Local Installation Guide

Version compatible with Autodesk Civil 3D 2021 to 2024

April 17, 2024

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Installation sources

For any purchase, the installation package is provided on a flash drive, which contains the essential installation sources and optional, additional data.

Download links only contain the minimum installation package.

Installation flash drive

The flash drive contains:

- Setup.exe, which starts the Helios 3D installation.
- msoledbsql.msi, in case problems accessing the SQL Server occur during regular setup
- Local and network installation guides in German and English (PDF format)

- Subfolders containing:
    - Microsoft SQL Server Express installation package (for manual installation)
    - Management Studio Express
    - Sentinel driver package (for licensing issues)
    - Updates (if newer than the installation source)
    - Several folders with help videos

System requirements

Due to the enhanced performance of commercial computers, the software combination of Autodesk Civil 3D and Helios 3D can be used on nearly every modern computer.

Recommended requirements:

- Modern Intel or AMD – 64 bits – Processor (at least 3,0 GHz or more)
  A higher clock rate is recommended, as just a single core is used!

- Windows Windows 11 and 10
- Fast SSD
- 16 GB RAM or more
- 20 GB free disc space for a HELIOS 3D and Autodesk Civil 3D system
- 1920 x 1200 screen resolution with 32-bit color depth (True Color)
- Modern high-end or Autodesk certified graphics adapter

  Autodesk recommends the following features:
  o Basic: 2 GB GPU with 29 GB/s Bandwidth and DirectX 11 compliant
  o Recommended: 8 GB GPU with 106 GB/s Bandwidth and DirectX 12 compliant

  Note:
  o DirectX 12 with Feature Level 12_0 is required for some features.
  o Dedicated VRAM recommended.

To use Helios 3D with a CAD, Autodesk Civil 3D 2021 to 2024 must be installed and we recommend doing the Civil installation in advance. To use networks, TCP/IP must be set up.

The latest service packs for Autodesk Civil 3D should always get installed.

Helios 3D CAD-workstations may have higher requirements according to the used version of Autodesk Civil.

A preinstalled **Microsoft SQL Server (Express)** is required for adding a database catalogue during Helios 3D installation. **We recommend to use the SQL user 'sa' for installation processes and to note down the password, as there is no way for our support to recover the password!** The below example password was used as default in earlier versions.

User:	sa
Password:	Helios-3D!

Helios 3D can be used as single workstation solution or as multi workstation network solution with a central server. Different installation modes (Standard, User-defined) are not available.

The update search and downloads of help documents use an FTP connection to ftp://stoehr-sauer.de, so a firewall exception is required for getting access to the latest patches and help easily!

SQL Server (Express) installation

This description just contains the most recent points for the SQL Server installation and configuration. The installation should be executed by a professional with knowledge about SQL Server, if possible.

For administrators without experience, there is a more detailed example of an SQL Server Express 2017 in a separate document. Please note that specific steps might be different for any version for SQL Server.

We recommend to use the latest version from the Microsoft web pages which is compatible with the used operating system!

We recommend to use the latest version possible for your operating system.

For the SQL Server setup:

- When the installation starts, we recommend choosing the option "Download Media" to avoid problems loading contents during the main process.
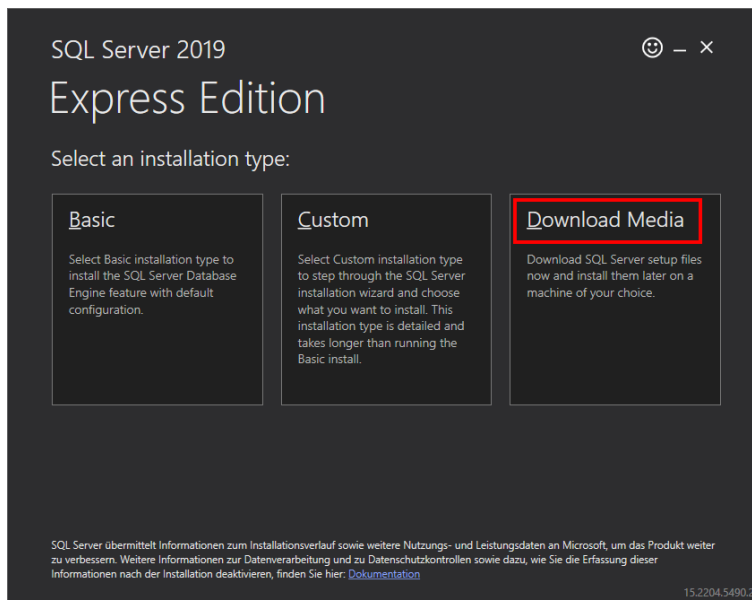
- use the advanced setup and enable mixed authentication mode
  (without the 'sa' user, maintenance might not be possible)
- if you have other SQL Servers which should stay compatible e.g., if you want to move databases between them, you should check that the "Collation" of the new SQL Server matches the other ones.

The SQL Server is not accessible from the network by default.

Local installation

The installation of Helios 3D can be started by the Setup.exe on the Helios 3D-flash drive. **We strongly recommend to install Autodesk Civil 3D in advance,** so the configuration steps described under "First steps" are done automatically in most cases!

During the installation process, the login data for the preinstalled Microsoft SQL Server (Express) are required. We recommend to keep the login data for the user 'sa' available, as this ensures full access.

For assistance installing an SQL Server, we have a separate document.

Firewalls and antivirus software might prevent the setup from copying data!

<p align="center">Backup all important data!!!</p>

Insert the Helios installation flash drive. Start the Setup.exe from the main directory.

After selecting the program language and accepting the license agreement, the following dialogs for basic decisions get displayed.

Selecting a product

Only if there is already a Helios 3D installation on your computer, you will see the following dialog after starting the Setup.exe:
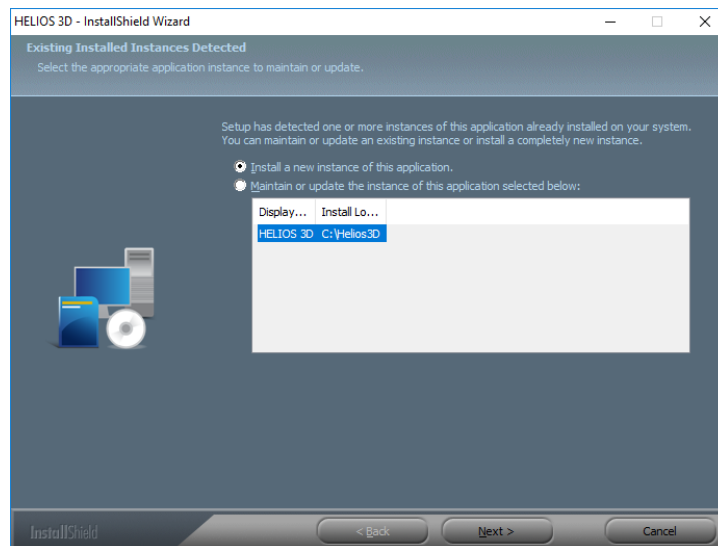

Figure 1: Product Selection

Here you can choose to install an additional version of Helios 3D or select one of the installed versions for update.

The following dialogs offer you to select a language for the current installation and to accept the license agreement. Please, read the license agreement thoroughly before you accept them. Please be aware of that the installation will only continue if you accept the license agreement.

Selecting a path

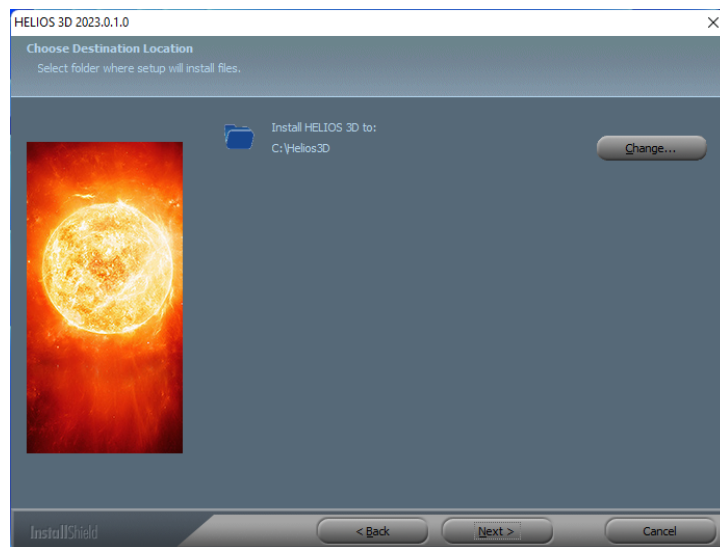Afterwards you can select a path for your installation.

Figure 2: Path Selection

The default path "C:\Helios3D" was chosen on purpose for a local installation, because otherwise there were problems with the user rights. Helios needs write access for its program base path.

It is NOT recommended using the path "C:\Program Files\", as the Windows user needs write access to several subdirectories. If you still use that path, Helios 3D must be run with the option "Run as administrator".

Selecting the features

If there still is no Helios 3D installation on your system, you will directly reach this dialog after starting the SETUP.EXE:
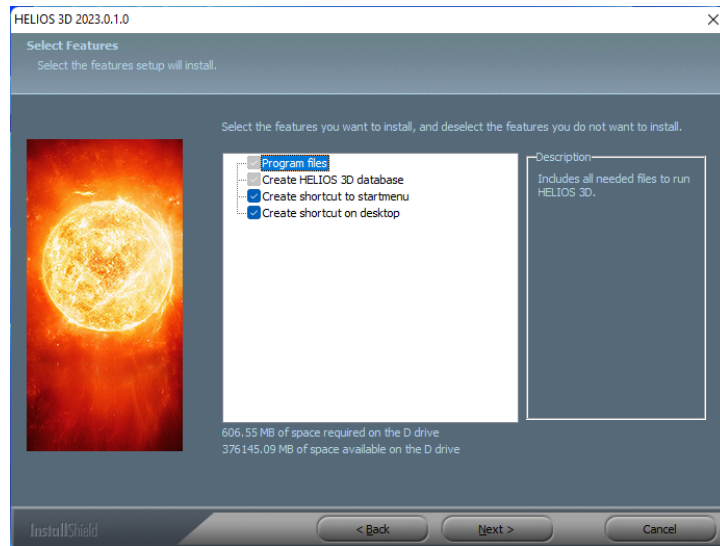

Figure 3: Feature Selection

Here you can select if a shortcut with Helios 3D should be created to start menu or/and on desktop.

In the next step, Install Shield checks some pre-conditions for the installation of Helios 3D and installs the SafeNet driver, when needed.

SQL Server Login

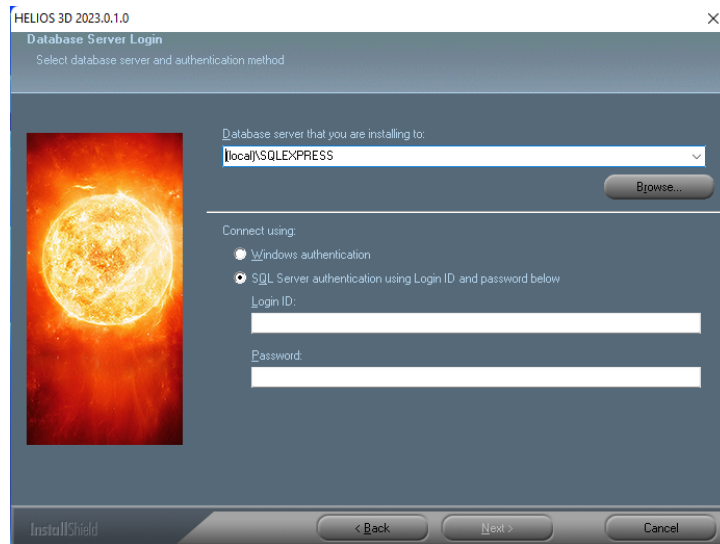Please enter the login data for the SQL Server in the next dialog.

Figure 4: MS SQL Server Login

Typing the server name can be much faster than searching the network with <Browse…>.

Create Database

You can now accept the default database name "Helios3D" or enter a new unique name.
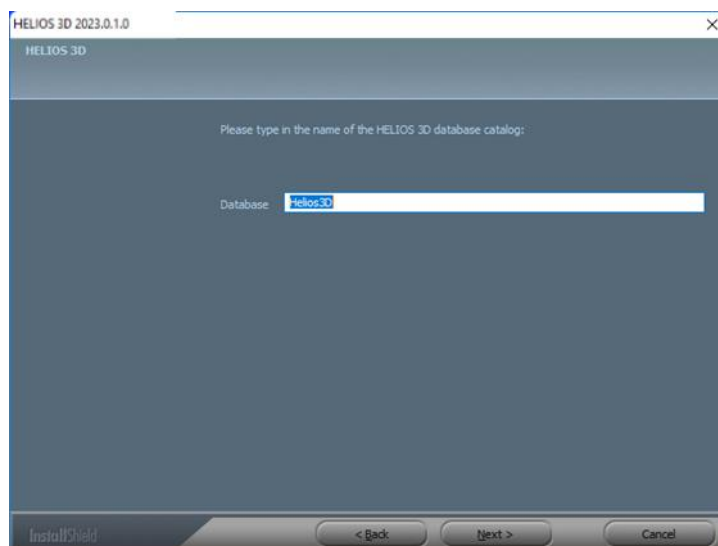

Figure 5: Naming the Database

The installation will go on with <Next >, when the database name is valid.

If database script errors occur on this step, please restart Windows. After the restart, check whether the SQL Server is running properly before you run the Helios 3D setup to the already running SQL Server.

If the script "CREATE DATABASE" fails, you can also create the database catalogue "Helios3D" manually and use it in this dialogue. For that you need SQL Server Management Studio.

Licensing

The USB dongle represents your HELIOS 3D license, which means that the loss of a dongle is equivalent to the loss of the license! We want to suggest the availability of electronics insurances.

The delivery only includes a temporary activation (usually for 7 days) on your HL Key (dongle). Before you can use HELIOS 3D, any dongle has to be registered and permanently activated at STÖHR+SAUER. In order to do this, please follow the instructions below.

For a reinstallation or installation of additional workstations there is no need for a new license activation, as the key just knows the program version and license runtime.

1. Any Helios 3D workstation as well as the license server (only network license with a red HL or an SL key) needs the Sentinel driver being installed locally. The driver is automatically installed on any workstation you run a local installation or the client setup to.

   On a workstation with a copy of a Helios 3D environment or on a server you need to run the Install.bat either from the folder "Client Setup" inside the installation directory or from the folder "Hardlock" on your installation flash drive. That executes the haspdinst.exe of the same directory.

2. Plug the dongle into a USB port of the license server or into a USB port of the workstation that should manage the license(s).

3. Execute the SuSRUS.exe from the subdirectory ".\Client Setup\Hardlock" of the installation or from the folder "Sentinel_Driver_*version*" on the flash drive.

4. In the SuSRUS program-window click the "Collect Information" button at the bottom. The Option "Update of existing protection key" must be selected on that.

When multiple license keys are found at your workstation, the following selection dialog appears:
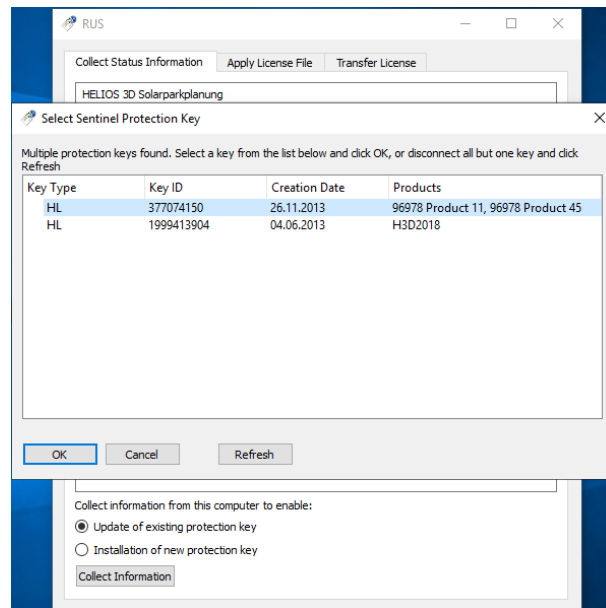

Figure 6: Select HASP key Dialog

We only need the data for any HASP Key that needs being activated. The Key Type HL means a dongle, while an SL Key stands for a soft-license.

5. Save the **.c2v** file to the hard disk and send it to: helios3d@stoehr-sauer.de

6. You will receive a **.v2c** file from us with the license information. Save this file to the hard disk (e.g. the desktop).

7. You can apply the license by starting the **SuSRUS** program again and selecting the **"Apply License File"** tab.

8. Select the **.v2c**-file from the hard disk and click on **"Apply Update".**

9. Now Helios 3D is licensed and can be used.

Special Configuration for Network Keys

The following steps are only needed in case the dongle is not found on a client system!

There might be several problems for the local driver finding the network dongle at the server. These can be cause by network policies and especially firewalls. If the following steps still don't solve the license detection problems, please add an exception for port 1947 for TCP and UDP or try temporary disabling local firewalls on the client and on the server for verifying if problems are firewall related.

1. Open ACC in your web browser: http://localhost:1947
2. Choose the option "Sentinel Keys" and check if your dongle is listed.
   If the dongle is already listed, this procedure is not necessary!
3. Please choose the option "Configuration".
4. Go to tab 3 "Access to Remote License Managers".
   a. Enable the "Aggressive Search for Remote Licenses".
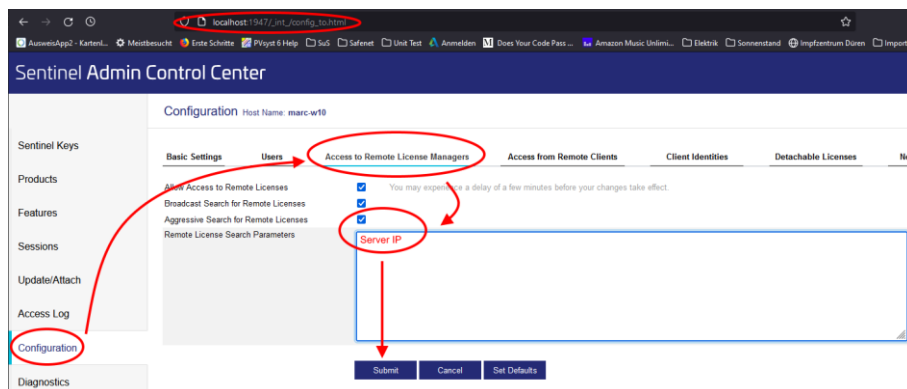   b. Add your servers name or IP as "Remote License Search Parameters".

Figure 7: Network License Access Configuration

Special Information for SL Keys

Customers who use a software license (SL, without a dongle) should note, that the protection system checks the hardware of the server. So, changes to the hardware of the server might disable the license key and thus any license it contains. For moving the license management to another server, a free license transfer is needed.

For virtual license servers or Cloud-based servers a separate configuration will be used, to avoid false cloning protections due to the below checks.

Copying a virtual server is generally not possible! Licenses can only get transferred to another server manually.

The following values get checked for SLs:

Physical server:

- HDD serial number
- Motherboard ID

Changing just one of these two points will be tolerated by the protection system. If both points get changed at the same time, all keys and thus all licenses get disabled.

Virtual Server:

- virtual MAC address
- CPU data of the host system
- UUID of the virtual machine

Any change to one of these parameters will disable all keys and thus all licenses.

In case a key gets disabled permanently, we will bring the 500 € per license for generation and activation of a new key to account!

License driver installation issues

Sometimes the unattended driver installation fails, so the page http://localhost:1947 is not accessible.

Any Helios 3D installation contains the driver package in the subfolder „.\Client Setup\Hardlock". For a local installation that would be „C:\Helios3D\Client Setup\Hardlock". The contained Install.bat calls the haspdinst.exe with the parameter -i. That can be done manually in a command line with administrator privileges.

The below dialog shows the command ending with a success message. The installation is successful, when the message appears only!
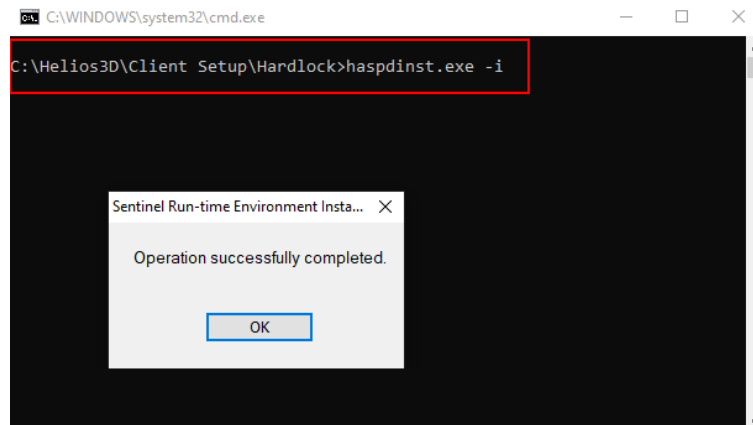
Reasons for the installation to fail might be:

- Missing user rights to perform the installation.
- Security systems preventing the installation to be executed.
- Issues running the installation over the network or from special drives. This can be avoided by copying the files to your local C drive and running the command again.

First steps

If the whole setup has worked fine, the installation should be ready to use by now.

Just if the start button for a selected drawing doesn't become active, the procedure described in the section "Configuration Helios 3D" has to be done.

The settings for Autodesk Civil 3D in the section "Setting up an Autodesk Civil 3D profile" should not be necessary, as the start process generated that profile automatically. Just if that fails, it needs to be done for manually for that Windows user.

Configuration Helios 3D

First Helios 3D needs a default configuration. For this purpose, open the module "Workstation configuration" in your Helios 3D application. You can find it in the program tab "Modules" by the button:
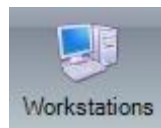
Select the station you want to edit in the list and then go to the window "Additional data" (below the list of stations) and to the tab "Program configuration".

In this list there must be at least a standard configuration which connects Helios 3D to a CAD application. For adding this one or an additional configuration, right-click into the list and select the function "New..." in the context menu. In the opening dialog you can add a new configuration as the following figure shows by the example of Autodesk Civil 3D.
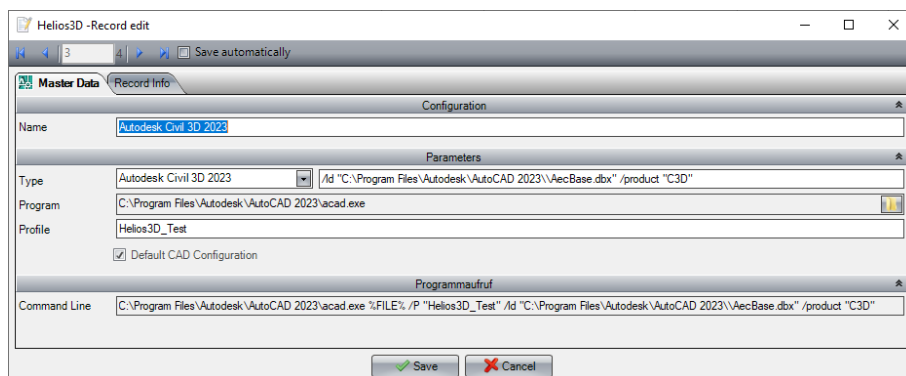

Figure 8: Configuration Helios 3D

Here you have to enter a name the parameters for configuration:

- Type (Select a program type from the list)
- Program (Program path of the execute file of the program)

- Profile (Name of the profile from the selected program. This profile will automatically be get loaded on program start-up. Remarks for setting up a profile will follow in the next section.)

If you enable the "Default CAD configuration" option (optionally), the current configuration will be preselected on start-up of Helios 3D. If no program configuration is set as default, the first one in the list (sorted by name) will be preselected.

The call command and the command line call will automatically be shown and cannot be edited.

Selecting a program configuration

You have to select a program configuration before starting a drawing. For that, move to the "Drawings" tab in your "Project management". On the very right you will find a drawing preview and the "Options" including the "Start program" button as shown in the following figure.
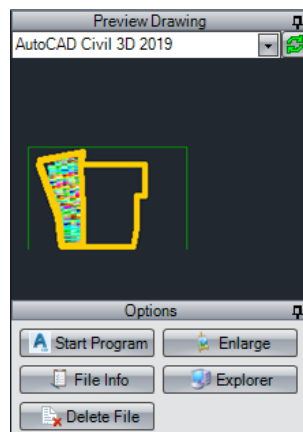

Figure 9: Civil 3D Start and File Preview / Options

We recommend using the refresh button before selecting a new configuration from the drop-down menu above the preview.

As long as the new configuration is selected all drawings will be opened with its settings.

Setting up Autodesk Civil 3D

Creating a Civil Profile

This procedure can be used for initial creation as well as for replacing an old profile. **Usually, Helios 3D should create this profile and all necessary settings automatically, when starting Civil 3D!** So, these settings just need to be done exceptionally.

A quick workaround might be starting Civil 3D without Helios and deleting the profile "Helios3D" (see step 2). After that Civil can be closed and started again out of Helios. If this fails, the manual procedure is inescapable.

Step 1:

Enter the command "options" to the command line. (If you use another Civil 3D language version than English, please try "_options" or the corresponding translation in your language.)

Step 2:

Select the "Profiles" tab (further on the right) of the "Options" dialog. The following figure shows an already created profile "Helios3D".

If you want to use a profile which is already existing you can use it by clicking "Set Current" and close this dialog.
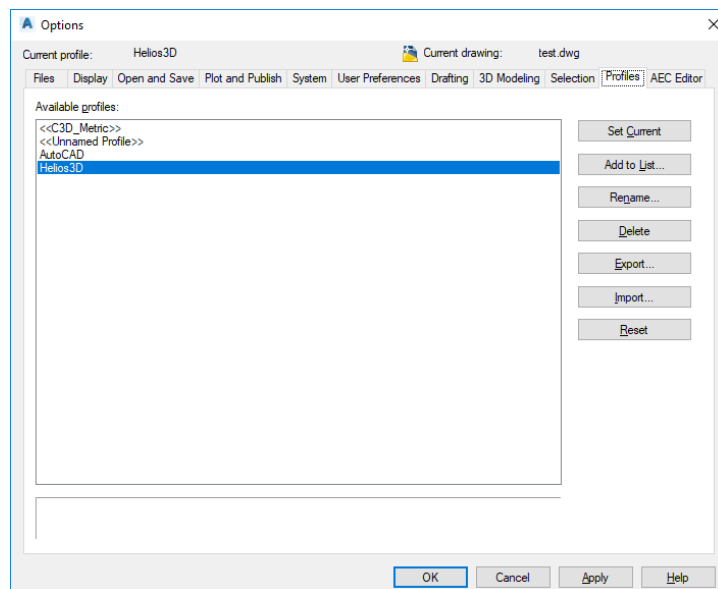

Figure 10: Autodesk Civil 3D Profiles

Step 3:

Go to profile "<<C3D_Metric>>" and make it <Current>.

Step 4: (only if an already existing profile "Helios3D" should be replaced)

Select the profile "Helios3D" and press <Delete>.

Step 5:

Copy the profile "<<C3D_Metric>>" by using the <In list...> button.

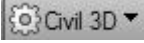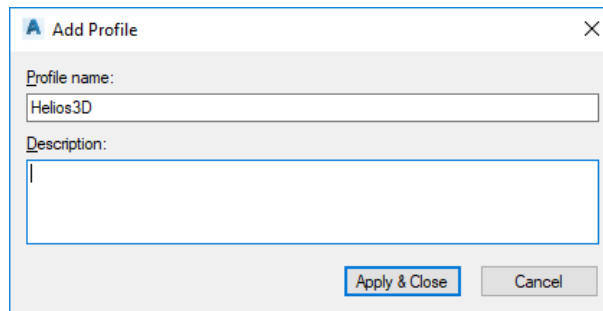Please enter the profile name "Helios3D" in the appearing dialog and close it by pressing <Proceed & Close>.

Figure 11: Add Profile

Step 6:

Go to the new profile and press <Current>. Afterwards you can close the dialog with <OK>.

After setting up the profile you can now start the Helios-Palette. Please regard that the workspace is set to [Civil 3D ▼].

A right click into the drawing opens the context menu. Under "Helios 3D – More commands" there is the command "Show palette...". Use it to load the Helios-Palette whenever it has not been loaded automatically.

Adding a Support Path and Trusted Locations
These steps should come automatically with the "Helios3D" profile and so are just necessary in exceptional cases!

The "Bin" directory from your Helios 3D installation path must be added as "Support File Search Path" to the top of the list.

You need to add the program base path of Helios 3D to the trusted locations. Otherwise, it is needed to manually confirm anytime you start Civil 3D out of Helios 3D, that the Helios 3D DLL files should get loaded.

So, you need to open the Civil 3D options dialog and activate the profile "Helios3D". Then navigate to the Files tab.

There you can find the entries "Support File Search Path" and "Trusted Locations", which are displayed below.
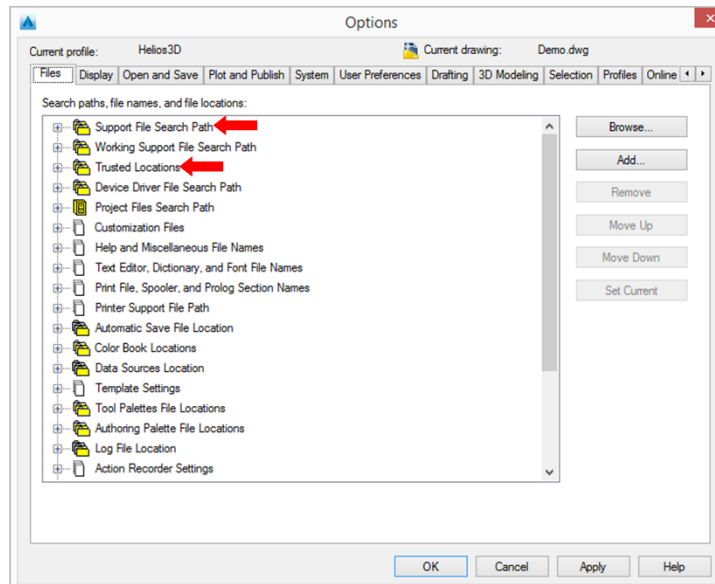

Figure 12: Path Settings for the Civil 3D Profile

Here you can <Add> a new entry.

As search path please add the "Bin" directory of your installation path and use <Move Up> for bringing it to the top of the list.

Example: "C:\Helios3D\Bin"

As trusted path you can add the installation path of Helios 3D or a part of its root path with three dots at the end of the entry (makes all sub paths being trusted, too).

 "C:\..." makes the whole drive I being trusted, while "C:\Helios3D\..." just makes the installation directory a trusted location.

Adding a User Account (optional)

- This step is optional, because on the default installation a Windows user and the 'sa' user automatically get created.

- For creating user accounts, you will need an MS SQL Server Management Studio Express and administrator access for the SQL server.

- The recommended workflow equals the structure of these instructions.

Login Account SQL Server

First a new user needs a login for the SQL server. For that an administrator has to login to the server and he has to create a new user login in Object Explorer. Just open the structure tree and go to the point "Server Name\Security\Logins", right click it and select "New login…".

The dialog for creating a new login is separated into several pages. You only need the pages "General" and "Server Roles".

General

On "General" page you can enter the login information for the new account, as displayed in the following figure.
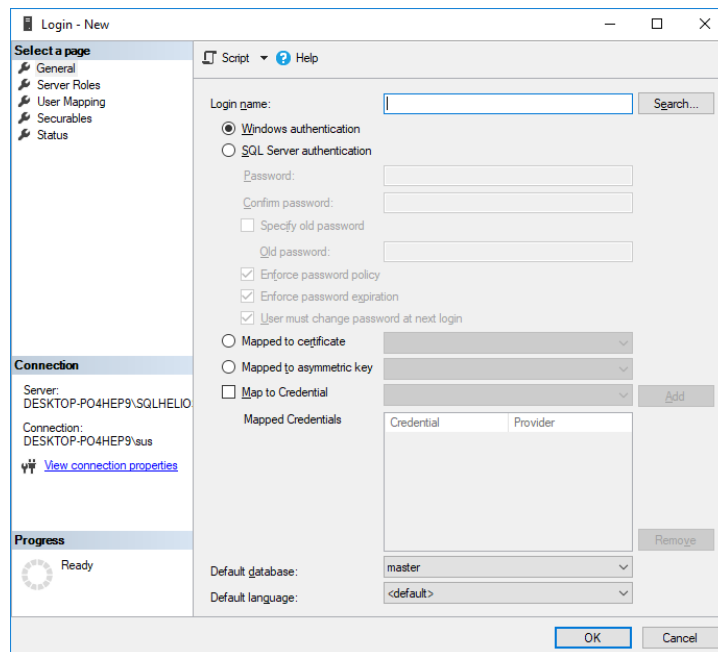

Figure 13: Creation dialogue for a new user

Here you can create a new login or you can select a Windows-Authentication account and use it for the SQL server.

For SQL Server-Authentication please go on with the data concerning the password.

For Windows-Authentication please push <Search…> and then click <Advanced> in the upcoming dialog.

The next figure shows the extended selection dialog for users or user groups. There you can use the <Find Now> button to read and to display all login accounts available in the "Search results" list.
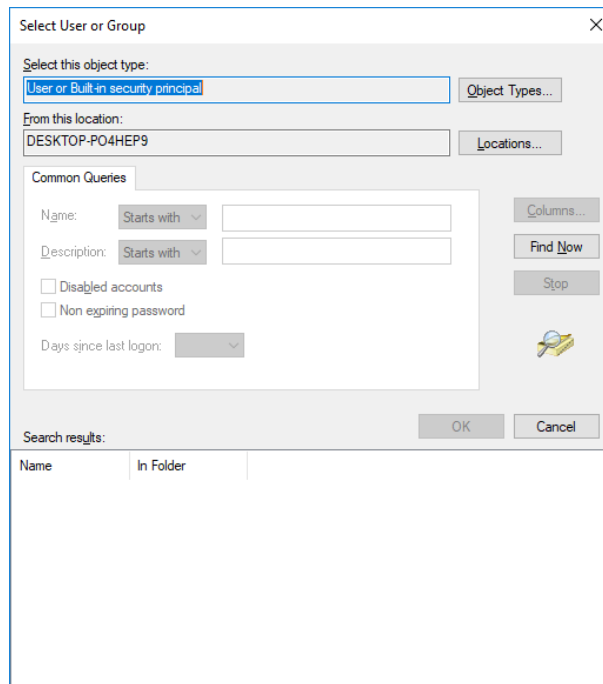

Figure 14: Dialogue for users or group privileges

Please note that any user needs his own user account (section "*User Account Helios 3D Application*") for the Helios database, even if you use user groups for login to the server!

Close all selection dialogs for users and groups with <OK> and go to the "Server Roles" tab.

Server Roles

On "Server Roles" page you can set the server wide security permissions for the user. Any user at least needs the role "public" for working with Helios 3D, as displayed below.
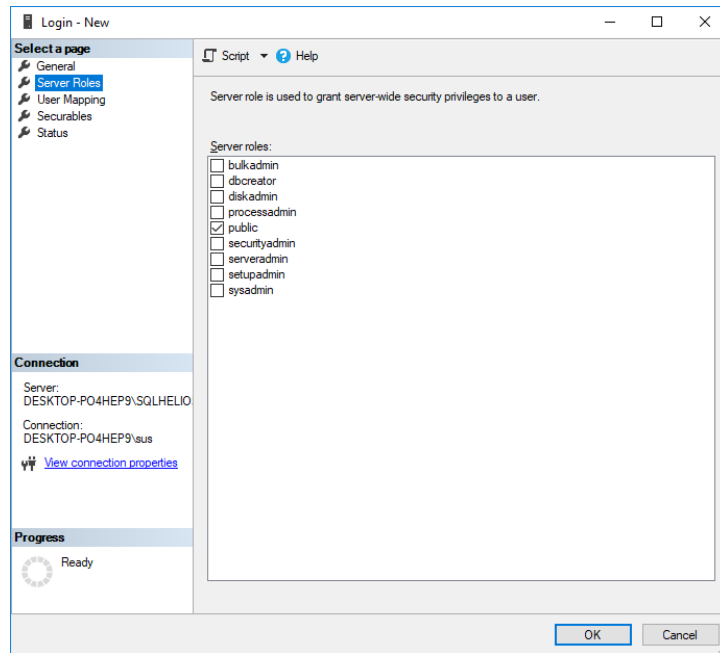
Figure 15: Setting of server roles

Another permission needed is locking records on SQL server. Logins with administrator rights automatically get this permission, whereas other logins need it to be granted by hand.

For that, an administrator ('sa') hast to run one of the following commands, depending on the login method, on 'master' database:

For Windows-Authentication:

GRANT VIEW SERVER STATE TO [*Domain\Login*]

For SQL Server-Authentication:

GRANT VIEW SERVER STATE TO [*Login*]

User Account Helios3D Database

For accessing the Helios database, a user account (can be named equal to the login account) for any user is needed. For that an administrator can go to "***Database Name\Security\Users***" in Object Explorer and there he can right click "Users" and select "New User…".

The dialog for creating a new user account is separated into several pages. You need to go to the pages "General", "Owned Schemas" and "Membership" (for the roles).
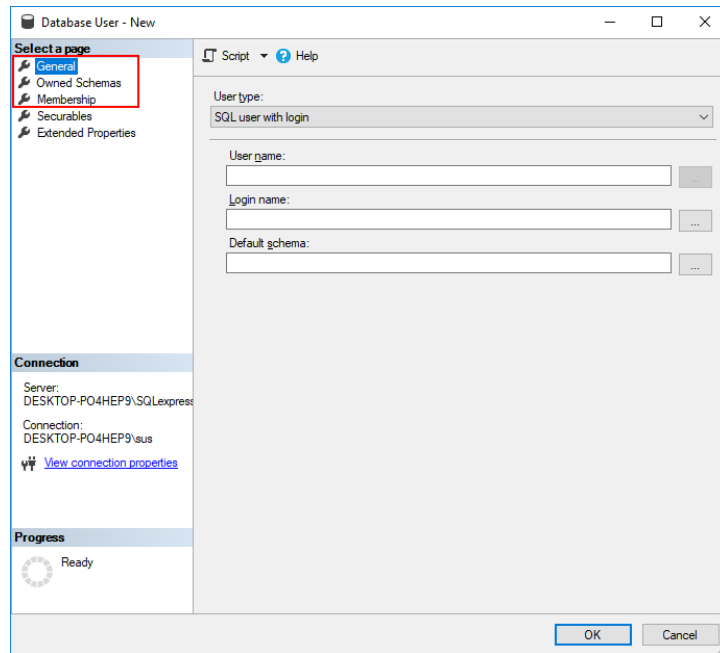
Figure 16: New Database User Account (Page "General")

Here you can enter a login name and you can select the corresponding login, created like described in section "*General*".

Required Schemes:

- db_Helios3D

Required memberships in database roles:

- db_datareader
- db_datawriter
- db_Helios3D

User Account Helios 3D Application
In Helios 3D database application, any user needs a user account named equal to the user account from section "*User Account Helios3D Database*".

Please follow this procedure:

1. Start Helios 3D with administrator permissions (the user 'sa' would be ideal).

2. Open the ![icon] User Management.

3. Right click the user list -> "New…"

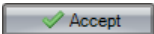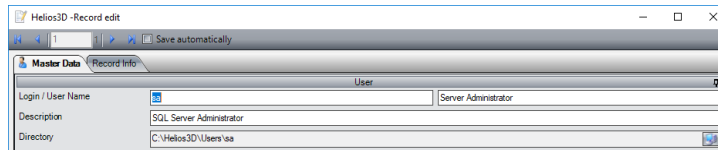4. Enter a login name as displayed in the following figure and press <OK>.

Figure 17: Excerpt of the Editing Dialog for User Accounts from Helios 3D Application

5. Select the new user (line appears blue then) and go to the "Assigned to" tab in "Additional Data" frame below the users list.

6. Right click the list and select the option "New Assignment…".

7. In the following dialog you can select one or more rights groups and afterwards press . After that you can close the dialog.
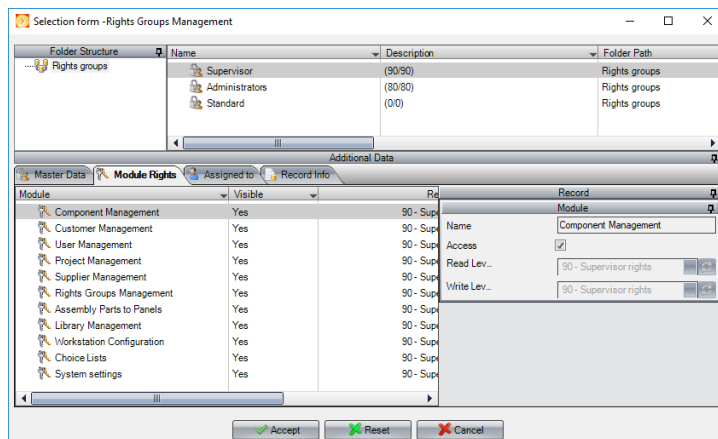

Figure 18: Selection Form - Rights Groups Management

8. When you go to the "Rights" tab (next to "Assigned to" tab), the corresponding rights should be displayed. If necessary, please press F5 to refresh the list view.

Now the user is able to login.

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