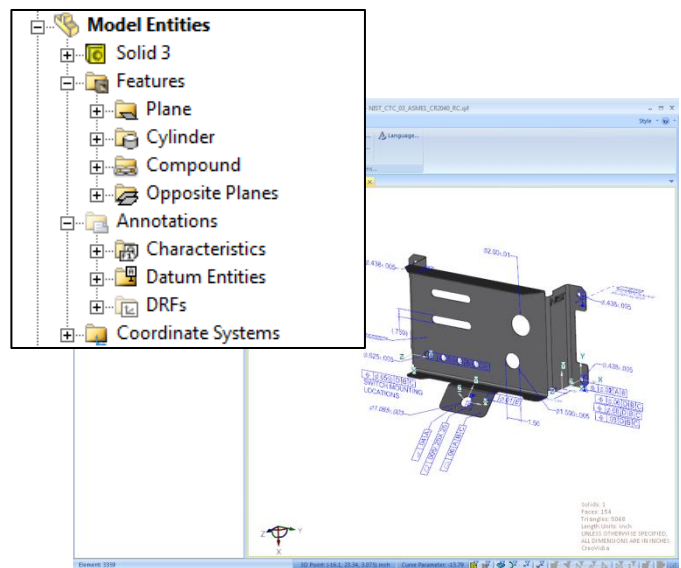# MBDVidia
Unlock and share your valuable CAD data

Unlock your CAD data

Using MBDVidia, downstream users can access and share 3D MBD (Model Based Definition) data without paying for an expensive CAD license. MBDVidia opens any 3D CAD format (*), enabling users to utilize native CAD data for creation of FAI (First Article Inspection) forms, quote generation, viewing, analysis and reporting. MBDVidia preserves the original design intent by maintaining the structure and organization of the 3D CAD model exactly as it was created in the native CAD system. This includes 3D geometry, PMI (GD&T, FTA, etc.) information, annotations, combination views, saved views, logical groups, notes, and metadata.   Specialized tools and reporting capabilities make it easy to view, mark-up, generate reports and share the data with the supply chain. MBDVidia unlocks your valuable CAD data assets and makes it available to everyone by using industry open standards.

Project Tree – CAD Model with PMI

Discover how it works

The MBD definition including 3D models with PMI is often challenging to clearly visualize even in the native CAD system. MBDVidia offers unique graphical capability to interact with the MBD data. You navigate through 3D model entities and related PMI seeing the logical (semantic) links between them. When rotating the 3D model PMI remains always readable in the plane visible for the user. Automatic generation of optimal drafting views resolves "spaghetti" like PMI and generates forms for reporting the MBD data in an easy to understand way. All the data is grouped and classified in the project tree maintaining native CAD naming conventions and identifiers. You can navigate through the MBD structure and see simultaneously on the 3D model location of the active entity. Criticality levels can be assigned to any model or PMI entity using colors. Adding comments or missing PMI is simple through dedicated editors. The details of 3D model can be investigated by applying dynamic clipping planes, cross sections and transparency.
Extensive reporting generation with customized templates (including company logo) can be generated in formats such as: PDF, HTML, XML and Excel documents.

Supported CAD formats:

(*) CATIA V6/V5/V4, Siemens NX, Inventor, Creo/Pro-E, SolidWorks, SolidEdge, Inventor, STEP AP 242, 214, 203, ACIS, Parasolid, JT, IGES, VDAFS, QIF, DXF, DWG, STL, VRML, ASC, XYZ point cloud

Your valuable native CAD data is now open for use and re-use in any environment.

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Bill of Characteristics (BOC) & Ballooning

The BOC and ballooning function automatically assigns an individual number to each characteristic for easy referencing and organizes the PMI data in tabulated form (BOC). Feature control frames that share common information are automatically identified and numbered accordingly using sub-ballooning. You can assign criticality levels using color coding to identify and communicate important characteristics for quoting, manufacturing, quality measurement or other downstream processes. The BOC can now be exported into an Excel spread sheet using standard ISIR format, AS9102 standard or user defined formats. Your 3D MBD data is now organized and easy readable for any application.

Metrological Features

During the CAD model import automatic metrological feature recognition is performed. The 3D CAD model definition is extended with additional entities called metrological features. There are 27 metrological features defined in the ANSI QIF standard. The MBD data with definition of metrological features is necessary for feature-based dimensional metrology, quality measurement planning, first article inspection (FAI), and other downstream applications supporting concepts of MBE and Industry 4.0. Your MBD data is now ready for use in machine-to-machine communication.

MBD Ready Check

The quality and type of the PMI definition can vary depending on the native CAD system. MBDVidia offers extensive checking and automatic correction of the PMI definition during the import process. The GD&T is "spell checked" for definition correctness and semantic links with corresponding metrological feature. Missing links and inconsistencies are reported and can be fixed automatically. Ambiguous issues are highlighted to the user for semi-automatic or manual corrections. MBD Ready Check will improve your MBD data definition (independent from CAD system it was created in) and will make it interchangeable for re-use with the downstream applications.

Export to QIF or STEP AP242

MBDVidia converts and exports native CAD data into ANSI QIF or STEP AP242 data formats maintaining the native CAD definition and semantics of PMI, notes, metadata, and saved views. It provides a smooth, accurate and precise transfer of complete Model Based Definition (MBD) into the open standards without any information loss. The ANSI QIF standard is XML based, which makes the QIF data model easily accessible for external applications and open for integration with IoT.

Automatic Reports and Cross-highlighting between applications

Reports can be generated as PDF, HTML, XML and Excel documents. The BOC exported into Excel remains linked to the associated 3D model. The user can now navigate through the Excel BOC spread-sheet and simultaneously see in the graphical window corresponding entities getting highlighted on the 3D model. In the similar way an existing Excel BOC imported back into MBDVidia will be automatically linked with the corresponding 3D model. The cross-highlighting between applications makes MBD data easier to understand and communicate within your organization and suppliers. In addition you do not need to be a CAD expert to successfully complete your job.
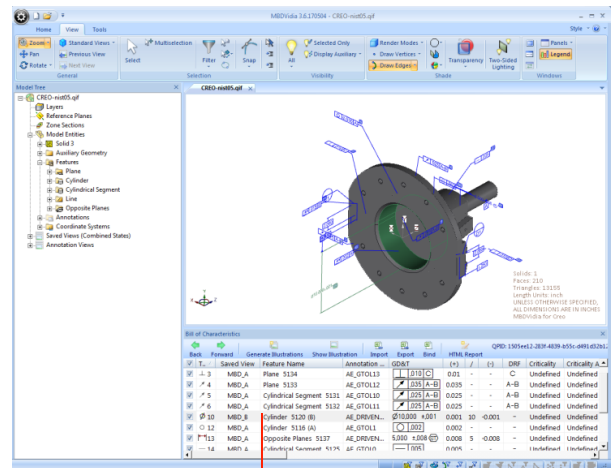
BOC in MBDVidia
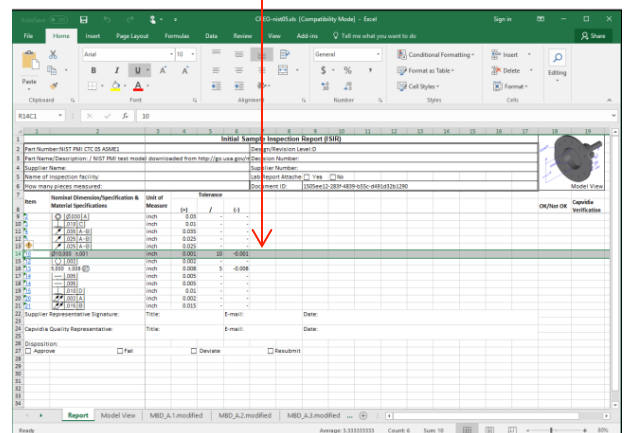
Cross-highlighting between BOC in Excel and 3D MBD model in MBDVidia