet**. The sheets must be BOM-relevant and must have an item number.
- LVD export (SP2)
  This function enables the reading of sheet developments out of HiCAD as XML data for CADMAN-B (Version 7.5 or higher) by LVD.
- Chamfers, Countersunk bores, Threads (SP1)
  If desired, you can you can suppress the export of chamfers, countersunk holes and thread lines via corresponding settings in the the system file ABWPAR.DAT.

» Sheet development
If you activate the automatic sheet development (right-click) instead of selecting the base sheet when developing a sheet part, the side with the processing direction arrow will be developed. If the sheet part has nor processing direction, the coated side will be developed.

» Coating (SP2)
The Coating dialogue now contains the last selected settings when the function is called again.

» Close 2 bend zones (SP2)
The **Close 2 bend zones (drainage area)** function is now also available in the Sheet Metal standard license.

» Moulding tools as symbols in sheet developments (SP2)
Moulding tools are 3-D parts. In sheet development they are displayed in Hidden Line representation. To display them as 2-D symbols in sheet developments you need to create a parameterised 2-D HCM variant of the tool and enter it in the Catalogue Editor.

» **Bend zone tooling (SP2)**
The new **Bend zone tooling** function enables you to assign bending tools to bend zones. In HiCAD Sheet Metal you can specify the angle, the bend radius and the allowance method for bend zones. In practice, the radius depends, for example, on the material, the thickness, and also on the utilised bending tools. The Bend zone tooling function enables a practice-oriented adjustment of the radius and the allowance method. The data of the machine manufacturer LVD are evaluated for this purpose.

12.7 Interfaces

» **HyperMesh plugin** (SP1)
Drawings and parts can now also be exported from HiCAD to HyperMesh.

» **Optimisation and performance increases (SP1)**

- The update to **CADFix** 9.0 comprises the formats ACIS R23, CATIA V5 R22, Parasolid V25, SolidWorks 2013 and Unigraphicas NX8.
- For **STEP** export, the processing of complex structures such as spiral geometries has been speeded up significantly.
- **VRML** and **3D PDF** export now also includes the transfer of HiCAD part names. The 3D PDF export takes over the views form HiCAD instead of transferring them to a PDF standard.
- **IFC** export functionality has also been redesigned and enhanced, and now also supports the Coordination View 2.0 subschema.
- Bitmap graphics contained in DXF/DWG files will be transferred to HiCAD.

» **Licensing: Native converter no longer required** (SP1)
Previously, the native converter was required for the utilisation of foreign formats. As of version 1801, the native converter will no longer be required. This means that interfaces can now simply be activated via the corresponding interface modules without any involvement of the native converter.

» **Plugins for export to ANSYS, FEMAP,Patran**
Drawings and parts can be exported from HiCAD to ANSYS Workbench, FEMAP and MSC Patran.

» Performance

- The performance for the processing of large drawings converted via CADFix 64 Bit (DXF/DWG , Step etc.) has been enhanced significantly.
- As of Service Pack 2, the formats CATIA V5 R 23, NX 8.5 and DXF/DWG 2013 are additionally available. (SP2)
- HiCAD memorizes the before mentioned formats and offers them as the new default setting for export processes. (SP2)
- Furthermore, the support of Unicode characters in file names has been enhanced. (SP2)

» STEP and IFC

- STEP files can, similar to referenced HiCAD files, be subdivided into several interlinked STEP files, and also be loaded in this way.
- The IFC export functionality has also been redesigned and enhanced.

» Splines in DXF files
Splines read from (2-D) DXF files (genuine B-Splines) will be written back as splines during export. If desired, you can deactivate this behaviour and export B-Splines from DXF files as approximated lines instead.

» HELiOS attributes
If you use the HELiOS database, you can write the HELiOS attributes (e.g. the HELiOS part name) into other file formats during export. For this to happen, you need to select Drawing > Others > Extras > Temporary settings > Save ICN display -On/Off, and confirm with Yes.

» Configuration of import / export default options
The import and export default options for 3-D interfaces (STEP, Iges etc.) can be specified in the Configuration Editor (ISDConfigEditor.exe), at **... > Active configuration (Base configuration) > Interfaces > General 3-D interfaces** by activating or deactivating the corresponding checkboxes. (SP2)

» DSTV/DSTV NC (SP2)

- The user-friendliness of the DSTV import functionality has been improved.
- The DSTV export now enables a shortened representation of powder marking lines.

» **Attribute mapping for Cadenas PARTsolutions**
The dialogue for direct part import from Cadenas PARTSolutions has been extended. It now offers the option to assign HiCAD attributes to the supplied Cadenas attribute designations and save them in the form of a predefined table for re-use.

» **PEPS**
3-D standard processings can be transferred in an optimised quality to the NC programming system PEPS® of the company Camtec, where processing cycles can be generated automatically. Licenses and installations can be obtained from Camtek.

» **Output of ICN names for export via Plot Manager**
If desired, you can now also export the HELiOS attributes shown in the ICN when performing an (automatic) 3-D interface export (Step, 3D-PDF) via Plot Manager or the HiCAD Spooler. For further information please read the Plot Manager + Print Client topic in the General Information on HELiOS chapter of the HELiOS Online Help. (SP2)

»

12.8 Catalogue Editor

» **Beams, Profiles, Bolts and Screws according to Indian Standards**
The range of parts according to Indian standards in the catalogues SEMI-FINISHED PRODUCTS > BEAMS+PROFILES and FASTENERS > BOLTS+SCREWS has been expanded significantly:

- IS 808...
- IS 3757
- IS 6623
- IS 6649

» Further catalogue expansions

- Disc springs according to DIN 2093 (Catalogue: FASTENERS > SPRINGS).
- Additional hexagon bolts according to DIN EN ISO 4016 (M6X16-4.6 bis M6-28).
- Washers according to DIN EN ISO 7094 (replacing DIN 440).
- Copper and copper alloys
  The catalogue: MATERIALS > NON-FERROUS METALS > COPPER ALLOYS

provides coppers and copper alloys. The columns RM (Tensile strength) and RE (Stretch limit) have not been assigned any values here, as the data strongly depends on the respective construction method and design type.

- Hexagon head bolts with flange according to DIN EN 1665 (formerly DIN 6921)
- Round-head screws according to DIN EN ISO 8677
- Dowel pins according to DIN EN ISO 8750
- Screws according to DIN EN ISO 14580
- Self-tapping screws according to DIN EN ISO 15481
- Hexagon socket flat button head screws with collar according to DIN EN ISO 7380-2:2011-11 (SP1)
- Tapping screws according to DIN EN ISO 1479 (SP1)
- DIN EN ISO 14581, Countersunk head screw with Torx (SP1)
- The new material Stainless steel 1.4301 for semi-finished materials has been added.

» **Extended settings**

The **Settings** menu now contains the new **Do not close tables in HiCAD** function. Provided that your computer has enough memory, you can use this function to speed up HiCAD. If the setting has been activated, standard parts tables in HiCAD will no longer be closed during normal operation, but will remain in the memory. Up to 6% of operating time can be saved in this way. (SP1)

» **Transfer to HELiOS**

Further functions are available for the transfer of tables/catalogue to the HELiOS part master management:

- Transfer to HELiOS, New creations without given article numbers allowed
- Transfer to HELiOS, New creations only with given article numbers
- Transfer to HELiOS, No new creations

These functions can be fond in the toolbar as well as in the menus with the table and catalogue functions. (SP1)

» New "Types of use"
New Types of use are available in Steel Engineering and Metal Engineering. They are defined in the ASSEMBLIES table of the catalogue Factory standards > Types of use > STEELWORK or in the Metal Engineering table, respectively. In the Configuration Editor, corresponding "Type of use configurations" for drawing derivation have been predefined. (SP2)

» Synchronize catalogues
If you want to use the same catalogue and tables as other users, you can use the Synchronize catalogue function in the context menu to synchronize your catalogues with those of other users. This can, for instance, be useful if these catalogues contain data that you require, but do not exist in your catalogue. (SP2)

» Settings in the Configuration Editor
In the Settings menu, the functions Track changes in HiCAD and Do not close tables in HiCAD are no longer available. You now specify these settings via the Configuration Editor (SP2)

» Anchor screws
Weights of anchor screws have been added to the catalogue. (SP2)

» New variants for pipe parts and gauge parts
As of HiCAD 2013, SP2 new Plant Engineering part variants for WIKA manometer, HILTI pipe clamps and various ERMETO pipe parts from the PARKER catalogue will be available. (SP2)

12.9 Feature Technology

» New file format for feature variants
For general feature variants an new file format (.VAA) is now available (as for part variants in Plant Engineering). In contrast to the previously used VAD format, variants in the VAA format consist of only one file and can also be stored in the Vault Server.

» Create feature
This function can now be accessed via Drawing > Save/Reference > Part... .

12.10 Viewer

» Like drawings, 3-D parts (KRA) can now be saved in HiCAD in such a way that also the HELiOS attributes are shown in the Viewer. You use the function **Save ICN display with drawing - On/Off**. You access the function via Drawing > Others > Extras > Temporary settings. Alternatively you have the option to make this settings permanent via the Configuration Editor (ISDConfigEditor.exe). Select ...> System Settings > Load/Save and activate the **Save ICN attributes in drawing** checkbox (Default: deactivated).

» For HiCAD parts or assemblies, you can now switch between a wireframe model (2-D view) and a shaded representation (3-D view). Faceted 3-D parts can also be displayed.

12.11 Plant Engineering

» **Gauge parts**
Gauge parts are now available as a new part type in the **Pipe parts** selection menu. The part type **Gauge** in the Components menu does no longer exist.

» **Guidelines: Hide/Show axes**
If you have defined a greater number of axes for the routing of guidelines, the identification of a particular axis may be difficult owing to the multitude of axes. In such cases, the deactivation of axes in the axes table is also rather difficult. As of HiCAD 2013 you have the option to switch axes on or off that are located in the planes spanned by the axes of the active coordinate systems.

» **Automatically place knees on guidelines**
Like Elbows, you can also place parts of the type Knee onto individual guidelines or, automatically, on all corners of a guideline. In contrast to the Elbows, these parts do not necessarily need to be symmetrical. Therefore you can select the insertion direction here.

» **Load/Save points list of guidelines**
The points list of a guideline can now be loaded from / saved to a file.

» Link to P+ID via database

Previously the link between a layout plan and the corresponding P+ID was created by saving the name of the P+ID project (RPA) in the 3-D drawing, and saving the name of the file belonging to the layout plan in the P+ID project. A changing of the file names, e.g. for modified drawings, (see Update Link) always led to a removal of the link. The link then needed to be created anew.

As of HiCAD 2013 the link will be created by linking the corresponding document masters via the database (see New Link Types in HiCAD 2013). Files that have been linked in the old way will continue to function in the old way. However, you can also apply the new link type to them if desired.

All new links between layout plans and P+IDs will be links via database!

» Isometry settings: Tripod

The Isometry settings have been expanded. On the Symbols tab you can now also specify the settings for the tripod indicating the orientation of the coordinate system. These are the arrow symbol, the magnification factor and the texts for the X-, Y-, and Z-direction.

» Isometry settings: Item numbers

Previously (i.e. before HiCAD 2013), the item numbers in the isometry were assigned independently of the item numbers that were globally generated by HiCAD for all parts. As of HiCAD 2013, various options for the generation of part item numbers in the isometry will be available. For this purpose, the isometry settings have been expanded by the Item numbers tab.

» Parts with only one genuine connection

Parts with only one "genuine" connection still require two named isolated points (Designation: ! and 2) to enable them to be auto-aligned correctly. To prevent Point 2 to be falsely interpreted as a connection in the isometry, the attribute ANSCHLUSSART2 (CONNECTION TYPE2) needs to be set to the value 0.

» Exchange identical valves in pipelines
Two new functions enabling you to exchange valves in pipelines are available in the pull-down menu of the **Change** function in the **Pipeline Tools** function group:

» Activate part chain
The new **Activate part chain** function can be found at **Plant Engineering > Settings > Activ...** . This function activates all parts of a "part chain" within a pipeline in the ICN. (SP1)

» Plant Engineering settings: Part selection
If the **Database** has been selected as part data source in the on the Part selection tab of the Plant Engineering Settings dialogue window, two additional checkboxes for accessory sets will be available: **Pipe class also applies to accessory set** and **Accessory set selection for each insertion**. (SP1)

» Straight pipes
If desired, you can now assign different connection types on the ends of straight pipes. (SP1)

» Several branching parts
Several branching parts with saddle connections or straight pipes can now originate from a branching point on the centre line of a straight pipe. (SP1)

» Generate pipe spool drawing
HiCAD supports the generation of pipe spool drawings. The corresponding function can be found in the Isometry / Pipe spool drawing function group of the Plant Engineering tab. In contrast to a pipeline isometry, a so-called pipe spool drawing is generated from the active view of a pipeline. No new CAD drawing will be created in the process, but the generated drawing elements will be assigned to the active view. (SP1)

» Using different accessory sets for one part
It does not always make sense to assign a fixed accessory set to a part. For example, it is possible that a flange either requires, depending on the fitting situation, bolts with different lengths, or, depending on the temperature of the environment or the type of the filling medium, different seals. If the Database has been set as part data source in the Part selection tab of the Plant Engineering Settings dialogue window, you have the option to assign different accessory sets to one part. (SP1)

» **Extended settings: Automatic dimensioning**
Owing to the new pipe spool drawing functions, the isometry settings on the **Automatic dimensioning** tab have been expanded. (SP1)

» **New part type "Accessory set"**
The processing options for accessory sets have been expanded for HiCAD 2013, SP1 (Version 1801). To be able to use them, you need to classify the part masters of accessory sets (not the part masters of accessory parts!). For this you use the class Accessory set. If this class does not exist yet in your database, you need to create it. (SP1)

» **Language selection in the PAA Editor**
When you open a variant (KRA, PAA) with the PAA Editor, the language selection dialogue will no longer be displayed automatically. If the selected file contains no language information, the language ID set in the Registry will be used for this file. Otherwise, the language ID assigned to the file will be used (SP2)

» **Language selection for part data sychronisation**
When you perform a Part data synchronisation the language selection dialogue will no longer be displayed automatically. If the selected file contains no language information, the language ID set in the Registry will be used for this file. Otherwise, the language ID assigned to the file will be used. (SP2)

» **Exchanging of valves**
You can now use the functions **Exchange valves, in one pipeline** and **Exchange valves, in all pipelines** to exchange even valves that are not located on a guideline. (SP2)

» Settings for links to P+ID
The checkboxes When saving the layout plan also save P+ID project and When saving the P+ID project also save layout plan have been removed from the Link to P+ID tab of the Plant Engineering Settings dialogue window. An automatic saving of the linked P+ID project or the layout plan is therefore no longer possible. (SP2)

» **Elbows - Adjust to displacement**
The new **Adjust to displacement** function is now available for the insertion of elbows. (SP2)

» Branchings with Saddle connections and Pipes
Previously, branchings could only be created from a straight pipe or the straight segment of a bent pipe by means of a saddle connections or a different pipe with a smaller diameters. Now you can also create branchings from parts of the part type T-piece, Branch, Concentric reducer and Knee, via cylindrical sections ending in a connecting surface. If desired, several branchings (in different directions) can be created. (SP2)

» Automatic adjustment of nominal diameter condition
If a part is to be inserted on a guideline, HiCAD will search for a part connection - starting from the desired insertion point on the guideline in both directions along the guideline segments that are still empty. The nominal diameter of the found connection can be used for the search condition of the nominal diameter of the part to be inserted. (SP2)

» Part information: Display accessory set
If you use the HELiOS Database as part data source, the Part information dialogue window will have, in addition to the Accessory button, an Accessory set button, enabling you to display the part master of the accessory set. This HELiOS dialogue in turn allows a displaying and editing of the product structures and the part masters of the accessory parts.(SP2)

» Changed setting options for flange gaskets
Gaskets will now always be displayed as 3-D parts. The following setting options for flange gaskets in the Part selection tab of the Plant Engineering Settings dialogue window are no longer available: Only specify thickness, Gasket/seal in BOM and Gasket/seal as 3-D part. (SP2)

» Reset isometry and pipe spool drawing data
The functions Reset isometry and Reset pipe spool drawing data have been combined into one function. The Reset isometry and pipe spool drawing data function can now be found at Plant Engineering > Isometry > Reference coordinate system. (SP2)

» Pipe spool drawing: Text objects/Item number tags
Use this function to distribute the annotation in pipe spool drawings over several views by assigning text objects to a different view. (SP2)

» Isometrie: Warning if isometry becomes invalid
If the pipeline from which the isometry was generated is contained in the isometry as

a referenced part (see Reference Isometries and Manage via Database), it is possible that the pipeline will be processed further after division of the isometry: Further parts might be added, or existing parts might be replaced with other parts. These parts are initially not assigned to any of the split isometries. Before re-generating the isometry from the layout plan, HiCAD therefore checks whether there are any parts which are not assigned to any split isometry yet. (SP2)

» Isometry/Pipe spool drawing: Necessarily incomplete connecting point representation
At multiple branchings, several types of connections can converge, which means that they cannot be represented by one single symbol. In such cases, an additional annotation tag will be attached at this connecting point - in the isometry as well as in the pipe spool drawing. (SP2)

» Isometry/Pipe spool drawings: Accessory parts in BOMs
Previously you could only access the part attributes of accessory parts. Now, you can also evaluate the %DBAT text keys from HELiOS. (SP2)

» Isometry: Hide/Show dimensions
The functions Show dimension and Hide dimension are no longer available on the Isometry tab. (SP2)

» Isometry: Drawing frame
The standard procedure in HiCAD can be applied here as well: Drawing frames with or without part master are possible, and the correct designation of the "SCHRIFE" text field "SCHRIFE" will be read from the schrfeld.dat file when the drawing frame object is instantiated. (SP2)

» Connection info for multiple branchings
If there are several branching parts starting from one branching point, the connecting points of these parts will lie on top of each other in the branching point. (SP2)

» New variants for pipe parts and gauge parts
As of HiCAD 2013 SP2, new variant files for WIKA manometers, HILTI pipe clamps, and various Ermeto pipe parts from the PARKER catalogue will be supplied in the form of Variant Archive Files (VAA files). (SP2)

» DB link for the linking of 3-D assembly and P+ID
The following database link 3DASSY_PID will be required for the linking of a referenced 3-D assembly to a P+ID. If it does not exist in your database yet , define the link with the HELiOS Desktop. (SP2)

» Linking of referenced 3-D assemblies to P+IDs
Referenced 3-D assemblies in the layout plan can be linked to one or several P+IDs. (SP2)

»

12.12 P+ID

» Symbol selection via name (SP1)
The lists for the selection of a symbol, a symbol set or a library now also show the corresponding Designations - provided that the library was managed via the database when it was integrated into the P+ID project.

» Take over, as library symbol
Use the Take over, as library symbol function to load a P+ID symbol from the P+ID sheet into the Symbol Editor for processing - as if you had taken the symbol from the symbol library from which it originated, by means of the Load library symbol function. In this case, however, the symbol is taken over in the form in which it appeared in the P+ID, i.e. any changes made to the symbol in the P+ID will be taken over.

» Open several P+IDs in different HiCAD windows
It is now possible to open several P+IDs in different HiCAD windows. At the same time you can edit a symbol library in another window, and load a symbol library for editing in a further window.

» Remove link function withdrawn
The link between 3-D layout plan and P+ID can now only be removed via the Plant Engineering tab while the layout plan is loaded.

» Link to P+ID via database
Previously the link between a 3-D layout plan and the corresponding P+ID project was created by saving the name of the P+ID project (RPA) in the 3-D drawing, and saving the name of the file belonging to the layout plan in the P+ID project. A changing of the file names, e.g. for modified drawings, always led to a removal of the link. The link then needed to be created anew.

As of HiCAD 2013 the link will be created by linking the corresponding document masters via the database. Files that have been linked in the old way will continue to function in the old way. However, you can also convert old link types to new link types if desired. New links will always be created via the database!

» Extended "Move symbol" function (SP2)

The Move symbol, only X or Y function has been extended. It now allows an additional and simultaneous moving of:

- the symbols that are linked to the selected symbol (perpendicular to the movement direction),
- the assigned gauge and drive symbols,
- the corresponding connections,
- the pipeline and pipeline info symbols in the vicinity of the corresponding connections,
- the measuring points on the corresponding connections or symbols.

» Visualisation settings
On the **Visualisation** tab of the P+ID Settings dialogue window some text have been changed: You can now see which layers will be shown or hidden for the hiding and showing of particular objects. The hiding of Layer 1 will now be prevented (checkbox cannot be deactivated). (SP2)

» Own symbol lines for pipe connections (SP2)
On the Connections tab you can specify types using symbol lines (8) for pipe connections.Supplied with HiCAD are symbol lines according to DIN 2448. The contents of this selection list are specified in the makro2d\symblinien2481_list.dat file.You can create further files with selection lists, which can then refer to symbol lines defined by the user. (SP2).

» Linking of referenced 3-D assemblies (SP2)

- The **Link to 3-D** function now also contains the linking option of referenced 3-D assemblies to P+IDs. If the P+ID has been linked to a referenced assembly, this function will load the assembly into a new window.
- If a P+ID symbol has been linked to a 3-D part or to a pipeline in a referenced assembly, use the **Show 3-D part** function to load the referenced assembly into a new window.

» Information in the 'Switch drawing' ICM window (SP2)
The **Switch drawing** window of the ICN now also displays the project name and the sheet number if P+ID projects. If the P+ID is managed with HELiOS, the document number will be displayed.

» **Locked RPA file** (SP2)
When loading a P+ID project without access to the HELiOS database, the RPA file will be locked in the file system. A lock file with the extension "RPA~Lock" will be temporarily generated, to record the user name and the loading time of the P+ID project. If a different user tries to open the P+ID project, access will be denied, and the user currently working on the project will be indicated.

12.13 Configuration Management

» **DAT and XML system files**

As of Version 1700, HiCAD enables a central configuration management via the Configuration Editor tool. The aim of our further developments is a gradual transfer of the previously used system files with their adjustable parameter settings into the Configuration Editor, thus enabling a central and safe configuration management.

This transfer has already been realised for the following files:

- ALGPAR.DAT
- BEMPAR.DAT
- DIMENSIONING_SETTINGS.XML
- KRPGEN.DAT (SP1)
- MASPAR.DAT (SP1)
- FITTABLE_SETTINGS.XML (SP1)
- STBEMPAR.DAT (SP1)
- TXTANSI.DAT (SP1)
- STABMPAR.DAT (SP2)
- AUBM3PAR.DAT (SP2)

» **Permission upon start of the Configuration Editor** (SP2)
The permissions to change profiles or settings depend on the behaviour of the Editor when it is started.

Users without administrator rights and users with administrator rights who did not select the Run as administrator option upon start:

- In the Editor, settings can be edited in the profile of the user who is currently logged on Windows.
- The switching to a different user is not possible. The selection box is greyed out.

Users with administrator rights who have selected the Run as administrator option (right-click and select from context menu) upon start:

- The administrator profile can be changed in the Editor.
- The switching to other existing profiles is possible via the selection box, which enables a checking and/or changing of the configurations of various users.

» **User Management** (SP2)
The new **Settings** tab has been added to the **User Management** dialogue window. Use the **Same configuration for all users** option to switch off the User Management and the Permissions Management. The settings will then always be written to the Administrator profile. The User Management is by default deactivated when the configuration database is installed for the first time.

» **Search value** (SP2)
To perform a targeted search for particular entries (e.g. font or font size) in other data records, right-click the desired data record and select **Search value**. In the search mask you can limit the search to a particular area of the configuration structure tree, by activating the **Limit to** checkbox and selecting the area of the configuration structure from the drop down menu. When you click the **Find** button, HiCAD will jump to the next data record that meets the specified search criteria. You can change this data record if desired, and continue your search.

» **Additional information in user interface** (SP2)

- The path of the currently selected item in the configuration structure is now displayed in the info bar at the bottom of the Configuration Editor.
- The version number and the name of the configuration database are now included in the caption of the Configuration Editor.
- Colour, line type and font can now be selected from menus with graphics.
- Changed values, i.e. values deviating from the underlying profile level, are marked appropriately and can be reset to the original default value at any time.

» **Dimensioning rules** (SP2)
Dimensioning rules in workshop drawings are managed via the Configuration Editor.

For a fast and easy editing of dimensioning rules, you can use the new, integrated **Dimensioning Rule Editor**. In the Configuration Editor the values offered for selection also contain a comment and a preview graphic.

» **Settings for Catalogues** (SP2)
At **... > System settings > Catalogue** you can specify the following settings for catalogues in HiCAD:

- **Track catalogue changes**
  Normally HiCAD checks regularly whether the catalogues are up to date. This automatic checking mechanism can be switched on or off. The current status (on/off) is entered into the Windows Registry.
- **Handling of catalogue tables**
  Provided that your computer has enough memory, you can use this setting option to increase access speed. If this option has been activated, standard part tables will no longer be closed in HiCAD during normal operation, but will remain in the memory. This leads to time savings of up to 6%.

» **Settings for Steel Engineeeing and Metal Engineering** (SP2)
Numerous new "Types of use" are available for Steel Engineering and Metal Engineering - especially in connection with the new Railing Configurator. They are defined in the **ASSEMBLIES** table of the catalogue **Factory standards > Types of use > STEELWORK** or in the **Metal Engineering** table, respectively. In the Configuration Editor, corresponding "Type of use configurations" for drawing derivation have been predefined.

12.14 Variant Editor

Since Version 2012, HiCAD has been using the format .VAA for Plant Engineering variants. As of Version 2013, general variants, too, can be created in this archive format.

- In Version 2013, the previous Variant Editor ANVAREDIT.EXE has therefore been renamed to VariantenEditor.exe.
- For Plant Engineering variants created with HiCAD 2012 or higher, and for general variants in the .VAA format please use only this new Editor.
- When loading a variant, no language selection will be displayed. If the variant to be loaded contains no language data (this applies, for example, to general feature variants or to VAD files), the language ID will be applied to this variant that was entered for HiCAD in the Registry. Otherwise, the language ID that was assigned to this variant will be used. If several language IDs have been assigned, the first detected Language ID will be used. If you want to assign further languages to a variant, use the **Language** function. (SP2)
- An assigned language will only be saved together with the variant if the **Designation** field is not empty. (SP2)
- The Variant Editor now contains the new Close button. This function makes sense if you want to insert a variant in HiCAD, which is only possible if the variant is not open in the Variant Editor. In older versions, you had to close the Variant Editor first. (SP2)
- If the Variant Editor was not closed properly, previous versions issued the message *The interrupted process is continued* after restart. This restore mechanism is no longer available as of SP2. Therefore, please do not forget to save your editings regularly! (SP2)
-

12.15 Report Manager

» The ICN docking window is no longer available in the Report Manager. (SP1)

» The Excel export in HiCAD 2013 can be performed either via Excel templates or via VBS scripts. Furthermore, the supplied compatibility script enables a conversion of Excel templates to VBS scripts. (SP1)

»

12.16 Parametrics

» **Invert angle direction for angle constraints in Part HCM** (SP1)
After applying an angle constraint with the 3-D Part HCM, you have the option to invert the direction of the angle.

12.17 Steel Engineering Drawing Management (BIM-PDM)

» **Parameters for drawing derivation in the Configuration Editor**
In the Configuration Editor (ISDConfigEditor.exe), the settings for drawing derivation can now be found at **... > Automatic drawing derivation** (and no longer at **General**...) . This applies in particular to the following parameters:

- Rearrange existing views when adding new view groups,
- AutoSync sectional views when updating PDM-managed drawings,
- Rearrange views when updating PDM-managed drawings.

» **Configuration for BIM-PDM**
Addtional Parameters for Drawing Derivation can be found at PDM > BIM-PDM.

» The functions for Steel Engineering with Drawing Management can now be found on the **Drawing Management** tab (formerly "PDM". (SP1)

» Drawing derivation

- For drawing derivations in the Steel Engineering Drawing Management you can now also choose the **New external drawing for each drawing frame** option. For each drawing frame a new drawing file will then be created. The derived drawings

will automatically be saved to the same directory where the original drawing is located. The file name will be composed of the prefix CD and a unique ID that is automatically generated by HiCAD. (SP2)

- If you also want 3-D parts to be considered for the management of drawings, i.e. preserve the link **Drawing up to date** or **Drawing not up to date**, respectively, and use the BIM automatisms based on it, select **PDM > Steel Engineering Drawing management > Manage general 3-D parts**. (SP2)

12.18 HELiOS PDM in HiCAD

» **Display of old indices in title bar** (SP1)
The index of a drawing is displayed, besides other information (e.g. the document number), in the HiCAD title bar. If the currently open document has an old index, this is indicated by a corresponding notice **(Old index)** in the title bar.

» **Linked Plant Engineering Isometry** (SP1)
Use the Linked drawing function of the HELiOS 3-D part context menu to load drawings that are linked to the active part. If the active part is a Plant Engineering part for which no detail drawing exists, you can also use this function to open an isometry linked to this part (Designation: **Isometry/(...)** in selection list.

» **Withdrawn system files**
The system file ALGPAR.DAT is no longer supported. The settings managed via this file can now be found in the Configuration Editor (ConfigEditor.exe). This also includes the parameter **Use HiCAD/HELiOS Standard solution**.

» **Opening of parts in foreign formats and insertion of standard parts saved to HELiOS (SP2)**
When loading drawing into HiCAD via the HELiOS document/part master, you can not only load drawing files in the HiCAD format (.SZA), but also drawing files which have been saved to the HELiOS database in foreign format (if it is a file format that is suitable for an import to HiCAD).

This is also possible for standard parts saved to the database, which could previously only be inserted via HiCAD, but can now also be inserted via the HELiOS search (**Drawing > Insert Part > Insert part, via DB part master**).

»

12.19 HELiOS Desktop

» **HELiOS log** (SP1)
The HELiOS log is a feature that enables you to set links to HELiOS documents from other applications (similar to Hypertext log or File log).
Links that have been set with HELiOS log allow for example, an opening of documents in the HELiOS Desktop from HTML pages or Office documents.

» **Drawing modifications for general variants** (SP1)
In accordance with the new variant archive in HiCAD 2013, all sub-types of all parts will be changed in case of any indexed drawing modifications for general variants. Each part of the variant will then be available in HELiOS as an old and a new version.

» **OR condition for part search** (SP1)
A new option that is particularly frequently required in Plant Engineering enables the definition of OR conditions for part search purposes. The OR condition allows you to search for one or several parts in two different locations at the same time, e.g. for both connection types in a Plant Engineering pipe class.

» **Desktop with new Look & Feel**
The HELiOS Desktop 2013 features a redesigned GUI based on WPF technology for maximum user-friendliness. Besides a restructured Ribbon, there is a new window with HELiOS options, allowing a convenient user-specific configuration and arrangement of result lists and views.

» **Plot Manager: Export of HELiOS attributes, support of JT format**
HELiOS attributes (HELiOS part names) are written to the corresponding file via the Plot Manager during export to various formats (Step, 3D PDF, JT). A new format is the JT format.

» **HELiOSScan**
This new tool enables the import of scanner-generated files as HELiOS documents.

» **Optimised interfaces to other CAD system**
The functionality of the interfaces between HELiOS and the CAD systems AutoCAD, Inventor and SolidWorks has been redesigned and enhanced. A new automation interface, for example, enables a loading of documents directly from the HELiOS Desktop in Inventor or SolidWorks. Furthermore, new customer-specific configuration options are available.

» **Link between HELiOS and ERP/PPS systems**
When transferring combined items in HELiOS PDM to an ERP/PPS systems, individual structure items can be re-identified via the partner system (ERP).

» Compatibility with CAD systems

- As of Service Pack 2 the new, expanded HELiOS Info Centre will be available not only for SolidWorks, but also for Autodesk Inventor. Besides displaying information on CAD parts, you can edit the HELioS product structure here. (SP2)
- A new dialogue for Options and Settings for the CAD integration enables you to specify global settings, e.g. attribute value init values. (SP2)
- HELiOS takes over part attributes such as material, weight, volume, density from SolidWorks and Inventor, IProperties and material properties of Inventor, and file properties of SolidWorks can be transferred to HELiOS parts and documents. Conversely, HELiOS part and document master data can be transferred to IProperties of Inventor, and to file properties of SolidWorks. (SP2)
- In Inventor, the transfer of product structures, in addition to the part structure, can also take place via structure BOMs.(SP2)
- Furthermore, an Add-in for AutoCAD 2014 will be available as of Service Pack 2.

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