

ENABLING GLOBAL COLLABORATION

AIMS (Advanced Integrated Mathematical System)



For your Manufacturing Program

AIMS (Advanced Integrated Mathematical System)

- Global collaboration between program partners - one set of Shared Information
- Consistent Manufacturing Requirements - Design through Build
- Stable & Predictable Supply Chain Quality - permitting pre-delivery buy-off
- Web-based supplier capability database & evaluation - for program partner selection

Design Measure
Build Improve

AIMS software suite completes the Dimensional Management process for defining inspection, measurement and assembly plans, measuring the quality of manufactured parts per defined requirements, storing the measurement results and generating process capability charts and graphs from the stored data.

AIMS is unique in enabling full geometry integration between companies using their existing hardware and software platforms, without the need for new investment, new training and new procedures required by alternative approaches.



AIMS - Selected for JSF!



The First Step to Lean Manufacturing

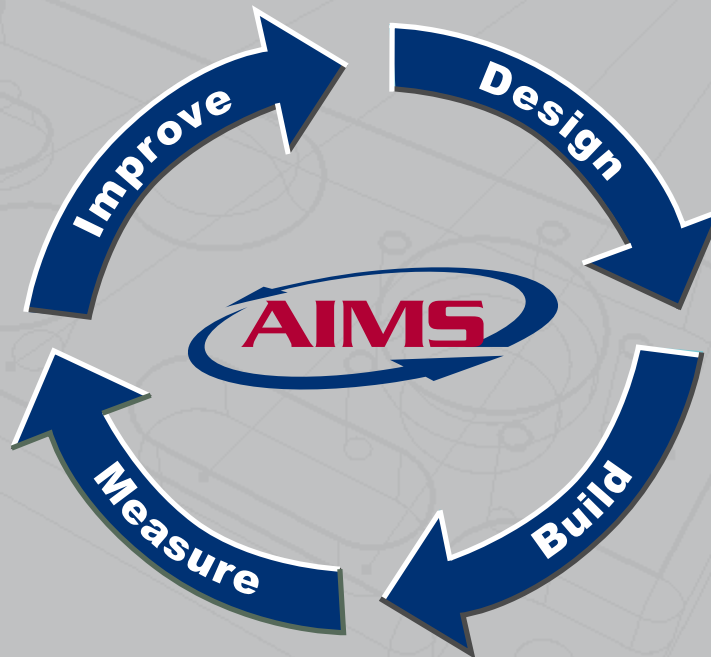
For Dimensional Management

- Real-time Part Buy-off
- Support Corrective & Preventative action tasks
- Predictable Supply Chain

- Design Inspection Requirements with “any” CAD System
- Create and Export Measurement Plans with Key CAD Data

Improve

Design



Measure

Build

- Read Measurement Plans with “any” Metrology SW Product
- Execute Measurement Plans on “any” Hardware Platform

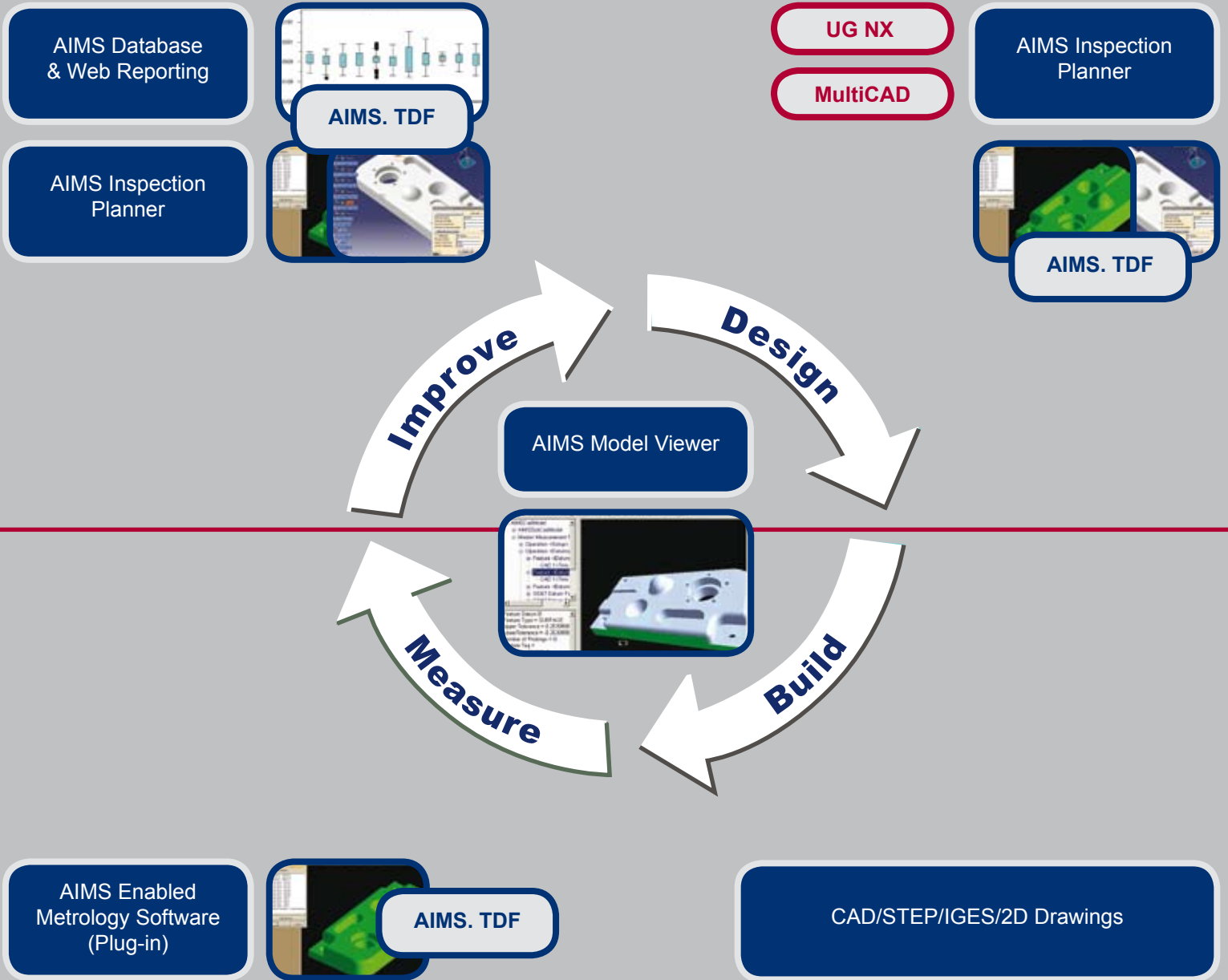
- Build Consistent Geometry
- Avoid CAD Translation
- Use Model-Based Definition

Maximize Metrology Interoperability



AIMS Architecture

OEM



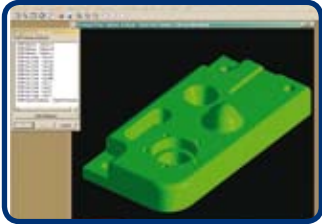
Supplier (internal or external)



Share Information - Seamlessly

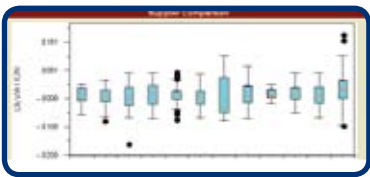
Products

Inspection Planner



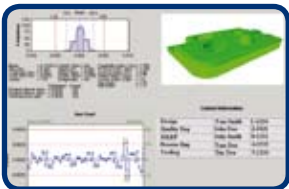
- Design inspection requirements and communicate key characteristics and features to manufacturing, assembly and quality
- Load multiple CAD formats like CATIA or ProE into the AIMS MultiCAD product or work directly in UG NX
- Create a measurement plan for key characteristics and other features on parts and assemblies
- Single file contains geometry, dimensional & tolerance information, inspection plan, and measurement results
- The enhanced CAD file defines datums, tolerances, and specific features that need to be measured to ensure that a quality part of assembly is produced and shipped
- After inspection the AIMS file contains the original geometry definition and the measurement points and deviations and their relationships to features

Web Reporting



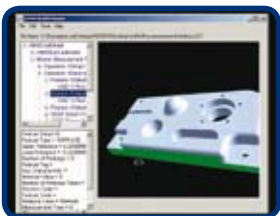
- Reporting from the AIMS Database including Process Capability charts, graphs, and statistical data such as Cp values, Standard deviation and Kurtosis

AIMS Database



- Detailed process capability analysis – by supplier, program, part number, feature & family – helps you select the right suppliers and methods in advance!
- Results are uploaded into the AIMS Database for process capability analysis
- Analysis provides manufacturing feedback for design improvements
- Supplier information can be verified prior to shipping any parts – enabling pre-delivery acceptance and eliminating costly rejects

Model Viewer

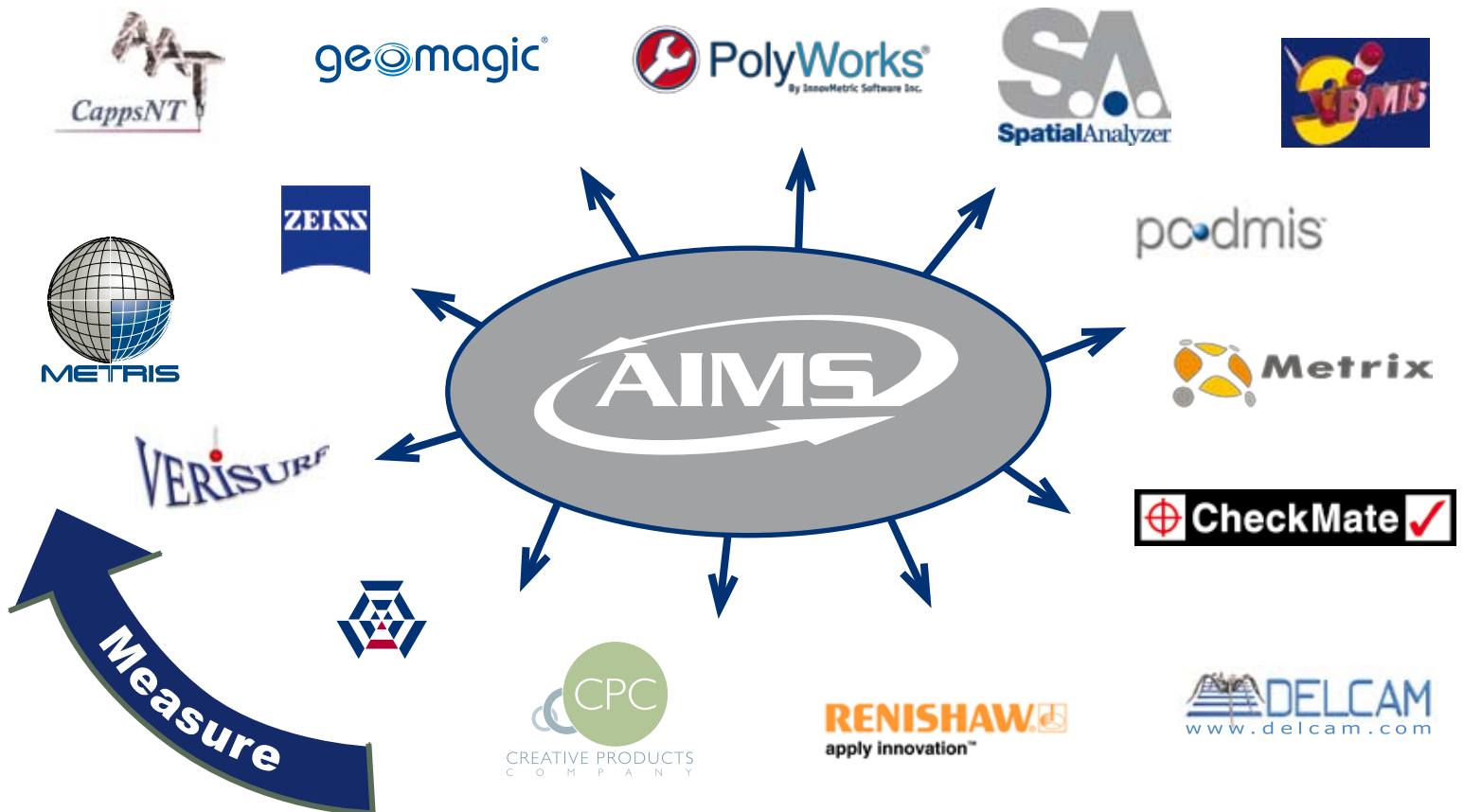


- Visualize the AIMS measurement plan, model geometry and measurement results
- Enter measurement results from manual instruments, such as Thickness Gages, Micrometers, etc.

3rd Party Integration Partners

- Utilize existing Metrology software for step-by-step guided inspection plans to ensure all required data is measured – as Design intended.
- This AIMS-enabled software is used to execute inspection plans and capture measurement results in a standard manner in one simple format
- Key characteristics, Geometry, Dimension & Tolerance information. Closest point calculation & Inspection Plans are all provided.

To request AIMS enabled metrology software for all your measurement tools – CMMs, laser trackers, articulated arms, reverse engineering scanners and photogrammetry equipment. – **Please contact our Metrology Partners directly.**



One Format Simplifying Metrology

Technical Specifications

HARDWARE REQUIREMENTS

AIMS Database

- Please refer to Oracle for minimal hardware requirements

Inspection Planner (UG NX/ MultiCAD)

- Please be aware of minimal UG NX hardware requirements

AIMS-enabled 3rd Party Metrology

- Please refer to your 3rd Party Metrology vendor for minimal hardware requirements

SOFTWARE REQUIREMENTS

AIMS Database

Database

- Oracle 9i or above

Web-based Data Management Tools

- Java enabled Web Server such as: WebSphere, Tomcat or iPlanet, etc.
- Java 1.4.1 or above
- Oracle JDBC driver
- Client Web Browser such as: IE 5.0 or above, Mozilla, or Firefox

Upload and TDF Extraction Tools

- Java 1.4.1 or above
- Oracle JDBC driver
- Windows 2000 / XP
- Loaded on each user's PC

Web Reporting Module

- Java enabled Web Server such as: WebSphere, Tomcat, iPlanet, etc.
- Java 1.4.1 or above
- Oracle JDBC driver
- Client Web Browser such as: IE 5.0 or above, Mozilla, Firefox

Inspection Planner (UG NX/ MultiCAD)

- Windows 2000 / XP
- UG V9 or above
- Applicable CAD configuration with ability to execute a user function

AIMS-enabled 3rd Party Metrology

- Microsoft Windows 2000 / XP
- NOTE: Please refer to your 3rd Party Metrology vendor for minimal software requirements.

Top
Top3
Top4
Top5



About the Company

Metronor AS

Metronor is an international ISO9001:2000 certified high technology company headquartered outside Oslo, Norway. Based on in-house innovation and research, Metronor has developed a range of high accuracy portable electro-optical coordinate measuring systems that have become very popular among leading manufacturers worldwide. Based on the same core technology Metronor has also initiated a military product line.

Metronor's **PCMM Business Unit** develops and markets portable coordinate measurements systems based on electro-optics and related software and hardware products.

The **AIMS Business Unit** markets the AIMS software solutions developed jointly by The Boeing Company and Metronor.

Metronor's **Military Systems Business Unit** develops and markets custom boresighting applications. The product line includes equipment kits for 3 degrees of freedom (3-DOF) boresighting of various airborne and ground based weapon system platforms. Moreover, 6-DOF kits for full alignment/harmonization of Helmet Mounted Display and Sight tracker systems. The product line also includes "Drill-Off" kits for production line establishment of aircraft coordinate reference system.

For more information see www.metronor.com.

AIMS Business Unit of Metronor

AIMS is a software solution developed jointly by The Boeing Company and Metronor Group. The software enables seamless sharing of CAD geometry, inspection plans and measurement results back and forth between dissimilar hardware and software platforms. AIMS therefore enables tightly coordinated development and manufacturing programs involving a multitude of international participants without the need to invest in new hardware or software. The first companies to harness the advantages of AIMS include the Lockheed Martin Joint Strike Fighter program and Boeing.

More information at www.metronor.com

