MBDVidia for PTC Creo

MBD-Ready models in PTC Creo

MBDVidia for PTC Creo is an add-in designed to extend and facilitate creation of 3D MBD-Ready models in PTC Creo. Model Based Definition (MBD) is the next engineering revolution, where annotated 3D models instead of traditional 2D drawings are used as the single source for design, engineering, manufacturing and quality control. If your company is implementing MBD, then you will need to create MBD-Ready models including the Product Manufacturing Information (PMI). To ensure that downstream users can reuse your data, you will need to convert native MBD-Ready models into a neutral data exchange standard such as STEP AP 242 or ANSI QIF (Quality Information Framework).
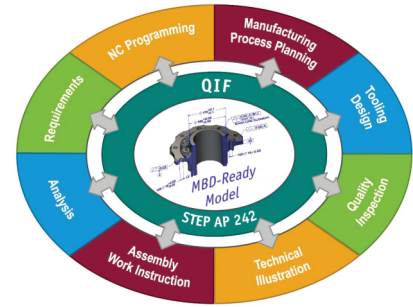

Model Based Enterprise

And what if you don't have an MBD-Ready model? Until now, the only way to make PMI data available for MBD is a process in which a designer manually extracts the annotations from the 2D drawing and adds them to the 3D model. MBDVidia minimizes this manual work and can automate the entire process. The PMI information is extracted automatically from a 2D drawing and added to the corresponding 3D model. The process works for both parts and assemblies and it completes the job in a fraction of the time that it would take to build manually. MBDVidia will speed the process for any company adopting a Model Based Enterprise paradigm.

MBD-Ready models from 2D drawings

By automatically creating MBD-Ready models, MBDVidia significantly reduces manual work and provides a quick return on investment. Simply open any 2D drawing and check the MBD "readiness" of the associated 3D model. Then, with a click of a button, MBDVidia adds annotation from the 2D drawing that is missing on the 3D model. It also corrects and updates incomplete or incorrect annotation on the 3D model. Creo "Combined States" are automatically generated based on the drawing views to facilitate the presentation of the 3D model. The MBDVidia synchronization process supports the following annotation types: dimensions (basic, reference, toleranced), datum targets, notes, flag notes, flat-to-screen annotations (notes from background view), roughness (surface finish), weld symbols, custom symbols and more. If the 2D drawing has detailed views with cross sections, MBDVidia automatically creates cross-sections on the 3D model with annotations. In some cases, the annotations on the 3D model needs to be matched with those from an existing legacy drawing. Bi-directional synchronization ensures full associativity between the model and its master 2D drawing.
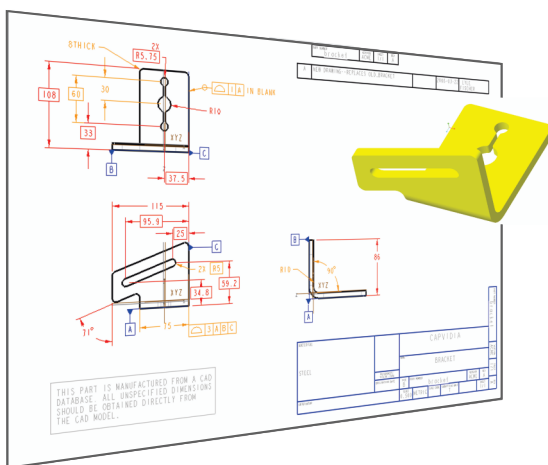
MBDVidia highlights annotations on the 2D drawing that are not on the 3D model
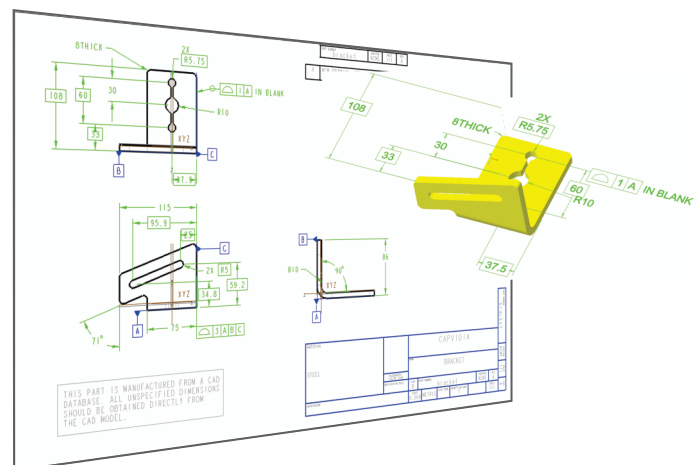
Fully annotated MBD-Ready Model

MBDVidia for PTC Creo

MBDVidia extends Creo capability to fully support neutral data exchange standards. It provides smooth and precise transfer of native MBD-Ready Creo models into STEP AP 242 and ANSI QIF data formats. Direct support of neutral standards opens new possibilities to exchange MBD data with downstream processes such as manufacturing and metrology. This is expected to reduce cycle times, costs, avoid duplication of effort, and lower the risk of errors, while increasing part yield and overall quality.

MBDVidia extends PTC Creo to comply with MBD/MBE requirements making it the preferred CAD solution for companies evolving into model centric design.

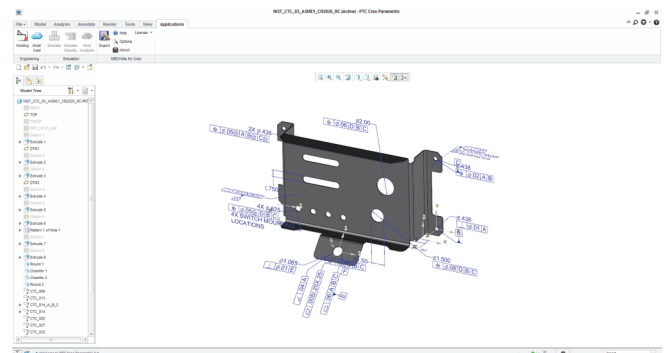## QIF - Quality Information Framework

MBDVidia converts any native Creo model into QIF and includes all semantic annotations (PMI), notes, metadata, and saved views. It is the first of its kind to provide seamless transfer of complete MBD (Model Based Definition) into the open ANSI QIF standard. Capvidia's unique GD&T feature recognition technology enriches the MBD-Ready model with GD&T features, making it "Inspection-Ready". This enables feature-based metrology, quality measurement planning, first article inspection (FAI), and other downstream applications.

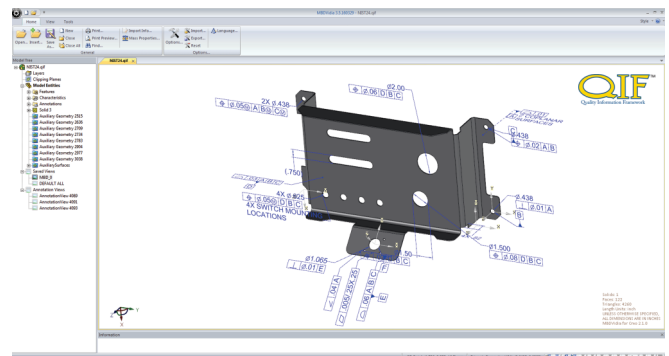MBDVidia for PTC Creo - Auxiliary Application

STEP AP 242

MBDVidia STEP AP 242 support includes semantic annotations, general notes, flat-to-screen annotations, metadata and saved views. The implementation provides options for storing fully semantic annotation data (PMI) in different presentation forms – polyline, tessellated and character-based. MBDVidia complies with the latest STEP AP 242 recommended practices and has been validated by recommended tools and NIST reference models.
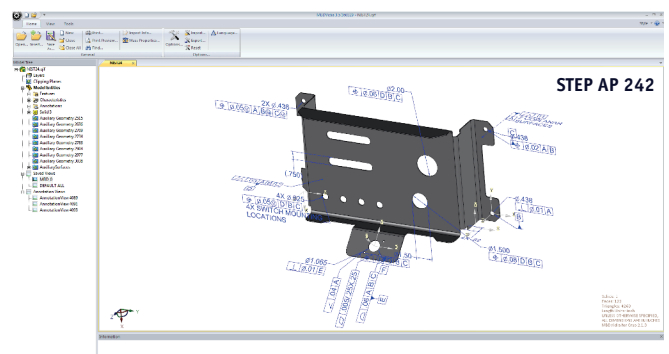
MBDVidia - QIF Inspection-Ready Model

MBDVidia for PTC Creo

Supports PTC Creo 2.0 and 3.0

MBDVidia - STEP MBD-Ready Model