



UNLIMITED PLM PERFORMANCE **DEVELOPED BY ISD**

# PDM/PLM with HELiOS

Version 2024

System and Hardware Requirements

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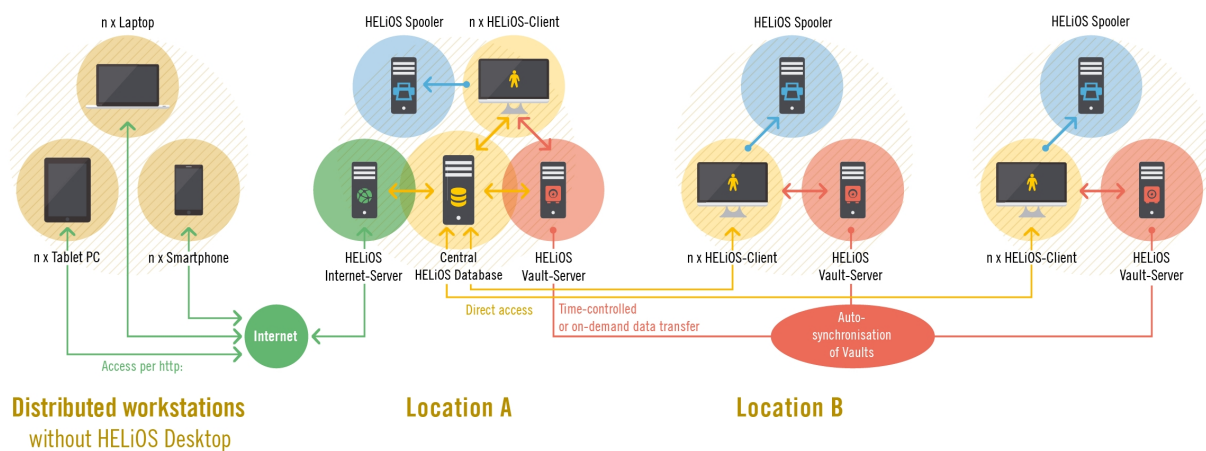
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# Architecture / System Overview

HELiOS is the PDM/PLM system for safe corporate processes. Typical use cases for PDM/PLM are:

- Central and safe management of all company-relevant documents.
- Company-wide access to product-related information via a locally installed HELiOS Client or, if desired, also without additional Client installation via the HELiOS Internet Server.
- Bringing in of external partners and suppliers as well as mobile employees via the HELiOS Internet Server.
- Company-wide control, output and conversion of drawings and documents via the HELiOS Spooler.
- Data exchange across departments with ERP systems via Standard Connectors or, if desired, as customer-specific solution.



## HELiOS - PDM/PLM for the entire enterprise

To ensure that you actually work with the suitable hardware and software when using HELiOS, we recommend reading the information about the different HELiOS components contained in this Whitepaper. These are:

- HELiOS Database Server
- HELiOS Vault Server
- HELiOS Client
- HELiOS Internet Server
- HELiOS Spooler and
- License Server.

## HELiOS Database Server

HELiOS manages all metadata centrally in one database. For this a Database Server is required that supports and provides the corresponding data management services. You can use a Microsoft SQL Server as Database Server (RDBMS).

## HELiOS Vault Server

HELiOS saves all utilized data (files) either to a central file system or, if desired, to the HELiOS Vault Server. Whether a HELiOS Vault Server is required also depends on the interfaces types that are used.

The HELiOS Vault Server is an “electronic safe” for all documents in a company that prevents an immediate, uncontrolled access to security-relevant files.

Special authentication and check-in/check-out mechanisms in the background efficiently restrict access to the persons who actually have access permission, while regulating simultaneous concurrent accesses on the basis of the corresponding access type.

Furthermore, the HELiOS Vault Server provides the basis for document replication when multiple locations are involved.

## HELiOS Client

HELiOS can be used integrated in a CAD system such as HiCAD, but also as a standalone system - the so-called HELiOS Desktop. The corresponding Client must be installed locally.

## HELiOS Internet Server

Via a HELiOS Internet Server with Web Sharing you can give your customers and suppliers web-based access to projects, documents and articles. With the help of a common Internet Browser the corresponding information can be displayed, complete with graphical previews. Even within closed networks the HELiOS Internet Server can be used in a very efficient manner. For instance, it allows immediate mobile access to data and documents throughout the entire company, e.g. in the production department, warehouse, external service etc., without any special technical equipment being required.

## HELiOS Spooler

The HELiOS Spooler is the automation platform for the processing of print, plot and conversion jobs by Servers or other automation tasks. The utilisation of the HELiOS Spooler offers the following advantages:

- Automatic processing of print/plot jobs with a multitude of configuration options, e.g. an automatic as-signing of printing devices according to format sizes.
- Automatic processing of conversion jobs, e.g. for an automatic creation of PDF documents. The available target formats vary depending on the utilized CAD base system.
- All jobs are handled centrally by the HELiOS Spooler, which spares the users at individual workstation a lot of work and avoids unnecessary disruptions of their daily work. A simultaneous running of multiple HELiOS Spoolers is also possible.
- Jobs can be controlled by a timer and prioritized.
- Current jobs, job statuses and job histories can be viewed as result lists. Individual jobs can be repeated at any time.

## License Server

Before you can use HELiOS you need to get a license for the software. You have the following options:

- **Network Licenses** If you choose network (server-controlled) licensing, the license will be directly locked to the hardware of the server that centrally manages the HELiOS licenses. These licenses can be used on any workstation in your network that is connected to this Server. But Network Licenses can even be used if the workstation has no network connection to the Server. For this to happen, a license can be temporarily provided via direct checkout from the License Server as a so-called “Commuter License”.



- **Standalone Licenses (local licenses)** Here, the activation will be directly locked to the hardware of the workstation on which your HELiOS pro-gram is installed.

To be able to use Network Licenses, a License Server must have been installed.

The License Server carries out licensing in a multi-user environment and manages them. It also provided an overview of all licenses and regulates licensing requests of all users who wish to work with a HELiOS application.

# System and Hardware Requirements

## Important Notes!

### Discontinuation of HELiOS 32 Bit, HiCAD Viewer 32 Bit and Office Interface 32 Bit

Since HELiOS 2022 (Version 2700.0) there is no 32 Bit version available for HELiOS and the HiCAD Viewer. The HELiOS interface for a 32 Bit Office was one of the few components that was still 32 Bit on these versions. Since Microsoft has also offered a 64 Bit installation of Office since Office 2010 and many add-ins for Office are now also available as 64 Bit versions, with HELiOS 2024 we will support an Office interface only for a 64 Bit Office. If you are still using the Office interface in conjunction with a 32 Bit Office, you must uninstall your Office version and reinstall it as a 64 Bit version as soon as you update to HELiOS 2024.

### Discontinuation of the Zuken E3 interface

As of HELiOS 2024 (Version 2900.0) we will no longer support the Zuken E3 interface.

### Discontinuation of Oracle

As of HELiOS 2022 (Version 2700.0), Oracle will no longer be officially supported as a database system! Please migrate to a SQL Server as soon as possible.

### Discontinuation of Microsoft Office 2010 interface

From HELiOS 2021 (Version 2600.0) on, we will no longer support Office 2010 in the HELiOS - Office interface.

### Discontinuation of old Multi-CAD interfaces for HELiOS 2024

As of HELiOS 2024 (Version 2900.0), the following versions of Multi-CAD interfaces are no longer supported:

- AutoCAD 2020
- AutoCAD Mechanical 2020
- Inventor 2020
- Navisworks 2020

### Discontinuation of "old" interfaces

Before installing or updating, please check if your current interfaces are supported by HELiOS.



**Discontinuation of Windows® 7 and Windows® 8**

Microsoft® has discontinued support for the Windows® 7 operating system in January 2020. For compatibility reasons, HiCAD 2020 SP2 and HELiOS 2020 SP2 were the last versions of our CAD or PDM system to support Windows® 7. HiCAD 2021 and HELiOS 2021 no longer run under Windows® 7, Windows® 8 and the corresponding server operating systems (Windows Server 2008 R2, Windows Server 2012 and older) are also no longer supported. If an attempt is made to install HiCAD 2021 or HELiOS 2021 on a computer with Windows® 7 or Windows® 8, a message appears.

## System Requirements for the HELiOS Database Server

The requirements with regard to the hardware primarily depend on the specifications given by the respective RDBMS supplier (Microsoft). Currently, following operating systems are supported:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Microsoft SQL Server 2022	✓	✓	✗
Microsoft SQL Server 2019	✓	✓	✓
Microsoft SQL Server 2017	✓	✓	✓
Microsoft SQL Server 2016	✓	✓	✓
Microsoft SQL Server 2014	✓	✓	✓
Microsoft SQL Server 2012	✓	✓	✓
Microsoft SQL Server 2008 or older	✗	✗	✗

In addition, the following minimum requirements should be guaranteed for the main memory and hard disk:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Main memory	Additionally at least 4 GB main memory. With an increasing database size the working memory should be enlarged in order to guarantee optimal performance.		
Hard disk	Additionally at least 10 GB hard disk memory. The actual demand depends on the size of the database.		



### Please note:

- The use of virtual servers is essentially possible. Please consider to grant sufficient performance within the virtual environment.
- On the database server, HELiOS data base should be imported beforehand, for example via HELiOS Database Creator, so that clients can connect with the database.
- SQL Server Standard vs. SQL Server Express  
 As of late, the productive use of SQL Server Express is possible. Please note that SQL Express has limited storage size (10 GB) for each data base and provides weaker performance than SQL Standard, especially on powerful hardware. If well-equipped hardware is used for the server (multiple processors and plenty of RAM), the SQL server thwarts the performance again. On regular desktop hardware the difference between SQL Express and SQL Standard is smaller due to the accordance of express limits and system. A detailed comparison of the different SQL Server editions can be found on the manufacturer's website.

## System Requirements for the HELiOS Vault Server

The minimum requirements are as follows:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Processor (CPU)	64 Bit processor		
Main memory	Additionally at least 4 GB main memory		
Hard disk	The required hard disk space depends on the volume of arising data use (files). A safety margin should be considered. For optimal performance we recommend using an SSD drive.		
Operating system	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher		



**Please note:**

- If you work with only interfaces to HiCAD and/or Microsoft Office, the use of HELiOS Vault Servers is optional. Other interfaces must be used in conjunction with the HELiOS Vault Server.
- The needed hard disk space can also be distributed on multiple volumes.
- We recommend the use of RAIDs in order to ensure failsafe performance.

## System Requirements for the HELiOS Client

The minimum requirements for the HELiOS Client are as follows:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Processor (CPU)	64 Bit processor		
Main memory	Additionally at least 4 GB main memory		
Hard disk	Additionally at least 2 GB free hard disk memory		
Operating system	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher		

The interfaces that are available for the HELiOS Client are listed in a Compatibility Matrix.



### Please note:

- When linking a HELiOS Client to other applications such as a CAD system or office product, the minimum requirements of the respective system manufacturer must also be observed.
- If you want to use an integrated viewer, the hardware requirements of respective viewer manufacturer must be considered.
- Using the HiCAD Viewer in HELiOS from Version 2024
  - During the HiCAD installation ("HiCAD and HELiOS", red installation dialogue), the Active X component of the HiCAD Viewer is automatically installed. This enables the preview of HiCAD files in HELiOS.
  - On workstations on which only the HELiOS Desktop (standalone) is installed, the HiCAD Viewer must be installed separately from HELiOS 2024 and updated if necessary. This is also the case if only HELiOS is updated when using an older HiCAD version with HELiOS. Otherwise, the preview of HiCAD files cannot be displayed in HELiOS. You will find the installation of the HiCAD Viewer both on the yellow installation medium at **Tools > HiCAD Viewer** and at [Download Area > Tools Download](#).

With HELiOS 2024 the HEL\_PREVIEW.INI settings file for the Viewer has also changed, which enables the configuration of the graphics windows in the HELiOS Desktop. If you want to make special settings in HEL\_PREVIEW.INI, you should make these based on the new version that is also used for the new installation. You can find a description [here](#).

- Before starting a HELiOS Client, you need a HELiOS Database Server and an appropriately configured ODBC connection. Documents (in .pdf format) on installing the database system and importing and exporting the database can be found [here](#).

### Microsoft SQL Server

The SQL Server Native Client (often abbreviated to SNAC) has been removed by Microsoft from SQL Server 2022 (16.x) and SQL Server Management Studio 19 (SSMS). It is recommended to use the latest version of the Microsoft ODBC Driver for SQL Server instead.

Further information can be found on the [Microsoft](#) website or in the installation instructions for [Microsoft SQL Server 2022](#).

## Compatibility Matrix for Interfaced Applications (HELiOS)

Below you find a list of possible interfaces for the HELiOS Client:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Operating system			
Windows 11, 64 Bit	✓	✓	✓ (as of SP1)
Windows 10, 64 Bit	✓	✓	✓
Windows 8.1 or older	✗	✗	✗
Server Operating system			
Windows Server 2022	✓	✓	✓ (as of SP1)
Windows Server 2019	✓	✓	✓
Windows Server 2016	✓	✓	✓
CAD system			
HiCAD 2024	✓	✗	✗
HiCAD 2023	✓	✓	✗
HiCAD 2022	✓	✓	✓
HiCAD 2021	✗	✓	✓
HiCAD 2020	✗	✗	✓
HiCAD 2019 or older	✗	✗	✗
AutoCAD (Mechanical) 2024	✓	✓ (as of SP2, Patch 1)	✓ (as of SP2, Patch 3)
AutoCAD (Mechanical) 2023	✓	✓	✓ (as of SP2, Patch 1)
AutoCAD (Mechanical) 2022	✓	✓	✓
AutoCAD (Mechanical) 2021	✓	✓	✓
AutoCAD (Mechanical) 2020	✗	✓	✓
AutoCAD (Mechanical) 2019	✗	✗	✓
AutoCAD (Mechanical) 2018 or older	✗	✗	✗
Inventor 2024	✓	✓ (as of SP2, Patch 1)	✓ (as of SP2, Patch 3)

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Inventor 2023	✓	✓	✓ (as of SP2, Patch 1)
Inventor 2022	✓	✓	✓
Inventor 2021	✓	✓	✓
Inventor 2020	✗	✓	✓
Inventor 2019	✗	✗	✓
Inventor 2018 or older	✗	✗	✗
Navisworks 2023	✓	✓ (as of SP2, Patch 1)	✓ (as of SP2, Patch 3)
Navisworks 2023	✓	✓	✗
Navisworks 2022	✓	✓	✓
Navisworks 2021	✓	✓	✓
Navisworks 2020	✗	✓	✓
Navisworks 2019	✗	✗	✓
Navisworks 2018 or older	✗	✗	✗
CAE-SYSTEM			
EPLAN Electric P8 2023	✓	✓ (as of Patch 3)	✗
EPLAN Electric P8 2022	✓	✓	✓ (as of SP2, Patch 1)
EPLAN Electric P8 2.9	✓	✓	✓
EPLAN Electric P8 2.8	✓	✓	✓
EPLAN Electric P8 2.7	✓	✓	✓
EPLAN Electric P8 2.6	✓	✓	✓
EPLAN Electric P8 2.5	✓	✓	✓
EPLAN Electric P8 2.4	✓	✓	✓
OFFICE			
Office 2021	✓	✓	✓ (as of SP1)
Office 2019	✓	✓	✓
Office 2016	✓	✓	✓

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Office 2013	✓	✓	✓
Office 2010 or older	✗	✗	✗

The ✗ symbol does not always mean that the respective product is not compatible. It can also mean that the interactions between this product and the HELiOS Client have not been sufficiently tested by the ISD yet.

## System Requirements for the HELiOS Internet Server

For the HELiOS Internet Server, similar system and hardware requirements as for the HELiOS Desktop apply:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Processor (CPU)	64 Bit processor		
Main memory	Minimum: 4 GB RAM + 1 GB per simultaneous user (i.e. user working on the HIS at the same time as others)		
Hard disk	Additionally at least 2 GB free hard disk memory		
Operating system	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher		
Others	<p>As a prerequisite for the installation of a HELiOS Internet Server, a HELiOS Client must be installed beforehand.</p> <p>Operation via SSL (https) requires valid certificates for the corresponding web pages of the HELiOS Internet Server.</p>		

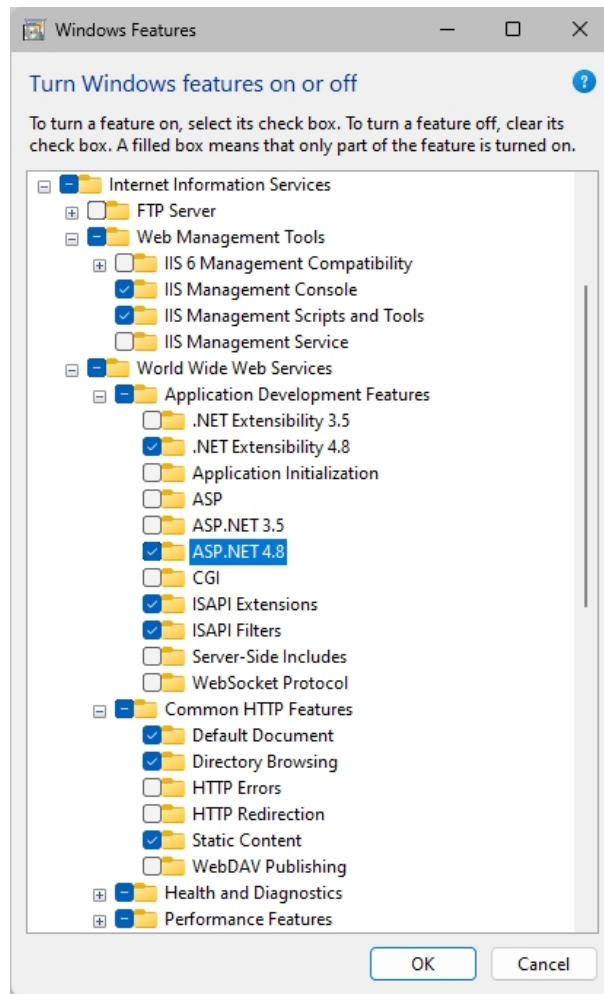
The Microsoft Internet Information Server (IIS), at least version 10.0 with ASP.NET 4.8 support, is also required. This is an integral part of Windows, but must be installed/activated separately before installing the HELiOS Internet Server.

Proceed as follows:

Choose **Control Panel > Programs and Features** and, at the top left of the window, select **Turn Windows features on or off**.

In the **Windows Features** dialogue window, blow Internet Information Services, expand the areas **Web Management Tools**, **World Wide Web Services > Application Development Features** and **Common HTTP Features**, and activate the checkboxes as shown below:



**Please note:**

- Besides IIS, HELiOS Client (HELiOS Desktop) must be installed.
- IIS URL Rewrite from <https://www.iis.net/downloads/microsoft/url-rewrite> must be installed.
- For the operation of the HELiOS Internet Server, a (sub)domain including a valid SSL certificate and port forwardings are required.
- To operate the HELiOS Internet Server, a number of website configurations in the Internet Information Server (IIS) are required. Parallel operation with other websites/products on the IIS is not recommended.
- The HELiOS Internet Server supports the browsers Google Chrome, Firefox, Microsoft Edge and Android. The use of the HELiOS Internet Server in iOS / Safari has not yet been conclusively tested and approved by the ISD.

- The HELiOS Internet Server can interact with the Softvise Cadmium Cloud to display 3-D previews. The following components from Softvise GmbH are required for this:
  - Cadmium Cloud Server: The Cloud Server is the software component that performs the rendering of the models. Additional costs are incurred for suitable hardware on which the Cloud Server runs.
  - Import gateway for Cadmium Cloud Server: Cadmium offers various import interfaces, some of which must be licensed separately.
  - Cadmium Cloud Render Agents: Depending on the available Render Agent, 3-D visualisation can be carried out with the HELiOS Internet Server.

## System Requirements for the HELiOS Spooler

The minimum requirements for the HELiOS Spooler are as follows:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Processor (CPU)	64 Bit processor		
Main memory	<p>Additionally at least 4 GB main memory.</p> <p>The main memory should be dimensioned at least as large as the main memory of the client systems used. This ensures that all data to be processed by the HELiOS Spooler (which is transmitted from the client systems to the HELiOS Spooler) can be processed successfully.</p>		
Hard disk	Additionally at least 4 GB free hard disk memory		
Operating system	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher		



### Please note:

- The HELiOS Spooler requires corresponding locally installed CAD, E-Tech or Office applications to execute the plot or conversion jobs. Please consider that you need appropriate licenses for the operation of these applications and that the hardware requirements of the respective system provider must be taken into account accordingly.
- The applications used by the HELiOS Spooler to process print and conversion jobs must be exclusively available to the Spooler and must not be used by other applications or HELiOS installations used simultaneously. Otherwise, job processing may be cancelled.
- In addition to the client operating systems for Windows, the above-mentioned server operating systems can also be used. Whether a server operating system must be used depends on the license conditions for the Microsoft operating system you are using. The number of permitted simultaneous device connections is decisive here. Windows 10 allows 20 simultaneous logins to the operating system. In this case, you must ensure that, in addition to the existing logins, there are sufficient free logins left that can be used by the respective print clients of the client computers.

## System Requirements for the License Server

The minimum requirement for running a license server is as follows:

	HELiOS 2024	HELiOS 2023	HELiOS 2022
Processor (CPU)	X86 or AMD64 Architecture. Recommended: 2 GHz Processor		
Main memory	Additionally at least 1 GB main memory		
Hard disk	Additionally at least 2 GB free hard disk memory		
Operating system	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher		

We use the Software Sentinel RMS© from Thales© for licensing. The license server is in principal a 32 Bit application.



### Please note:

- The license server need not be installed on a separate server or server operating system.
- A static IP address is required for the correct operation of a license server. When using a virtual server, a static MAC address is required.  
The use of a cloud server is only possible if changes to the underlying hardware can be excluded by the cloud provider. This also includes that the provider does not move the virtual server to another physical machine.
- The license server must not be installed on the same computer with HELiOS Desktop, because both products share system information with regards to the licensing.
- Internet access is needed for the license server due to activation and deactivation.
- A Windows Server Core installation is not supported.

# Operation in Virtual Environments

## HELiOS Client

Generally, the HELiOS Client can be operated on Virtual Machines (VM). If you use integrated viewers, the hardware requirements of the respective viewer manufacturer must be considered.

The HELiOS Client can also be used as a terminal application.

## HELiOS Spooler

Generally, the HELiOS Spooler can be operated on Virtual Machines (VM). However, limitations may occur with regard to simultaneously installed CAD system, electrical engineering software or Office applications.

With regard to graphics functionality, performance and integration of printers, too, limitations may occur in virtual environments.

## License Server

The license management system based on Sentinel RMS© by the company Thales© can, generally, also be used in virtual environments.

The use of a cloud server is only possible if changes to the underlying hardware can be excluded by the cloud provider. This also includes that the provider does not move the virtual server to another physical machine.

## Network licenses on Virtual Machines (VM)

If you want to use/activate/deactivate the network licenses on virtual machines, please observe the following points:

- A static MAC address is required
- A static IP address is recommended or required when using Commuter Licenses
- Before copying or changing a virtual machine, deactivate the network licenses, since the UUID (Universal Unique Identifier) of the VM will change due to the copying process, and cannot be deactivated afterwards any more. This also applies to the starting of the VM on a different host.

## Multiple HELiOS Servers on One Computer

The following rules apply with regard to simultaneously installed, different HELiOS Server components on the same computer:

- The HELiOS Database Server, the HELiOS Vault Server and the ISD License Server can in principle be installed and operated together on one computer. However, the Database should not be located on the same RAID system as the user data of the HELiOS Vault Server. The Vault requires large hard disks, while the Database requires fast hard disks.
- Microsoft recommends not to install the MS SQL Server on a computer that is at the same time a domain controller.
- The HELiOS Spooler with the integrated applications for conversion and printing should always be installed on an own (if required, a virtual) machine.
- The same applies to the HELiOS Internet Server.
- None of the two above mentioned products should ever be combined with a Database Server, Vault Server or File Server.
- The HELiOS Vault Server can be installed together with the MS SQL Server on one machine, if the amount of data does not exceed a certain limit and the resources (especially RAM) on the machine are sufficient. A Vault Server can be moved subsequently to a different computer at any time.

## Network Requirements

To avoid loss of performance we recommend the operation of HELiOS in a 1 GBit network or networks with an even higher bandwidth. Generally, the bandwidth affects the provision of the user data (e.g. CAD documents) which need to be transmitted from the central storage directory or the HELiOS Vault Server, respectively, to the corresponding Clients.

Also, the latency of the connection between the HELiOS Clients and the HELiOS Database Server should be well below 5 ms; otherwise, the reactivity of the HELiOS Clients will be slowed down significantly.

# Backup

You as a customer are responsible for regular data backup. The following data must be backed up:

- The HELiOS Database on the Database Server.
- The HELiOS Document storage directory or the Document and Management areas when using a HELiOS Vault Server. If multiple HELiOS Vault Servers are used (for a working across different locations), all HELiOS Vault Servers must be backed up.

If you use a HELiOS Vault Server please ensure that the time difference is as small as possible at the time of the backup of the HELiOS Database or the HELiOS Vault Server, respectively.



### **Legal notes**

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Feel free to contact us! Whether at our headquarter in Dortmund or at one of our branches and subsidiaries in your vicinity - we will be happy to answer all your questions about our products and services. We are looking forward to hearing from you!

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