Installation variants for RIB iTWO Version 2023 Enterprise

- **Individual workplace - single workstation or network workstation (variant 1)**
- **Client/Server (multiple users) solution, with central data storage on a network drive (variant 2)**
- **Server installation (variant 3, 4 and 5)**

The following software is required for operation of iTWO 2023 and is installed if necessary:

MS .NET Framework 4.8 or higher, MS Windows Installer 4.5, MS Visual C++ 2013, 2015 Redistributable, MS PowerShell 4.0, MS Edge WebView2, MS SQL Server 2016 Express Edition and upwards (only with individual workplace installation)

General requirements for network usage of the RIB iTWO:

(Relevant for variant 1 with network workstation, 2, 3, 4 and 5)

A connection of all workstations to the server and a working IP name resolution (we recommend DNS) must be ensured. WINS name resolution is not supported

In addition, the following ports must be enabled when using a firewall:

- RIB iTWO workstations and RIB iTWO-server: 42150, 42151, 42152, 42153 (TCP)
- RIB Licence Server: 5093 (UDP)
- RIB iTWO Application Server- and SQL Server: 4410, 1433 (TCP)

General notes:

Itanium CPUs and installation variant Server Core are not supported.

Workstation (variant 1):

System requirements: single workstation or network workstation	
Operating system	Windows® 10/11 Pro, Enterprise
CPU	1x Intel Dual Core processor/AMD Phenom II (~3 GHz)
RAM	As from 8 GB RAM, 16 GB RAM recommended, for big 5D models 64 GB
Monitor	At least 22", at least a resolution of 1920x1080
Hard disc	At least 10 GB hard disc space, depending on the number of performed projects
Printer	All supported by Windows®
General	For single user installation 1 free USB slot for USB dongle.
	RIB iTWO model-based workstations with 3D-Viewer: Graphics card with DirectX, OpenGL 2.1 support. Umlauts and special characters are not supported with computer name and login name.

Client/Server (multiple user) solution with central data storage (variant 2)

About 50 simultaneous RIB iTWO network users are assumed for the system requirements. More users will increase the requirements to the servers accordingly or requires that the Application Server and SQL Server functionality is paged to separate servers. If no Microsoft SQL Server is available, Microsoft SQL Server 2016 SP1, 2019 Express Edition can be installed, with the limitation that the maximum database size is 10 GB and only 1 CPU and 1 GB RAM is used.

System requirements RIB iTWO Server	
Operating system	Windows® Server 2016 / 2019 / 2022 Standard and Datacenter Edition
CPU	Dual-Core CPU ≥ 3.0 GHz
RAM	As from 16 GB RAM
Bandwidth	100 MBit/s
Hard disc	At least 50 GB hard disc space, depending on the number of performed projects
Log	TCP/IP
General	Umlauts and special characters for computer and login names are not supported.

System requirements of Application Server- and SQL Server	
Operating system	Windows® Server 2016 / 2019 / 2022 Standard and Datacenter Edition
Microsoft SQL	Microsoft SQL Server 2016 SP1, 2019 Express, Standard and Enterprise Edition
CPU	Intel Quad-Core CPU ≥ 3.0 GHz
RAM	32 GB RAM
Bandwidth	100 MBit/s
Hard disc	At least 250 GB free hard disc space, depending on the used Enterprise modules
Log	TCP/IP
General	Umlauts and special characters for computer and login names are not supported.

Terminal-Server Installation (Variant 3, 4 and 5)

RIB iTWO in non model-based operation (variant 3)

System requirements: Terminal-Server, not model-based (about 15 simultaneous users)	
Operating system	Windows® Server 2016 / 2019 / 2022 Standard and Datacenter Edition
CPU	Intel Quad-Core CPU ≥ 3.00 GHz
RAM	At least 32 GB RAM, 64 GB RAM recommended
Bandwidth LAN	1 GBit/s between server and terminal server
Bandwidth WAN	About 256 KBit/s per user
Hard disc	At least 20 GB free hard disc space
Log	TCP/IP
General	Umlauts and special characters for computer and login names are not supported.

RIB iTWO BIM 5D 64 Bit - model-based - Citrix XenApp (variant 4):

For RIB iTWO BIM 5D we recommend the variant 4 with Citrix XenApp

System requirements: Terminal-Server, model-based, with Citrix XenApp (about 10 simultaneous users)	
Operating system	Windows® Server 2016 / 2019 / 2022 Standard and Datacenter Edition starting from XenApp 7.6, Feature Pack 3
CPU	Intel Quad-Core CPU ≥ 3.0 GHz, one CPU-Core per user recommended
RAM	As from 64 GB RAM, 128 GB recommended
Bandwidth LAN	1 GBit/s between server and terminal server
Bandwidth WAN	Minimum 2 MBit/s per user, latency <= 50 ms
Graphics card	NVidia Grid for virtualized terminal servers
Hard disc	At least 20 GB free hard disc space
Log	TCP/IP
General	16 bit color depth for Citrix client. Umlauts and special characters for computer and login names are not supported. Workstations should use the latest Citrix Receiver.

RIB iTWO BIM 5D 64 Bit - model-based - Citrix XenDesktop (variant 5):

System requirements: Terminal-Server mode-based with XenDesktop HDX-3D Workstation	
Operating system	Windows® 10 / 11 Pro, Enterprise
CPU	Intel Dual-Core CPU ≥ 3.0 GHz
RAM	As from 64 GB RAM, 128 GB recommended
Bandwidth LAN	100 MBit/s
Bandwidth WAN	Minimum 2 MBit/s per user, latency <= 50 ms
Hard disc	20 GB
Graphics card	NVidia graphic card, minimum 96 CUDA cores, e.g. NVidia Quadro M2000
Log	TCP/IP
General	Umlauts and special characters for computer and login names are not supported.