



CADfix DX 14

“What’s new”

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Q2 2026

CADfix DX 14 Summary

- Import/Export
 - Latest CAD versions supported
 - New exports: 3MF, .stl.gz, glTF with DRACO
 - New imports: USD, Rhino & .stl.gz
- 3D Diff
 - New CAD-to-CAD diff heatmaps
 - New scan pre-processing tools in Scan-to-CAD
- Model Tree/Assembly Tree/Probe
 - Attributes assigned to assembly tree can be now be probed
- Wizard
 - New Transform option to add a far-field domain
- Replace
 - CATIA V5 CGR to BREP enhancements
- Split
 - New tool to split faces into structured quads, ideal for hex meshing
- Hex-split
 - New auto-split capabilities for complex faces
 - Much improved hex mesh generation
- Imprint
 - Imprinted surfaces embedded in identical surfaces
- Morph
 - Improved accuracy and faster performance
- APIs
 - CWI enhancements
- Platforms
 - Windows 10 & 11, Linux RHEL8

Rollup of CADfix 13 Service Packs

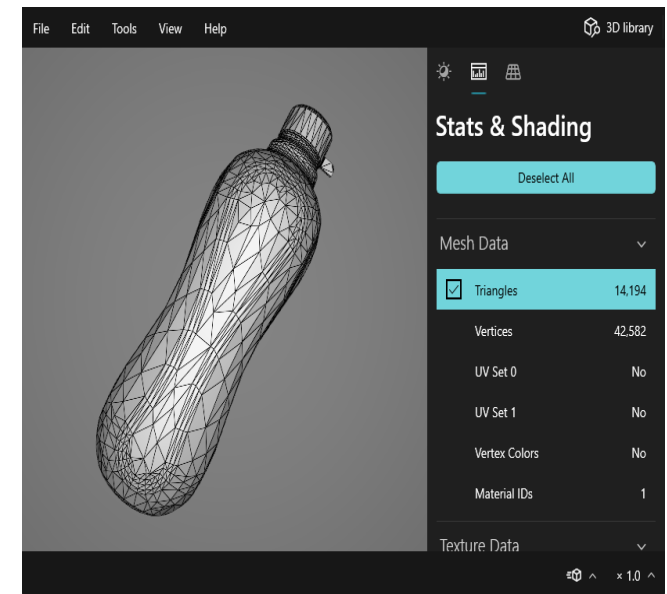
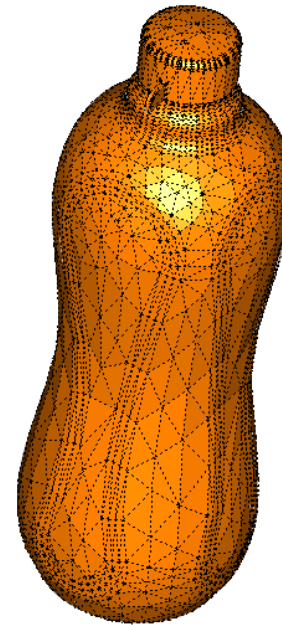
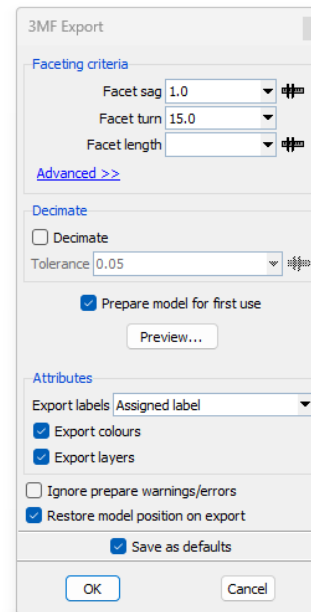
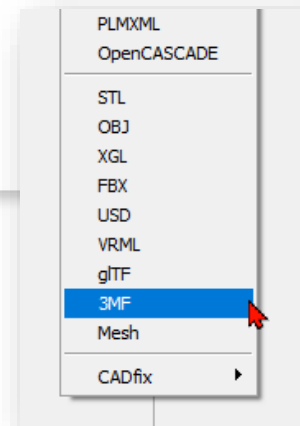
- 13/SP1
 - Import/Export
 - New USD export for AR/VR/XR
 - STL export improvements
 - Mid-surfaces
 - New automatic mid-surface generation tool
 - Tet meshing
 - New 2nd order tet generation
 - Smart mesh sizing
 - Parallel for multi-solid models
 - Hex-split
 - New tools for splitting models for hex meshing
- 13/SP2
 - Import/Export
 - New BIM formats added:
 - Navisworks, Revit & IFC
 - STL export improvements
 - Defeature
 - New BREP shrink-wrap tool
 - Fillet removal upgrade
 - Hex-split
 - More complex auto-splits
 - Splitting tools
 - New dynamic cutting planes
 - Morph
 - Accuracy, quality and performance improvements

DX14: Import/Export

- CAD version support updates
 - CATIA V5-6 R2026
 - NX 2512
 - Creo 12.0
 - SolidWorks 2026
 - SolidEdge 2026
 - Inventor 2027
 - IFC4x3_ADD2
 - ACIS 2026 R1
 - Parasolid 38.1
- New 3MF export
 - Facet model export to .3mf files
- New USD import
 - Visualisation facets + attributes
- New Rhino import
 - B-Rep geometry from .3dm files
- STL import/export
 - Gzip compression supported (.stl.gz)
 - Improved facet size controls on export
- glTF import/export
 - Support for DRACO compression
- Robust tet mesh export
 - More tolerant of CAD defects
- User Attribute Import
 - Direct assignment to entities
- Security
 - New secure sandbox runtime environment

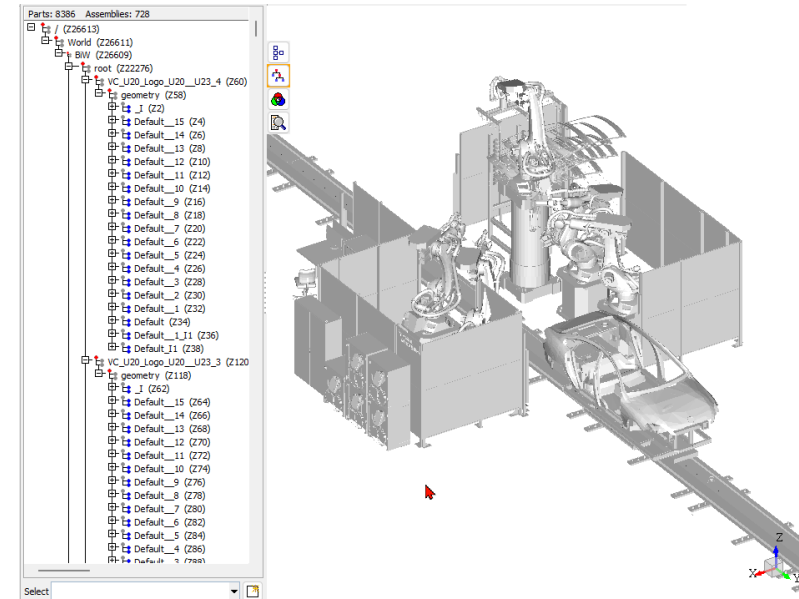
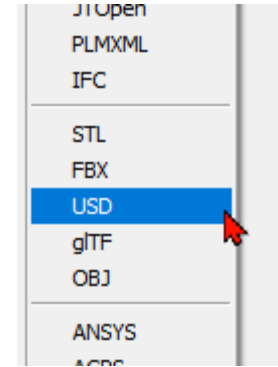
New 3MF Export

- Export of facets to .3mf files
- Better format than STL for 3D printing
- User controls over accuracy of facets



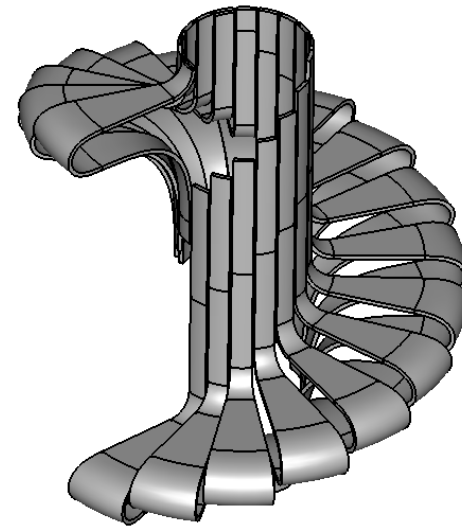
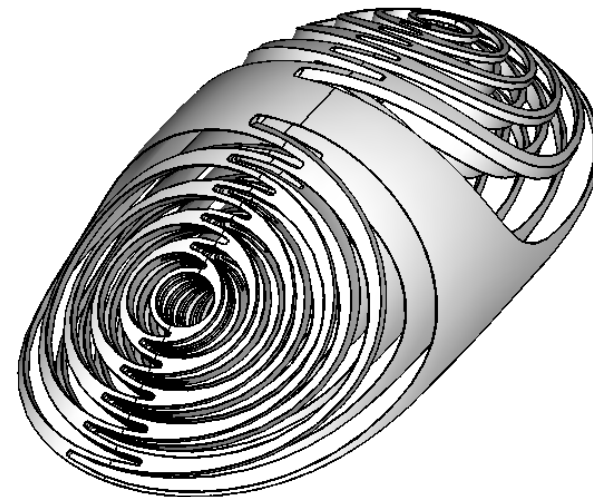
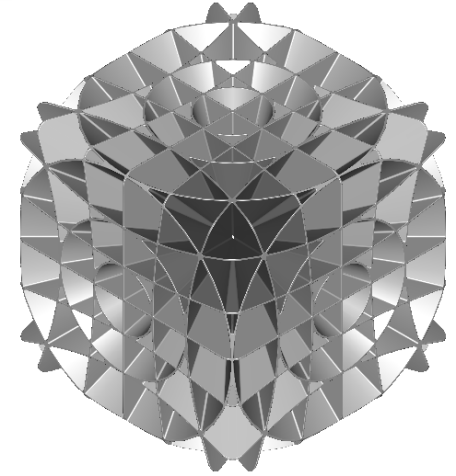
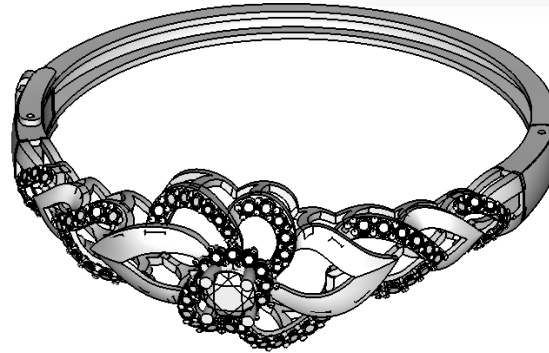
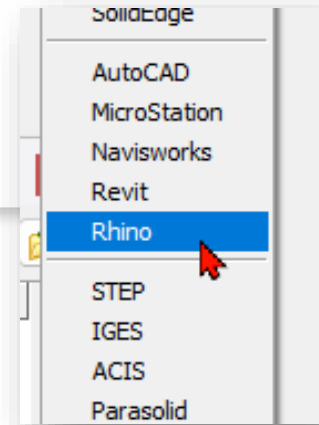
New USD Import

- Supported files:
 - .usd .usda .usdc .usdz
- Colours & transparency
- Attributes & properties
- Scene graph assembly



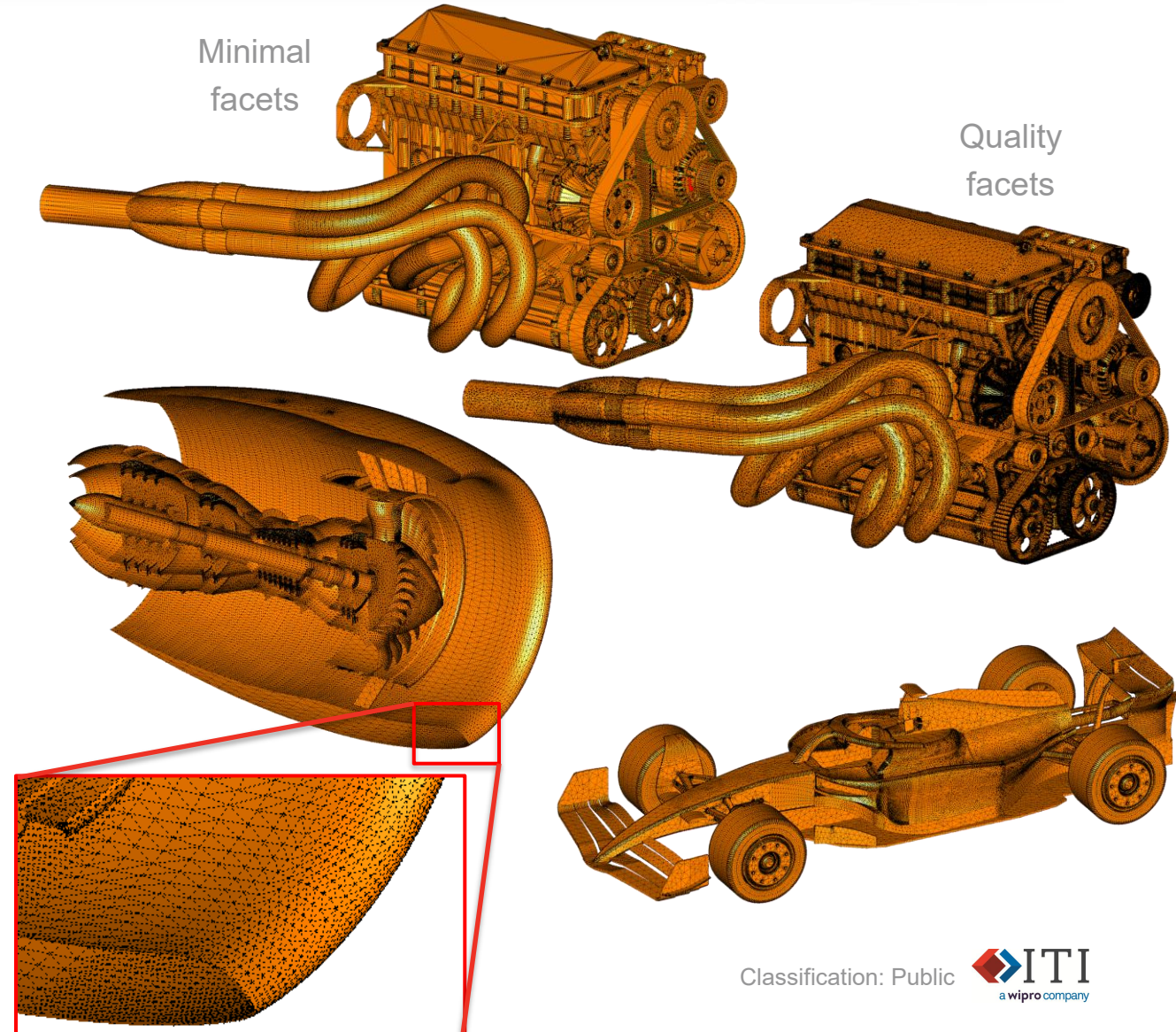
New Rhino Import

- Import of B-Rep geometry from .3dm files
- Versions 2-8 supported



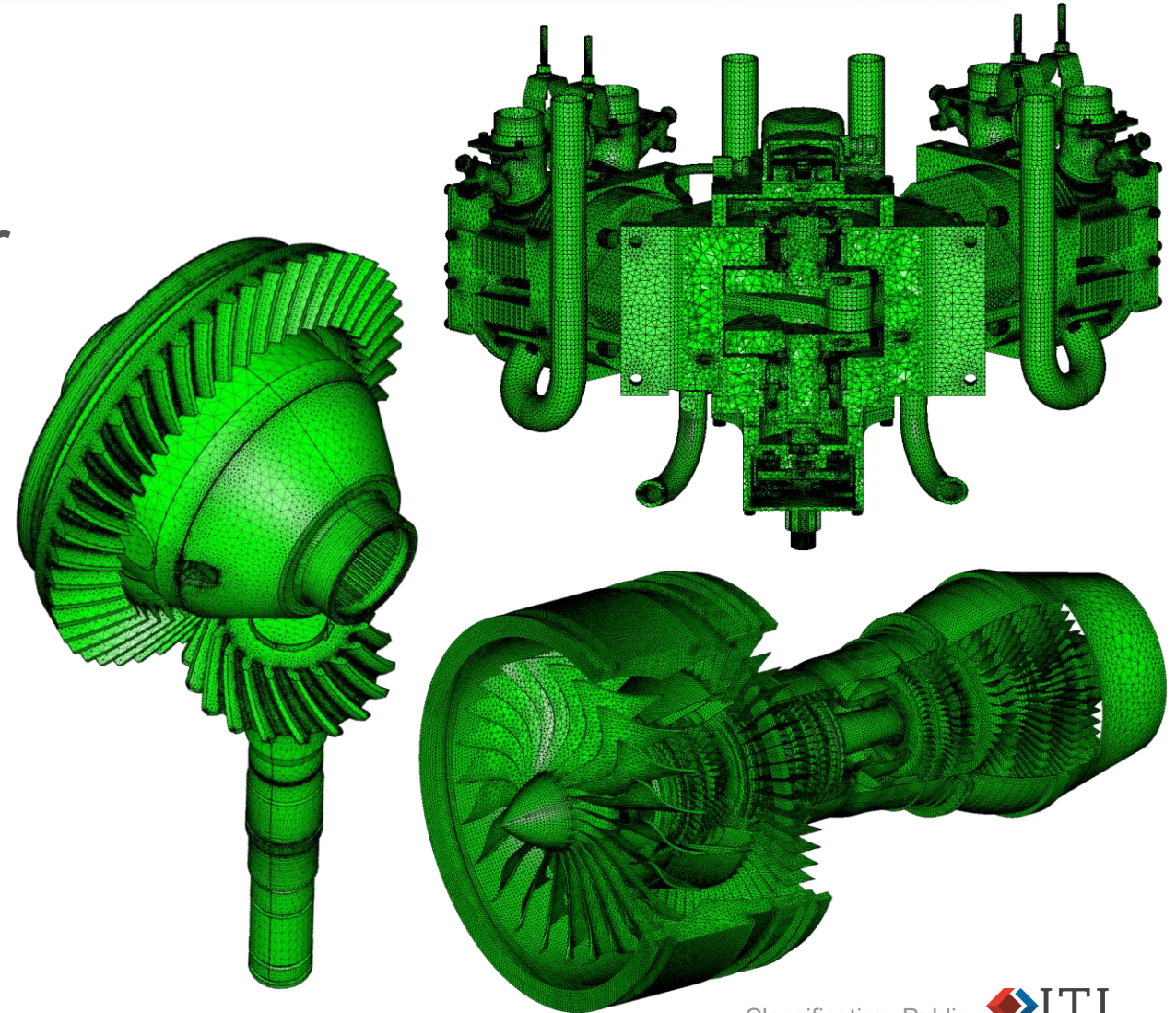
Improved STL Export

- More robust against CAD geometry errors
- Faster generation
- Improved size grading producing higher quality
- Improved accuracy through guaranteed sag control
- More structured meshes
- Smarter decimation of small CAD features



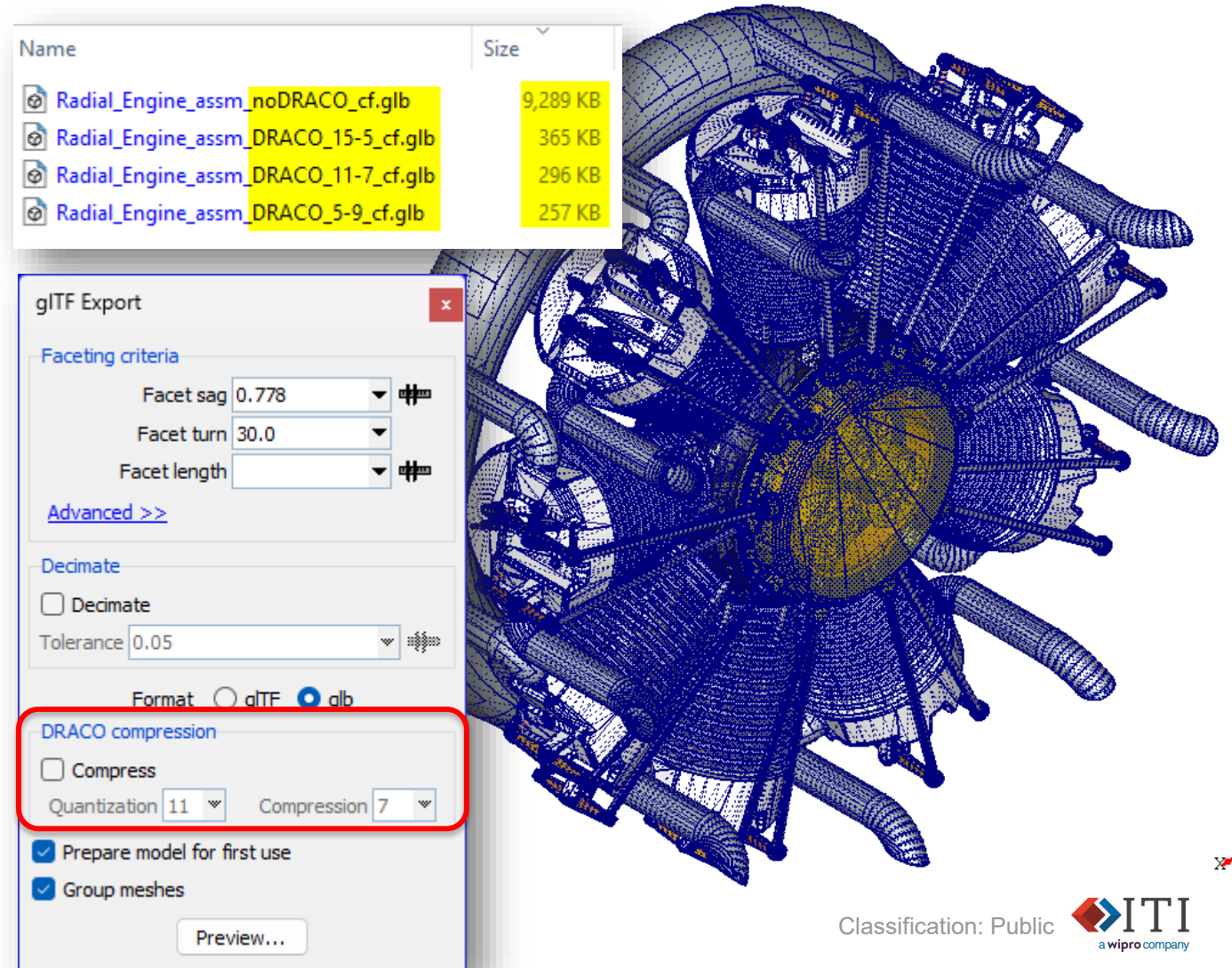
Improved Tet Mesh Export

- More robust tet meshing
- Surface meshing copes better with bad CAD geometry
- 2nd order tet quality improved
- Improved size grading
- Faster generation
- **Push-button tet mesh straight from CAD**



Improved glTF Export

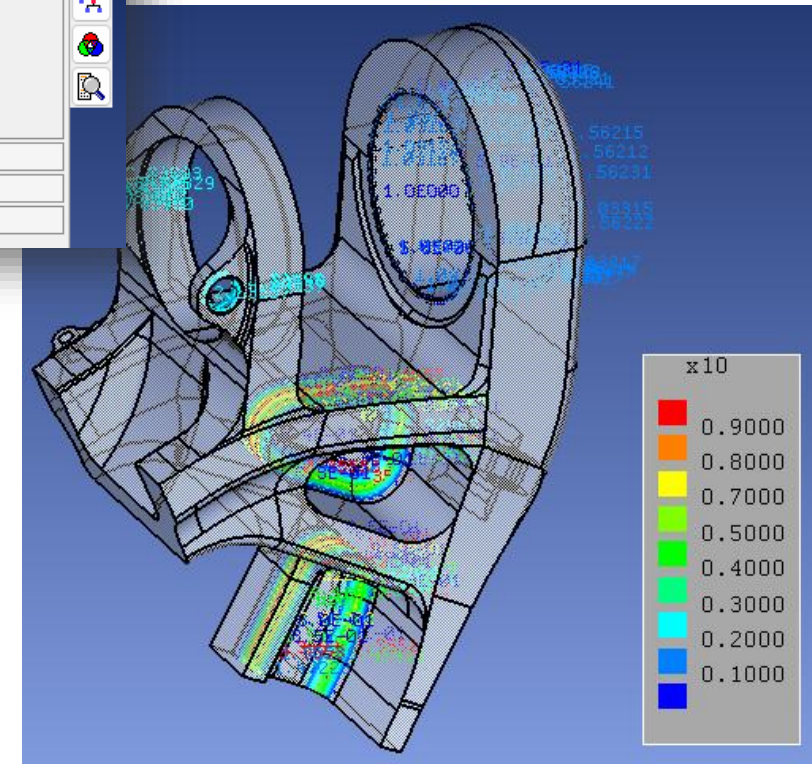
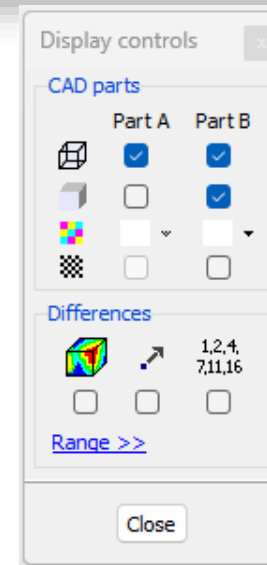
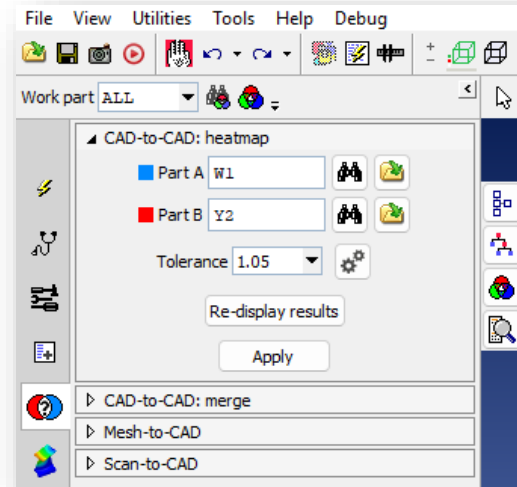
- New option to apply DRACO compression
- Significantly reduces glTF/glb file sizes
- Speeds up loading and render times
- User controls over level of compression
 - Trade-off file size with quality



DX14: 3D Diff Tools – Heatmaps

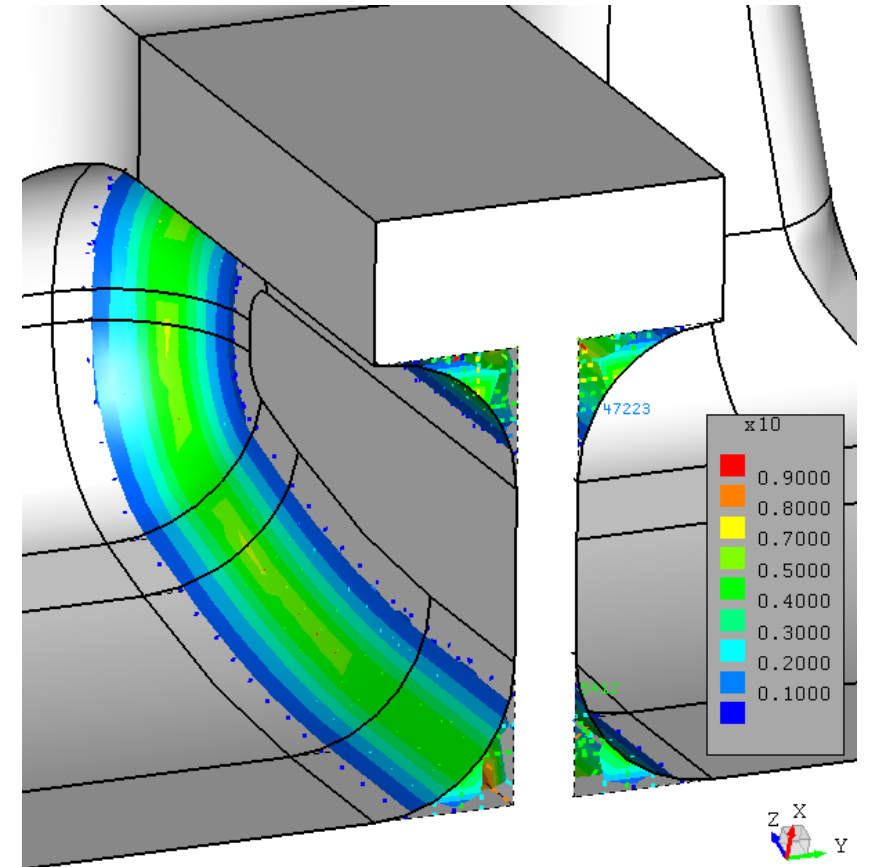
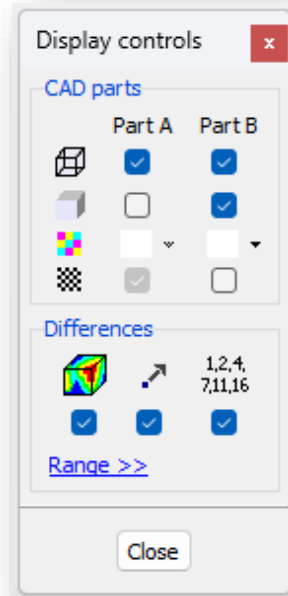
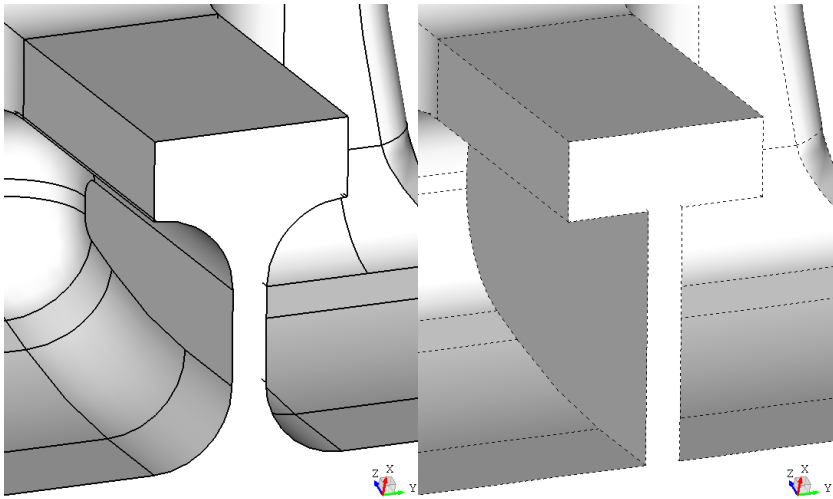
CAD-to-CAD heatmaps

- Visually compare 2 versions of a model
- Differences highlighted and measured
- Contours, vectors and numerical display of diffs
- User controls for exploring differences



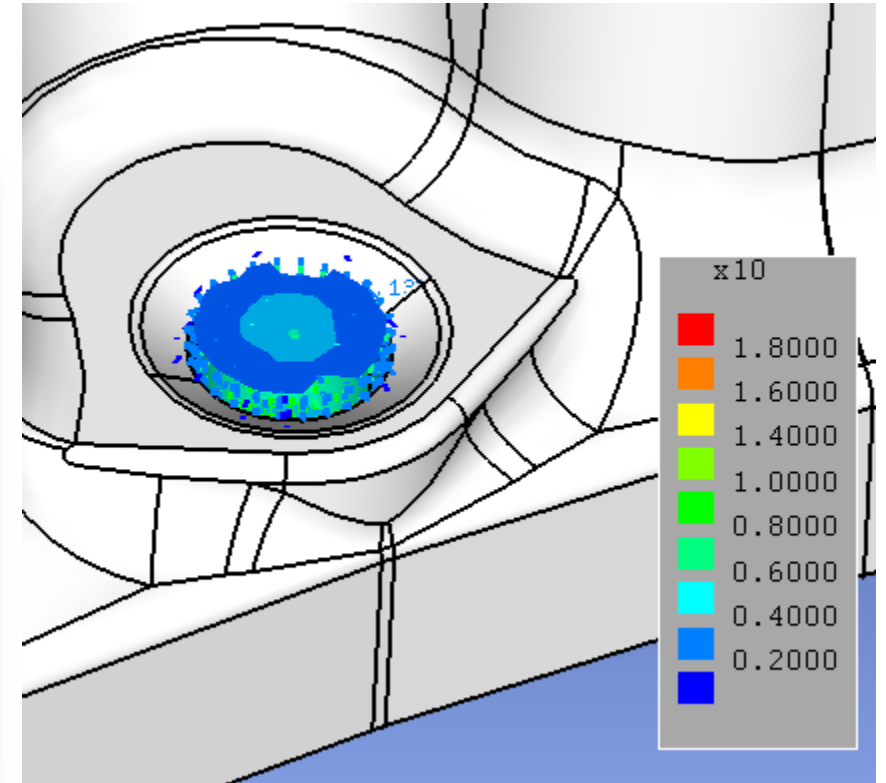
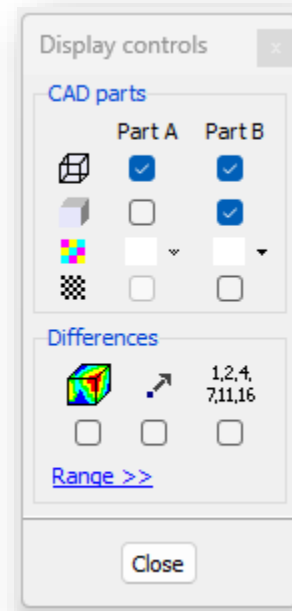
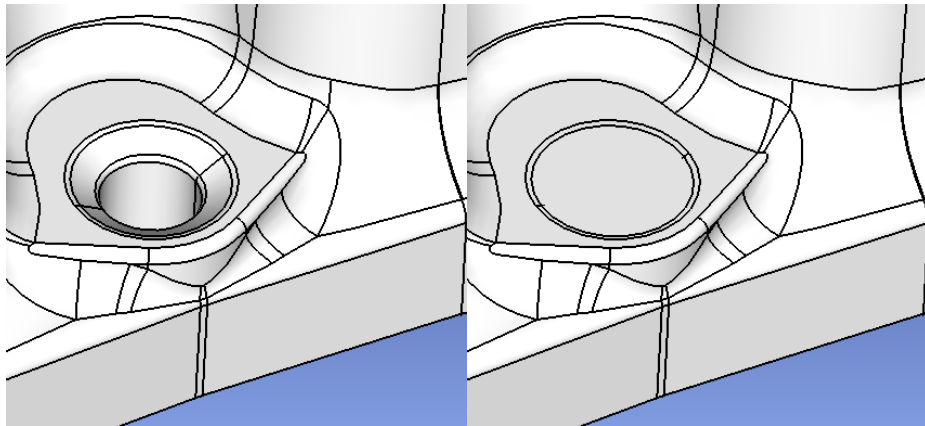
DX14: 3D Diff Tools – Heatmaps

Example: Fillets removed



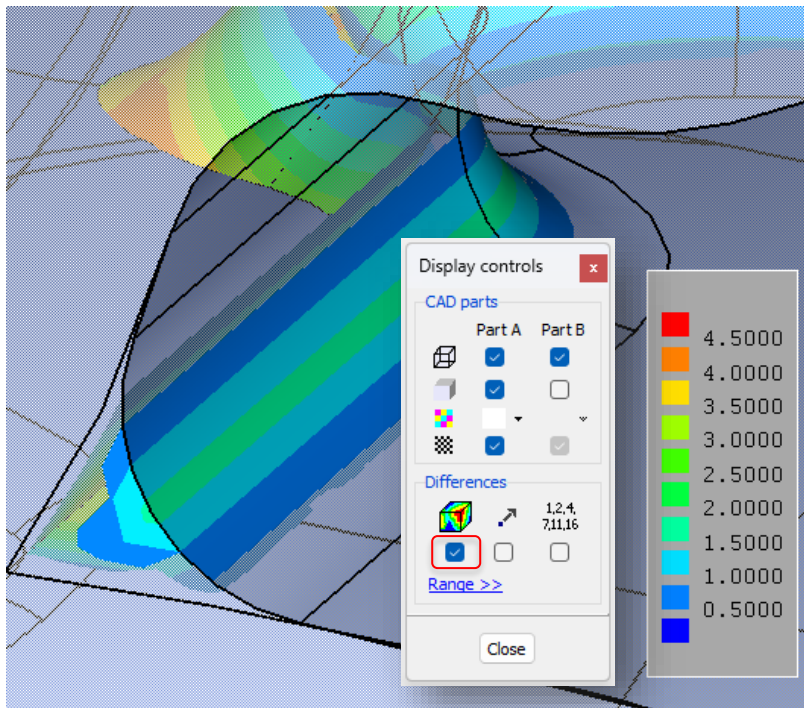
DX14: 3D Diff Tools – Heatmaps

Example: Hole removed

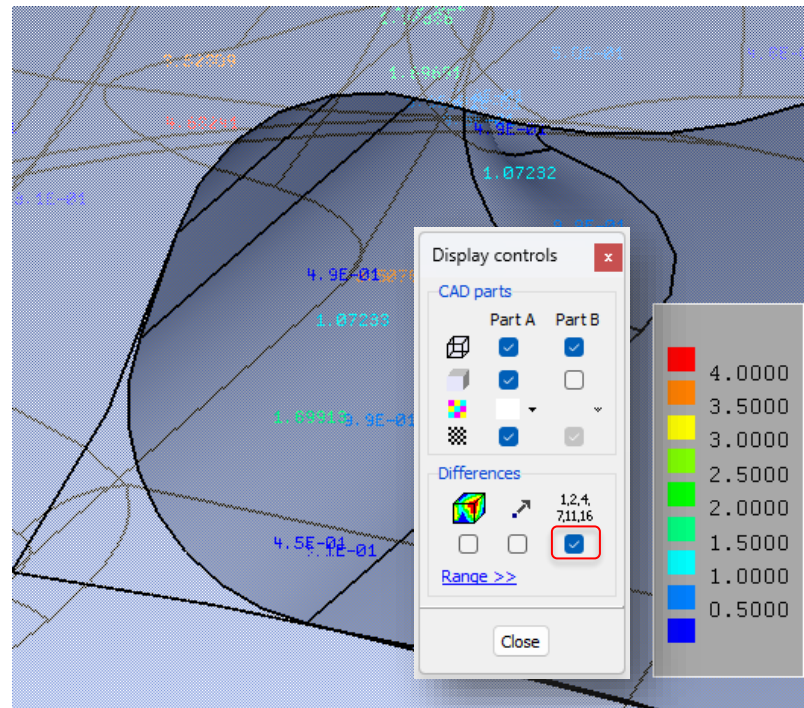


DX14: 3D Diff Tools – Heatmaps

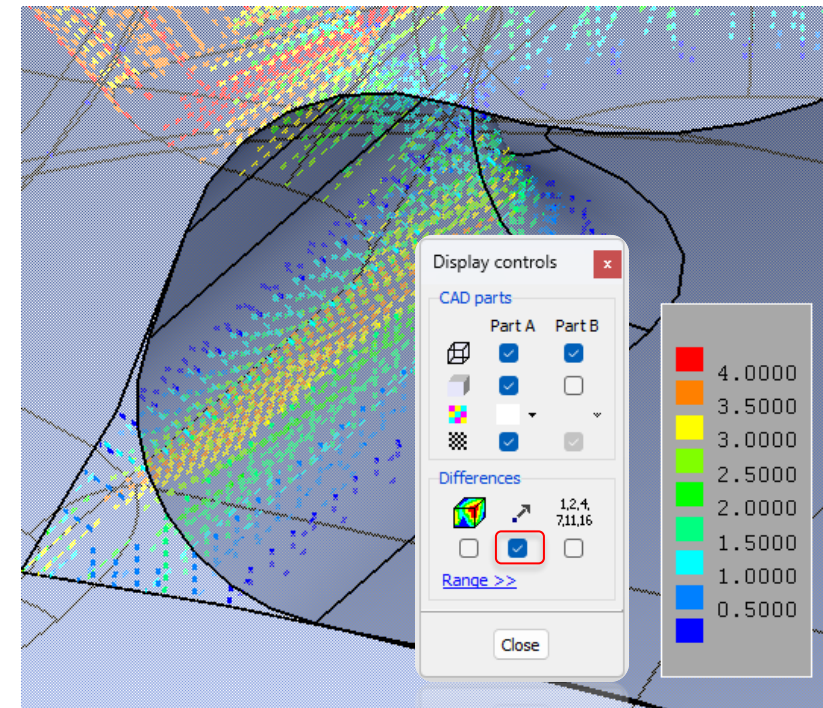
Results display



Contours of distance



Numerical distances

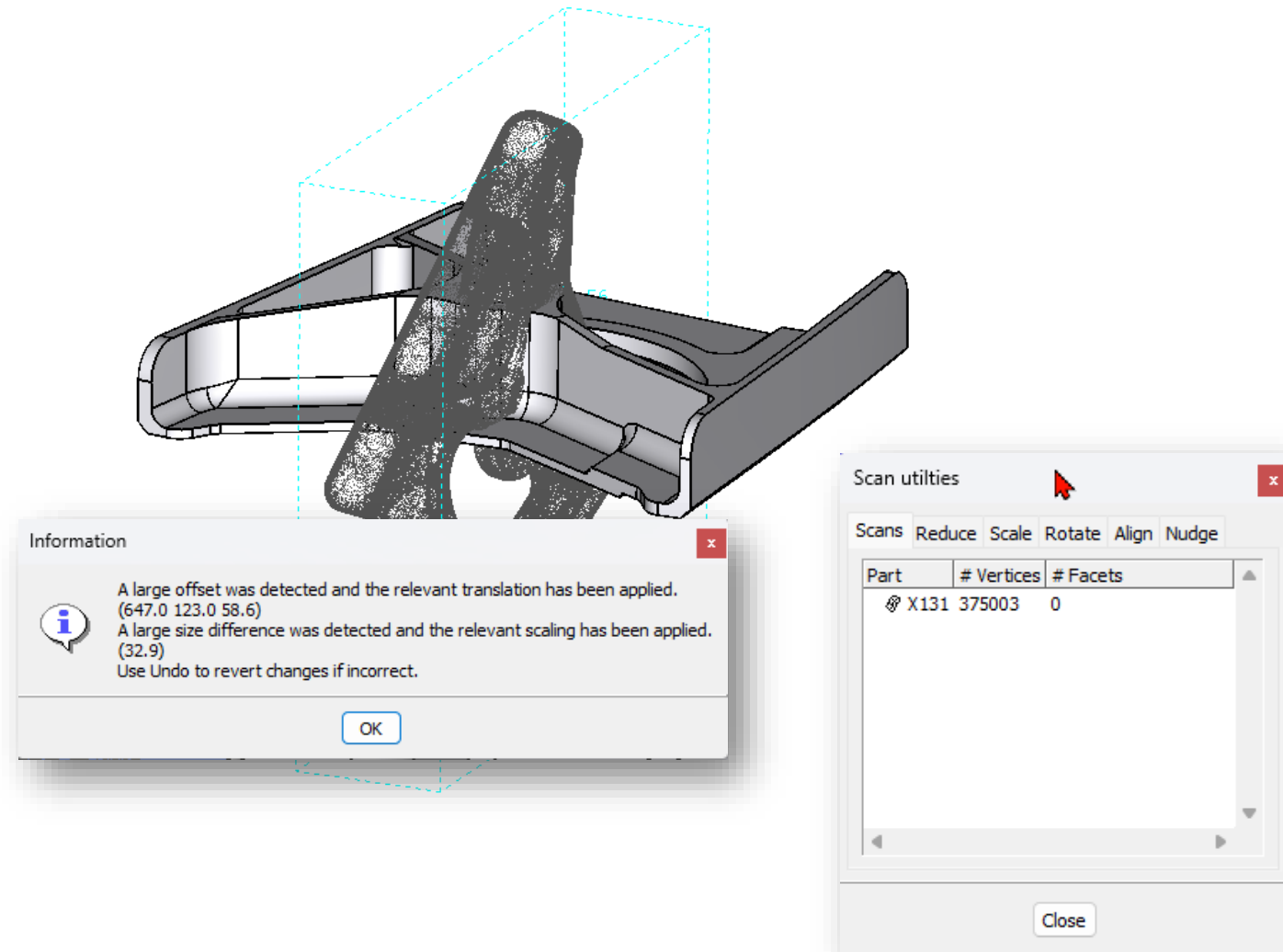


Vectors to closest points

DX14: 3D Diff Tools – Scan-to-CAD

Scan-to-CAD Alignment

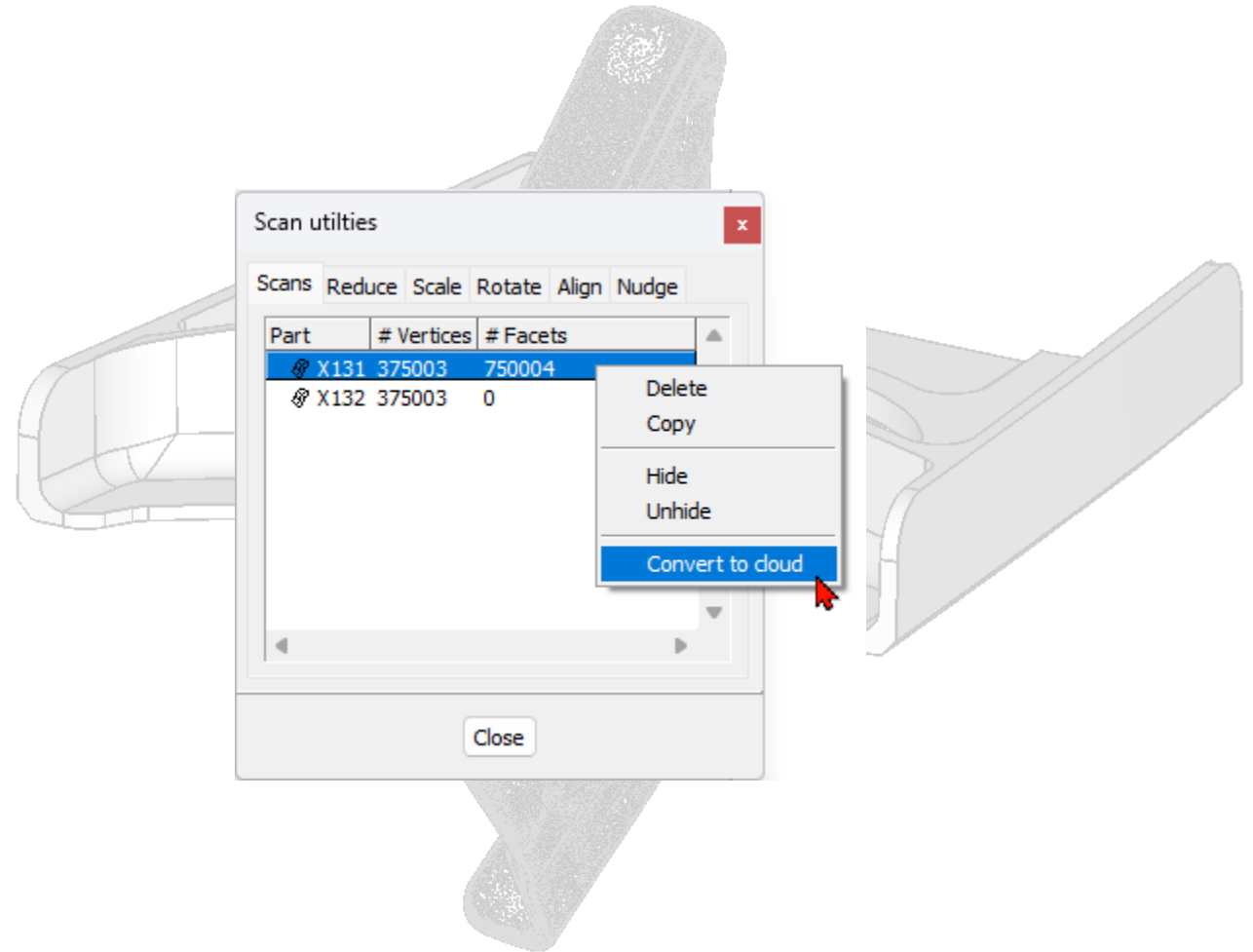
- New tools for aligning an imported scan
- Supports point clouds or triangulations
- Auto-detects common misalignments and fixes
 - Units scaling
 - Origin offsets
- Range of manual tools to tune the alignment



DX14: 3D Diff Tools – Scan-to-CAD

Manual Tools

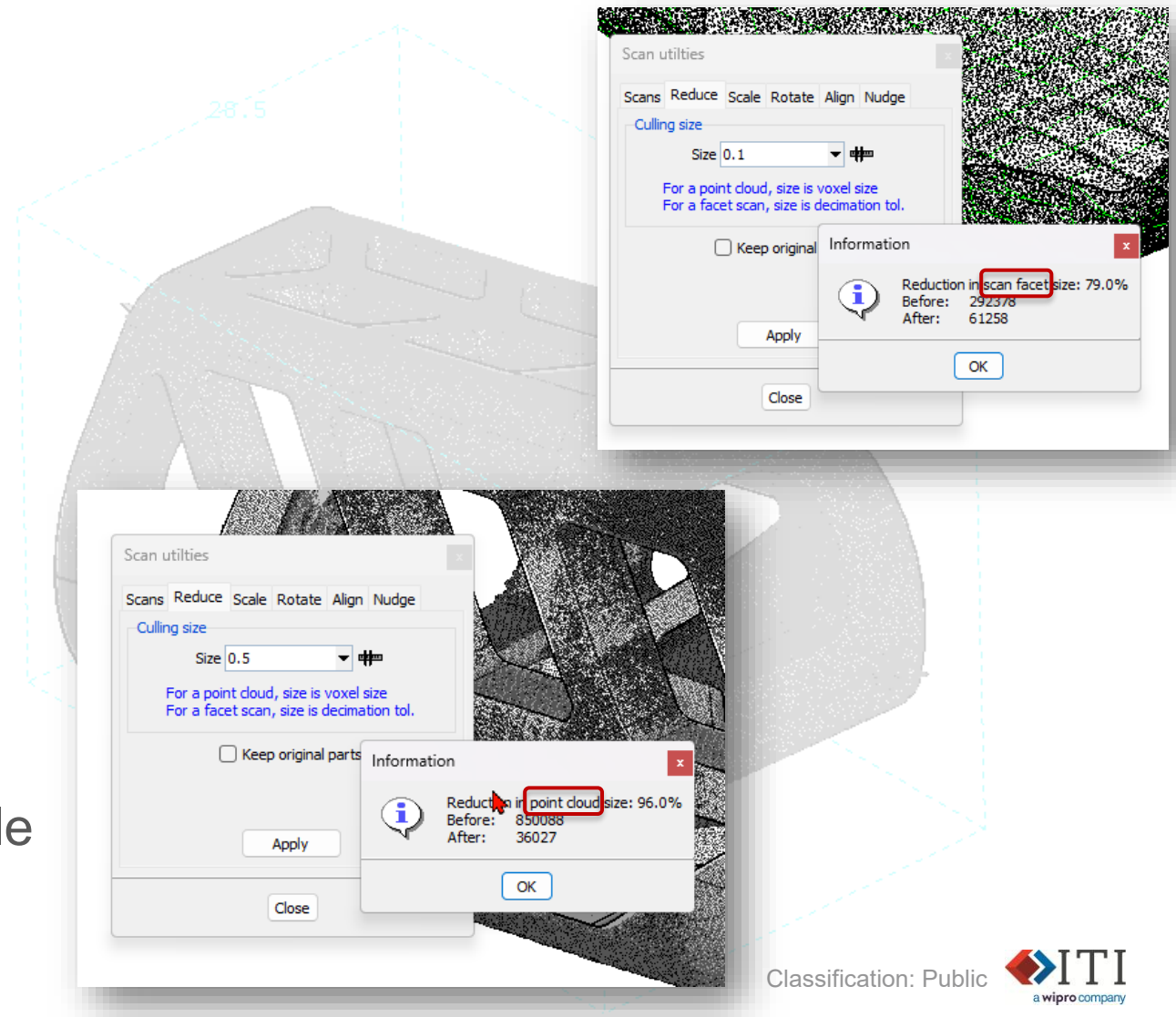
- Scan management
 - Shows type and data size
- Make a copy of a scan
 - Useful for testing alignments
- Delete unwanted scans
- Hide/Unhide for visibility
- Convert triangle scan to point cloud scan
 - Useful for data reduction tool “Reduce” in voxelisation mode



DX14: 3D Diff Tools – Scan-to-CAD

Manual Tools: “Reduce”

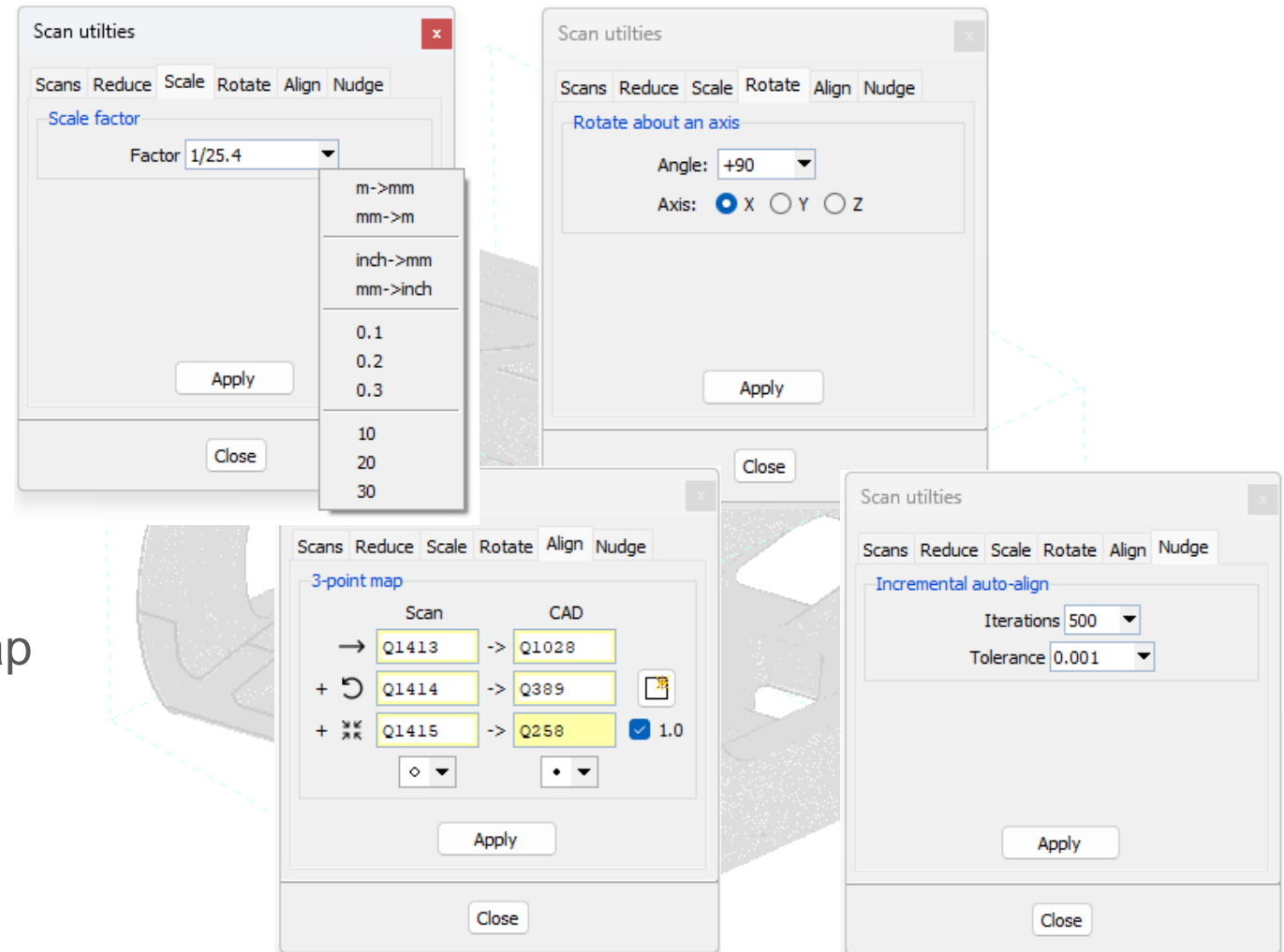
- Reduces scan data size
- Decimate triangle scans
 - Reduce triangle count but limit damage to stay within user defined limit
- Voxelise point cloud scans
 - Globally reduce point density within a user defined volume
 - Makes huge scans manageable



DX14: 3D Diff Tools – Scan-to-CAD

Manual Tools

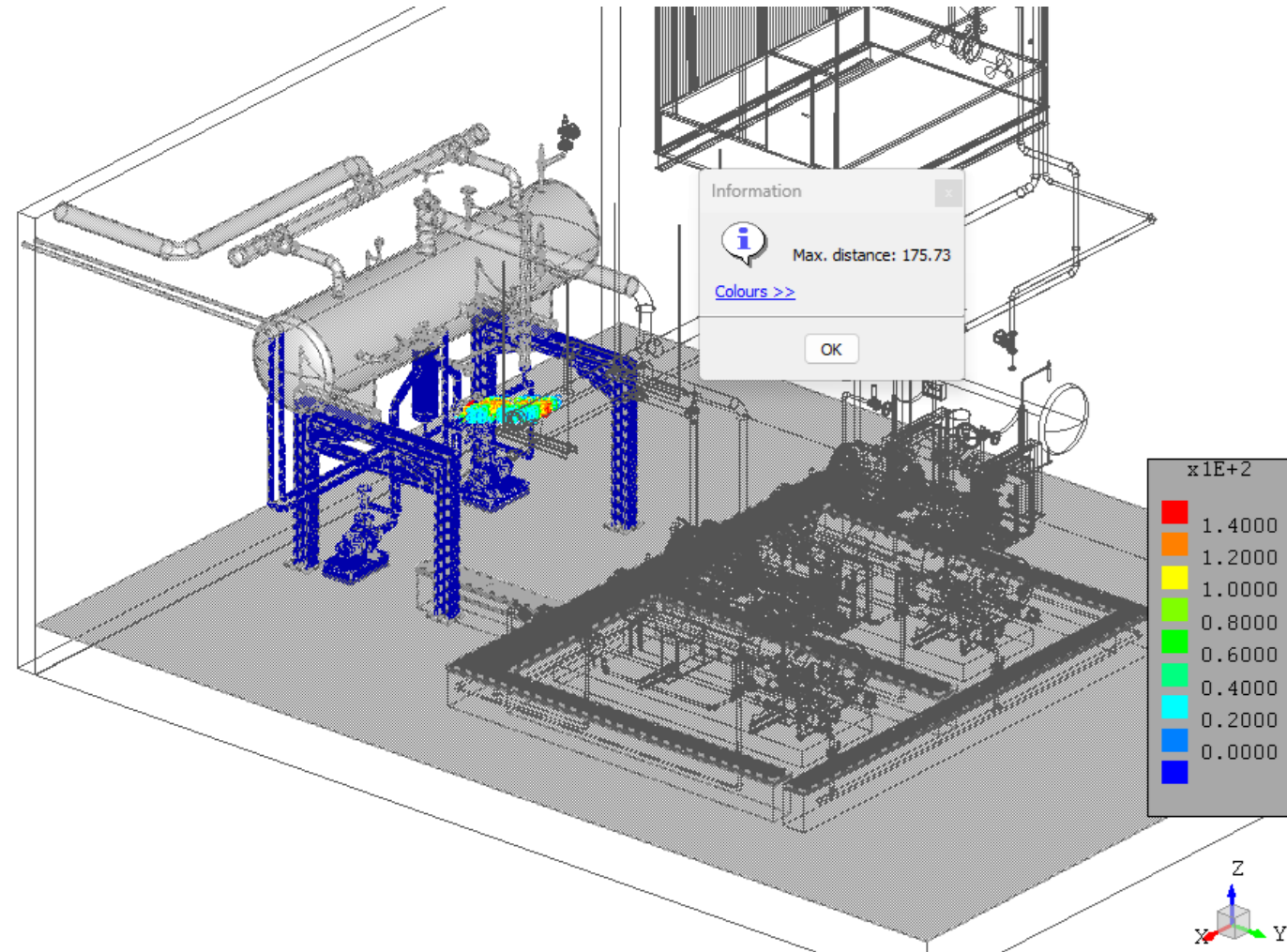
- “Scale” a scan
 - Common unit scaling
 - User defined scale factor
- “Rotate” a scan
 - Common axis rotations
- “Align” a scan
 - Pick 2, 4 or 6 positions to snap alignment
- “Nudge” a scan
 - Iterative tool for final fine adjustments



DX14: 3D Diff Tools – Scan-to-CAD

Example: factory scan

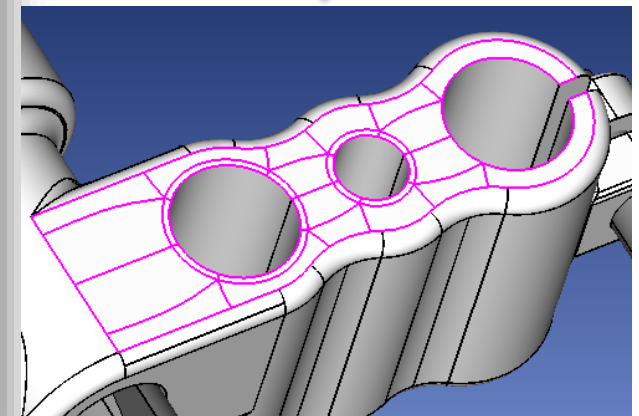
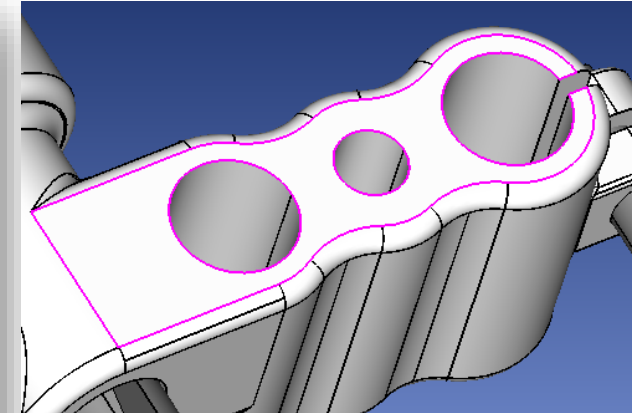
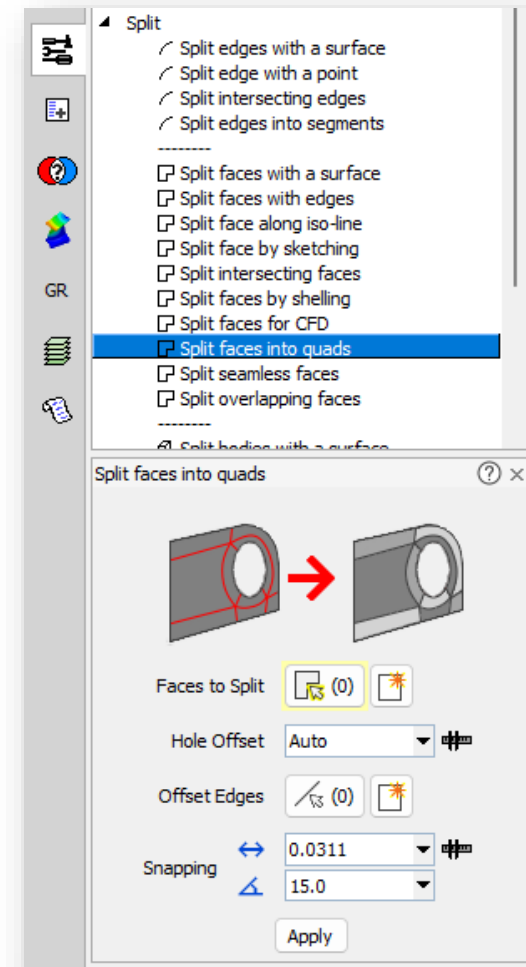
- Huge partial point cloud scan as input
- Voxelised to reduce data size
- Manually aligned
- Compared to full CAD model



DX14: Split Tools – Split Face into Quads

Auto-split complex faces into simple quad patterns

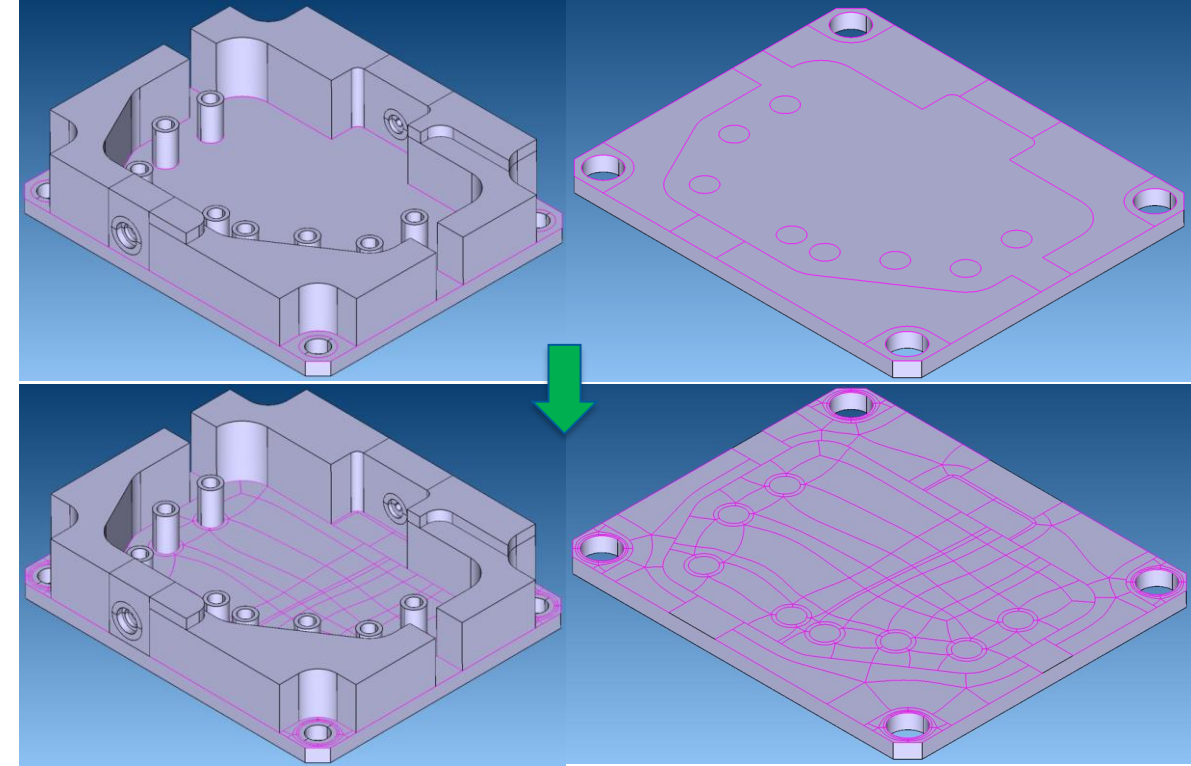
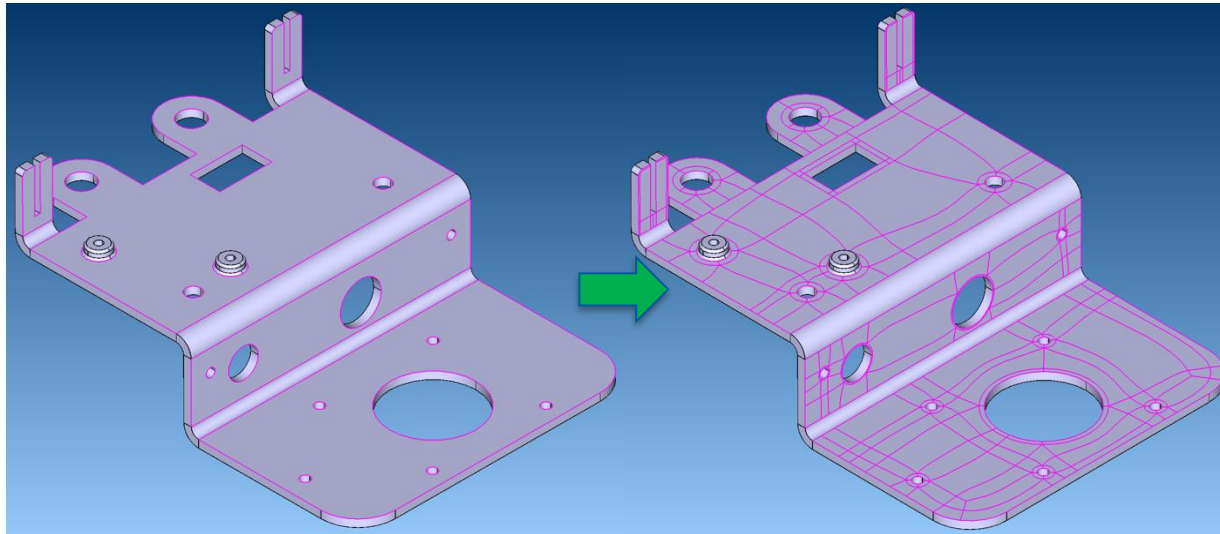
- Ideal for preparing models for hex meshing
- Minimal number of singularities for high regularity
- Optimally joined singularities for large quads
- Automatic extras:
 - Offset calculation around contact regions
 - Symmetry detection for uniform partitions
 - Snapping to prevent short edges
 - Periodic matching



DX14: Split Tools – Split Face into Quads

Auto-split complex faces into simple quad patterns

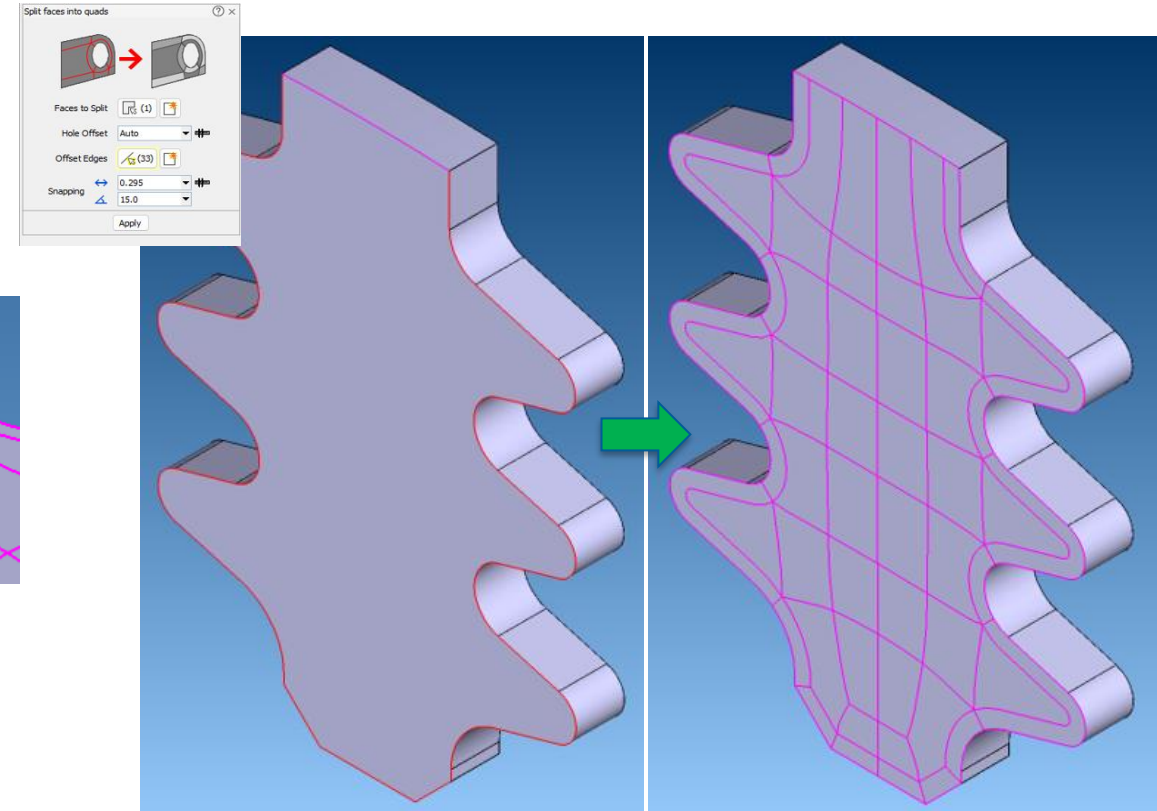
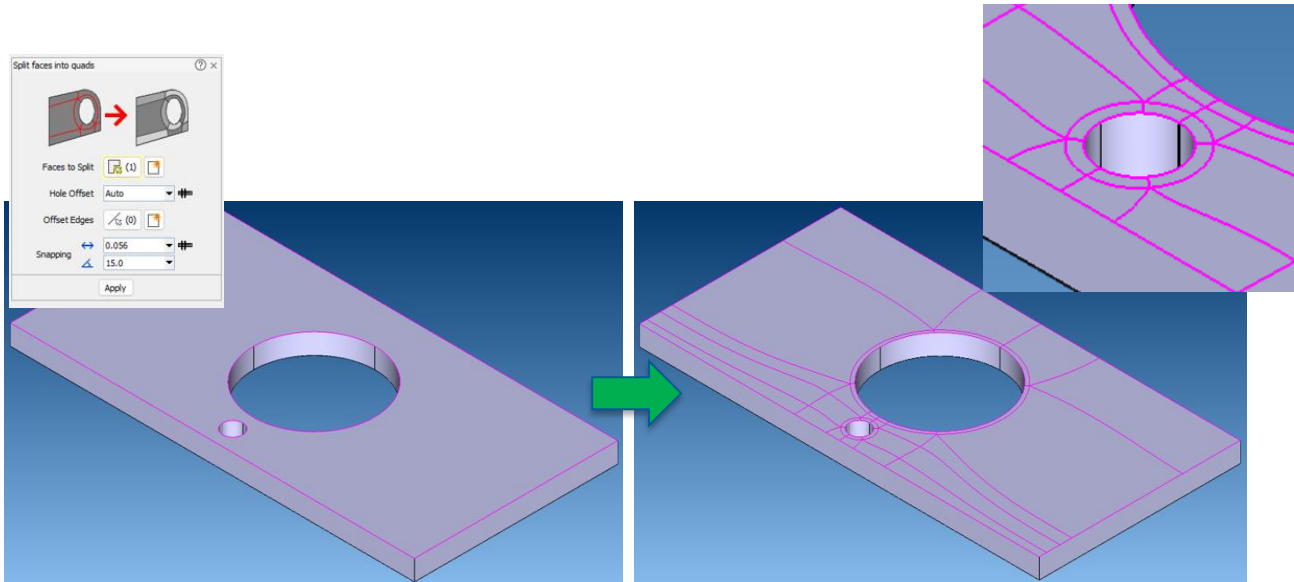
- Examples



DX14: Split Tools – Split Face into Quads

Offset

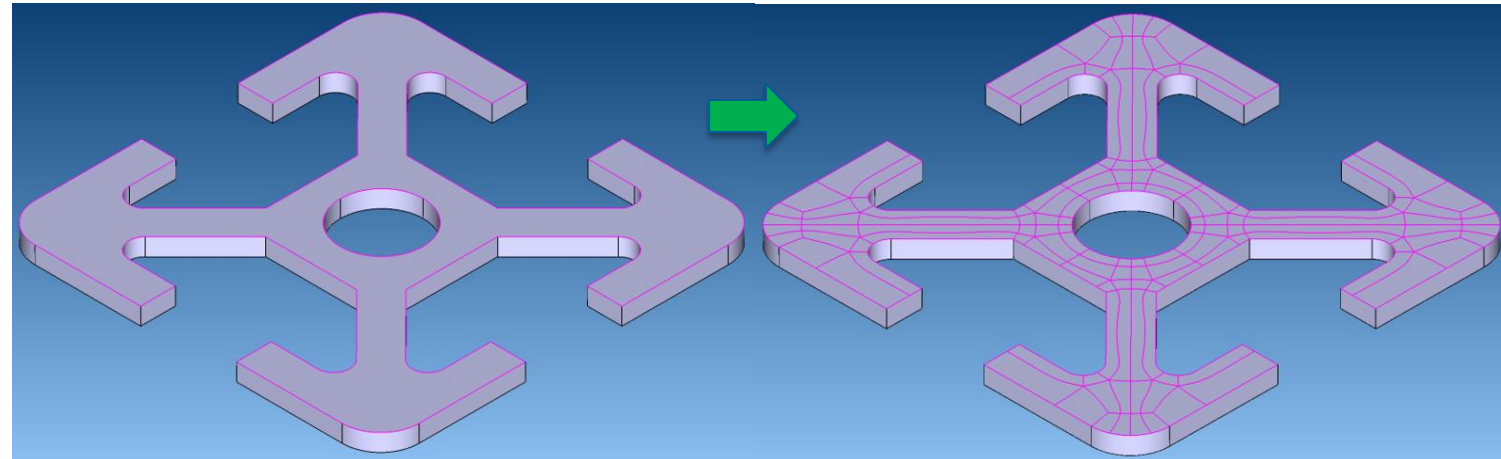
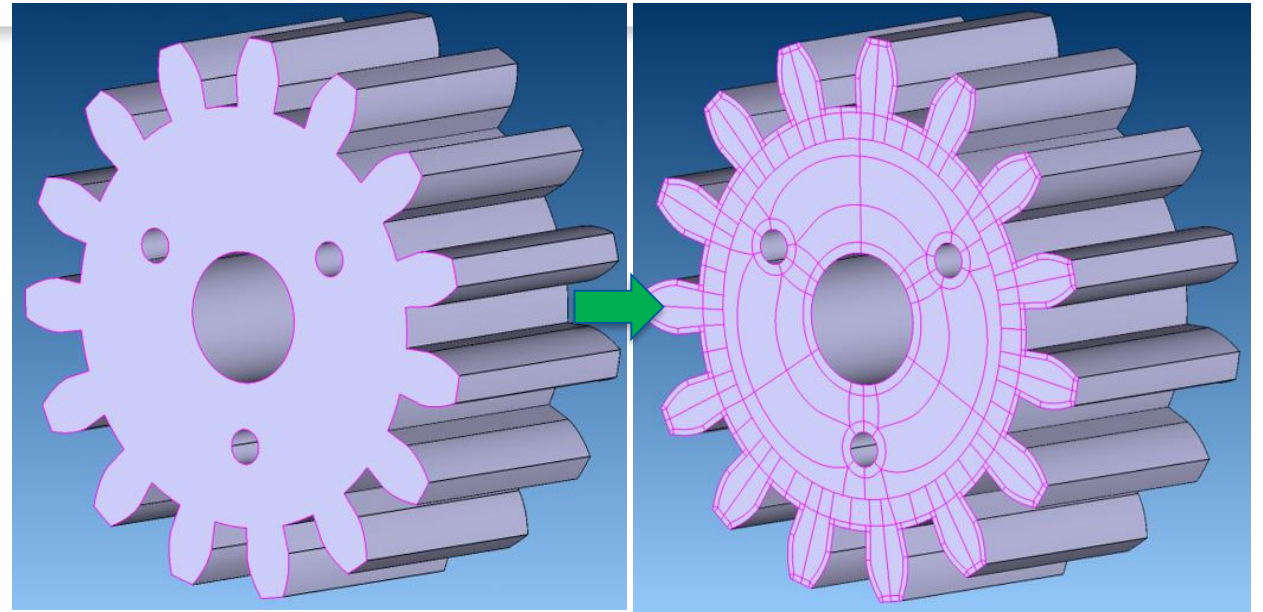
- Automatic offset distance calculation around holes and selected edges



DX14: Split Tools – Split Face into Quads

Symmetry

- Automatic Symmetry detection and splitting
 - Symmetry detected at large tolerances.
 - Partitions of symmetric components remain robustly consistent
 - Automatic separation of Out-Of-Phase patterns
 - Bands of patterns are partitioned independently
 - Then automatically mated with their neighbours
 - Pattern isolation
 - Minimal representation of a pattern is automatically extracted and partitioned.
 - Partitions remain consistent across the component



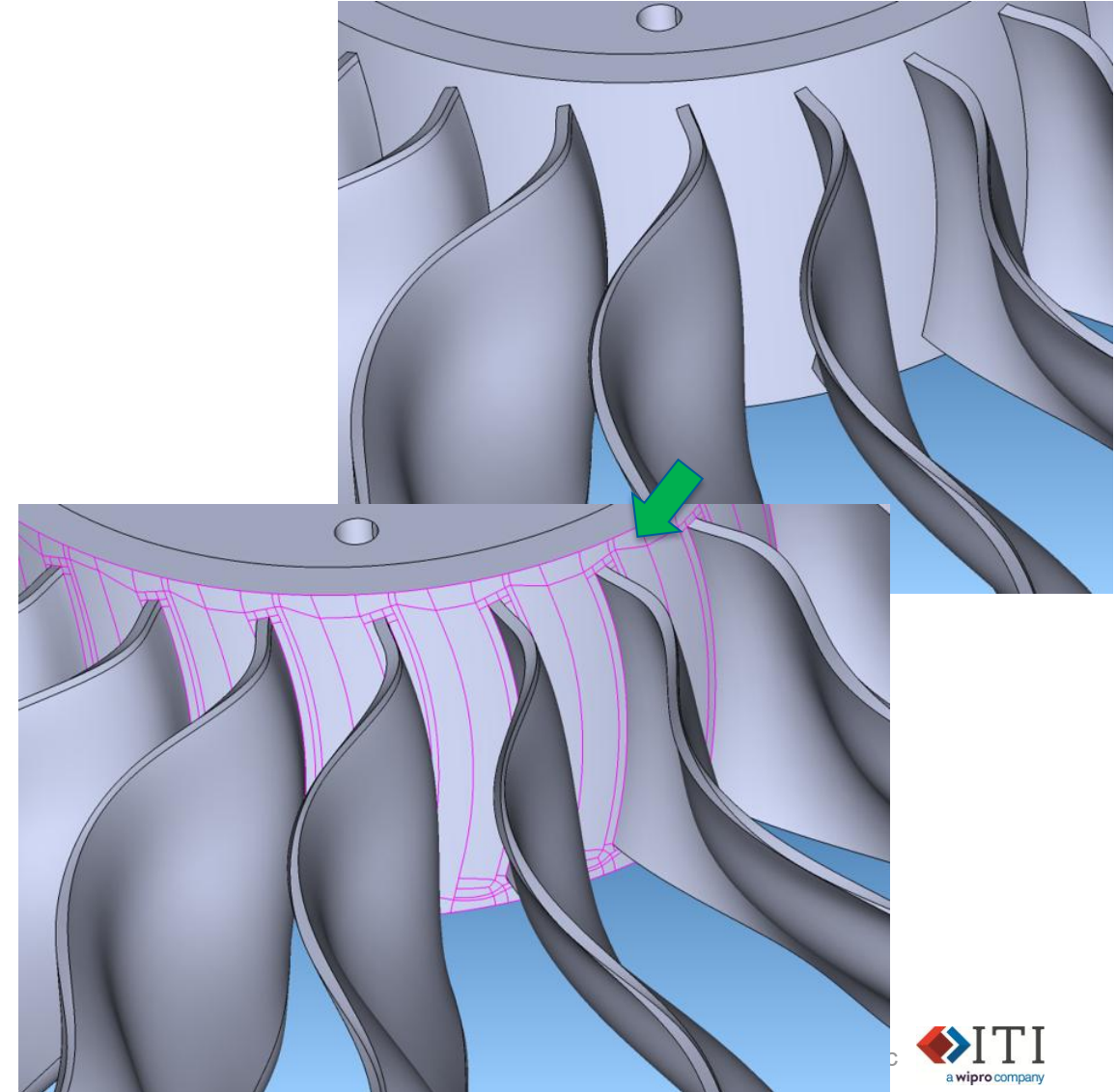
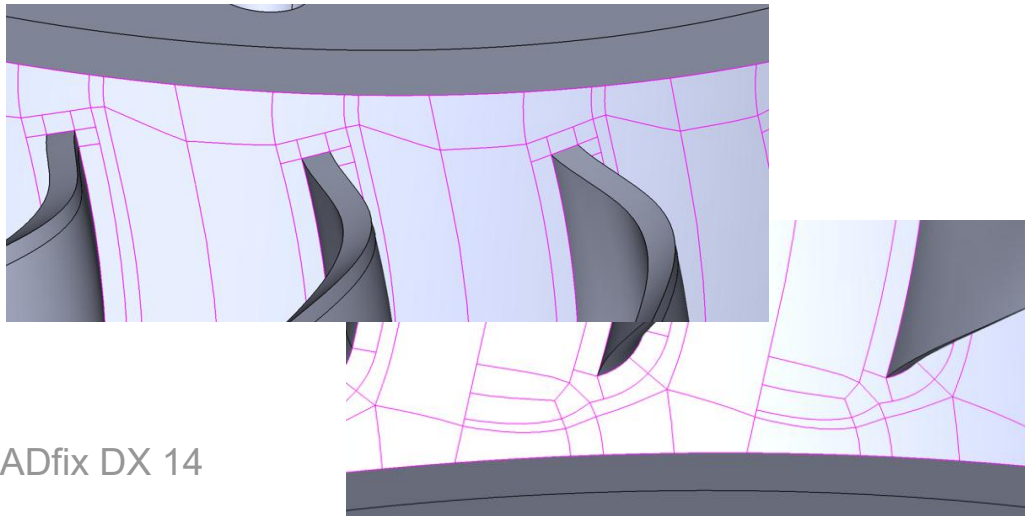
DX14: Split Tools – Split Face into Quads

Symmetry

- Automatic Symmetry detection and splitting
 - Medial Axis powered symmetry detection

Periodic Matching

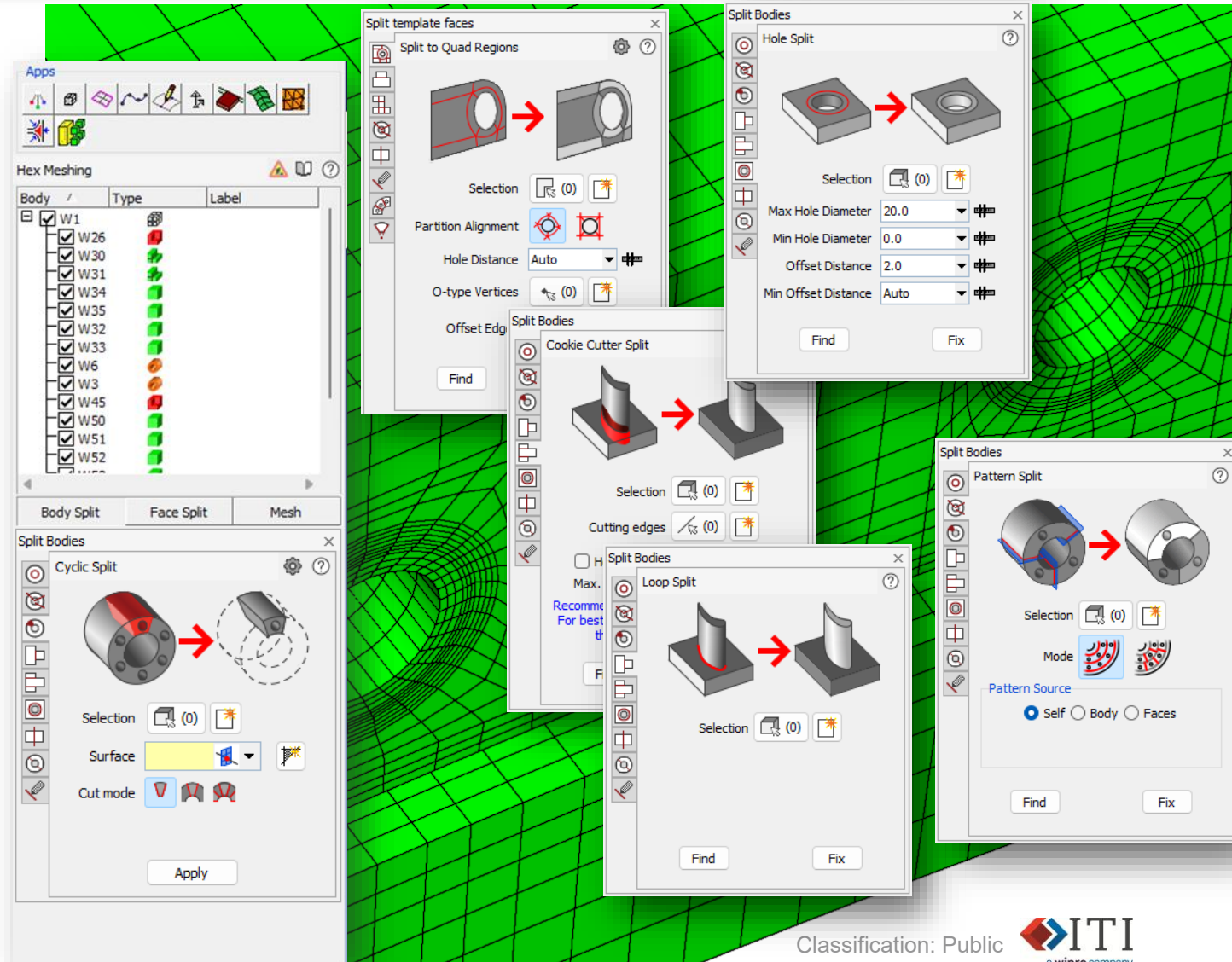
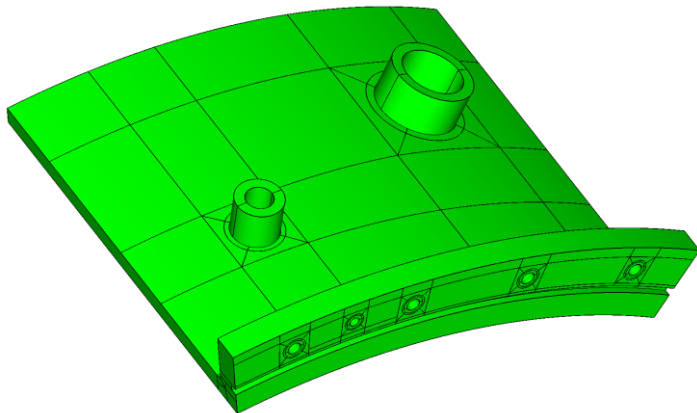
- Left-right splits auto-align



DX14: Hex-Split App

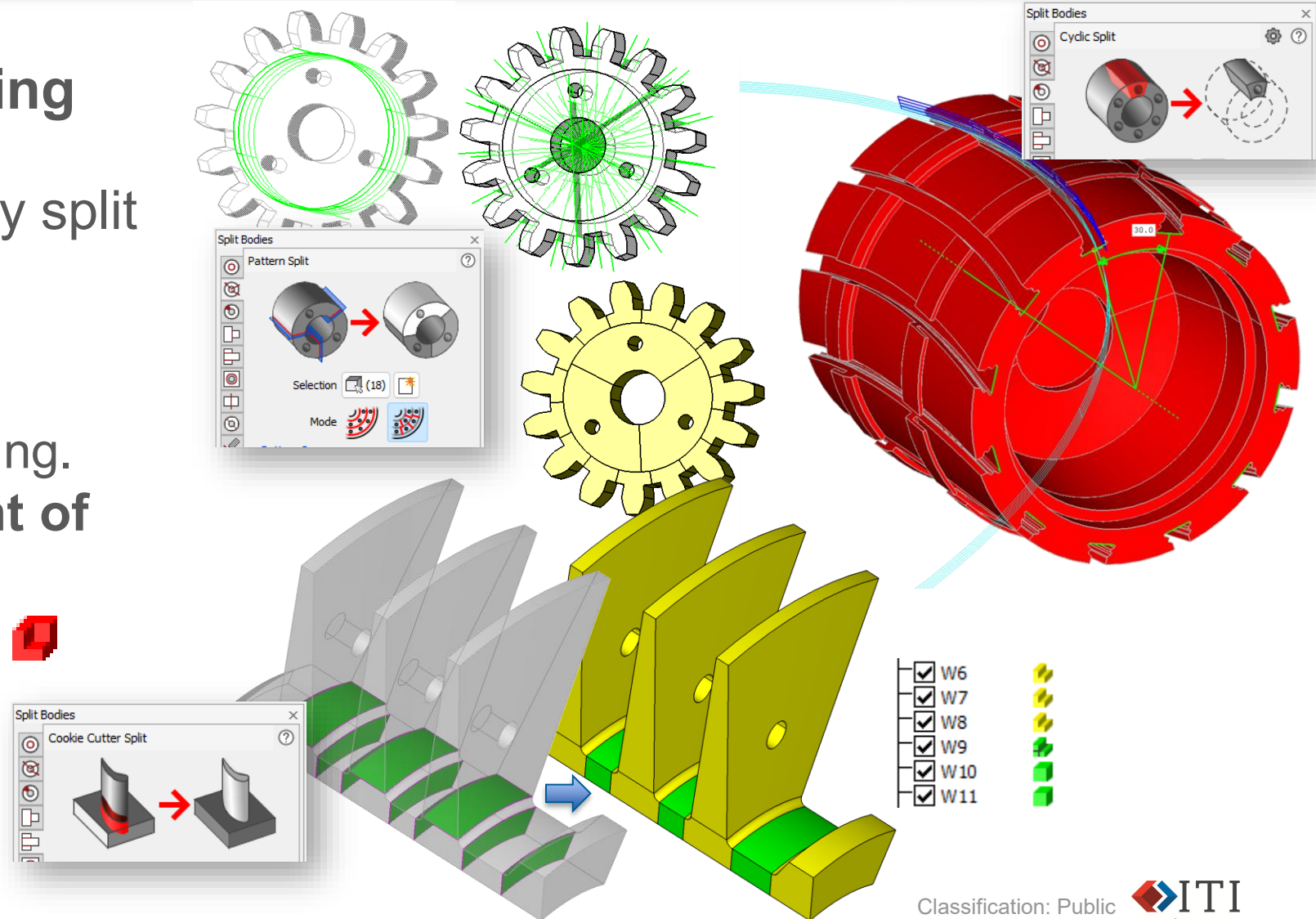
Powerful collection of tools for high quality hex meshing

- Body splitting using 3D medial axis
- Face splitting using cross-field
- Dynamic tools to manually construct splitting geometry
- Recipe-based hex meshing
- Smart sizing and balancing



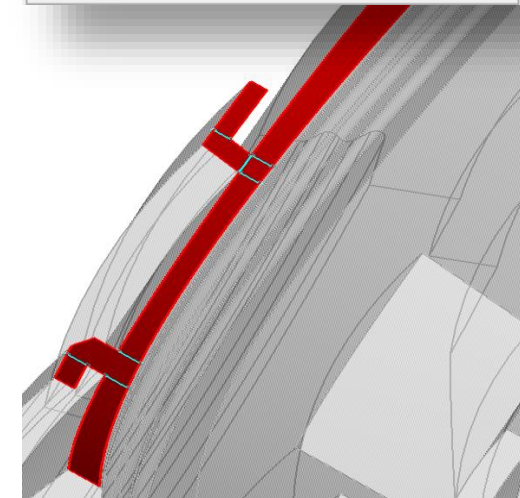
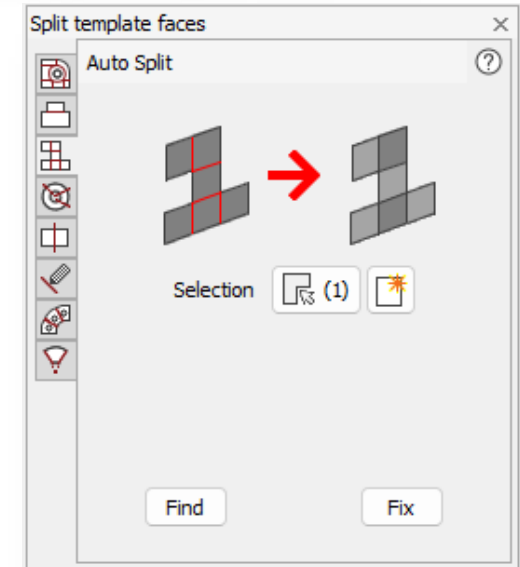
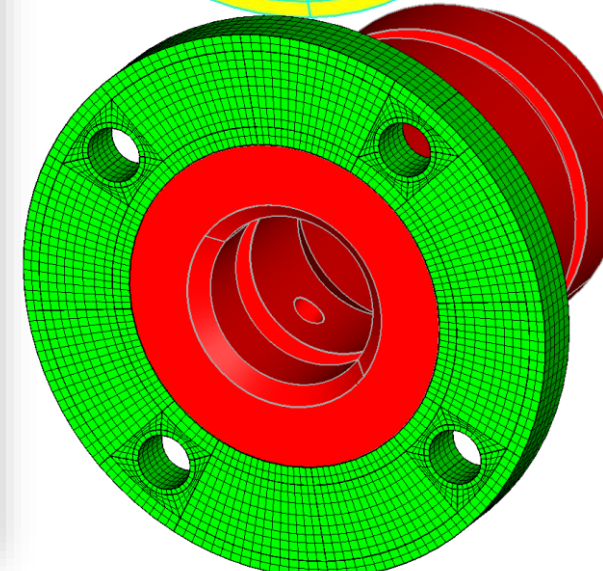
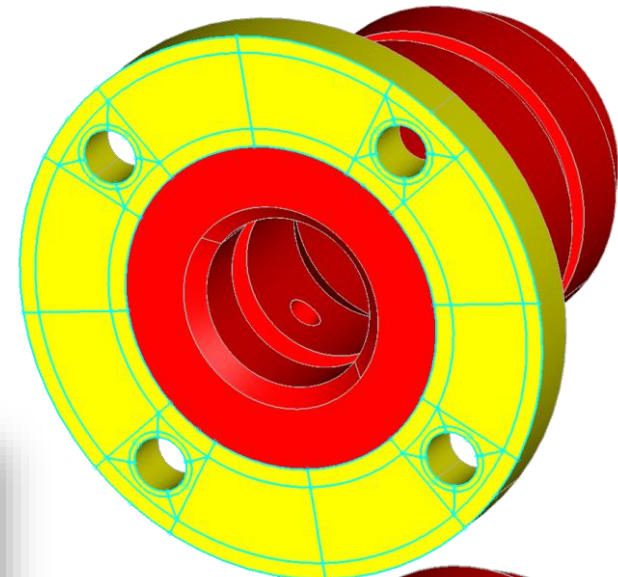
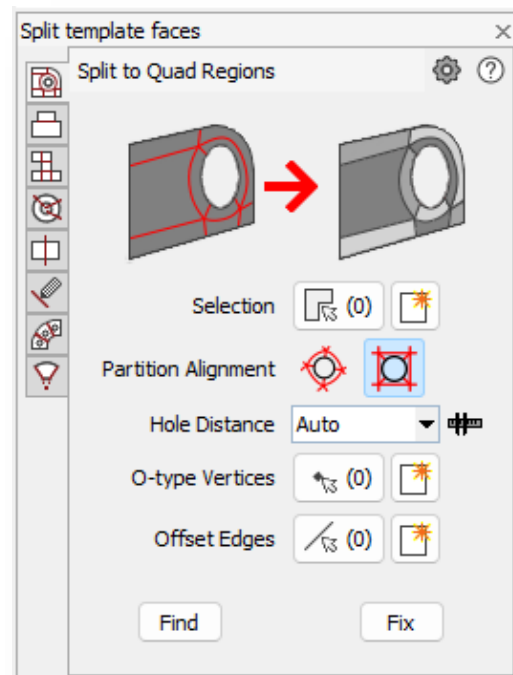
DX14: Hex-split

- **Automatic body splitting tools**
 - Heuristic tools quickly split complex parts.
 - Tools accelerated by
 - Symmetry
 - Geometric reasoning.
- **Progressive assessment of meshability.**
 - Not yet hex meshable 
 - Sweepable 
 - Grid 



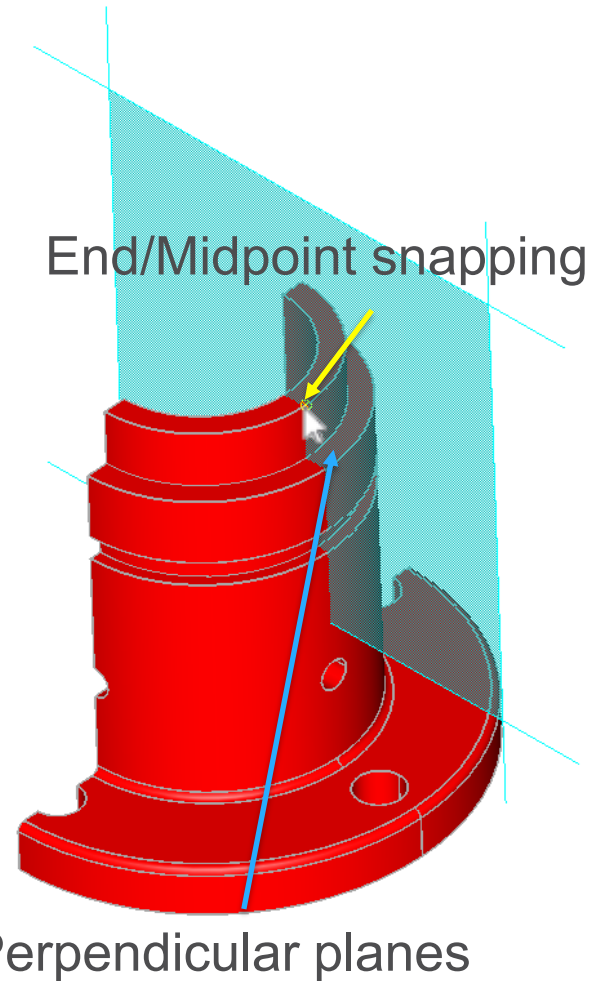
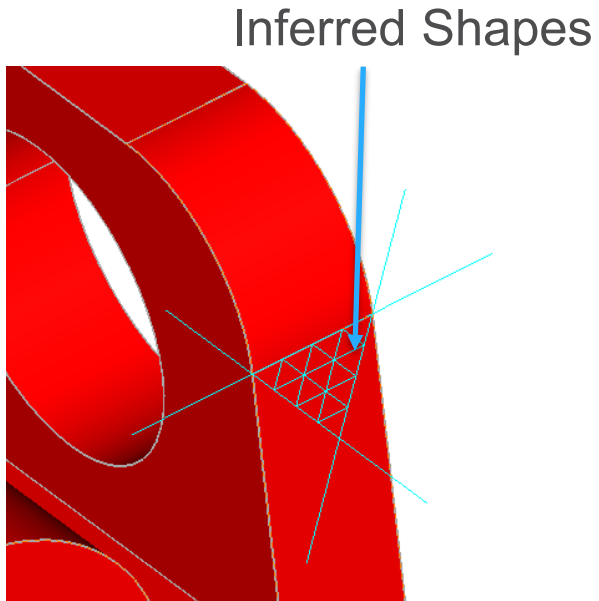
DX14: Hex-split

- **Automatic face splitting**
 - Enables full hex mesh
 - Special hole alignment options

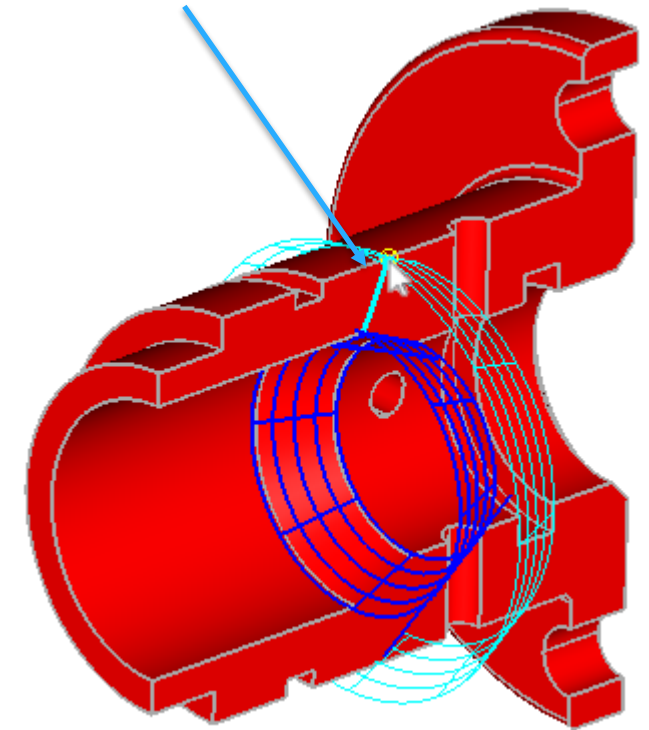


DX14: Hex-split

- Enhanced manual tools

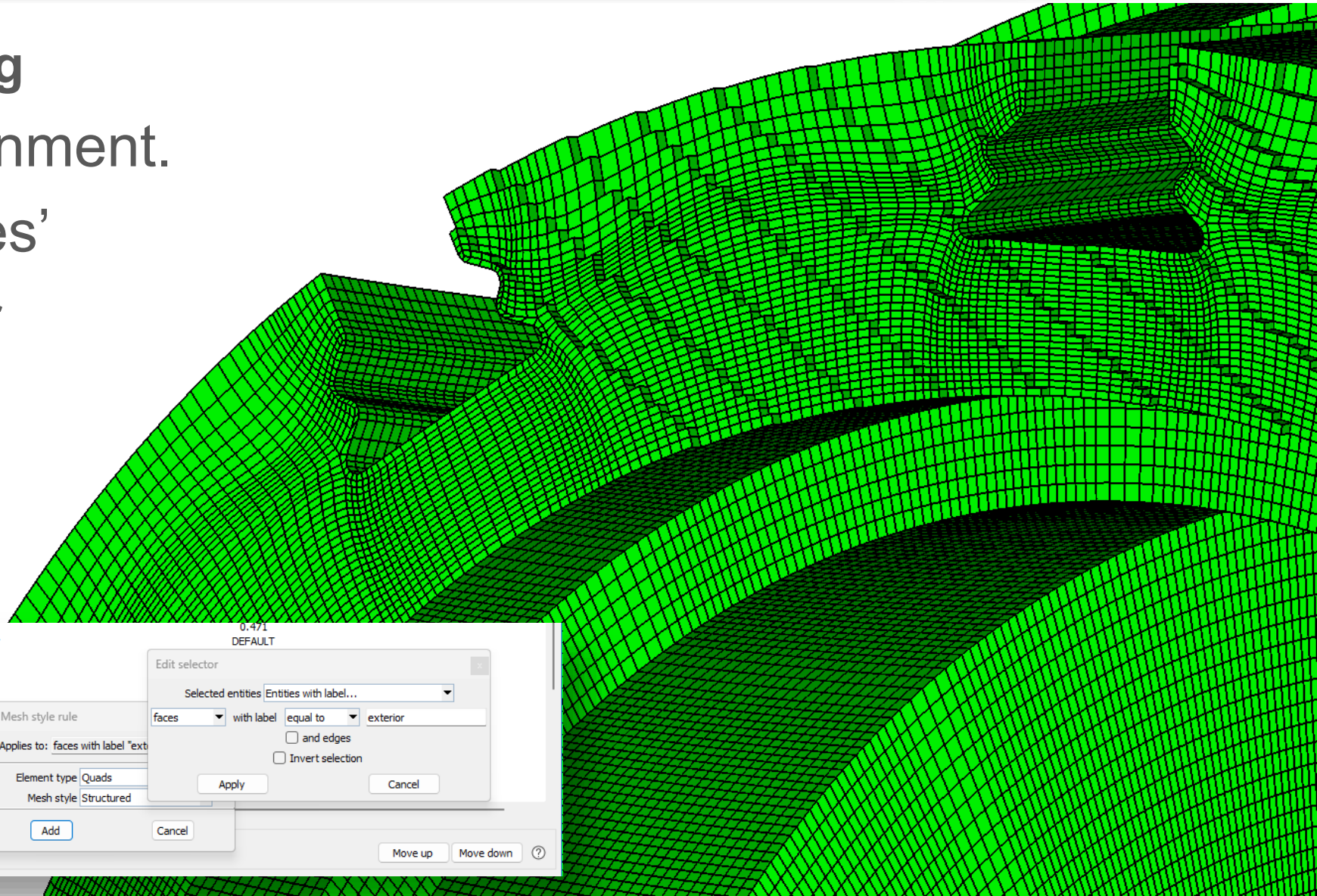
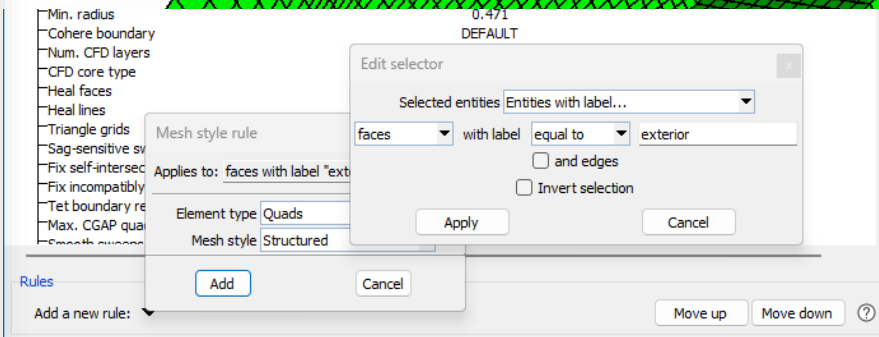
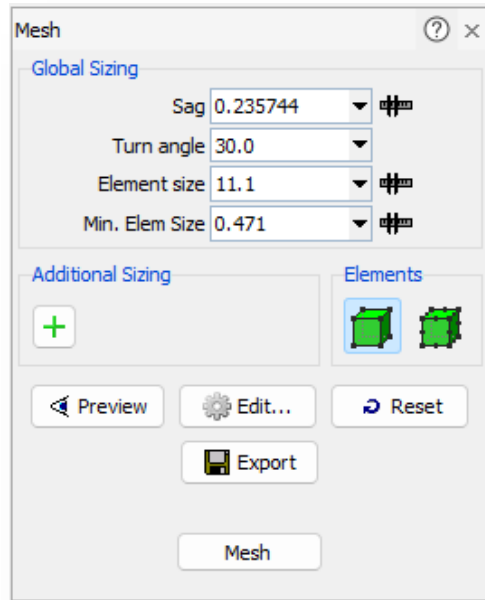


Dynamic offset creation



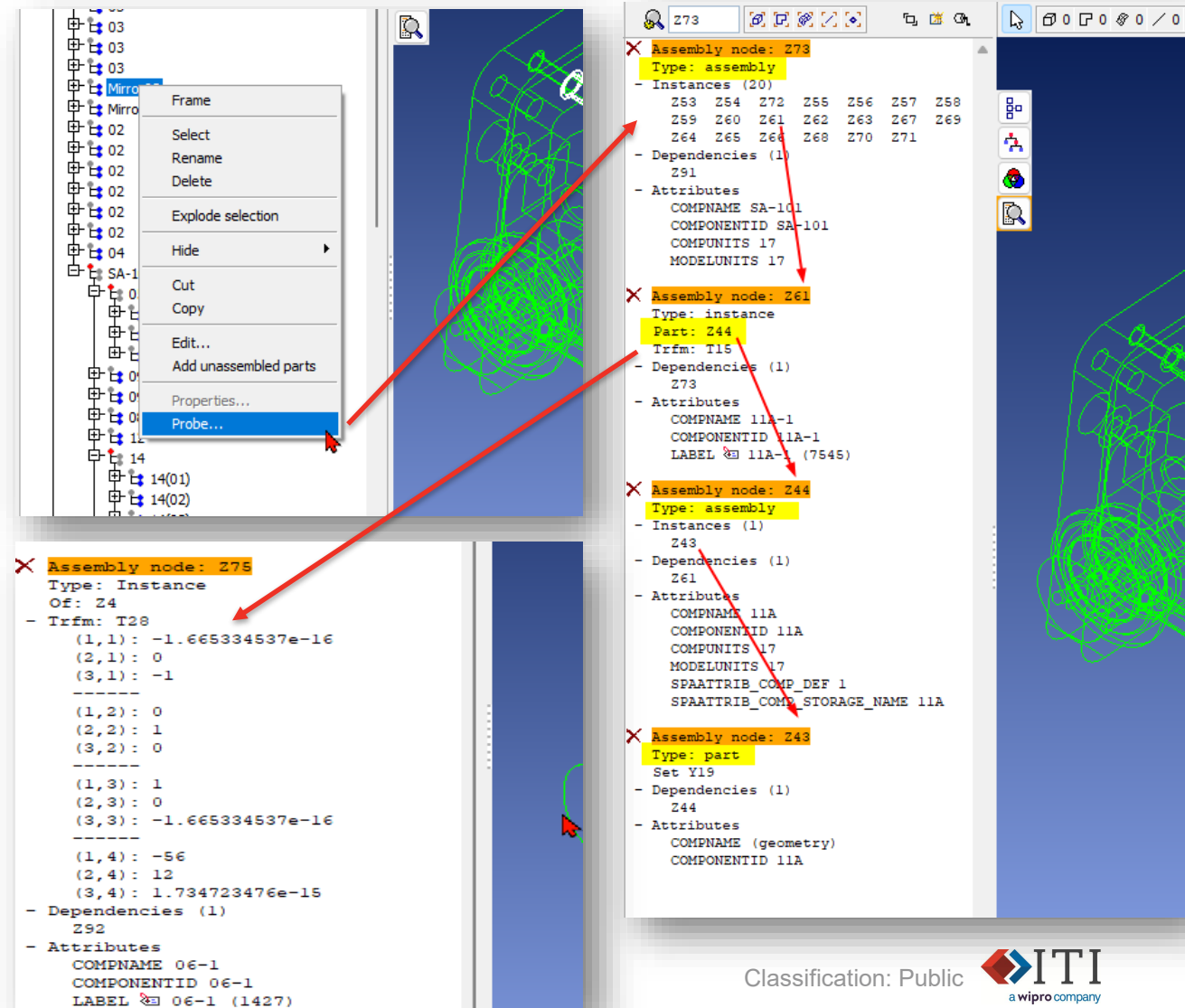
DX14: Hex-split

- **Automatic Meshing**
 - Balancing/alignment.
 - Preset 'Recipes'
 - In depth editor



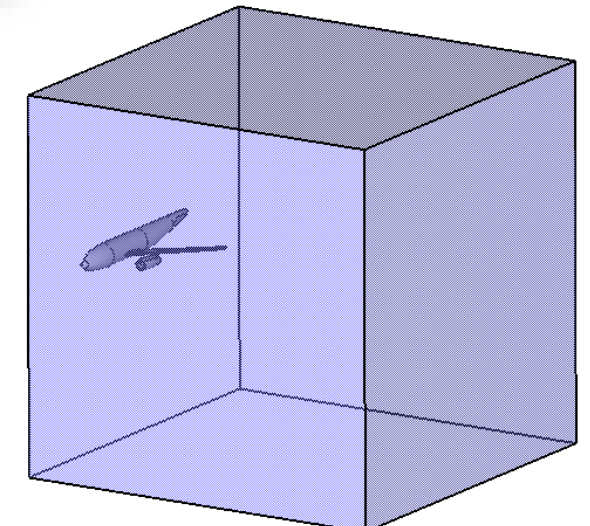
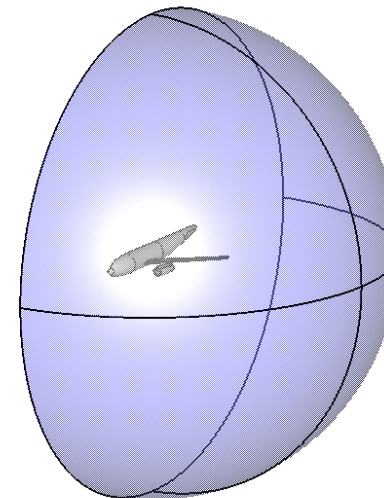
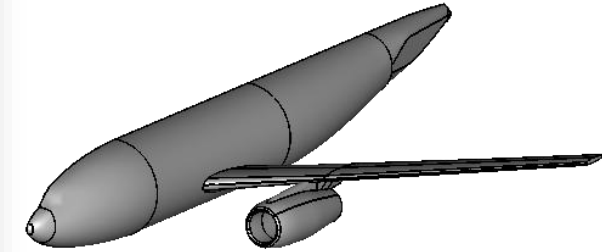
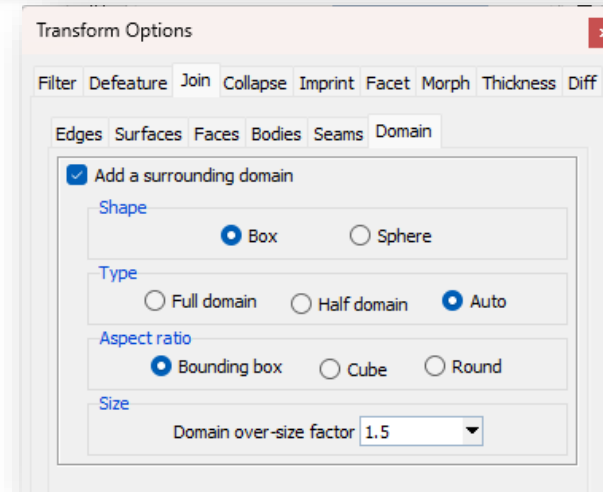
DX14: Model Tree

- New ability to probe attributes carried on an assembly tree
- Probe tool lists
 - Assembly node definitions
 - Relationships
 - Transformation matrices
 - Assigned attributes
 - User attributes



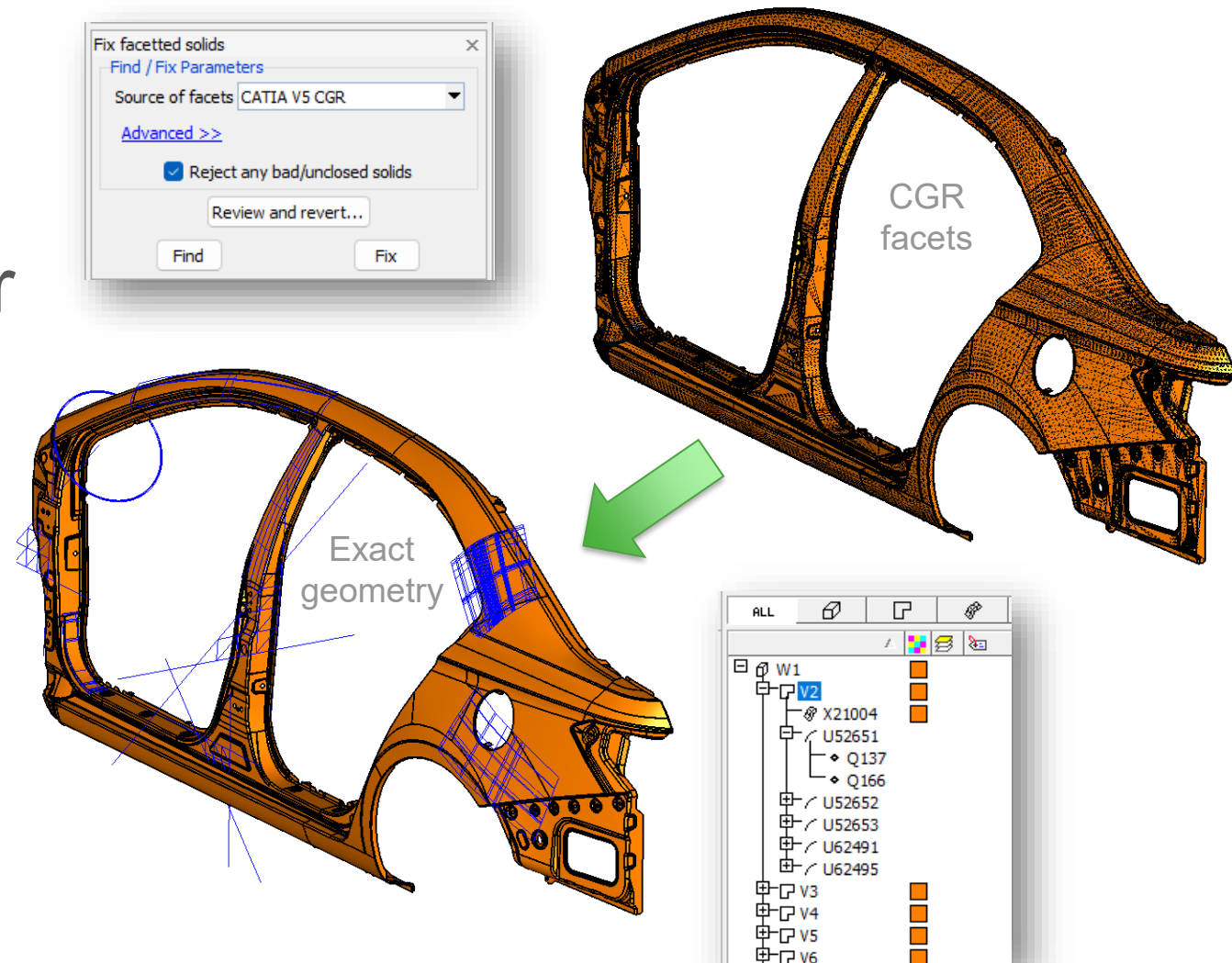
DX14: Wizard

- New batch Transform action to add a far-field domain to model
- Spherical or box shape
- Full or half-space
- Auto-detection of half-space orientation



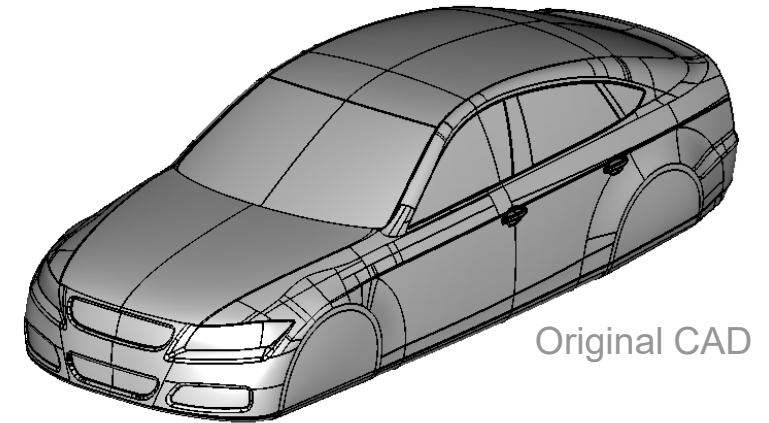
DX14: Replace – CATIA V5 CGR to B-Rep

- Automatic conversion of CGR to exact B-Rep
- Export to CATPart or other CAD formats for re-use
- Exact curve and surface geometry recovered
- Attributes and model structure preserved
- CADfix healing ensures accuracy

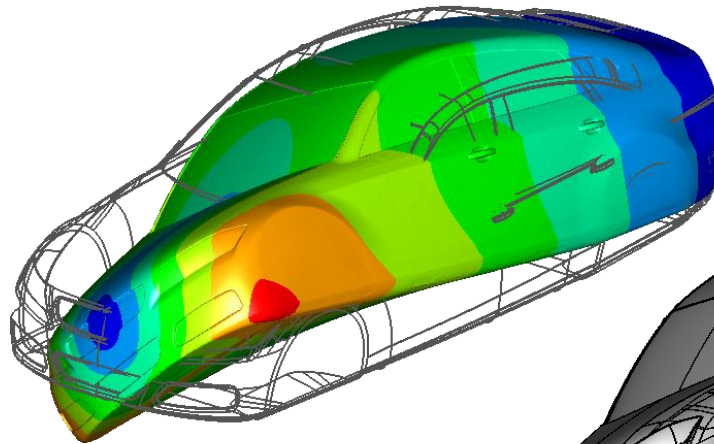


DX14: CAD Morphing

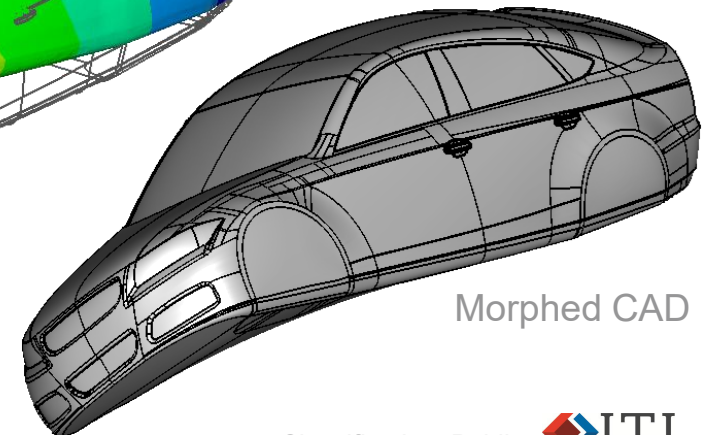
- Improved accuracy
- Larger deformations
- Faster morphing
- Higher quality surfaces
 - New ripple-suppression
- GUI improvements
- Batch improvements



Original CAD



Target morphed shape as deformed mesh (extreme!)



Morphed CAD

DX14: Coming in 14 Service Pack 1 (Q1 2027)

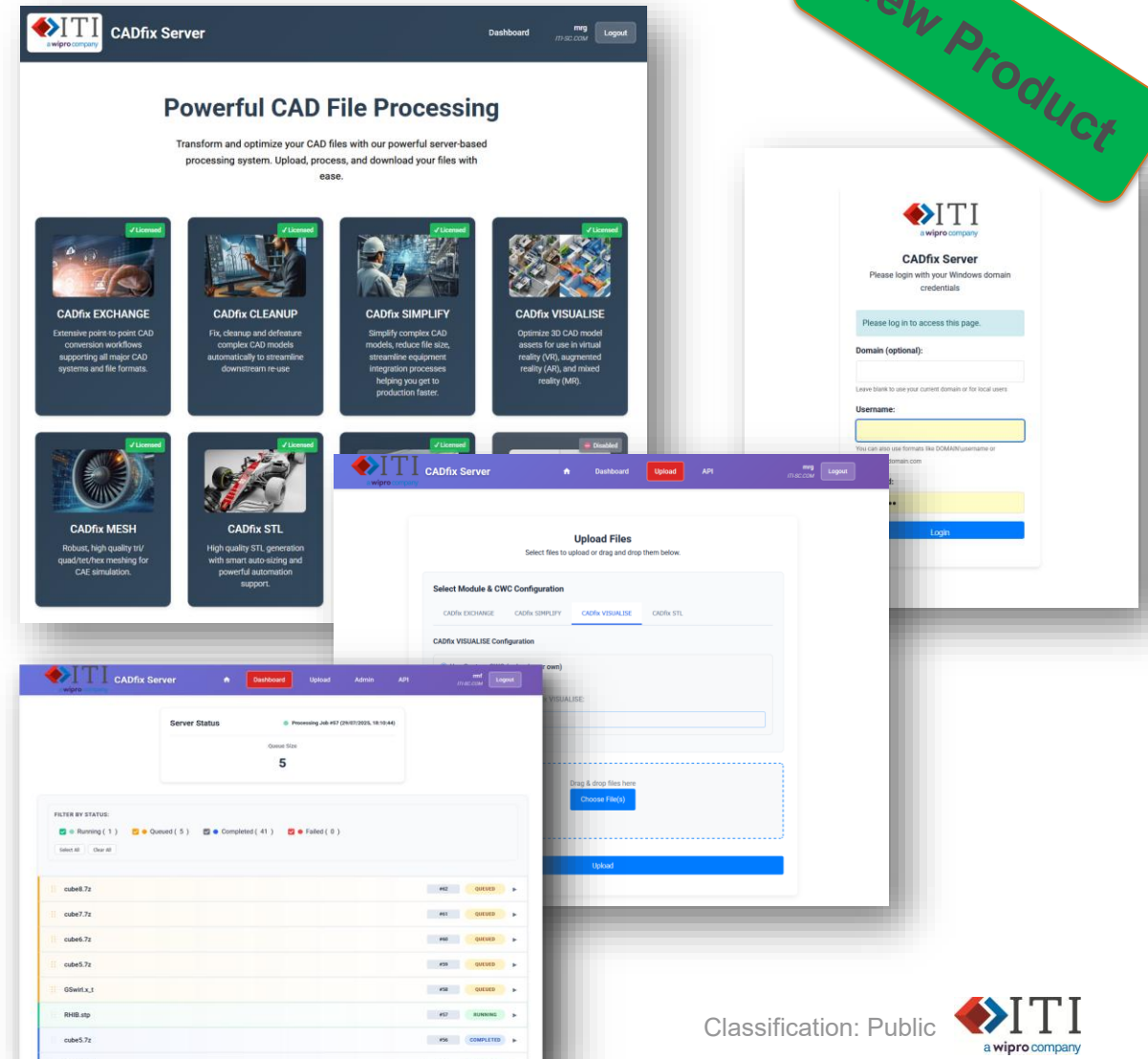
- Import/Export
 - Latest CAD version support
- Defeature
 - New tool to simplify bodies to revolved sections
 - New tool to simplify bodies to prismatic bodies
- Build-Offsets
 - New tool for creating robust offset geometry from complex surfaces
- Mid-surfaces
 - New tool for manual mid-surface creation
 - Improved automatic generation
- Performance:
 - Large model processing times improved
- 3D Graphics
 - Much improved performance across all operations

CADfix Server – Enterprise web-based access

In case you missed it:

- Access CADfix batch automation directly from your browser
- Multiple CADfix technologies
- Automatic job queue management
- Maximise licence utilisation
- Drop-folder or web upload
- Dashboard for users & admins
- Customisable workflows
- Usage logs and statistics
- On-premises installation
- 3D viewer coming in v2

New Product





Thank you!

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