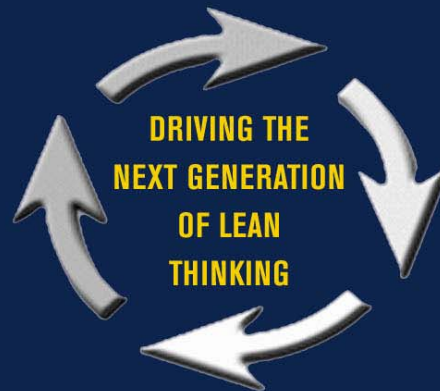


Product Lifecycle Management

Dr. Michael Grieves

How GE, P&G, Ford, and Toyota Achieved Dramatic
Increases in Productivity and Profit

PRODUCT LIFECYCLE MANAGEMENT



MICHAEL GRIEVES

Defining PLM

Product Lifecycle Management (PLM) is an integrated, information-driven approach comprised of people, processes/practices, and technology, to all aspects of a product's life, from its design through manufacture, deployment and maintenance—culminating in the product's removal from service and final disposal. By trading product information for wasted time, energy, and material across the entire organization and into the supply chain, PLM drives the next generation of lean thinking.

Source: PLM: Driving the Next Generation of Lean Thinking
(McGraw-Hill, 2006)

PLM Enables Designing to a Requirement

- Engineers design to a functional requirement
- Requirements are imperfectly mapped to specifications
- Issues
 - Gaps between intended and actual functionality
 - Over-engineered solutions
 - Unintended functionality (features or bugs)



Quality Control is a Proxy for Performance

- QC is based on causality theory not performance
- QC feedback loops are remote and incomplete
- Warranty and survey data is biased and/or flawed
- Need in-service integrated data

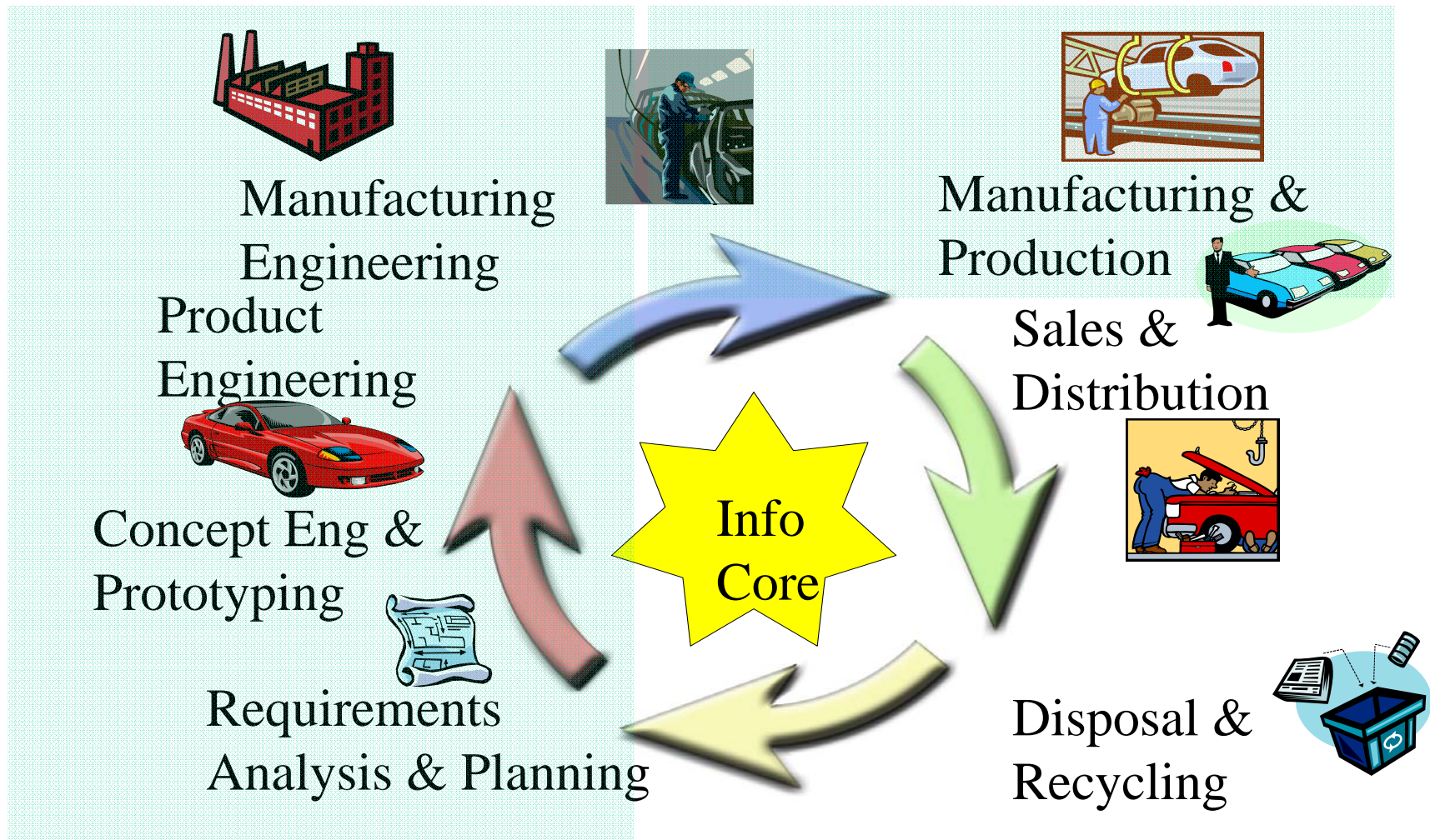
Current Information Model



PLM Information Model



PLM Model

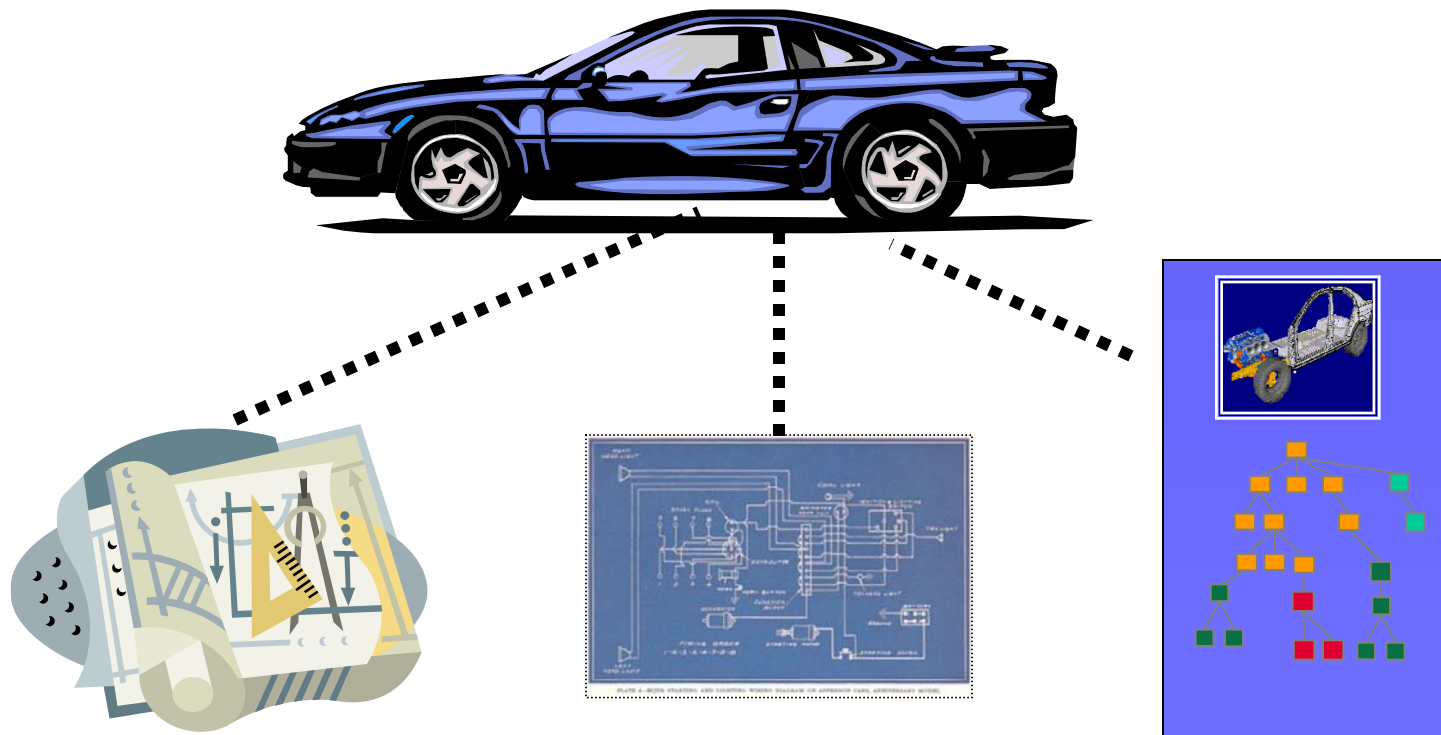


PLM Functions in Engineering

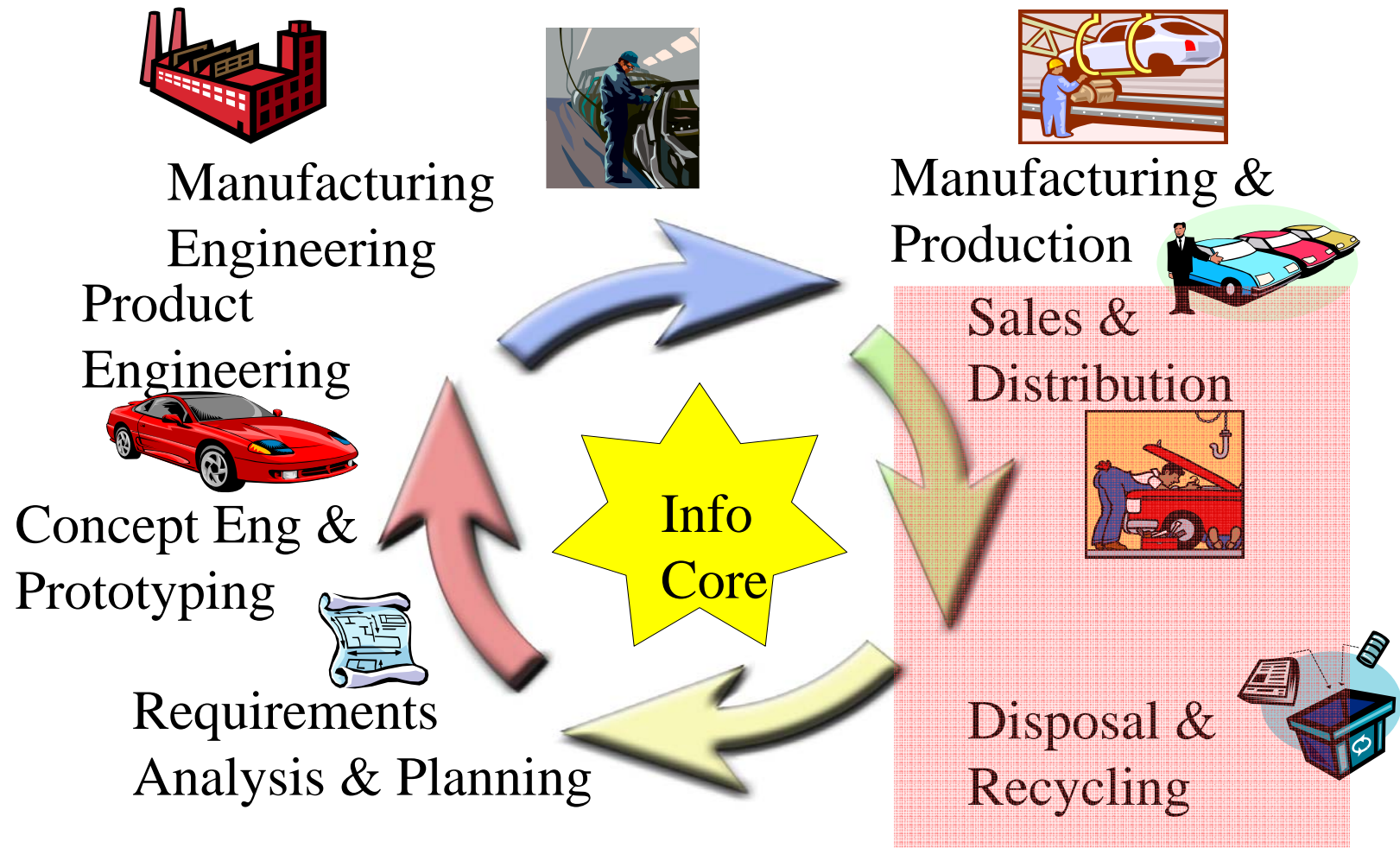
- Engineering vaulting
- Part classification and reuse
- Collaborative design
- ECM
- Digital prototyping



Different Views for Different Functions

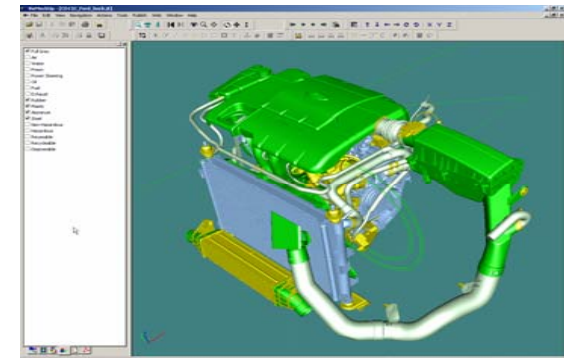


PLM Model



PLM Considerations

- Marketing collateral consistency and timeliness
- Operating manuals completeness and accuracy
- In-use information capture and usage
- Disposal procedures and instructions



In-use Information Capture and Usage

- Feedback on
 - Product quality
 - Product functions
- Product liability mitigation
- New service enablement



October 30, 1999

Toshiba to Spend \$1 Billion to Settle Laptop Lawsuit

By ANDREW POLLACK

LOS ANGELES -- Toshiba Corp. said Friday that it will spend about \$1 billion to settle a class action lawsuit brought by two people charging that the world's leading maker of laptop computers sold 5 million defective machines in the United States since 1987.

Information Feedback and Feed Forward

- Feedback design changes
- Feedback manufacturing changes
- Feed forward to new designs

