E&E Industry
V5R12 Market Overview

Yannick Wittner, Dassault Systemes

Tom Friel, IBM

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Summary

- 1. Market Segmentation
- 2. Industry Specifics
- 3. Industry Trends / Evolution
- 4. Industry Pains / Expectations
- 5. Market Analysis
- 6. Growth Factors

E&E Industry Segmentation

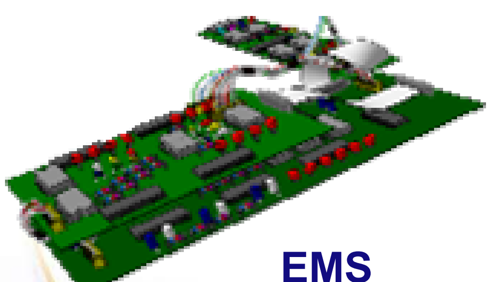
SEMICONDUCTOR Suppliers
(Chips, Devices,
Fab equipment)

CONSUMER OEMs
(Audio, Video, Photo)

INDUSTRIAL OEMs
(Medical, Industrial Automation, Building/Plant Controls)

COMPONENTS Suppliers
(Passive Electronics, Displays,
Connectors, Mechanical parts)

TELECOM OEMs



EMS

OFFICE EQUIPMENT OEMs
(Computers, Copiers, Printers)

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Classification

Consumer
- *Household Audio And Video Equipment*
- *Phonograph Records And Tapes*
- *Photographic Equipment and Supplies*

Industrial
- Control & Instrumentation
  - *Scales and Balances, Except Laboratory*
  - *Environmental Controls*
  - *Fluid Meters And Counting Devices*
  - *Instruments To Measure Electricity*
  - *Analytical Instruments*
  - *Measuring & Controlling Devices,N.E.C*
- Power & Distribution
  - *Transformers, Except Electronic*
  - *Switchgear and Switchboard Apparatus*
  - *Electrical Equipment & Supplies, N.E.C.*
- Medical
  - *Optical Instruments And Lenses*
  - *Surgical Appliances And Supplies*
  - *X-Ray Apparatus And Tubes*
  - *Electromedical Equipment*
  - *Ophthalmic Goods*
  - *Laboratory Apparatus And Furniture*
  - *Surgical And Medical Instruments*
  - *Dental Equipment And Supplies*

Telco
- *Telephone and Telegraph Apparatus*
- *Radio & TV Communications Equipment*
- *Communications Equipment, N.E.C.*
- *Search And Navigation Equipment*

Office & IT
- *Electronic Computers*
- *Computer Storage Devices*
- *Computer Terminals*
- *Computer Peripheral Equipment Nec*
- *Calculating And Accounting Equipment*
- *Office Machines, N.E.C.*
- *Magnetic And Optical Recording Media*

EMS

Components
- Equipments
  - *Motors And Generators*
  - *Carbon And Graphite Products*
  - *Relays And Industrial Controls*
  - *Electrical Industrial Apparatus, N.E.C.*
  - *Current-Carrying Wiring Devices*
  - *Noncurrent-Carrying Wiring Devices*
  - *Drawing and Insulating of Nonferrous Wire*
  - *Storage Batteries*
  - *Engine Electrical Equipment*
- Lighting
  - *Electric Lamps*
  - *Residential Lighting Fixtures*
  - *Commercial Lighting Fixtures*
  - *Vehicular Lighting Equipment*
  - *Lighting Equipment N.E.C.*
- Electronic components
  - *Electronic Capacitors*
  - *Electronic Resistors*
  - *Electron Tubes*
  - *Electronic Coils & Transformers*
  - *Electronic Connectors*
  - *Electronic Components, N.E.C.*

Semiconductors
- Semiconductors And Related Devices

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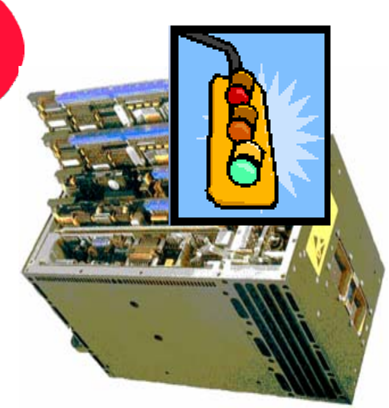
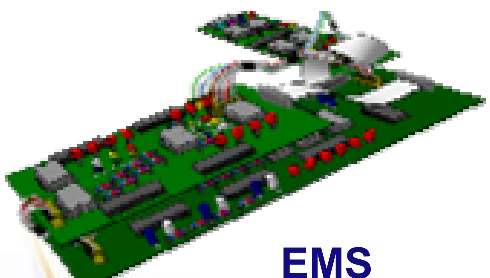


TELECOM OEMs



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Industry Specifics

- **Key Actors**
  - *Dassault Systemes, PTC, Matrix One, Agile*
  - *Electronic Design Automation (EDA) eg Cadence, Synopsys, Mentor Graphics, Zuken*
- **Key Business Issues**
  - *Innovation Management - First To Market / Right to Market*
  - *Time-to-Volume and Time-to-Market*
  - *Business/Processes standardization*
  - *Outsourcing*

Electronics industry environment

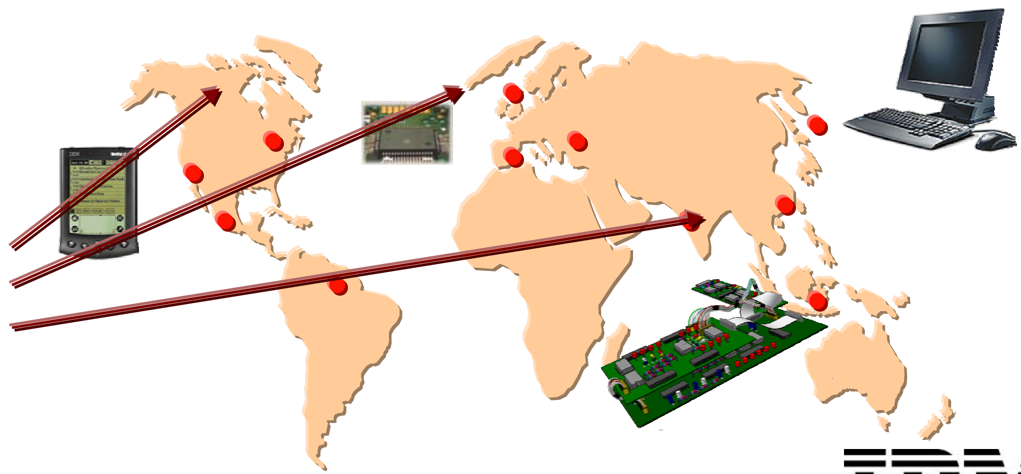
What is happening in the industry ?	What pressures do these trends create?	What do clients need to do in general ?	What do clients need to do specifically ?
• Increasing speed of technology change • Increased volatility of demanded volume • Increased demand for customization and personalization • Rapid hardware commoditization leading to intense price competition • Shift of value from hardware to software, services and content	• Shorter product lifecycles • Accelerated convergence of product technologies • Increasing price pressure and margin erosion • Unpredictability of production capacity requirements • Increased importance of brand image/ recognition • Desire for new business models	• Rapidly assimilate new technologies into product • Bring new products and services to market and to volume faster • Increase responsiveness to changing market demands • Improve profitability at lower volumes and shorter lifecycles • Increase customer service and customization • Shift from products to services and solutions	• Improve the speed and productivity of the product development process • Disaggregate the value chain through selective outsourcing, divestitures and decapitalization • Establish and manage relationships with upstream, downstream, and complementary partners • Improve real-time collaboration and team-work throughout the extended global value chain • Transform from product-centric to customer-value-centric strategy, organization, processes and culture • Create stronger brand loyalty

The A,B,C of the Electronics industry

Electronics companies must manage these key topics ………….to build Brand value

Bus Orgn. → Costs → Quality → Time to market → Innovation → **Brand value**

…and work within a global environment of Alliances & Contract manufacturing



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Industry Trends / Evolution

New Opportunities, new Challenges

- *High cost of doing business*
- *Inadequate horizontal integration*
- *Slow and/or costly product development*
- *Product commoditization and lack of solutions*
- *Poor global governance*
- *Insufficient business value from technology*

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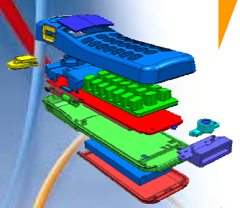
Business challenges in E&E

Customer Challenges

- **500 parallel projects in 16 global divisions**
- **Small teams with less highly skilled resources**
- **Many contract manufacturers**
- **80% of product portfolio replaced within 1-3 years**
  - Need to share and re-use knowledge, intellectual property and best practices
  - Need for new collaboration models and processes
  - ‘Co-opera-titian's – compete + cooperate
  - Need for better and faster decision support processes



PLM Challenge

- **Aim for a new Collaborative Framework federating objects and processes:**
  - Mechanical Objects
  - Electrical & Electronic Objects
  - Software Objects

Product Design Cycle
Product Life Cycle
Product Innovation

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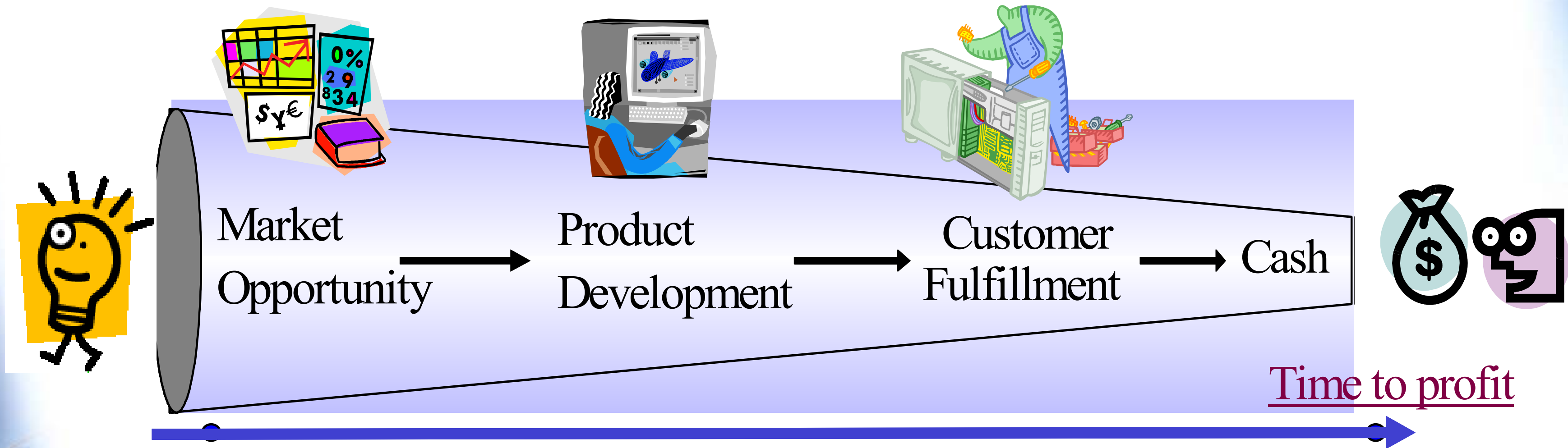
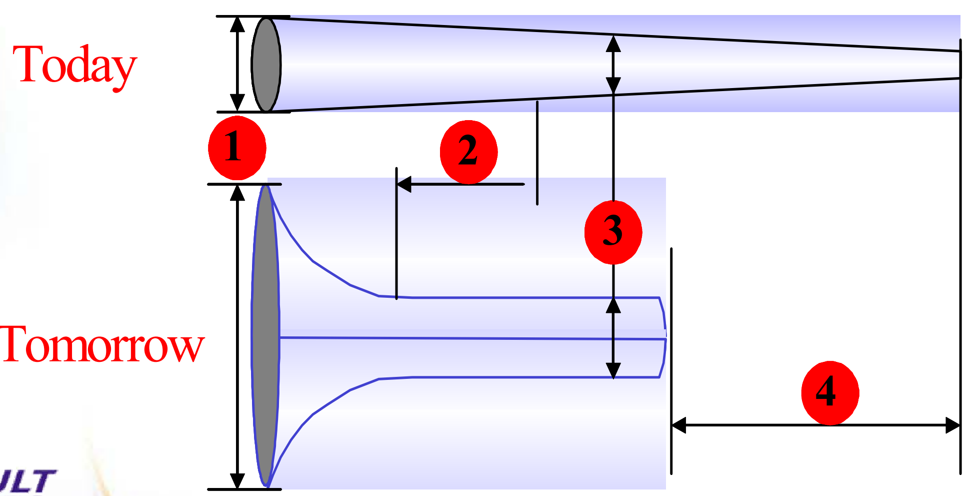
Industry Pains / Expectations

Customers Expectations for PLM Time to market

- *Design/parts re-use*
- *Collaboration*
- *Cradle-to-grave vision*
- *Process Enhancements*
- *Integration*
- *Speed and accuracy*

New Product Introduction Lifecycle



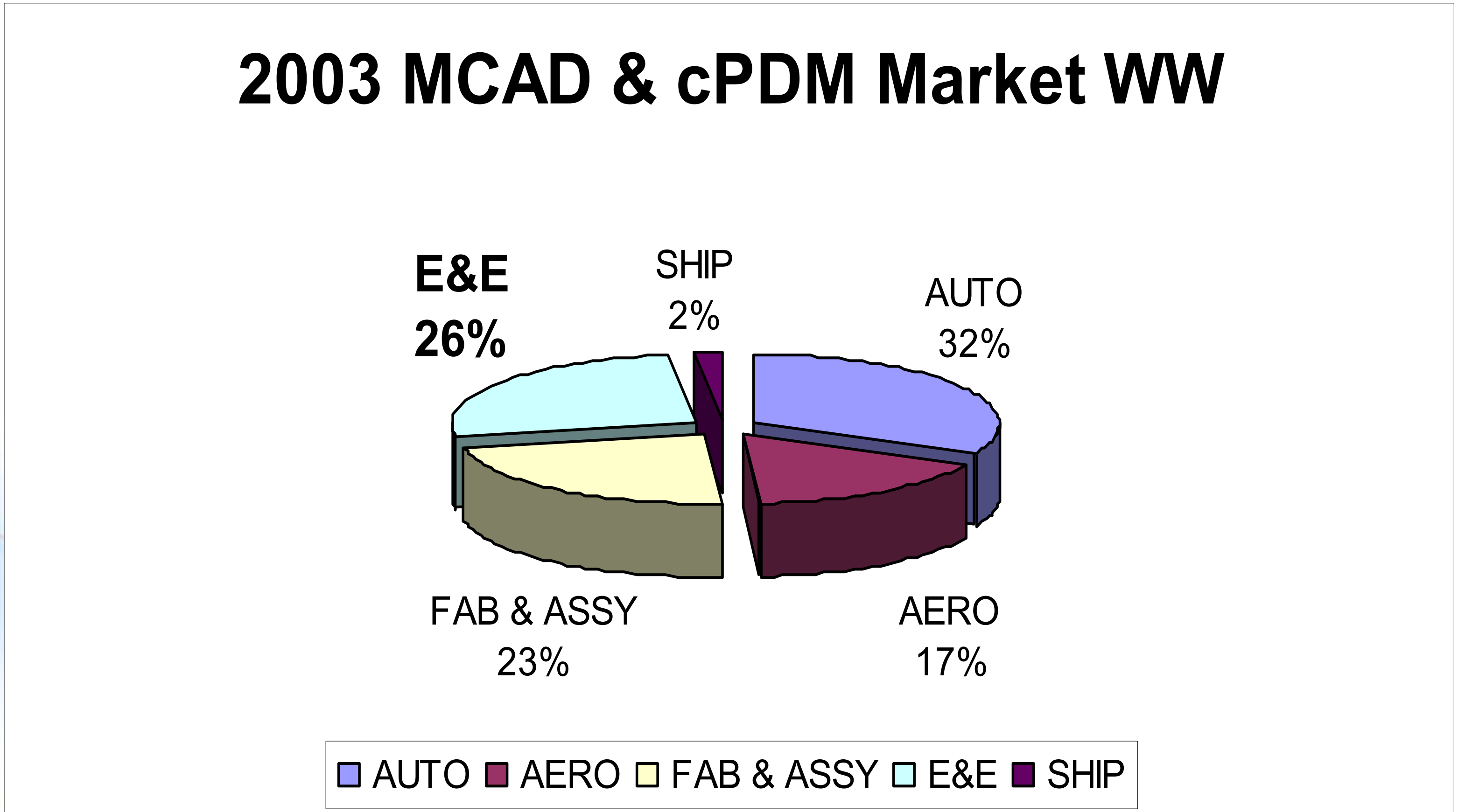


1. Analyse more opportunities
2. Select the 'right' opportunities faster
3. More projects succeed
4. Faster throughput

Market Analysis

- PLM Market Share (%): all suppliers under 5% of market, no dominant supplier
- EDA on Linux represents high growth in electronics
- Current CATIA installed base: Conversion from V4 to V5
- Highest growth opportunity: collaborative PDM

2003 WW total PLM Revenue Estimates



Figures based upon $6.1Bn Software market only

E&E represents about $1.6Bn in the total WW PLM market

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