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Product Data Transfer Challenges - SCI Overview

The presentation provides an overview of the status of today's customer data formats and data transfer formats from an SCI perspective. It shows some examples of typical approaches to data transfer and offers some suggestions as to future approaches by one of SCI's suppliers of tools. Some of the work being done by NEMI and Rosetta Net to standardize some of the transfer issues surrounding CAD data transfer is also covered.

Presented by Chuck Richardson

Chuck Richardson is currently Corporate Engineering Manager for SCI Systems. He also directs the company's Technology Council and acts as the main interface with various consortia and he is company champion for the company-wide implementation of a new shop floor tooling software package in all the printed circuit assembly plants. This software when used with existing and new upfront tools will allow standardization of the company's new product introduction process across all plants. Before joining SCI, Chuck spent 9 years with Intergraph Corporation heading up the printed circuit and box build engineering groups and culminating in managing their outsourcing effort with 3 subcontractors.

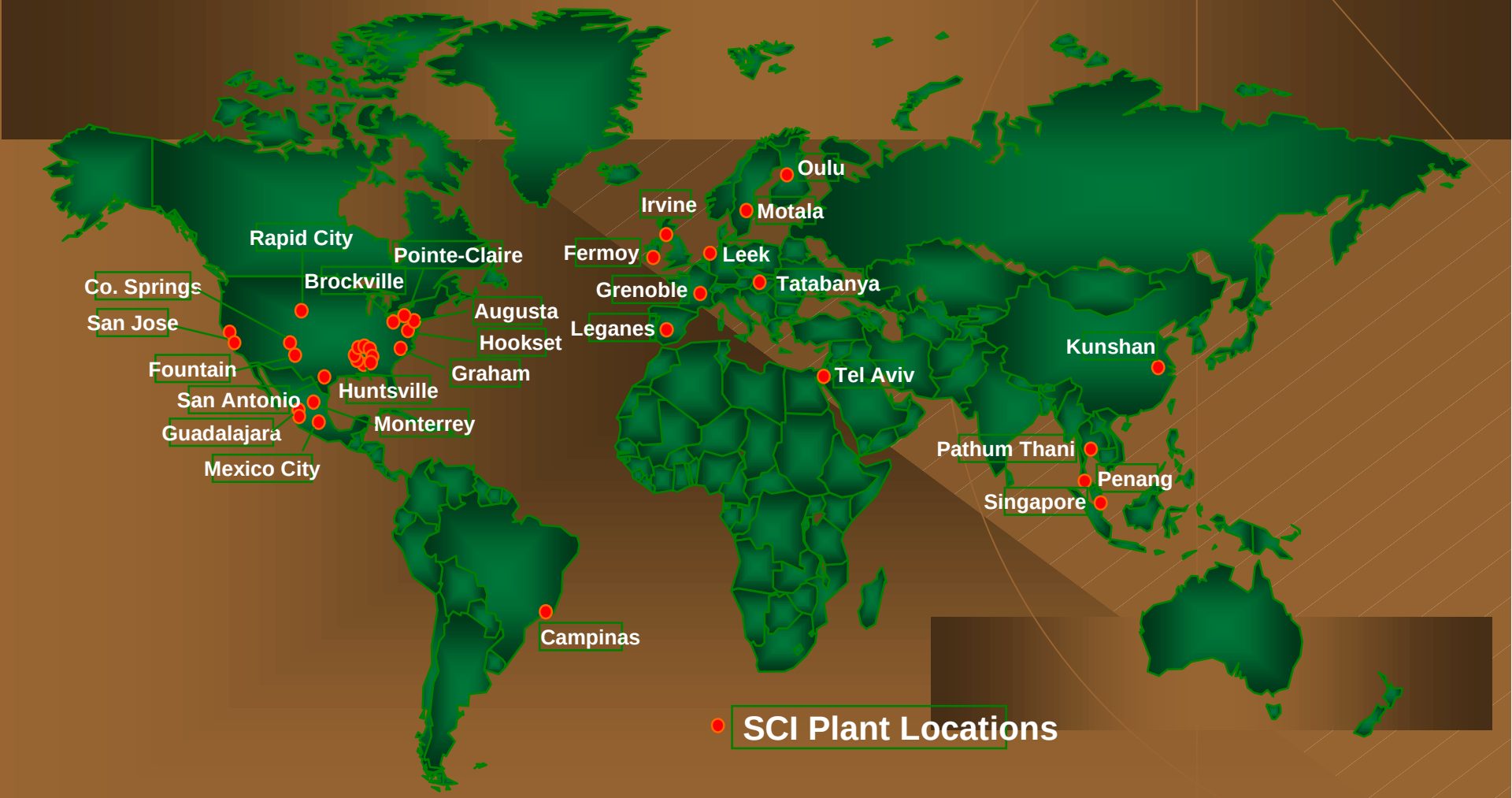
Scroll to start

Product Data Transfer Challenges - SCI Overview

Chuck Richardson
Corporate Engineering Manager

Broad Global Reach

OEMs Require Low-Cost Manufacturing To Support Entire Product Life Cycle on a Global Basis



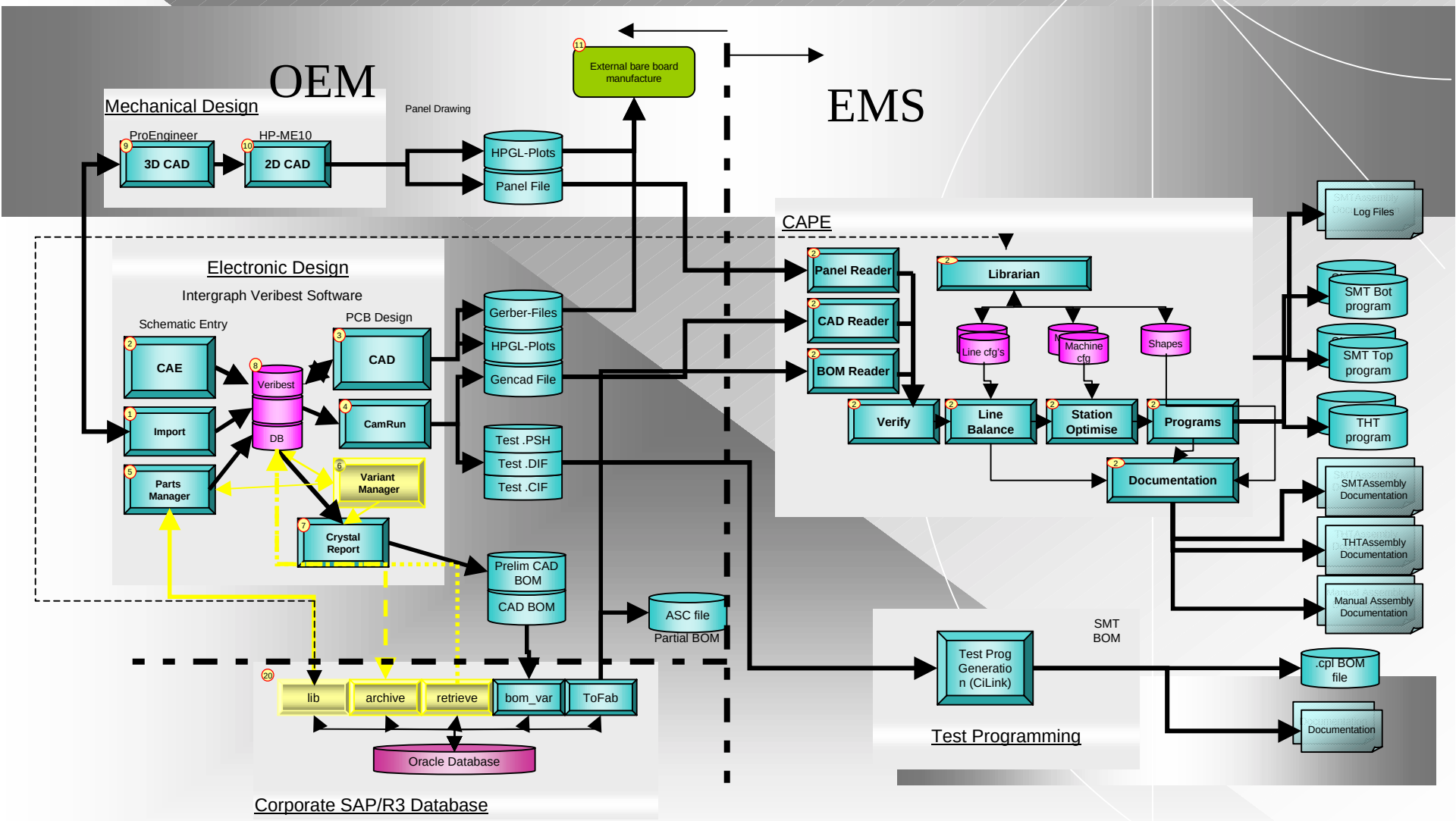
Consistent and Accurate Product Data Transfer is Required For Timely And Cost Effective NPI / Volume Manufacturing By EMS Providers

- Today, EMS Providers Must Support Data Transfer in a “Many To One” Environment.
- Large Expenditures of Money and Manpower Are Typically Required.
- Data Transfer Standards Could Reduce The Number of Different Formats To Support.
- Industry Initiatives Such As NEMI And Rosetta Net Working With The IPC Are Advancing Toward Such Standards.

Today's Situation

- EMS Providers Receive Data in Numerous Formats and Transfer Methods.
- CAD Translators Needed For Each System - When CAD Available.
- Some Customers Have Only Gerbers and Sample Cards.
- OEM's Working With Several EMS's Have The "One To Many" Problem.

Example Design Data Flow Diagram

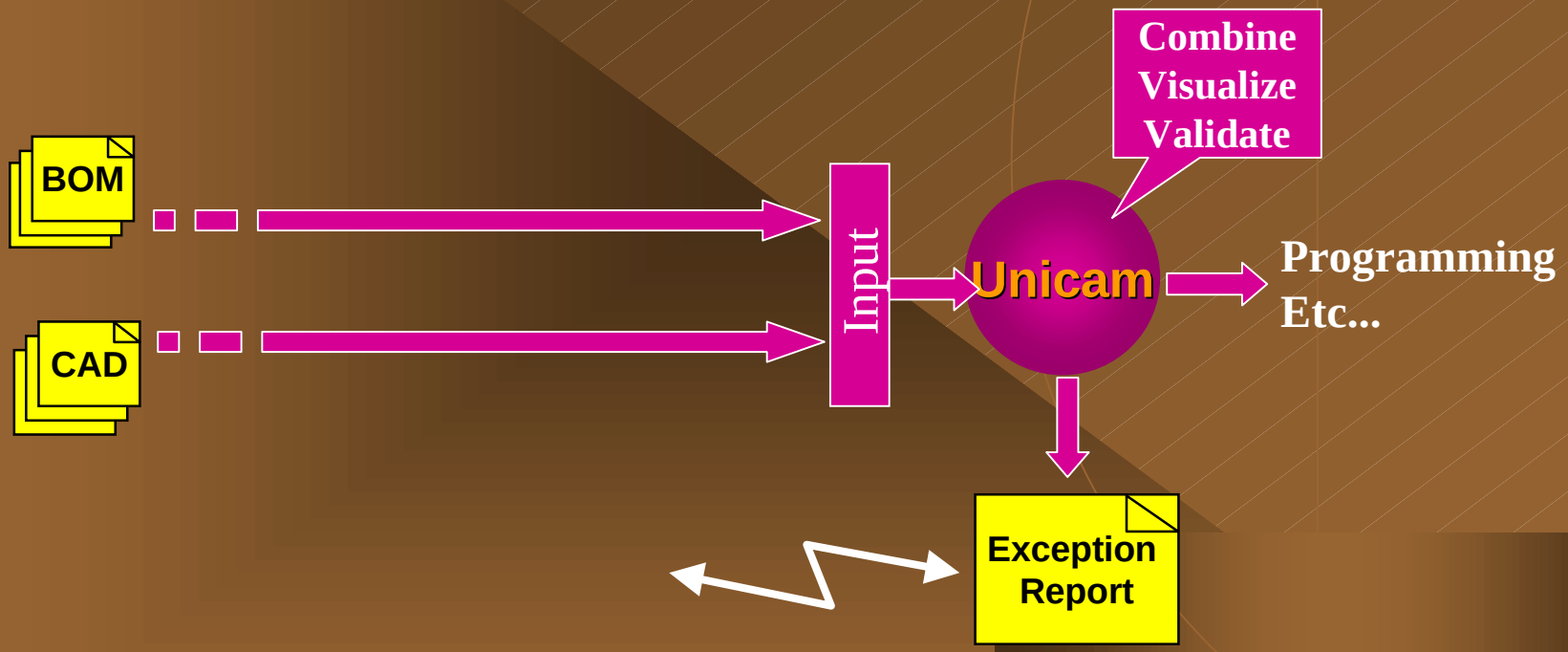


Courtesy Tecnomatix / Unicam

OEM

Engineering Data Flow - Today

EMS



Courtesy Tecnomatix / Unicam

Problem

- Lack of consistency & completeness in new product design data leads to:
  - errors
  - delays
  - rework /extra cost

ie. Inconsistent component rotation conventions

Inconsistent BOM structures

Missing complete cad file, fiducials, etc

Benefits of Standard CAD Data from OEMs

- Fewer resources required on both sides to manage ‘exceptions’ and corrections
- Reduction of potential errors at OEM and EMS
- Reduction of turnaround time due to fewer errors and less data manipulation
- Increased accuracy and timeliness in all processes reliant upon this data; i.e. materials procurement, component engineering, DFM, DFT, stencil and fixture development, etc.
- Reduced start-up costs

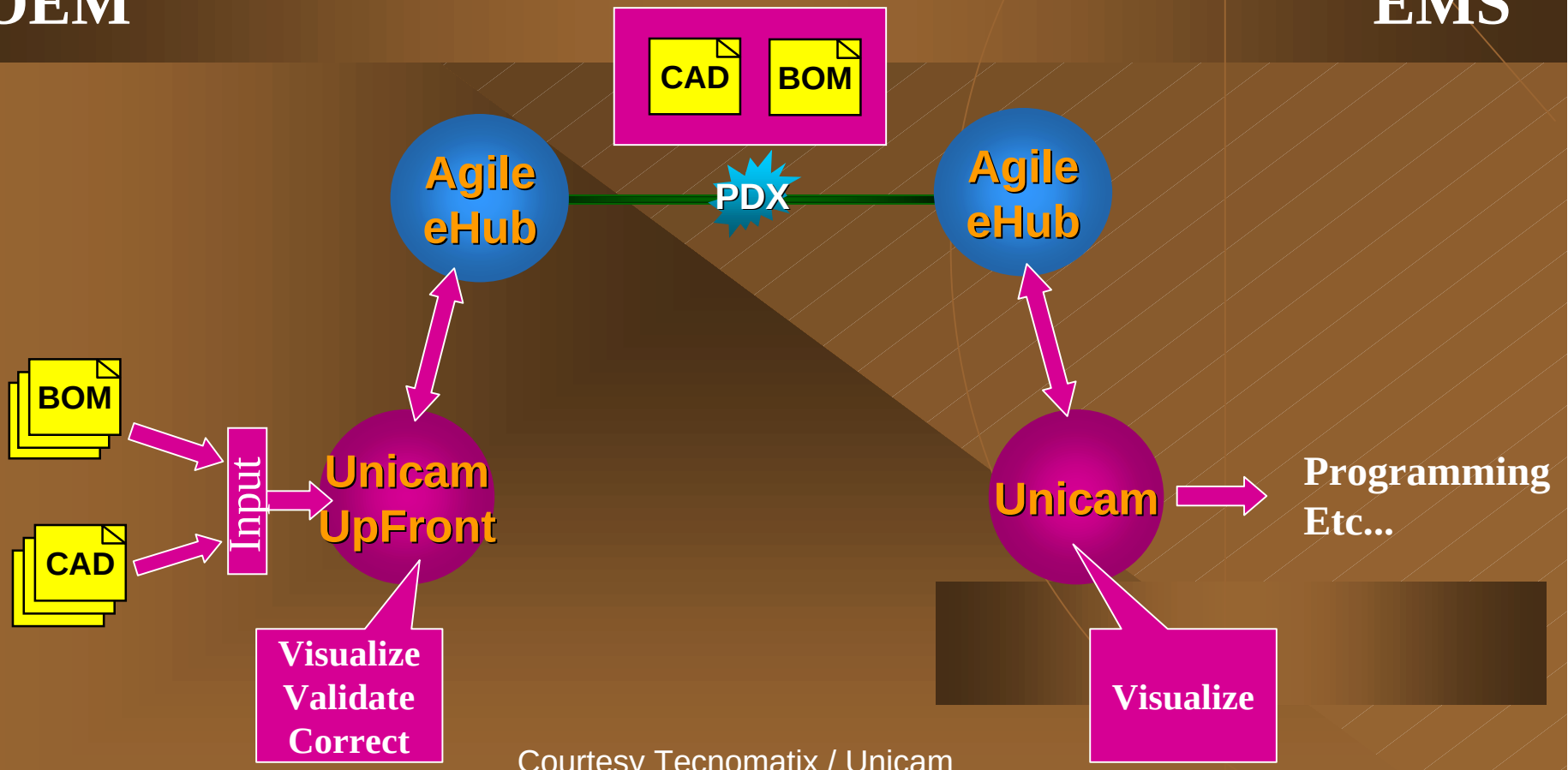
How Did We Get Here?

- A Proliferation Of CAD Systems With No Standards For Output
- OEM's Developed Custom Systems With Proprietary Formats
- Recent Move Toward Outsourcing Of Manufacturing
- Birth Of The Internet With It's Enabling Technology

Available Options

- EMS Providers Can Continue To Develop Systems To Handle Any CAD Output And Transmission Format.
- The Industry Can Implement Standards For CAD Data Formats And Standard Transmission Schema That Also Take Advantage Of The Internet.

Engineering Data Flow With Unicam UpFront



Courtesy Tecnomatix / Unicam

Call To Action

- EMS Providers Should Join With OEM's, Suppliers And Other Industry, Government And Academic Institutions To Help Develop And Implement Standards For Data Transmission And CAD Outputs.
- OEM And EMS Providers Should Work Toward Implementing Collaborative Design Tools To Maximize The Opportunities Available For Utilizing Virtual Manufacturing Approaches.