

PDM/PLM with HELiOS

Version 2021

System and Hardware Requirements

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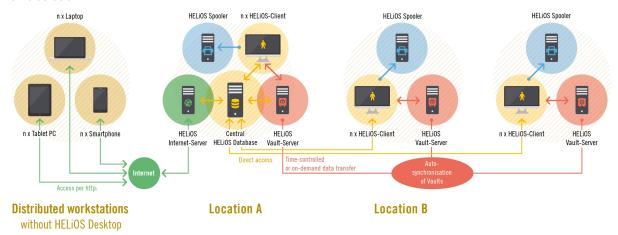
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Architecture / System Overview

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 cus-tomer-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 recom-mend 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.

HFLiOS 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 or an Oracle Database 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 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.

HFLiOS Client

HELiOS can be used integrated in a CAD system such as HiCAD or SOLIDWORKS, 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 infor-mation 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.

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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 availa-ble 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.

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System and Hardware Requirements

Important Notes!

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.

Discontinuation of HELiOS 32-Bit and HiCAD Viewer 32-Bit

As of HELiOS 2021 (Version 2600), the 32-Bit installations for HELiOS and the HiCAD Viewer are no longer available in the download area of the ISD Wiki. If a 32-Bit installation is required, please contact ISD Support by mail support@isdgroup.com.

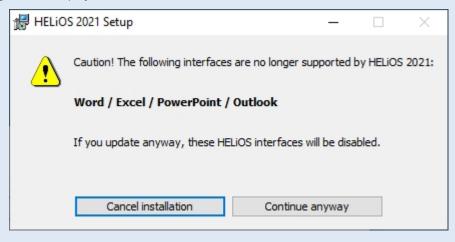
As of HELiOS 2022 (Version 2700.0), a 32-Bit version for HELiOS and the HiCAD Viewer will no longer be available. However, the interface to 32-Bit applications such as Office will still be possible and is not affected by the discontinuation of the 32-Bit installation of HELiOS.

Discontinuation of Oracle

With HELiOS 2022 (version 2700) onwards, Oracle is no longer supported as a database platform.

Discontinuation of Mircosoft Office 2010 interface

From HELiOS 2021 (Version number 2600.0) on, we will no longer support Office 2010 in the HELiOS – Office interface. If an attempt is made to install an update of HELiOS 2021 on a computer with an Office 2010 interface, a message will be displayed.



Discontinuation of old MultiCAD interfaces for HELiOS 2021

As of HELiOS 2021 (Version 2600.0), the following versions of MultiCAD interfaces are no longer supported:

- AutoCAD (Mechanical) 2016 and 2017
- Inventor 2016 and 2017
- Navisworks 2016 and 2017
- SOLIDWORKS 2016 and 2017

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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 / Oracle). Currently, following operating systems are supported:

	HELIOS 2021	HELIOS 2020	HELIOS 2019
Microsoft SQL Server 2019	✓	✓	✓
Microsoft SQL Server 2017	√	✓	√
Microsoft SQL Server 2016	√	√	√
Microsoft SQL Server 2014	✓	✓	✓
Microsoft SQL Server 2012	✓	✓	✓
Microsoft SQL Server 2008	×	√	✓
Microsoft SQL Server 2005	×	×	×
Oracle* Database Server 12c	✓	√	√
Oracle* Database Server 11g R2	✓	√	✓
Oracle* Database Server 11g R1	√	√	√
Oracle* Database Server 10g	×	×	×

^{*}With HELiOS 2022 (version 2700) onwards, Oracle is no longer supported as a database platform.

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

	HELIOS 2021	HELIOS 2020	HELiOS 2019
Main	Additionally at least 4 GB main	memory.	
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.

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System Requirements for the HELiOS Vault Server

The minimum requirements are as follows:

	HELIOS 2021	HELIOS 2020	HELiOS 2019	
Processor (CPU)	X86 or AMD64 Architecture wi	X86 or AMD64 Architecture with SSE2 Support		
Main memory	Additionally at least 1 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.			
Operating sys-	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher			
tem	Windows Server 2012 (R2) is supported from Vault Server Version 2601.1 or higher.			



Dlease 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 HELiOS Desktop (Client) is installed as 64-Bit application. The minimum requirements are as follows:

	HELiOS 2021	HELiOS 2020	HELiOS 2019	
Processor (CPU)	X86 or AMD64 Architecture	X86 or AMD64 Architecture with SSE2 Support		
Main memory	Additionally at least 2 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 Clientare listed in a Compatibility Matrix.



Dlease note:

- When interfacing the HELiOS Desktop with other applications, for instance with a CAD system or Office product, please consider the minimum requirements of each system manufacturer.
- If you want to use an integrated viewer, the hardware requirements of respective viewer manufacturer must be considered.
- Before you can use the HELiOS Client you require a HELiOS Database Server as well as an appropriately configurated ODBC connection.
 - 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.

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Compatibility Matrix for Interfaced Applications (HELiOS)

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

	HELIOS 2021	HELIOS 2020	HELIOS 2019
CAD system			
HiCAD 2021	✓	×	×
HiCAD 2020	✓	√	×
HiCAD 2019	✓	√	✓
HiCAD 2018	×	√	✓
HiCAD 2017	×	×	✓
HiCAD 2016 or older	×	×	×
AutoCAD 2023	(as of SP1, Patch 4)	×	×
AutoCAD 2022	(as of SP1)	X	×
AutoCAD 2021	(43 0) 0) 1)	(as of SP1)	×
AutoCAD 2020	√	√ (de er er ±)	(as of SP1)
AutoCAD 2019	√	√	√
AutoCAD 2018	√	√	√
AutoCAD 2017	×	√	√
AutoCAD 2016	×	√	√
AutoCAD 2015	×	×	√
AutoCAD 2014	×	×	✓
AutoCAD 2013 or older	×	×	×
AutoCAD Mechanical 2023	(as of SP1, Patch 4)	×	×
AutoCAD Mechanical 2022	(as of SP1)	X	×
AutoCAD Mechanical 2021	(d3 01 31 1)	(as of SP1)	×
AutoCAD Mechanical 2020	√	√	(as of SP1)
AutoCAD Mechanical 2019	√	√	√
AutoCAD Mechanical 2018	√	√	√

	HELIOS 2021	HELIOS 2020	HELiOS 2019
Inventor 2023	(as of SP1, Patch 4)	×	×
Inventor 2022	(as of SP1)	×	×

Important:

*As of Inventor version 2021.1 (or newer) can be used from HELiOS Version 2502.3 or 2600.1. The reason for this is the bug in Inventor described here.

reason for this is the bug in Inve	entor described here.		
Inventor 2021*	✓	(as of SP1)	×
Inventor 2020	✓	√	(as of SP1)
Inventor 2019	✓	√	√
Inventor 2018	✓	√	√
Inventor 2017	×	√	√
Inventor 2016	×	√	√
Inventor 2015	×	X	√
Inventor 2014	×	X	√
Inventor 2013 or older	×	×	×
Navisworks 2022	(as of SP1)	×	×
Navisworks 2021	✓	(as of SP1)	×
Navisworks 2020	✓	√	(as of SP1)
Navisworks 2019	✓	√	√
Navisworks 2018	✓	√	√
Navisworks 2017	×	√	√
Navisworks 2016	×	√	√
Navisworks 2015	×	×	✓
SOLIDWORKS 2022	(as of SP1, Patch 4)	×	×
SOLIDWORKS 2021	(as of SP1)	×	×
SOLIDWORKS 2020	√	√	×
SOLIDWORKS 2019	√	√	X

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	HELiOS 2021	HELIOS 2020	HELIOS 2019
SOLIDWORKS 2018	✓	√	×
SOLIDWORKS 2017	×	√	×
SOLIDWORKS 2016	×	√	×
SOLIDWORKS 2015 or older	×	X	×
CAE-SYSTEM			
EPLAN Electric P8 2022	(as of SP1, Patch 5)	×	×
EPLAN Electric P8 2.9	✓	X	×
EPLAN Electric P8 2.8	✓	√	(as of SP1)
EPLAN Electric P8 2.7	✓	√	✓
EPLAN Electric P8 2.6	✓	√	✓
EPLAN Electric P8 2.5	✓	√	✓
EPLAN Electric P8 2.4	✓	✓	✓
Zuken E3 2019			
	٧	٧	(as of SP2)
OFFICE			
Office 2019	√	√	(as of SP1)
Office 2016	√	✓	√
Office 2013	✓	√	√
Office 2010	×	√	✓
Office 2007 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:

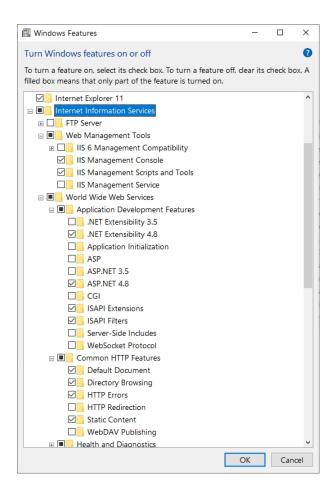
	HELIOS 2021
Processor (CPU)	X86 or AMD64 Architecture with SSE2 support
Main memory	Additionally at least 4 GB main memory
Hard disk	Additionally at least 2 GB free hard disk memory
Operating system	Microsoft Windows 10 or Microsoft Windows Server 2016 or higher
Others	As a prerequisite for the installation of a HELiOS Internet Server, a HELiOS Client must be installed beforehand.
	Operation via SSL (https) requires valid certificates for the corresponding web pages of the HELiOS Internet Server.

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, choose Internet Information Services > Web Management Tools, and Internet Information Services > World Wide Web Services > Application Development Features and activate the checkboxes as shown below:

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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.

System Requirements for the HELiOS Spooler

Generally, the HELiOS Spooler is a 64 Bit application. The main memory should be at least as large as the main memory for the utilized Client systems. This ensures that all data to be processed by the HELiOS Spooler (i.e. the data transmitted from the Client systems to the HELiOS Spooler can be handled successfully.

	HELIOS 2021	HELIOS 2020	HELiOS 2019
Processor (CPU)	AMD64 Architecture with SSE2 support		
Main memory	Additionally at least 2 GB main memory		
Hard disk	Additionally at least 4 GB free hard disk memory		
Operating system Microsoft Windows 10 or Microsoft Windows Server 2016 or higher		or higher	



Please note:

- The HELiOS Spooler runs on a separate Plot Server system. It is not possible to install the HELiOS Spooler together with the HELiOS Desktop on the same system! Reasons for this are, for example, possible difficulties with the Office interface, since both the HELiOS Desktop and the HELiOS Spooler install Word and Excel customizations. It is also not recommended to use the system on which the HELiOS Spooler is running as an occasional workstation. This is partly because it is assumed that the HELiOS Spooler is the only instance of the system that starts print jobs.
- The HELiOS Spooler requires locally installed CAD, electrical engineering or Office applications for that plot and conversion orders are carried out. Please note that the use of these applications requires respective licenses and that the hardware requirements of each system supplier must be considered as well.
- The main memory should be at least dimensioned as large as the main memory of the client system. deployed. Thus it is guaranteed that the data (which is transferred from the client systems to HELiOS Spooler) can be processed accordingly.
- Besides the client operating systems for Windows, the above mentioned server operating systems can be used as well. It depends on the license terms for the Microsoft OS used by your company whether a server operating system can be used or not. Here, the number of permitted simultaneous connections is deciding here.

For Windows 10, 20 simultaneous logins are approved. In this case, you need to assure that apart from the current logins sufficient logins are available for each Client computer's Print Client.

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System Requirements for the License Server

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

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

	HELIOS 2021	HELiOS 2020	HELIOS 2019
Processor (CPU)	X86 or AMD64 Architecture.		
	Recommended: 2 GHz Proce	essor	
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		
	Windows Server 2012 (R2) is supported from License Server Version 2601.1 or higher.		



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 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.

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 gemalto© can, generally, also be used in virtual environments.

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.

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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 in-stalled 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 (or Oracle Database 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 docu-ments) which need to be transmitted from the central storage directory or the HELiOS Vault Server, respec-tively, 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.

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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 HE-LiOS 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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ISD Software und Systeme GmbH

Hauert 4 44227 Dortmund Germany Tel. +49 (0)231 9793-0 info@isdgroup.de

ISD Berlin

Paradiesstraße 208a 12526 Berlin Germany Tel. +49 (0)30 634178-0 berlin@isdgroup.de

ISD Hamburg

Strawinskystraße 2 25337 Elmshorn Germany

Tel. +49 (0)4121 740980 hamburg@isdgroup.de

ISD Hannover

Hamburger Allee 24 30161 Hanover Germany Tel. +49 (0)511 616803-40

Tel. +49 (0)511 616803-4 hannover@isdgroup.de

ISD Nürnberg

Nordostpark 7 90411 Nuremberg Germany Tel. +49 (0)911 95173-0 nuernberg@isdgroup.de

ISD Ulm

Wilhelmstraße 25 89073 Ulm Germany Tel. +49 (0)731 96855-0 ulm@isdgroup.de

ISD Austria GmbH

Hafenstraße 47-51 4020 Linz Austria Tel. +43 (0)732 21 04 22-0 info@isdgroup.at

ISD Benelux b.v.

Het Zuiderkruis 33 5215 MV 's-Hertogenbosch The Netherlands Tel. +31 (0)73 6153-888 info@isdgroup.nl

ISD Benelux b.v.

Grote Voort 293A 8041 BL Zwolle The Netherlands Tel. +31 (0)73 6153-888 info@isdgroup.nl

ISD Schweiz AG

Rosenweg 2 4500 Solothurn Switzerland Tel. +41 (0)32 624 13-40 info@isdgroup.ch

ISD Group France SAS

10 -12 Boulevard Vivier Merle 69393 Lyon cedex 03 France lyon@isdgroup.fr

ISD Group USA Inc.

721 Jetton Street Two Harbour Place NC 28036 Davidson USA Tel. +1 (0)770 349 6321 usa@isdgroup.com

ISD Group USA Inc.

5126 South Royal Atlanta Drive GA 30084 Tucker USA Tel. +1 (0)770 349 6321 usa@isdgroup.com

www.isdgroup.com

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