



MBE and the Technical Data Package

Supplier Summit, Letterkenny

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Agenda



- Brief Overview
- The Annotated Model
- Model Organization
- CAD Agnostic TDP
- Closing





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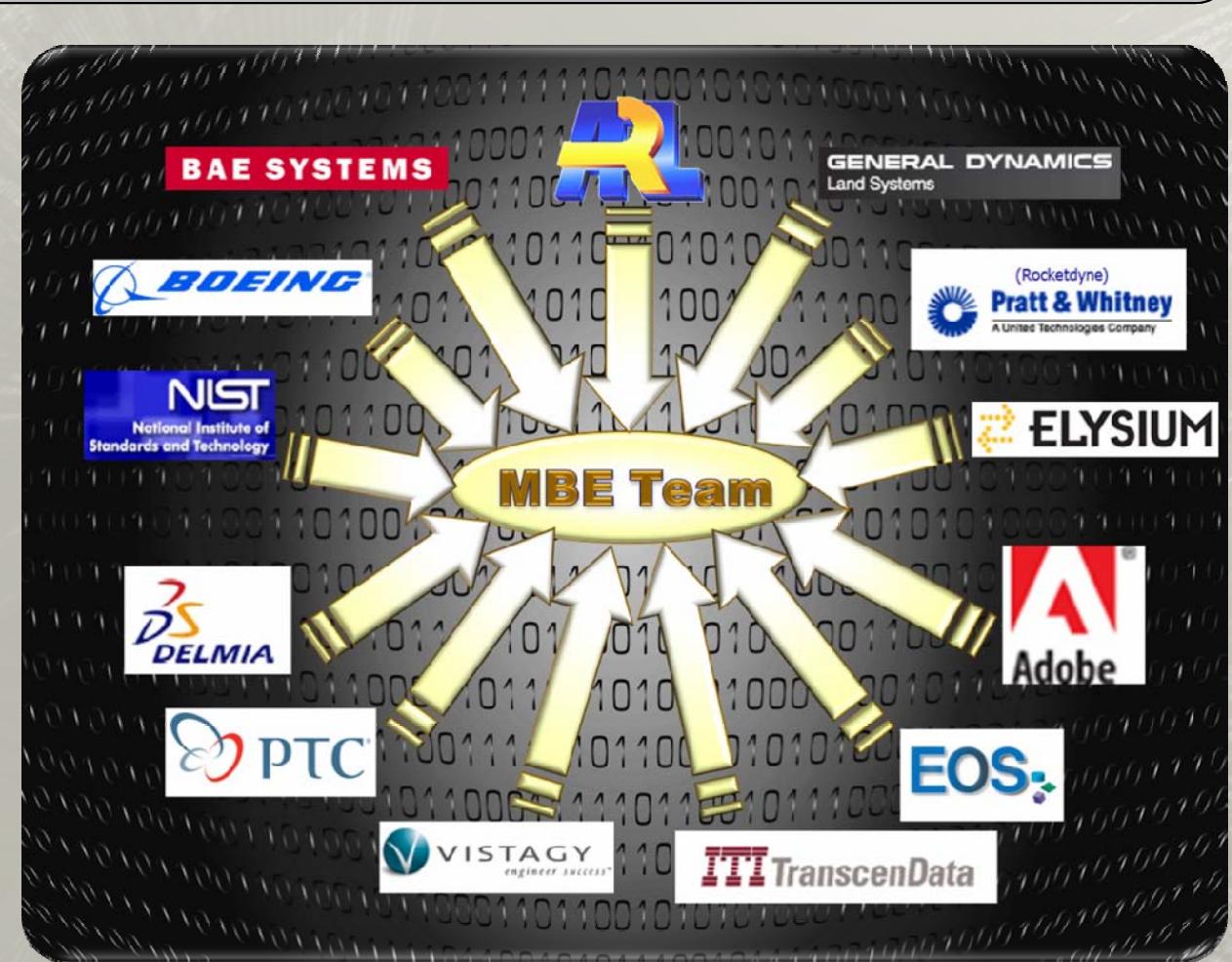
Brief Overview

What is MBE?

The MBE Team



This slide illustrates the key partners in defining the 3D TDP process discussed in this presentation



The Journey



Drawing Based

Master 2D Drawing

Model Centric

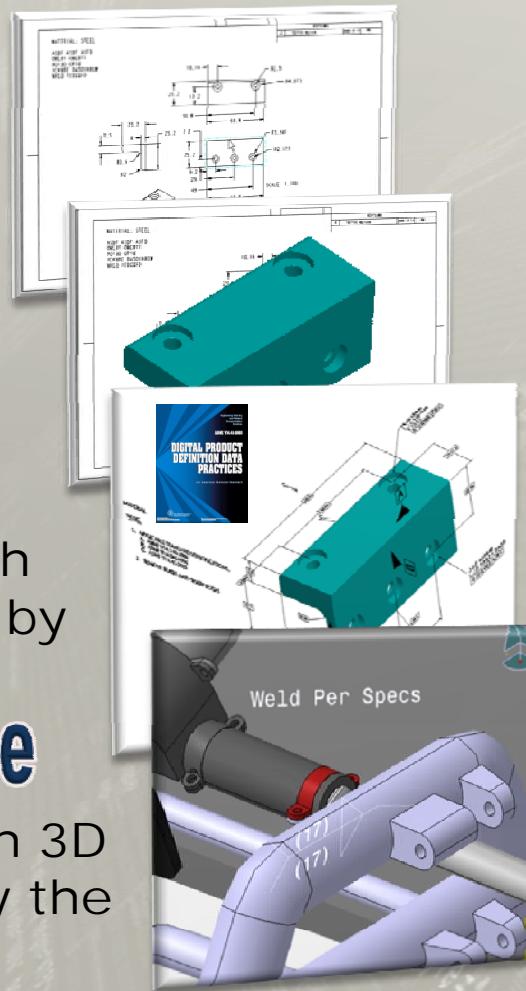
3D CAD Model with
Master 2D Drawing

Model Based Definition

Master 3D CAD Model with
3D Drawing, 2D Drawings by
exception

Model Based Enterprise

Master 3D CAD Model with 3D
Drawing fully leveraged by the
Supply Chain



What is MBD & MBE?



MBD

A 3D annotated model and its associated data elements that fully define the product definition in a manner that can be used effectively by all downstream customers in place of a traditional drawing

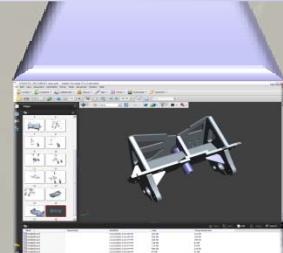


MBD

Concept



Design



Production



Sustainment

End
Of
Life

Why Are We Doing This?



The main purpose of the 3D TDP is to provide all Downstream users a 3D data set that they can reuse without re-mastering the data

For suppliers this means they will have the ability to drive their CAM software straight from the model along with numerous other process

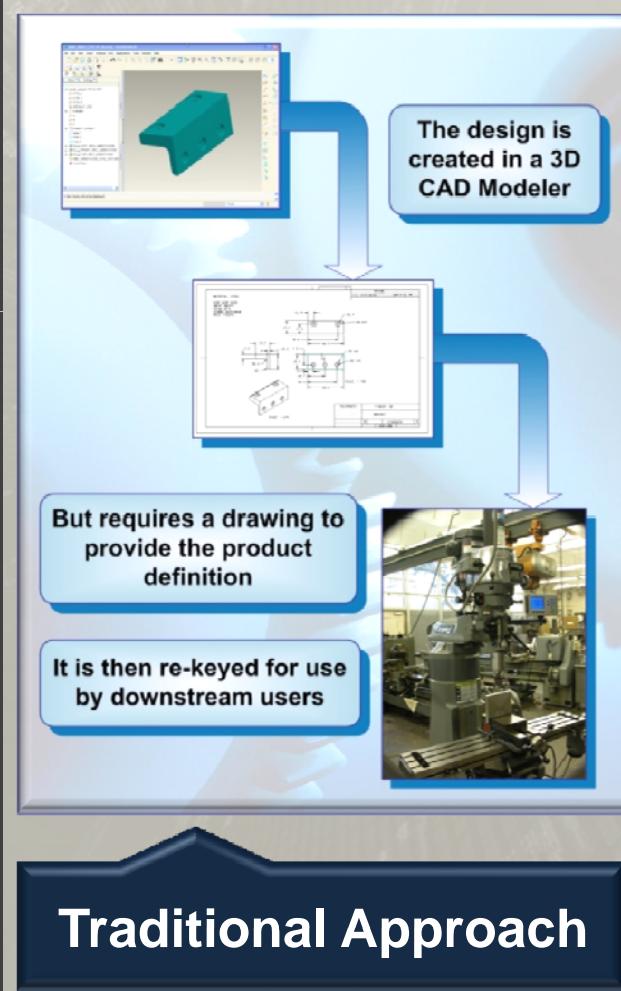
All of this reduces the time to mission for the Warfighter



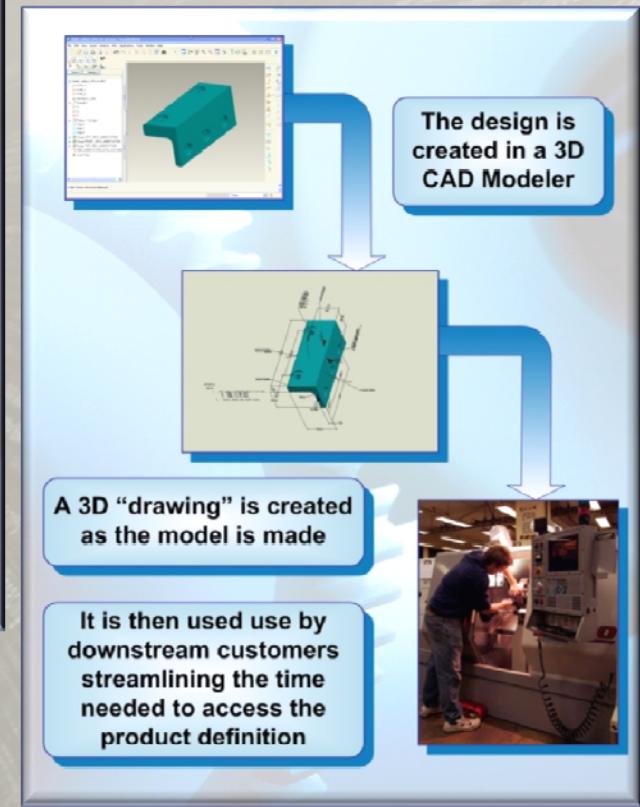
Why Should You Care?



- It reduces errors and cost by limiting the number of times an object is re-mastered
- It dramatically cuts the time to mission
- It allows for increased collaboration and less ambiguity
- It is the direction the DoD is heading for TDPs



MBE Approach



MBE Capability Index



Level 0

- Model Centric Drawings for Design and Manufacturing
- Primary Deliverable: 2D Drawing

Level 1

- Model Based Manufacturing
- Primary Deliverable: 2D Drawing and Neutral CAD Model

Level 2

- Native CAD Based Manufacturing
- Primary Deliverable: 2D drawing and Native CAD Model

Level 3

- Model Based Definition
- Primary Deliverable: 3D Annotated Model and Light Weight viewable

Level 4

- Model Based Definition With Data Management
- Primary Deliverable: 3D Annotated Model and Light Weight viewable via PLM

Level 5

- Model Based Definition With Automated Technical Data Package
- Primary Deliverable: Digital Product Definition Package and TDP

Level 6

- MBD With Automated TDP and On Demand Enterprise Access
- Primary Deliverable: Digital Product Definition Package and TDP via the web



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The Annotated Model

The Core of the Product Definition

What is an Annotated Model?



A screenshot of a CAD application interface. On the left, there's a tree view of layers: Layers, Hidden Items, AXIS, CSO_DEFAULT, CURVE, DATUM, DTM_DEFAULT, GTOL, MBD00_NOTICES, MBD00_TITLES, MBD01_SITE_MAP (which is expanded), MBD02_ENVELOPE, MBD03_NOTES, MBD04_SET_DATUMS, MBD05A_BEND_PROFILE, MBD05B_LEG_A, MBD05C_LEG_B, and MBD05D_HOLES. The main view shows a 3D model of a mechanical part with several callouts pointing to specific features. A callout box contains the text: "All data that is normally contained in a drawing is now available in a readable format in CAD". Another callout box below contains the text: "Most CAD systems provide increased organizational abilities through combined views and layers". On the right, a "View Manager" window is open, listing various views: Simp Rep, Xsec, Orient, All, New, Edit, Display, Names, Mbd00_Notices, Mbd00_Titles, Mbd01_Default, Mbd01_Site_Map (which is selected and highlighted in blue), Mbd02_Envelope, Mbd03_Notes, Mbd04_Set_Datums, Mbd05A_Bend_Profile, Mbd05B_Leg_A, Mbd05C_Leg_B, and Mbd05D_Holes. The bottom right corner of the main view shows a copyright notice: "© 2009 BAE Systems Land & Armaments Inc. All rights reserved. BAE Systems Land & Armaments Inc. is a registered trademark of BAE Systems plc. BAESystems.com".