



D3D++ Release Notes

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D3D++ 2020 IR4

- New functions of the **D3D++ Toolbar**:
 - Export **formatted reports** automatically:
With the function **Export reports**, selected **formatted reports** or **report objects** are exported under a definable name and path. This can be done automatically via a measurement **sequence** or afterwards for series measurements that are linked to a piece template. You can find details on this in the documentation for the **D3D ++ Toolbar**.
 - New functions for controlling collision detection in the measurement **sequence**:
With the **Activate Collision Detection** and **Deactivate Collision Detection** functions, you can configure collision detection within a measurement sequence. E.g. tool orientations can also be changed outside the working volume without warning.



D3D++ 2020 IR3

- With the **DMO** export of **Surface Comparison Points** it is now possible to export the **3D Point** instead of the **Surface Point**. For this, at least one **Geometry Control** of the **3D Point** must be activated, and no **Geometry Control** of the **Surface Point** must be active.
- Bugfix when exporting custom **DMO** dropdown lists.
- New macro command to check whether an element is in a list:
D3D STRING EXISTS IN_ARRAY (...)

D3D++ 2020 Release (IR2)

- The new **D3D ++ Toolbar** gives you quick access to all important D3D ++ functions.



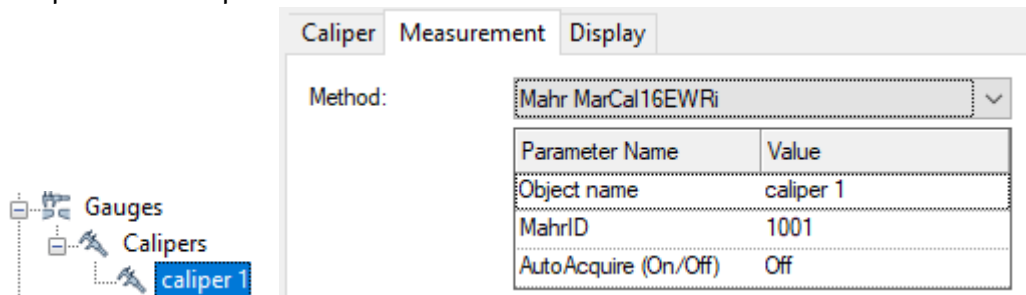
- Setting ISO tolerances is now quick and easy via the **D3D++ Toolbar > Measuring > Setting ISO tolerances**.
- An overview of all functions and corresponding help can be found in the D3D ++ toolbar documentation and help under the button:



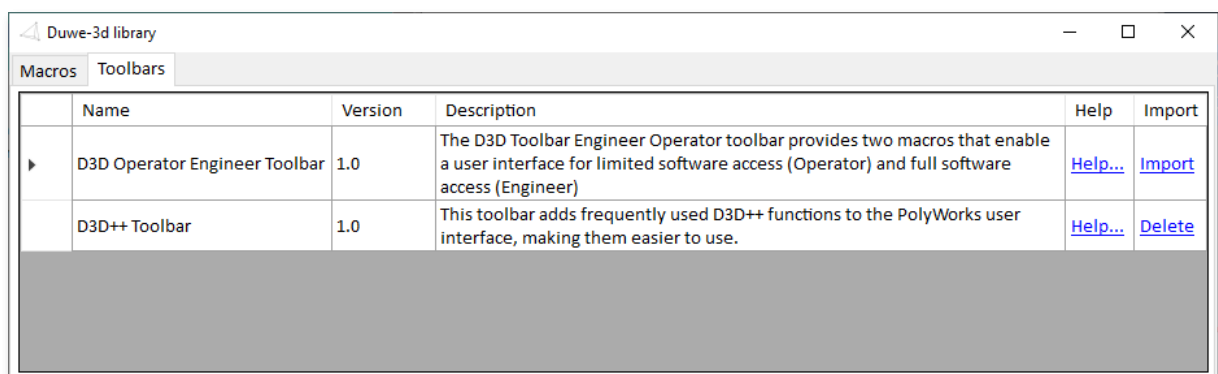
Overview of new functions of the D3D++ Toolbar:

- New function to move comparison points interactively on the CAD
- New function to transfer extraction parameters from one object to another
- New function to measure sphere adapters (Probe, CNC-Probe and Extract)
- New feature to measure cylinder adapters (Probe, CNC-Probe and Extract)

- New function to measure features on the opposite side of the material (Probe, CNC-Probe and Extract)
 - New function for searching and replacing in object names
 - New function to search for objects that are assigned to a reference
 - New function to select data points
 - New function to make it easier to view characteristic deviations
 - New function to calculate angular characteristics from decimal degree to angular degree
 - New function to rasterize comparison points using a polyline
- Important note: Changed location of the D3D ++ settings and options. As of version 2020, the D3D ++ settings and options are saved in the PolyWorks user configuration. File path: `$_USERCONFIG_PATH\config\D3D++`
 - Mahr handheld measuring devices with integrated wireless can now also be used with Calipers and Comparison Points

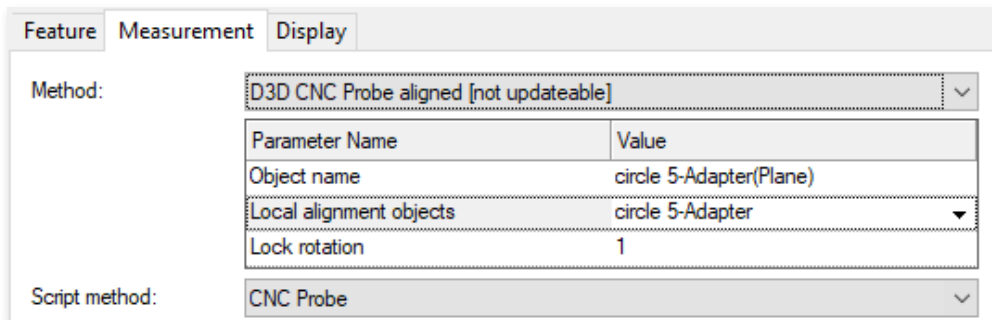


- New D3D++ library that allows you to import D3D++ toolbars easily.



- New **D3D++ Operator Engineer Toolbar** for limited software access with limited operating options and thus reduced incorrect operation
- Avoiding incorrect entries in the DMIS and FlexText export dialog:
The configuration and selection of the header data has been removed from the export dialog. Settings on the DMIS header data and FlexText configuration can only be adjusted via the options menu. This prevents unwanted changes to the configuration.
- New D3D ++ measurement methods:
 - **D3D CNC Probe aligned [not updateable]:**

The **offset of the probing areas** available in PolyWorks cannot be applied to all features or comparison points. In these cases, a temporary **alignment of measured objects** can be created using the **D3D CNC Probe aligned [not updateable]** measurement method. The alignment is created and activated by the measuring method before the CNC measurement. All objects of the **Local alignment objects** parameter are used for this. After the measurement, the alignment is deleted. The **Lock rotation** parameter can be used to control whether the alignment should enable rotation. By default, the parameter **Lock rotation = 1** disables any rotation.



Parameter Name	Value
Object name	circle 5-Adapter(Plane)
Local alignment objects	circle 5-Adapter
Lock rotation	1

- **D3D Measure sphere adapter [not updateable]:**

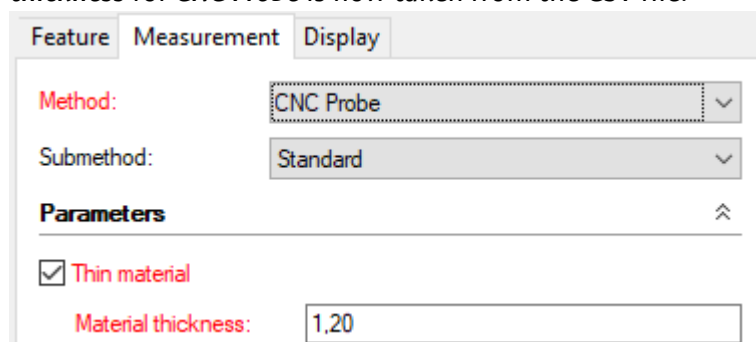
You can use this measurement via the **D3D++ toolbar > Measure > Create Sphere Adapter**. Manual configuration is possible but is not recommended. For more information on creating and measuring the ball adapter, see the D3D ++ toolbar documentation.

- **D3D Get deviations from object [not updateable]:**

The measurement method **D3D Get deviations from object [not updateable]** is used for the cylinder adapter measurement as well as for the measurement of objects on the opposite side of the material. You can use these measurements via the **D3D++ toolbar > Measure > Create cylinder adapter** and **Create opposite measurement**. Manual configuration is possible but is not recommended. Further information on creation and measurement can be found in the D3D++ user guide.

- Import of material thickness in BMW CSV and Audi/Daimler/VW CSV format:

When importing Features in BMW-CSV and Audi/Daimler/VW CSV format, the **Material thickness for CNC Probe** is now taken from the CSV file:



- The use of **D3D Expressions** is now available in the header data of all export formats. **D3D Expressions** provide access to **project and part properties**, as well as date and time functions.

This prevents multiple inputs or manual inputs during export. *D3D Expressions* can also be configured and replaced via macro commands. See the D3D++ manual for details.

- Conversion of the Microsoft .NET Framework to version 4.7.2. This version is already installed in all current Windows versions. If necessary, this version can also be downloaded and installed separately from Microsoft.

D3D++ 2019 IR11.3

- New option to import or update objects from only one vehicle side.

<input checked="" type="checkbox"/>	Create Objects on the left side (Y < 0)
<input checked="" type="checkbox"/>	Create Objects in Y = 0 position
<input checked="" type="checkbox"/>	Create Objects on the right side (Y > 0)

- Bug fix when updating linked RPS points with an updated inspection plan.

D3D++ 2019 IR11.2

- The macro for automatically linking edge points with relative surface points has been extended for flanged edges.
- An error message when creating the *D3D-LogFile* has been fixed.

D3D++ 2019 IR10

- The measurement method *D3D Measure CP relative* to measure comparison points relatively has been added.

Comparison point		Measurement	Display
Method:	D3D Measure CP relative [not updateable]		
	Parameter Name	Value	
	Object name	MP 10	
	Relative to object	MP 9	

More details, limitations and hints can be found in the *D3D++ User Guide*.

D3D++ 2019 IR9

- Functions for mirroring inspection plans in Daimler CSV format have been added. The functions for mirroring the objects are activated and deactivated in the *D3D ++ options*.

D3D++ 2019 IR8

- New macro functions from D3D ++:
 - Message window with several buttons: *D3D INPUT QUESTION*
 - Execution of macros in a remote PolyWorks instance (remote control):
D3D TCPIP CLIENT MACRO_COMMAND
- Various minor improvements

D3D++ 2019 IR7

- An issue with the installation of object measurement macros has been fixed. Added a message if measurement method not installed. Proper mirroring of measure groups with macro measurement method.
- Various minor optimizations

D3D++ 2019 IR6

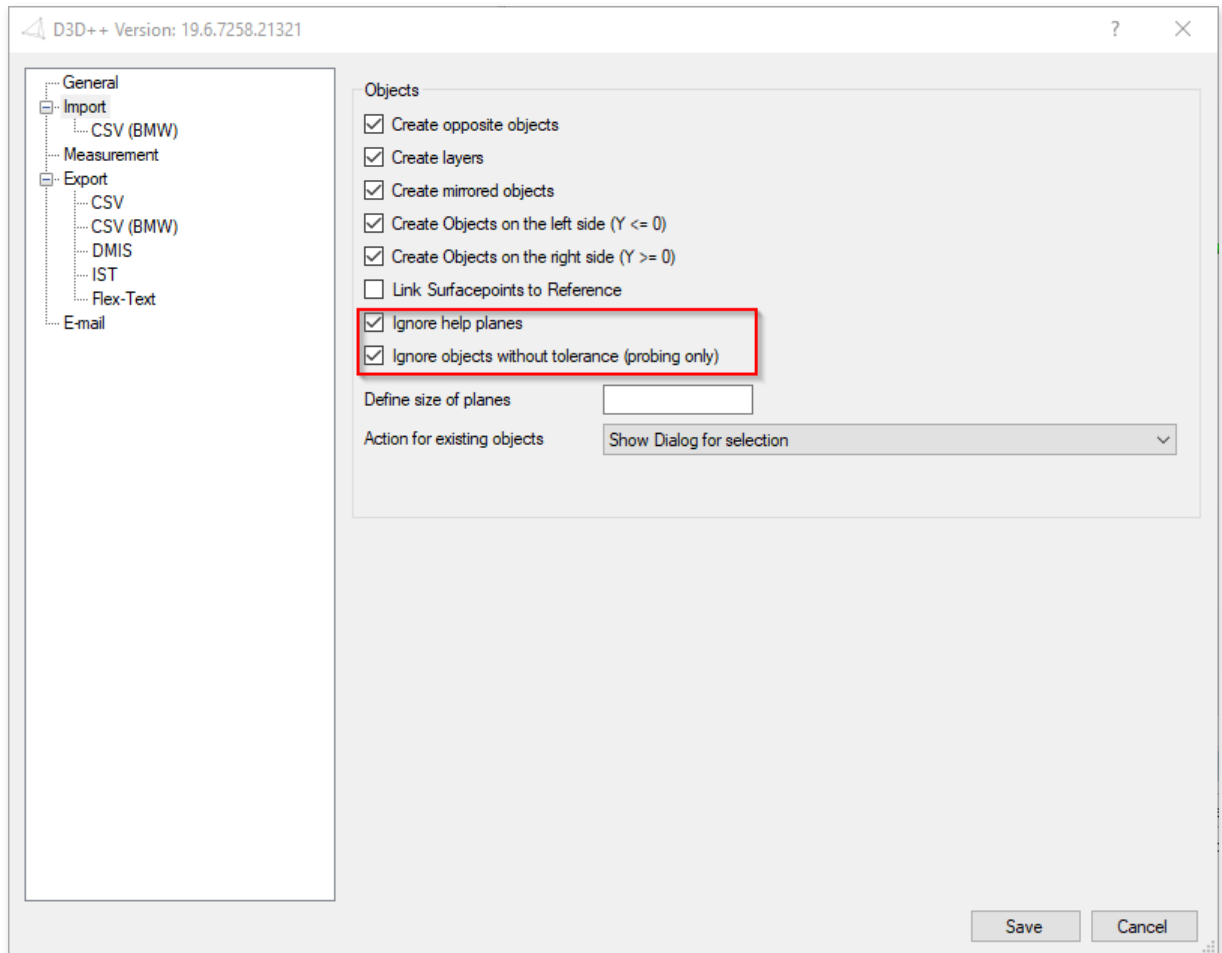
- New CNC measurement macro for linking surface comparison points *CNC Probe CP relative V2*. In version 2, the relative object can be selected via a selection list. This link is also considered by the wizards of the sequence editor.
- Added a macro for interactively linking surface points in the 3D view (initially only for CNC-Probing)

Menu	Description	Help	Macro
CNC CMM Setup\Create Features Ballbar...	Dialog to creates features to measure a ballbar		Execute
CNC CMM Setup\Create Features Stepgauge...	Dialog: Creates features to measure a stepgauge		Execute
CNC CMM Setup\Create Sequence Ballbar and Stepgauge	Creates the measurement sequence for a step gauge or ball bar measurement. The macro for step gauge or ball bar must have gone through before. The CNC_KMG configuration and the sensor system orientation must be set.		Execute
CNC CMM Setup\Export Measurement...	Exports values of a CNC-CMM measurement		Execute
CNC CMM Setup\Goto Without Tool...	Dialog: Relative or absolut Go-To without a calibrated tool		Execute
Edit\Check naming convention of selected objects	Checks the naming convention (Audi, BMW, Daimler, VW) of the selected objects and edits it if the location of the objects does not match name		Execute
Edit\Set new name with running index of selected objects...	Sets new name of selected objects in treeview with running index		Execute
Measure\Comparison Point from Polyline	Creates comparison points from polyline by defined stepwidth		Execute
▶ Measure\Comparison Point link interactive	Link comparison points interactive for D3D-relative-measurement	Help...	Execute
Measure\Comparison Point link relative...	Link Comparison points to new or existing points to measure them relativ		Execute
Measure\Comparison Point set numerically...	Sets deviation of comparison point numerically.		Execute
Measure\Features ISO Tolerance Zones	Sets the tolerance of distance features to ISO norms	Help...	Execute
Report\Capture and Export Snapshot...	Creates snapshot from 3D view with specified name and exports to defined folder		Execute
Select\Data Points from reference surfaces...	Dialog for selecting data points based on maximum distance and maximum angle to the reference		Execute
Tools\Create new Pieces from Polygonal models...	Dialog for selecting scan data. For each record, a new part is created and evaluated		Execute
Tools\Create Transformation Matrix of Coordinate Systems	Determines the TRF-Matrix between two coordinate systems and exports them as *.txt-File.		Execute

- The D3D ++ toolbar now includes a button to overview the Duwe-3D macros.

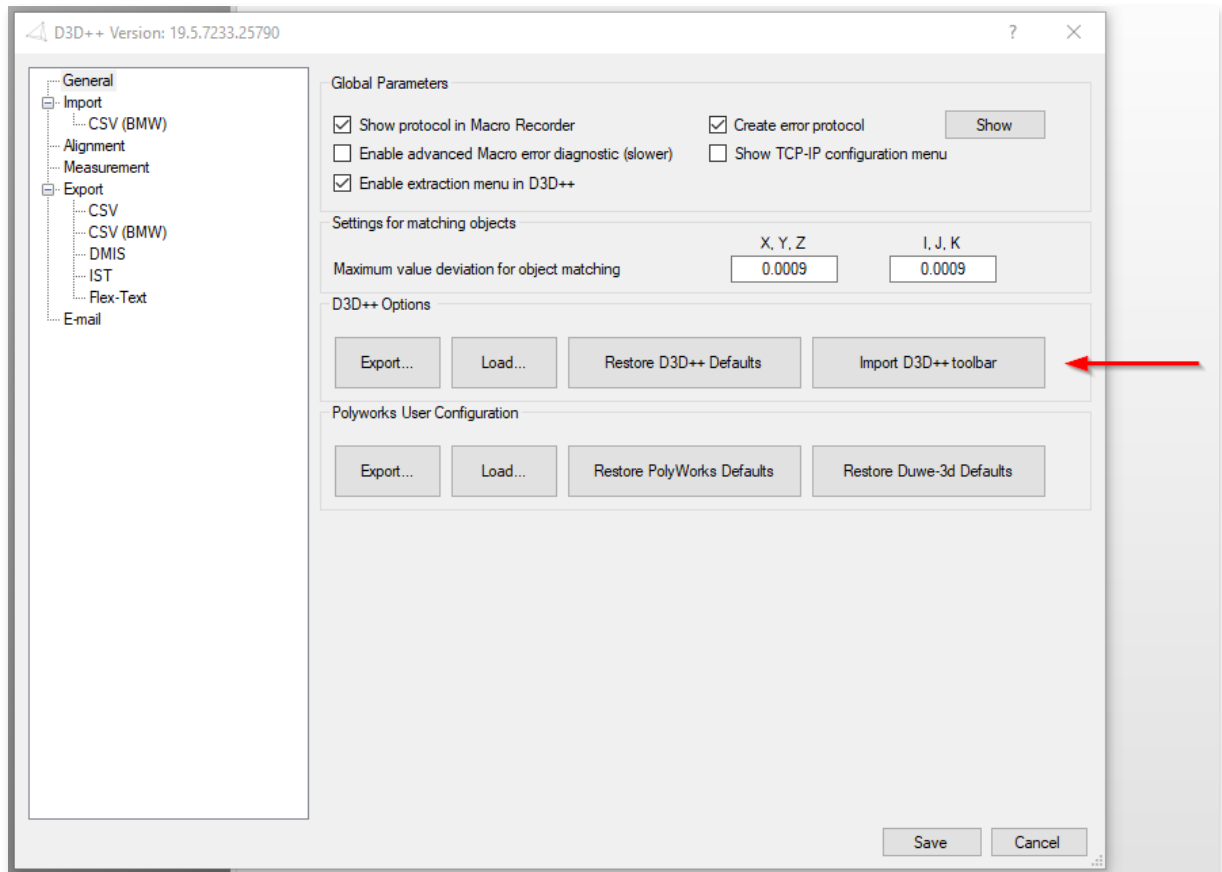


- When importing inspection plans, auxiliary planes from the design are no longer imported. Furthermore, manual probed points without tolerances can also be ignored during import. These settings can be adjusted via the D3D++ Options menu.



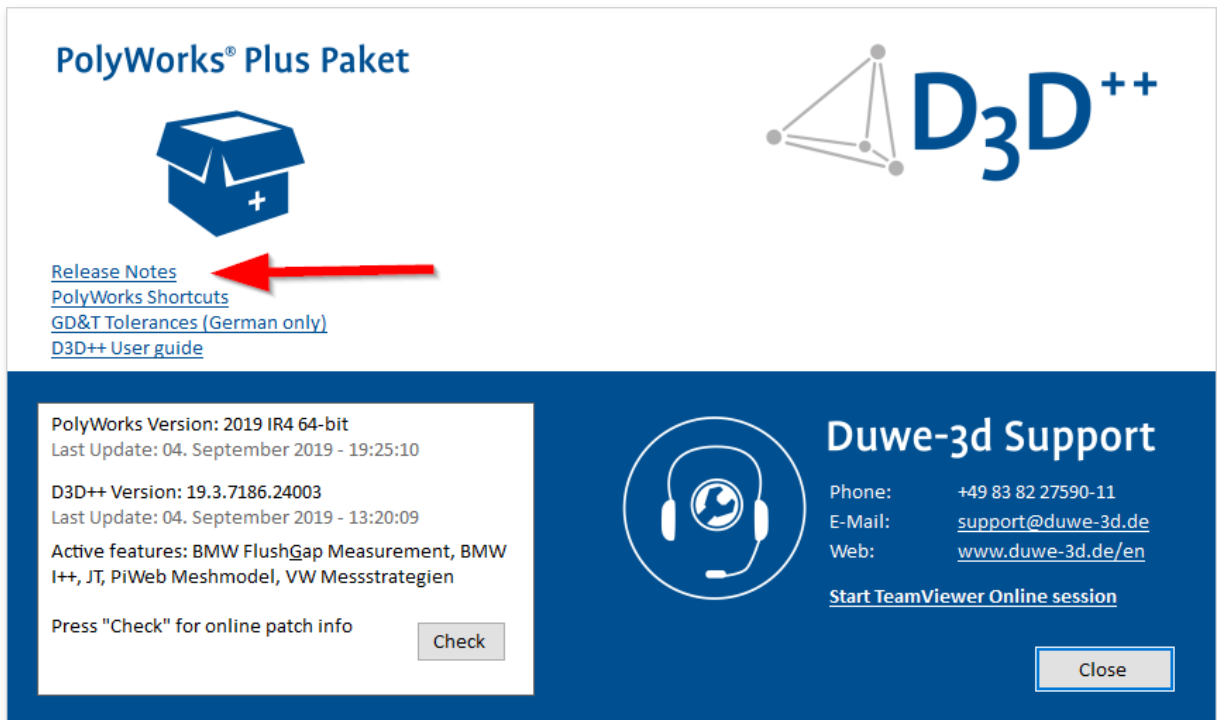
D3D++ 2019 IR5

- Troubleshooting, when using VW feature plans - the same measurement method is used for all objects.
- *D3D++ toolbar* installs itself with the plug-in.



D3D++ 2019 IR4

- Revision of the Duwe-3d macros as well as its documentation and help
 - Extension in the macro *Features ISO Tolerance Zones* for ISO 13920 by table 2 and 3 (angle, straightness, flatness, and perpendicularity)
 - Revision of macros for CNC setup and monitoring
 - The help dialog of the Duwe-3d macros is no longer modal and can also be used to run the macros
- Troubleshooting the use of VW feature plans
 - Troubleshooting importing mirrored objects using VW measurement methods
 - Troubleshooting the extraction of BA, BH, and BK measuring methods
- Release information about D3D++ has been integrated and is stored in the *support dialog* as follows.



PolyWorks® Plus Paket

D3D++

[Release Notes](#)

[PolyWorks Shortcuts](#)

[GD&T Tolerances \(German only\)](#)

[D3D++ User guide](#)

PolyWorks Version: 2019 IR4 64-bit
Last Update: 04. September 2019 - 19:25:10

D3D++ Version: 19.3.7186.24003
Last Update: 04. September 2019 - 13:20:09

Active features: BMW FlushGap Measurement, BMW I++, JT, PiWeb Meshmodel, VW Messstrategien

Press "Check" for online patch info

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[Start TeamViewer Online session](#)

D3D++ 2019 IR3

- Various minor optimizations
- Bugfix when exporting to the PiWeb-MeshModel format
- Extensions when exporting to FlexText format

D3D++ 2019 IR2

- Various minor optimizations

- Adjustments for the 2019 release

D3D++ 2018 IR11

- Various minor optimizations

D3D++ 2018 IR10

- Various minor optimizations

D3D++ 2018 IR9

- New option for linking reference points to the reference

D3D++ 2018 IR8/IR7

- The normals of surface points and edge points can be updated with changed inspection plans
- In *DMO* files, the part date and time can now also be used
- Macro commands for sending an e-mail (via SMTP)
- Various minor optimizations
- Installation errors have been fixed

D3D++ 2018 IR6

- New macro for playing sounds: *D3D PLAY_SOUND (ProbingEnd)*

D3D++ 2018 IR5

- Several minor improvements and bugfixes

D3D++ 2018 IR4

- Speed optimization during import and export
- Progress bar for import and export of inspection features
- Interactive dialog when importing inspection features into an existing project (update of inspection characteristics)
- TCP/IP macro functions for communication with external systems (server and client)

- Support of the Daimler MDM-XML format (beta)
- Use of project and part properties in the DMIS header
- Custom properties of D3D++ are only created when needed
- D3D ++ StartUpMacros are executed when starting PolyWorks®. For details see [D3D++ documentation](#).
- Troubleshooting translation texts (en/de)
- Troubleshooting projects that are edited with different language settings
- Several minor improvements and bugfixes for import and export

D3D++ 2018 IR3.1

- TCP/IP macro functions for communication with external systems
- Support of the Daimler MDM-XML format (beta)
- Troubleshooting translation texts (en/de)
- Troubleshooting projects that are edited with different language settings

D3D++ 2018 IR3

- New functions for the local alignment of features in the (VW/Audi/Daimler) CSV format
- Option to export all tolerances in DMIS format (including tolerances that are not active)
- Bugfix when exporting length tolerance of cylinders in DMIS format
- Various bugfixes when importing linked objects into a project with existing inspection features (update of linked inspection features).

D3D++ 2018 IR2

- Adjustment of alignment: D3D no longer creates iterations, as PolyWorks now supports this feature directly.
Attention: This can lead to different results in PolyWorks 2018!
- Update and extension of various integrated macros
- Option to import only one vehicle side ($Y \geq 0$ or $Y \leq 0$)
- New features on the support and info page
- Several minor improvements and bugfixes