



**HEXAGON**

**PC-DMIS 2023.2**

**Featured Enhancements**

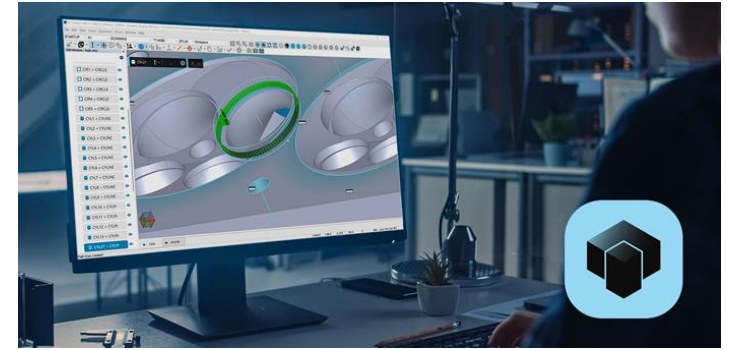
# New features in PC-DMIS 2023.2

## Key Improvements

- Pointcloud from CAD
- Feature creation improvements
- Touch Trigger Probe User Defined Plane
- ClearanceCube improvements
- Offline animation speed – Ideas Centre
- Select all hits – Ideas Centre

## Other new features

- **Geometric Tolerance & Migration Report improvements**
- **ESF contact copy parameters**
- **ESF customisable naming rule**
- **ESF editing dimension tolerances**
- **Send report data to Nexus**
- **Support for AS1-XL scanner**
- **New branding**

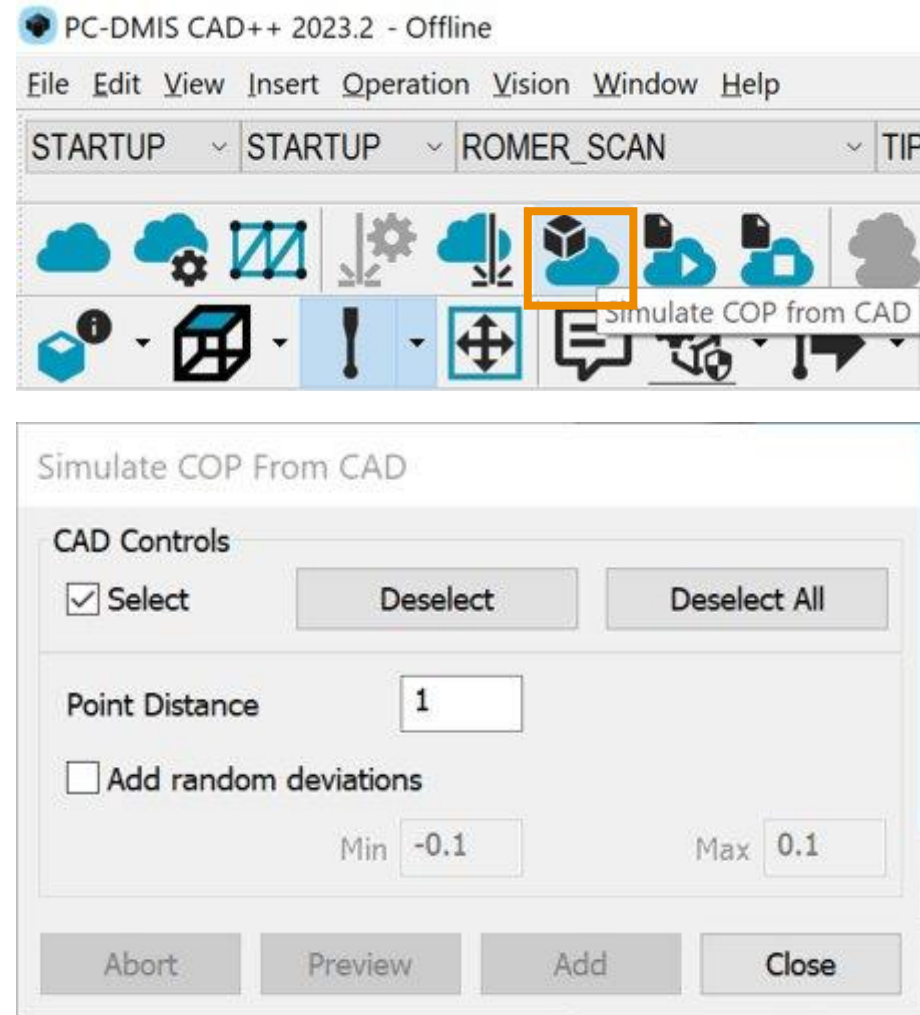


# Pointcloud from CAD

# Pointcloud from CAD

## Feature Description

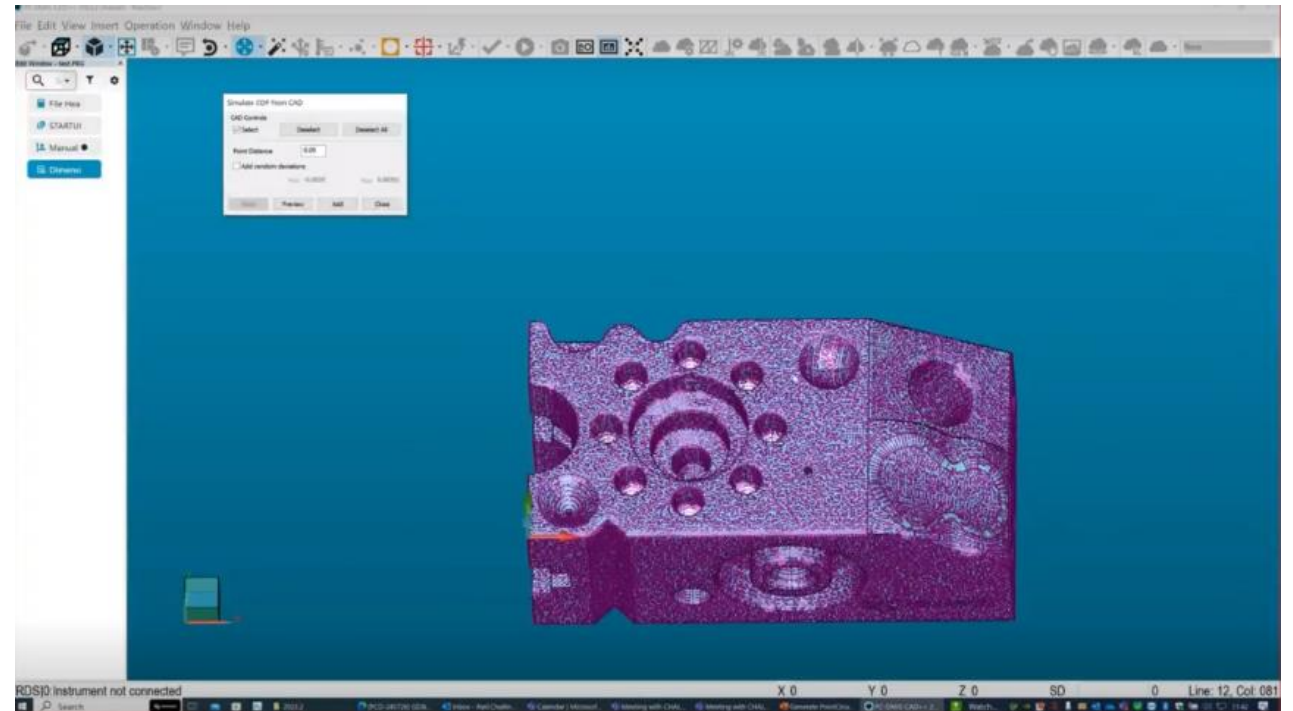
- Generate a pointcloud from the CAD model
- Portable CMM users can now simulate point cloud data and practice working with feature extraction and dimensioning offline
- Use nominal values or incorporate random variation
- Create pointcloud for entire model or a single surface



# Pointcloud from CAD

## Feature Benefits

- Simulate offline laser scanning routines that incorporate feature extraction, colourmaps and Geometric Tolerance commands
- Previously, not possible because there would be no pointcloud data until a part was physically scanned
- Useful for Application Engineers and Sales Reps that need to provide an offline demo of pointcloud handling and feature extraction when laser data is unavailable
- Great for training



Watch [demo video](#)

# Feature creation improvements

Measurement Strategy improvements, Quick Path &  
Smart Ending Offset

# Feature creation improvements

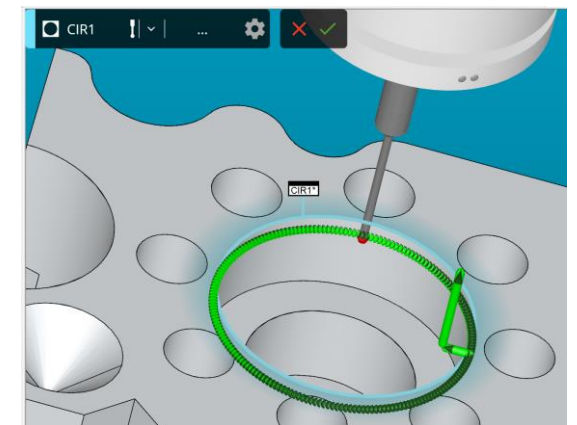
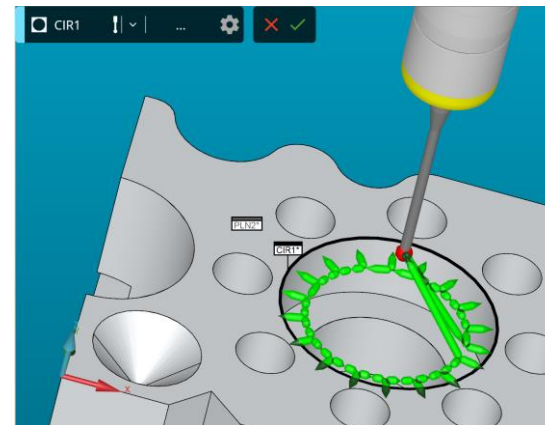
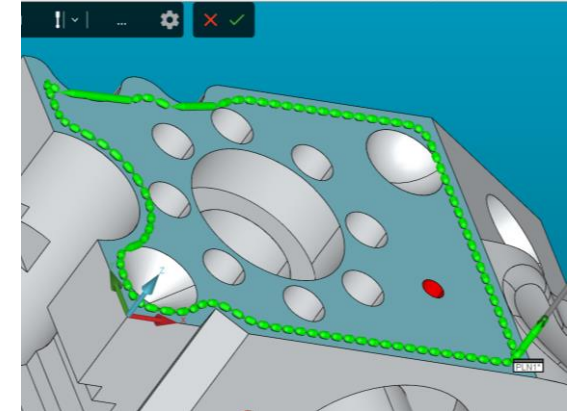
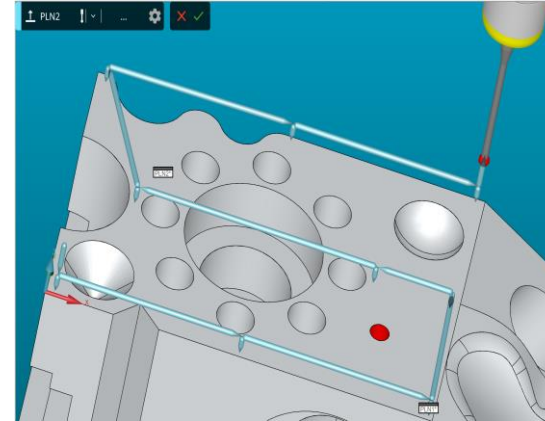
## #1 - Measurement Strategy improvements

### Feature Description

- Smarter measurement strategies available “out of the box”
- Optimised strategies based on Manual or DCC measurement
- Optimised strategies based on sensor type
- Activates void detection with a CAD offset and applies parameters more intelligently to reduce the need for further editing.
- Parameters such as Number of hits, avoidance moves, sample hits are optimized for each strategy

### Feature Benefit

- Save time, reduce effort with smarter, more efficient Measurement Strategy features
- More likely to generate a measurable path that can be executed than previously



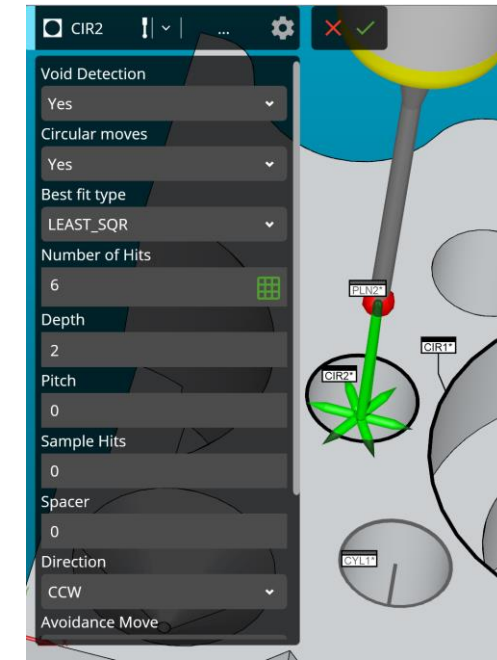
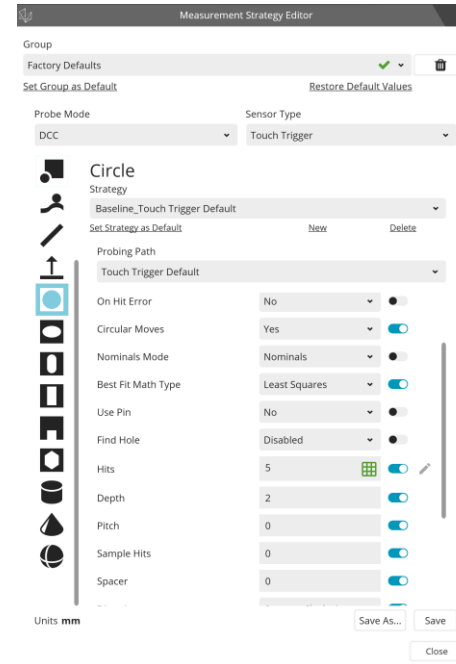


# Feature creation improvements

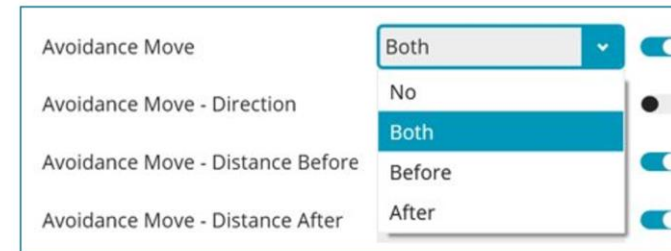
## #2 – Quick Feature widget improvements

### Feature Description

- Quick Feature Widget now more configurable
  - More parameters available – turn defaults on and off and access extra configuration
- New Avoidance Move options to support movement along feature vector



New avoidance move options



### Feature Benefit

- Extra control and flexibility for Quick Feature widget users and for probe direction when using avoidance moves

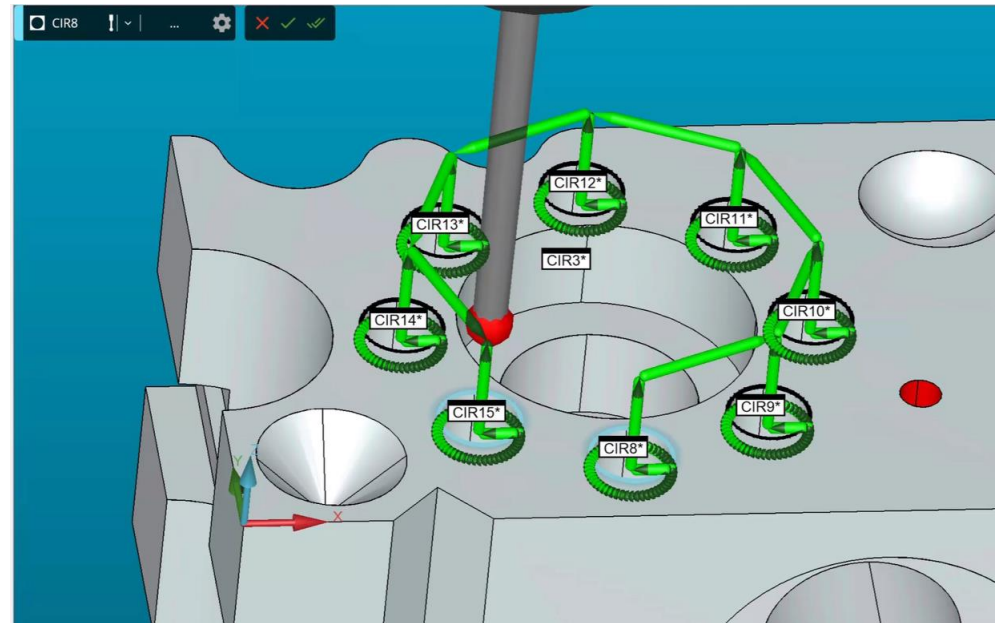


# Feature creation improvements

## #3 – Quick Path display

### Feature Description

- Visualise the probe path whilst using Quick Features



### Feature Benefit

- Identify potential collisions at time of creation

# Feature creation improvements

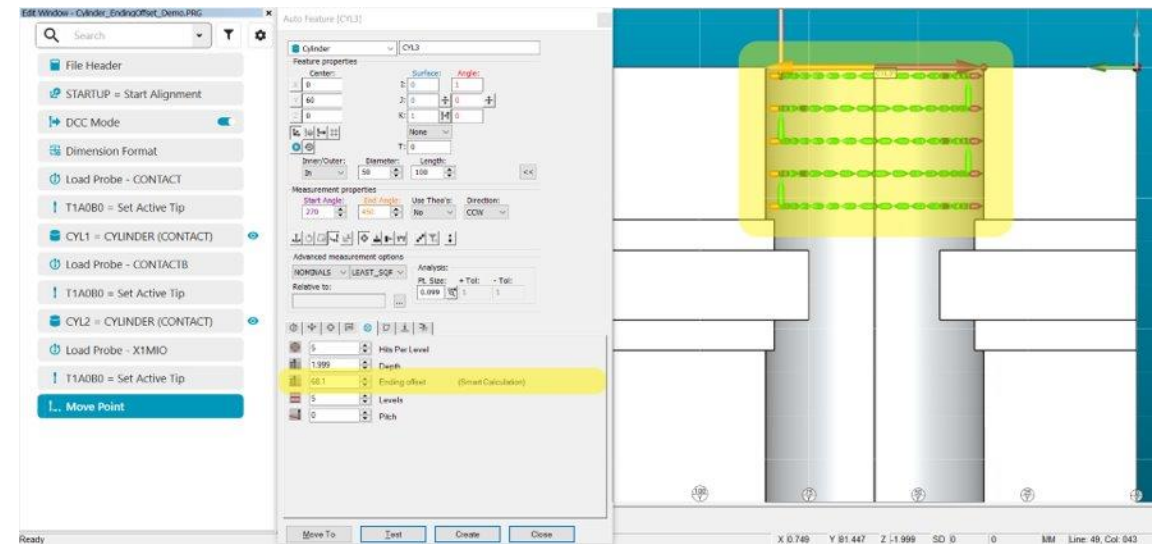
## #4 – Smart Ending Offset added to Auto Cylinder Contact

### Feature Description

- A smart calculation of the Ending Offset parameter has been added to the Auto Cylinder Contact feature
- Previously, when programming a routine, the Ending Offset parameter value was based only on the theoretical length of the cylinder and did not consider the effective working length of the tip in use.
- Now, the smart-calculated value of the Ending Offset parameter is set and the “Smart Calculation” indication will be shown aside the calculated value itself.
- Also available in Quick Features

### Feature Benefit

- Adds intelligence to programming Auto Cylinder features when using Contact probes
- Simplifies the fine tuning of measurement routines after offline programming



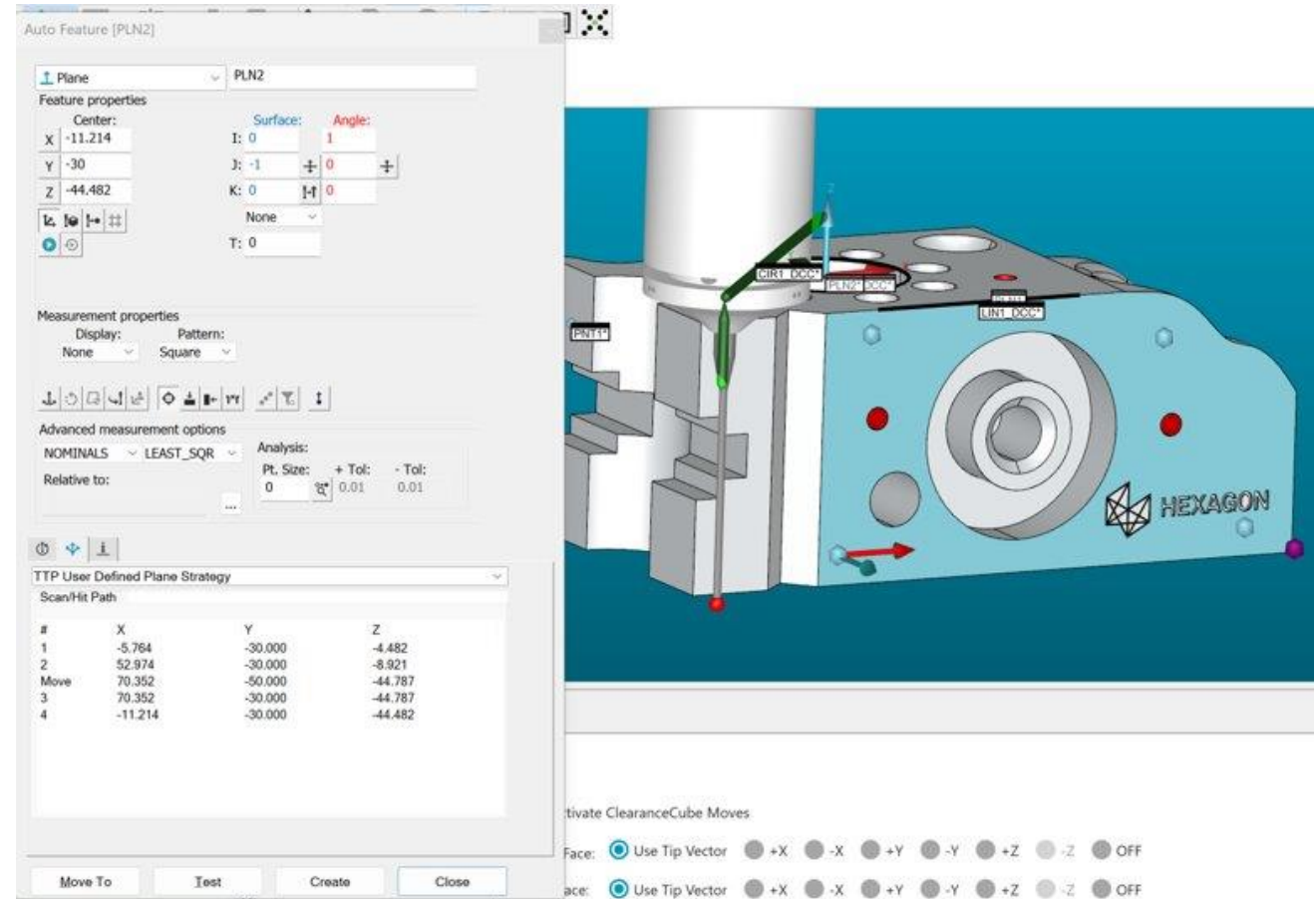
Watch [demo video](#)

# Touch Trigger Probe User Defined Plane

# Touch Trigger Probe User Defined Plane

## Feature Description

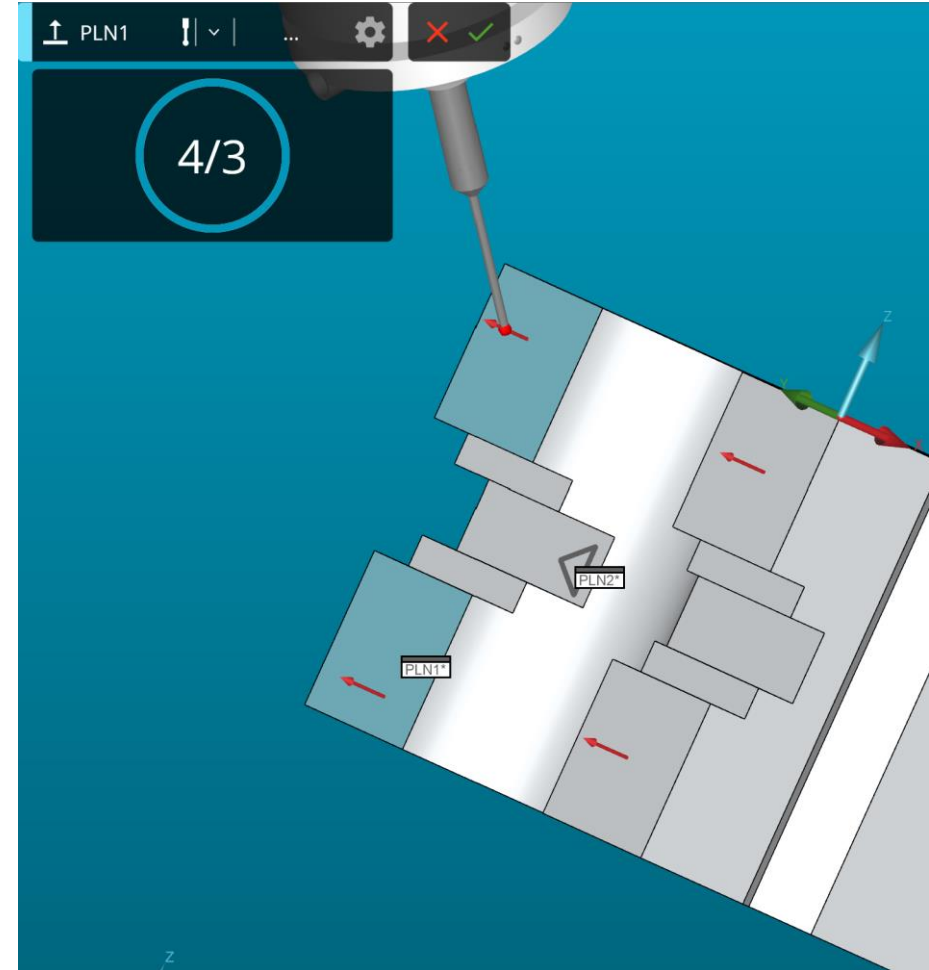
- New touch trigger probe strategy for Auto Plane
- Added ability to insert moves in between hits e.g., to avoid fixture clamps or obstacles
- Use Auto Plane for manual and DCC alignment
- Also available as a strategy in Quick Features



# Touch Trigger Probe User Defined Plane

## Feature Benefits

- AutoPlane now has same level of flexibility as Measured plane (used defined hits and moves)
- All round better user experience
- Users currently measure planes using *Measured Feature* – Now they can use *Auto Feature* to do this – this is an easier process



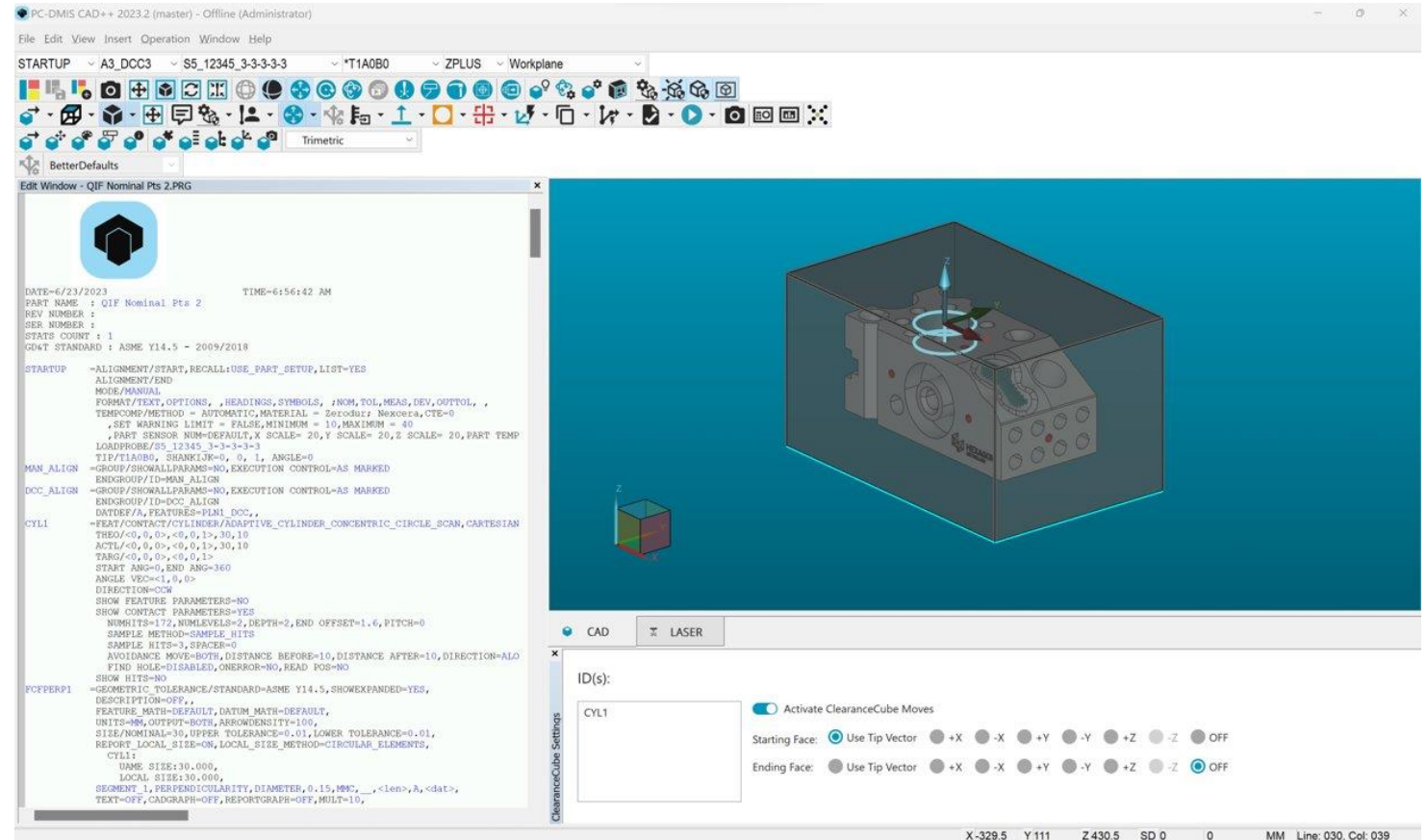
Watch [demo video](#)

# ClearanceCube improvements

# ClearanceCube improvements

## Feature Description

- ClearanceCube has been available in PC-DMIS for 15 years and is useful for simple geometries.
- Previous version of ClearanceCube could not support navigation around complex parts – our competitors had this capability
- This update enables path generation for parts with more complex geometries



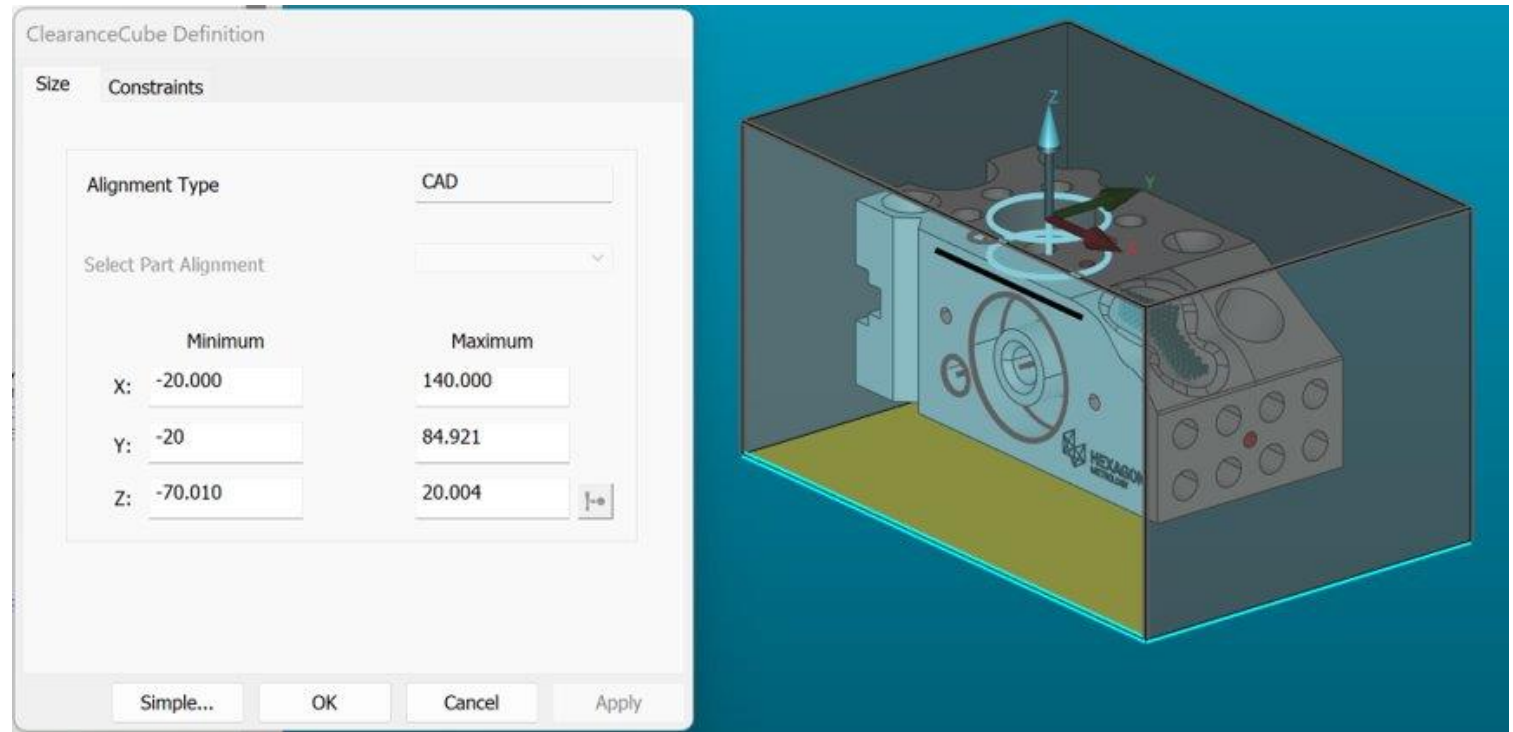
Watch [demo video](#)



# ClearanceCube improvements

## Feature Benefits

- The update makes ClearanceCube more user friendly, - settings are easier to define and use
- Visual - click and drag editing of parameters
- Now capable of working with more complex geometries

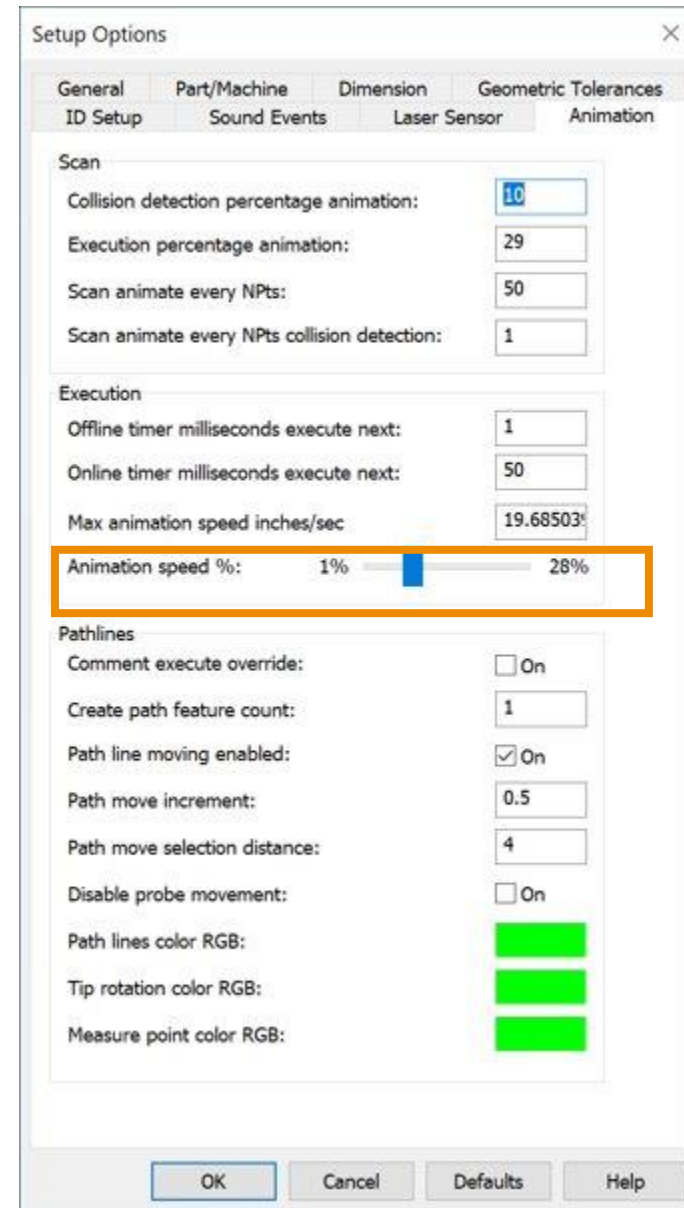
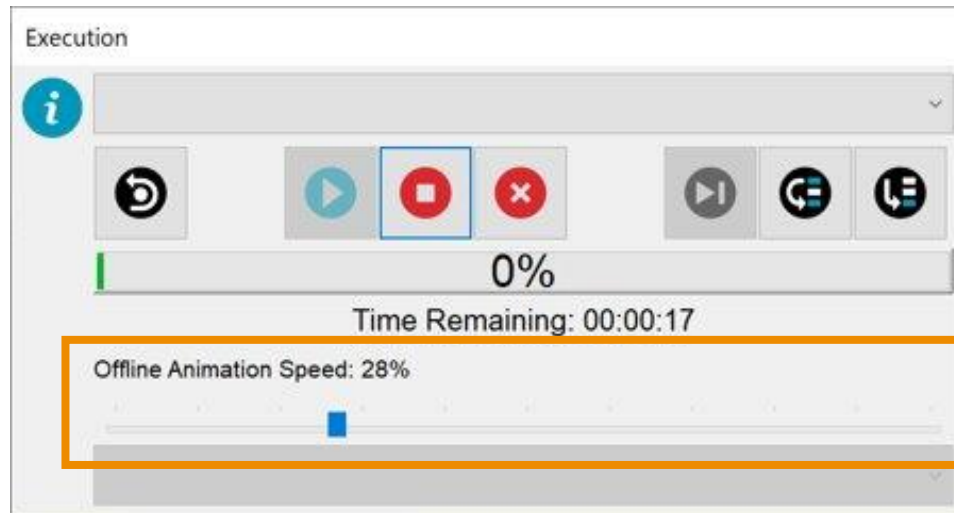


# Offline animation speed

# Offline animation speed

## Feature Description

- New slider control added to adjust the animation speed when executing offline routines
- Mimics the online experience where speed can be dynamically adjusted from the jogbox
- Requested by Ford Germany

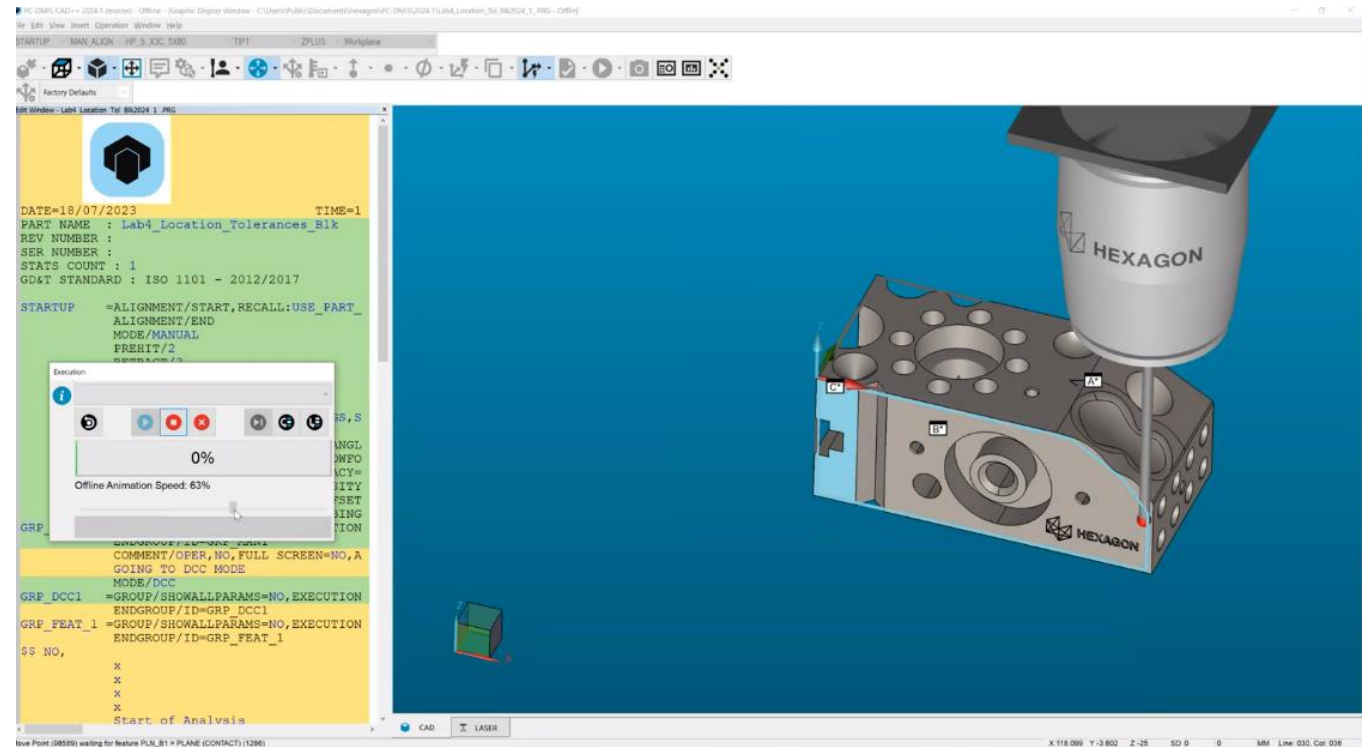


# Offline animation speed



## Feature Benefits

- Users can more easily review steps in an offline measurement routine – slow down at critical or problematic stages for debugging
- Easy to access from the execution dialogue and adjustable in real time



Watch [demo video](#)

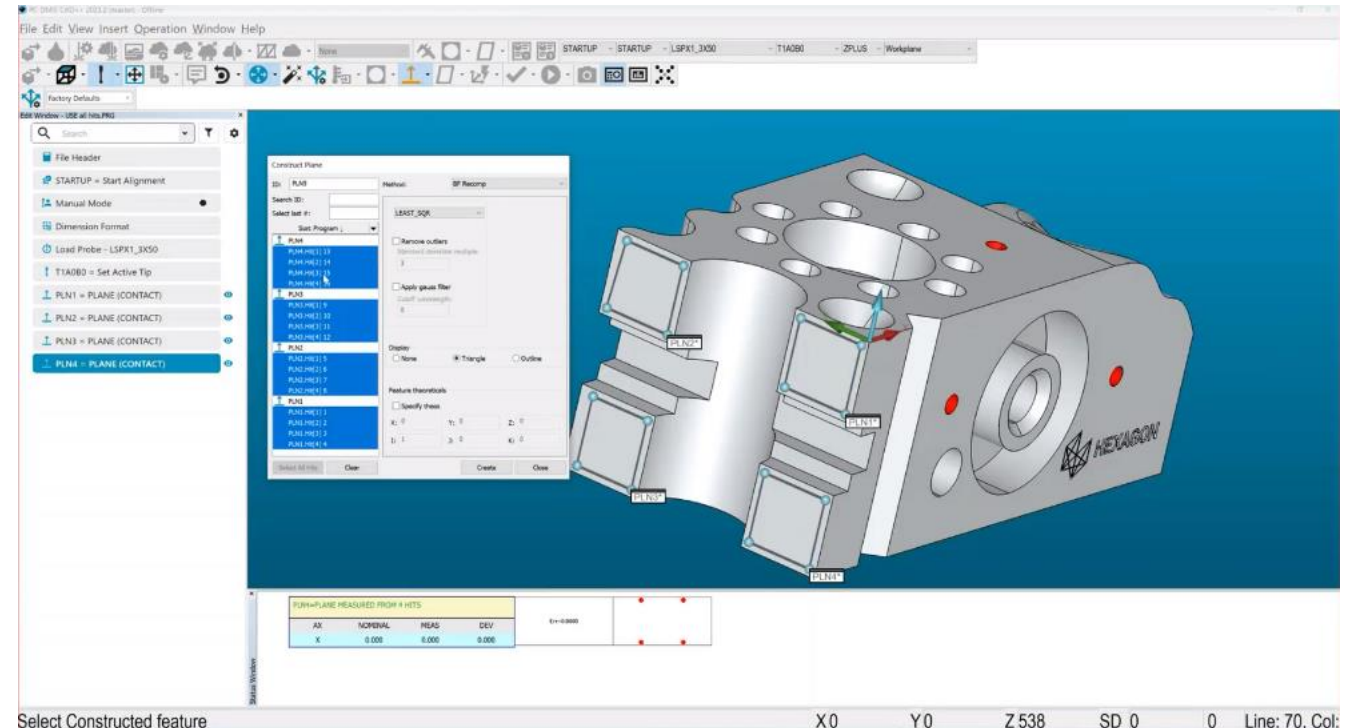
**Select all hits**

# Select all hits



## Feature Description

- Added to Constructed Feature dialogue
- When creating a Best Fit or Best Fit Recompensated construction, the user is now able to “Select All Hits”. Selected hits are shown in the feature list
- Previously the single mean position of all the points of the feature would be highlighted – these single points caused an error for Best Fit construction where multiple points are needed
- With Select all hits – each hit from individual planes are easily selected and added to a Best Fit construction
- E.g. create a single plane from four individual planes (see pic) or create a circle from two halves.



Feature	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
PLN5	0.000	0.100		0.000	0.000	0.000

FEATURE	HITS	MEAS X	Y	Z	VECTOR I	J	K	DEV	SEG=1
PLN5	1	0.000	1.500	-16.000	-1.000	0.000	0.000	0.000	MAX
	2	0.000	16.000	-16.000	-1.000	0.000	0.000	0.000	
	3	0.000	16.000	-1.500	-1.000	0.000	0.000	0.000	
	4	0.000	-44.000	-16.000	-1.000	0.000	0.000	0.000	

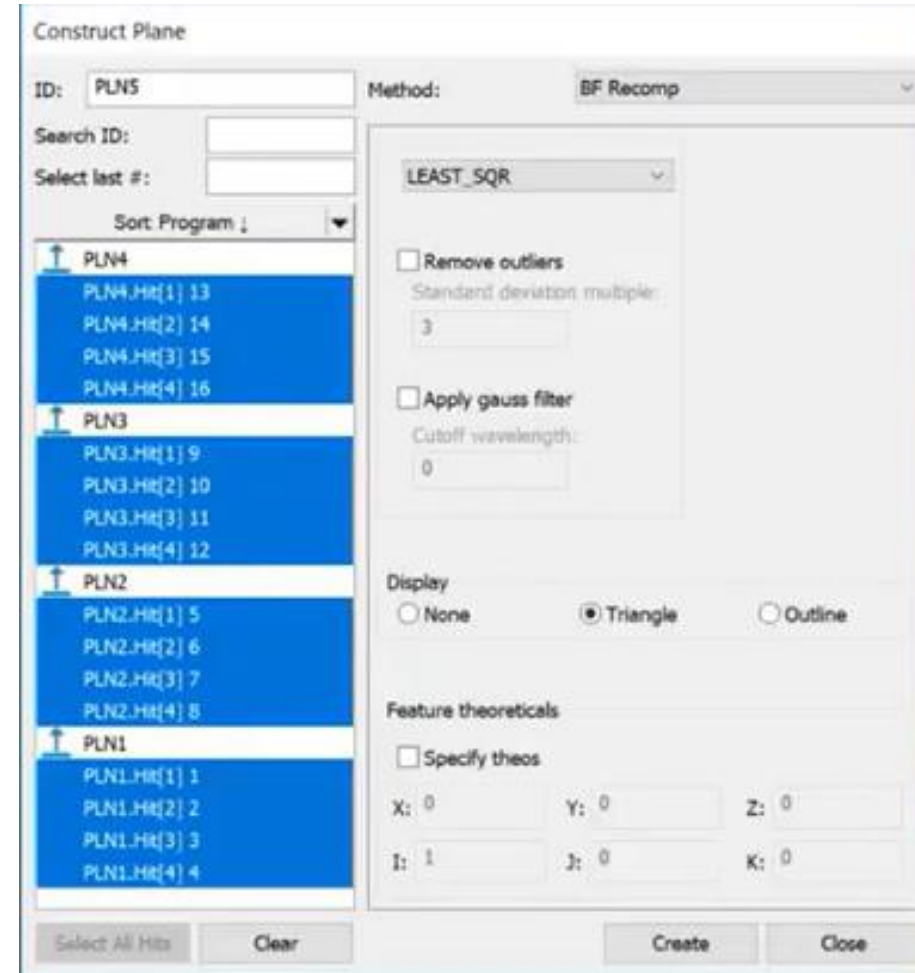
Watch [demo video](#)



# Select all hits

## Feature Benefits

- The ability to “select all hits” adds greater flexibility, speed and efficiency when constructing features
- Removes the need to click on multiple points (sometimes thousands of points) – saves time
- Flexibility to exclude hits by clicking on highlighted points
- Useful for creating constructions from the hits of previously measured features
- Changes also made to how the hits are presented and referenced in the edit window (best seen in command mode). This makes the syntax clearer and more concise.



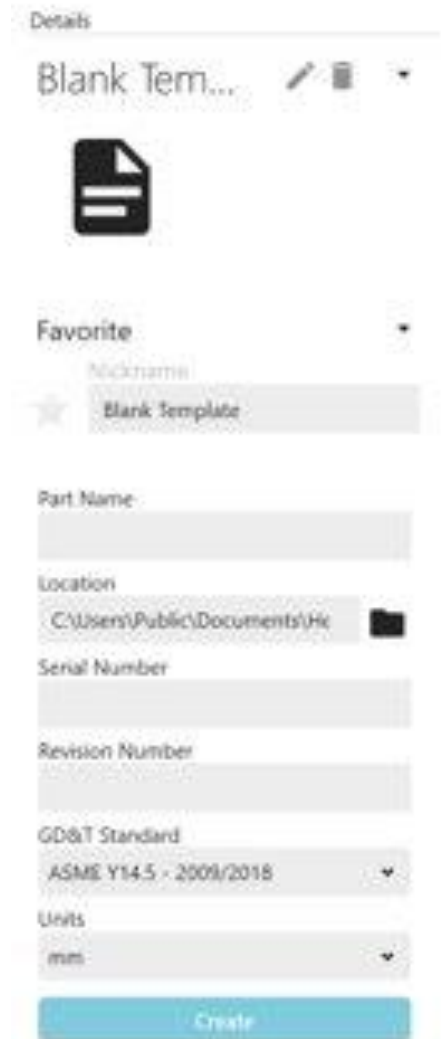
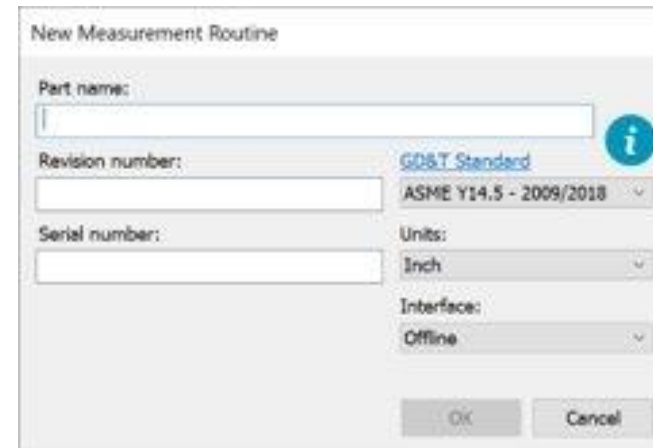


# **Geometric Tolerance & Migration Report improvements**

# Geometric Tolerance & Migration Report improvements

## Feature Description

- We no longer allow users to reference multiple GD&T standards within the same routine when working with Geometric Tolerance and Size commands.
- Users must select a single GD&T standard when creating the routine and can no longer toggle the GD&T standard from within the commands.
- All commands must now either reference ASME Y14.5 or ISO 1101.
- Use when creating Geometric Tolerance or Size commands
- Legacy dimensioning is unaffected by this change



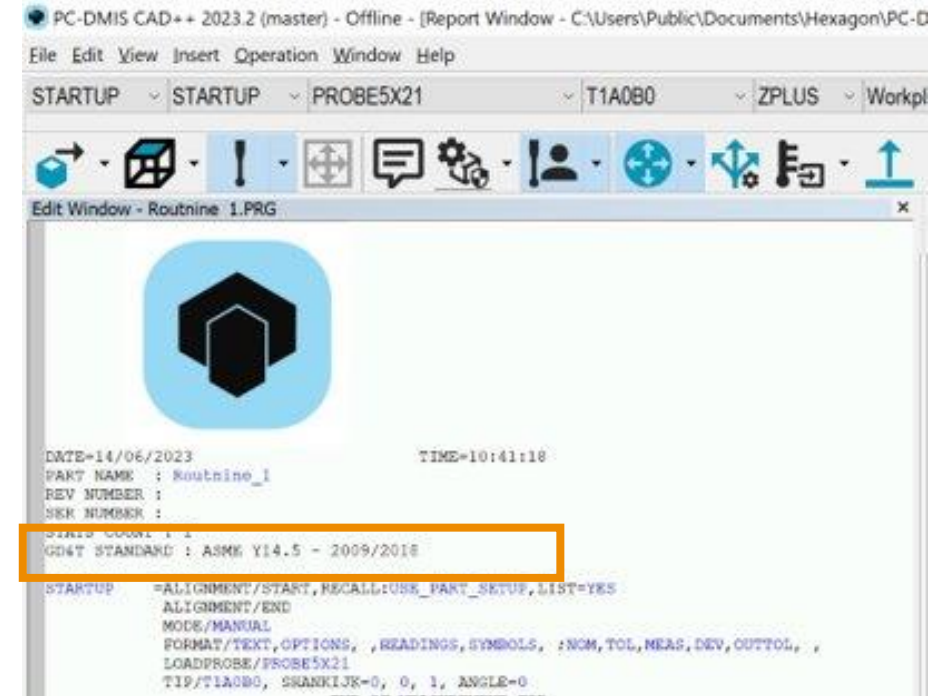
# Geometric Tolerance & Migration Report improvements

## Feature Benefits

- Improves the dimensional integrity of routines
- Reduces the possibility of mistakes arising from ambiguity or confusion due to use of multiple standards
- In the future we can further enhance and deliver requests from customers including:

The ability to select the GD&T standard based on a specific year (e.g., ASME Y14.5, 1994, 2009 or 2018).

Add support for more ISO modifiers, specifically those for which there is no ASME equivalent.



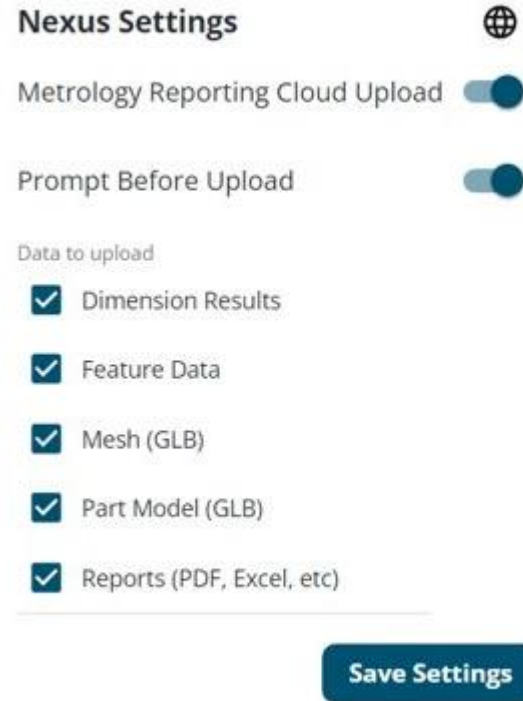


**Send report data to Nexus**

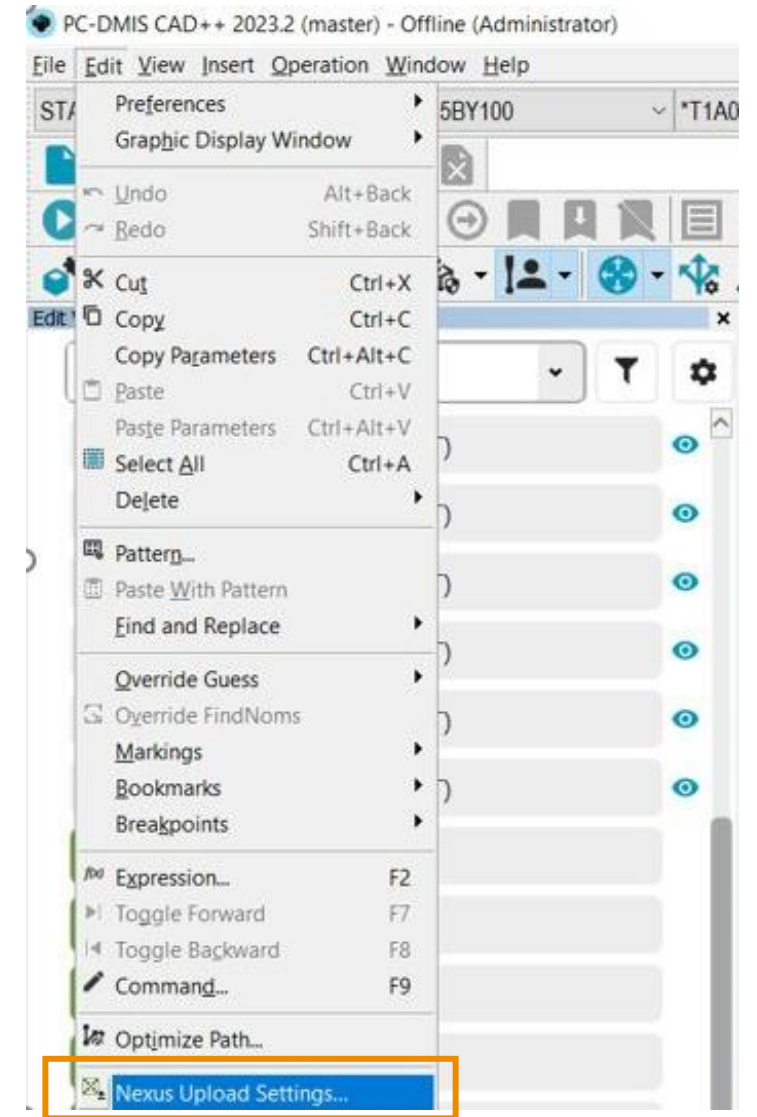
# Send report data to Nexus

## Feature Description

- PC-DMIS report data can now be uploaded directly to Metrology Reporting without using SFx desktop application.
- More user options are now available in Nexus Upload Settings dialog to provide more control on the data upload
- Operator can choose to upload or not, add a message to be prompted before upload or not, and select the data fields to upload.
- Extra feedback available to user showing success/fail of data upload



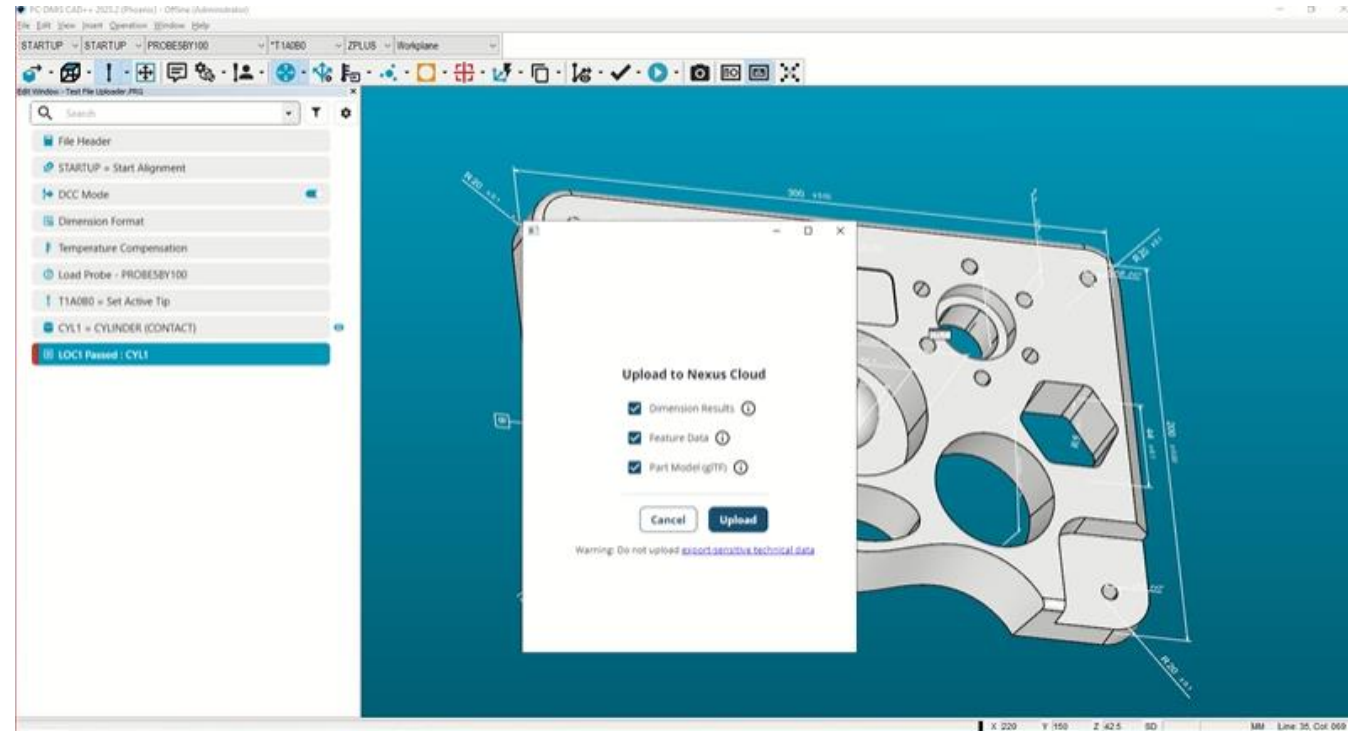
Warning: Do not upload [export-sensitive technical data](#)



# Send report data to Nexus

## Feature Benefits

- Provides more control over the data uploaded – avoid sending sensitive or erroneous data to Nexus
- Much more streamlined set up - no need to install SFX desktop and configure it
- Free to use with Nexus Metrology Reporting



Watch [demo video](#)



# New branding

# New branding

## Feature Description

- Latest icons and branding have been added in the 2023.2 release

## Feature Benefits

- Harmonises the user experience across our software suite and wider ecosystem of products

