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Role of Digital Simulation in Developing a PLASVEE© for 2020

S. Ravi Shankar
Siemens PLM Software

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Complexity

Compliance

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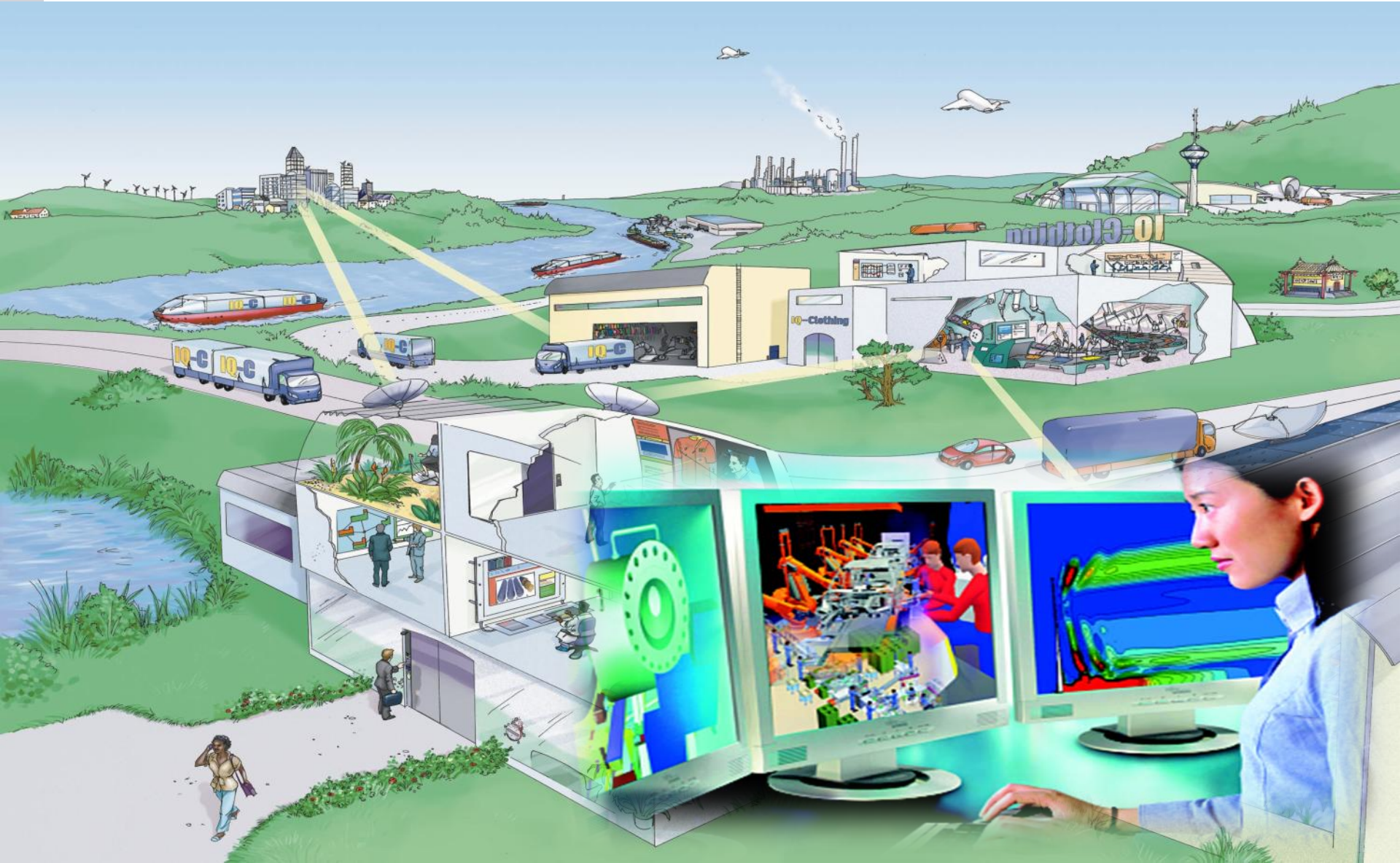
Collaboration



The Engineering Challenge

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This challenge requires

Integrated, Managed, Collaborative Process

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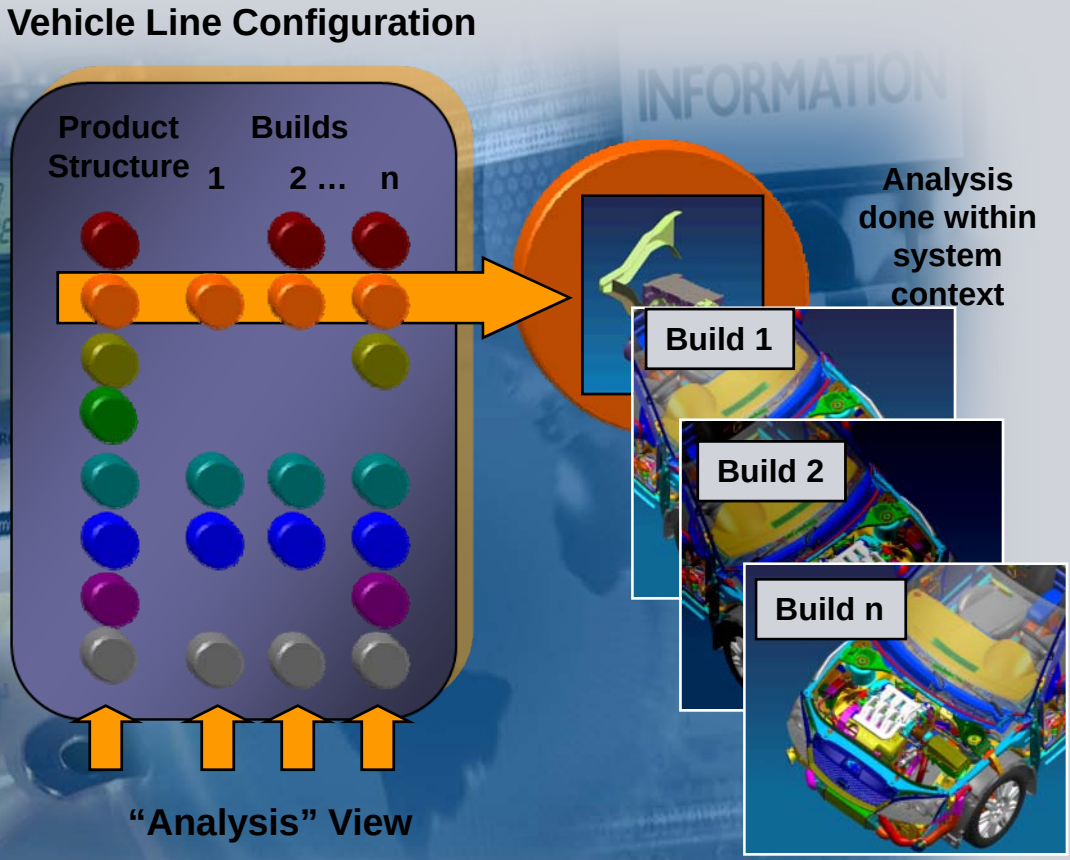
Digital Lifecycle Simulation

Simulation is core to engineering

- Powerful
  - Multi-domain
  - Fast
  - Visual
- Integrated
  - Design
  - Requirements
  - Workflows
  - Change Management
- Managed
  - Traceability
  - Collaboration
  - Variants and Configurations
  - Security



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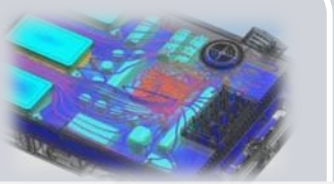
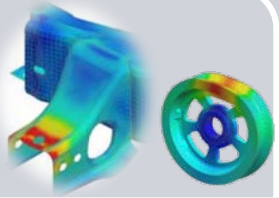
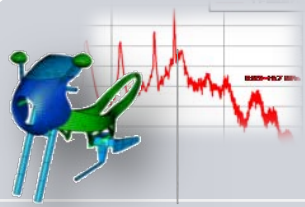
Performance Evaluation for the PLASVEE

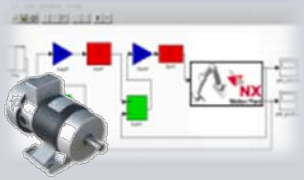

Electronic Systems Cooling

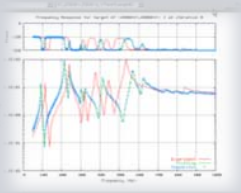
Loads Analysis

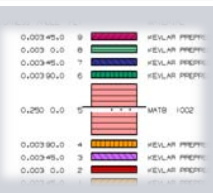

Nonlinear and Crash

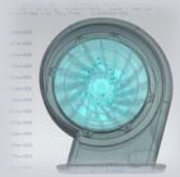

Response Analysis

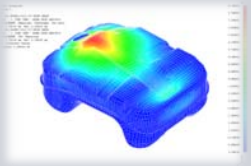
Interior Acoustics

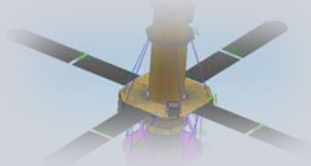

Controls Integration

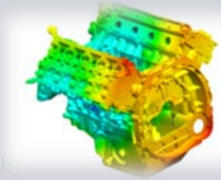

Test Correlation

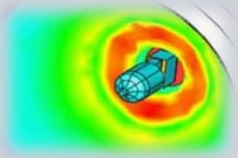

Composite Materials

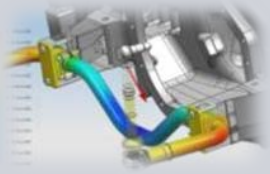

Coupled Flow/Thermal

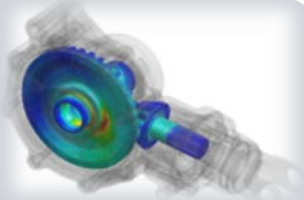

Fluid Structure Interaction

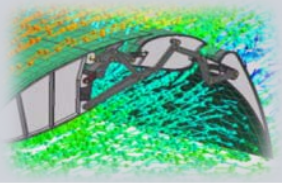

Assembly Analysis


Coupled Thermal Structural


Thermal Radiation


Flexible Multi-body Dynamics


Durability


CFD

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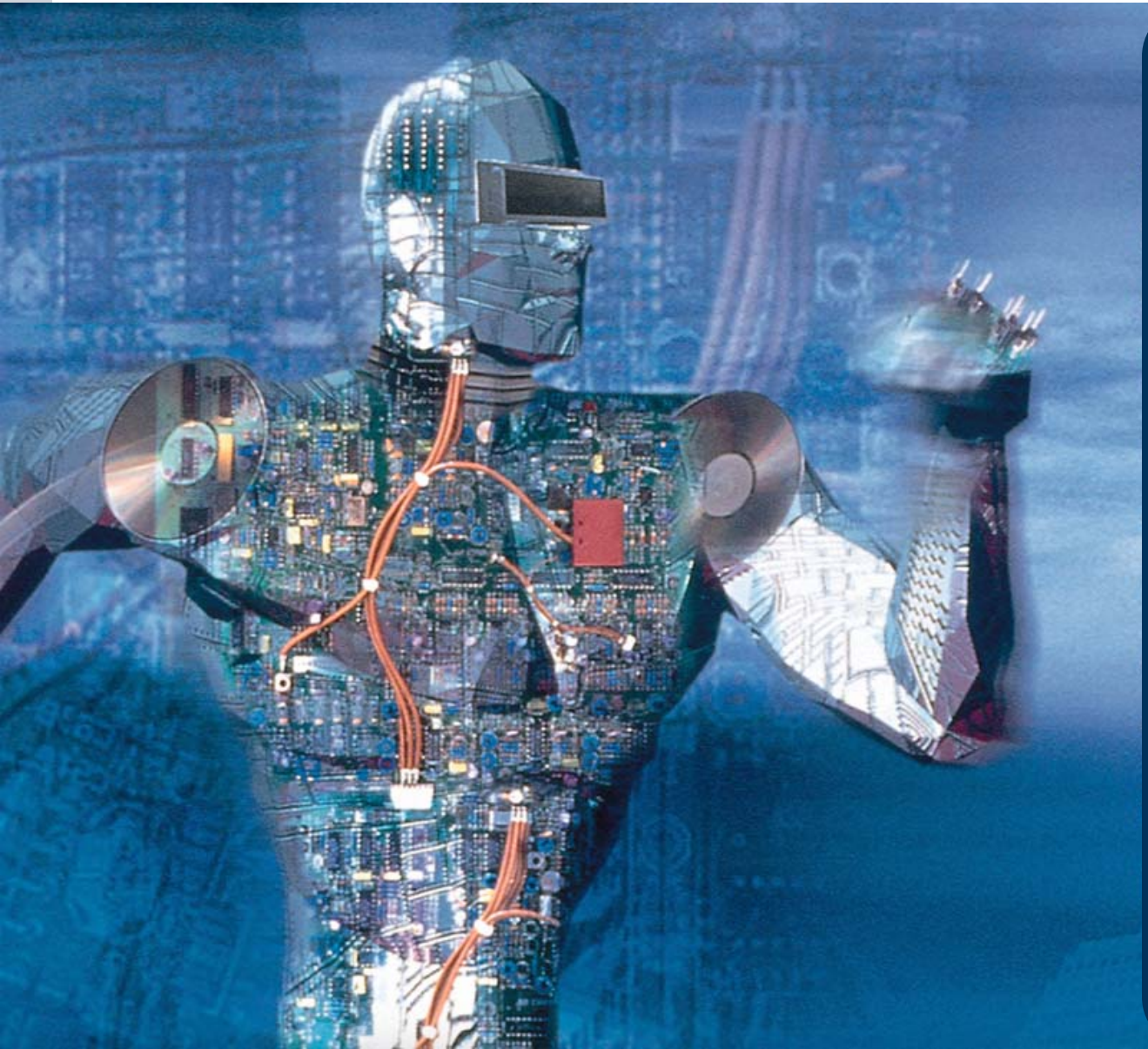
Systems Simulation



Capturing and cascading requirements

High degree of integration of mechanical, electrical, electronics and software systems

Earlier performance feedback

Optimization of the overall system is critical

Systems Optimization

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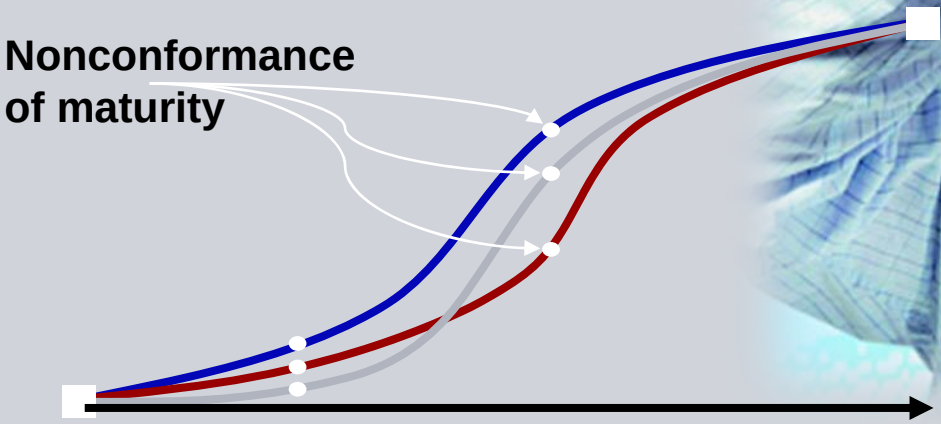
- Test data correlation
- Multi-discipline trade-offs
- Robust Design / Stochastics



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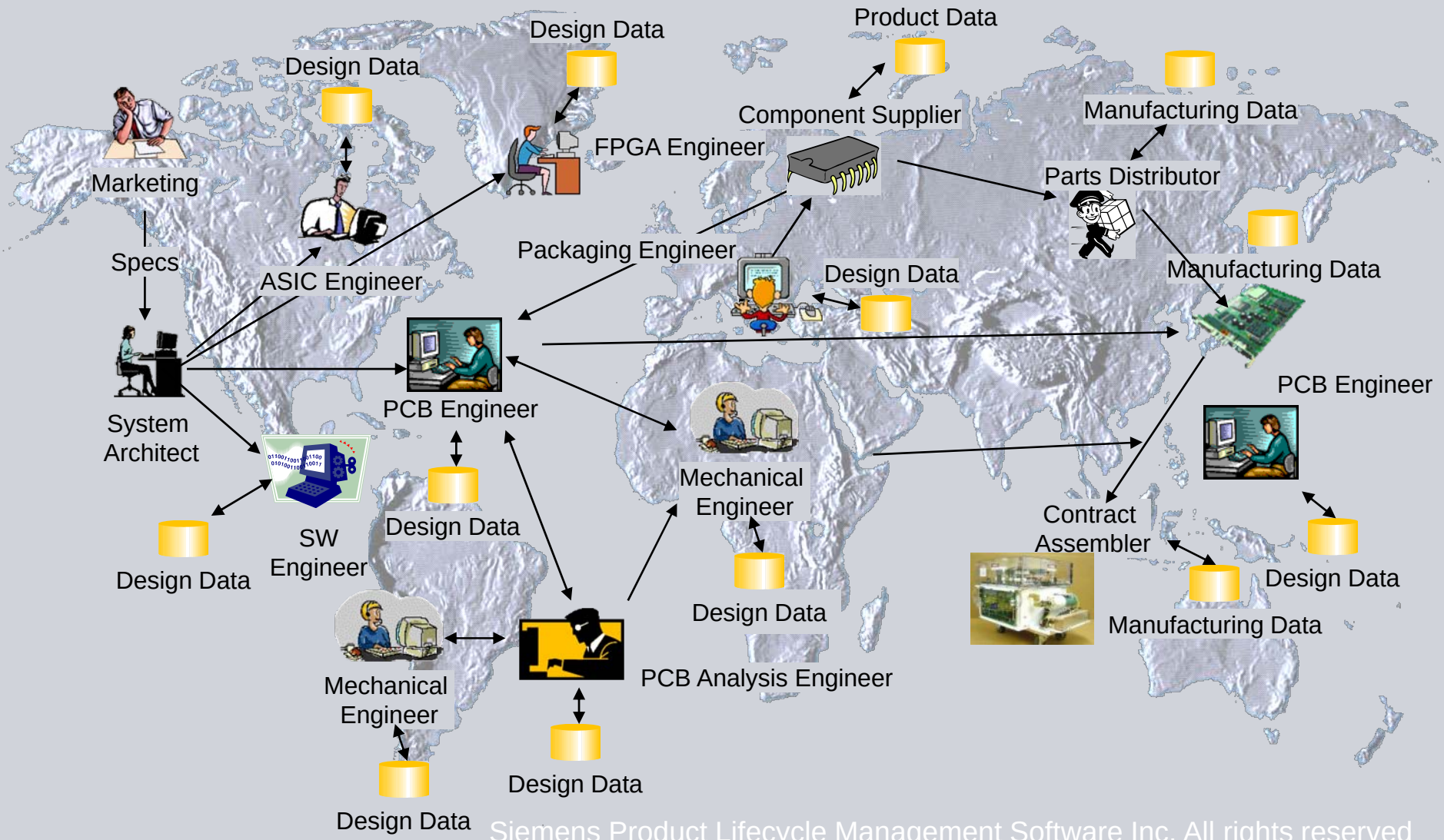
Globally Distributed Development



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Fragmentation is Unacceptable

Early Concept

Engineer develops parts list

Prt No.	Prt Name
4F93-7410117-A	MBR- FLR SD INR LH
4F93-74100K32-A	REINF ASY BDY RKR PNL LWR LH
4F93-7410461-A	REINF-FRT FLR SD INR MBR
4F93-7410143-A	REINF BDY RKR PNL LH
4F93-74100K31-A	REINF ASY BDY RKR PNL LWR RH

CAE gets parts & function codes from BOM System to do work Estimate

Prt No.	Prt Name
4F93-7410117-A	MBR- FLR SD INR LH
4F93-74100K32-A	REINF ASY BDY RKR PNL LWR LH
4F93-7410461-A	REINF-FRT FLR SD INR MBR
4F93-7410143-A	REINF BDY RKR PNL LH
4F93-74100K31-A	REINF ASY BDY RKR PNL LWR RH

Supply base gets parts list From engineer

Prt No.	Prt Name
4F93-7410117-A	MBR- FLR SD INR LH
4F93-74100K32-A	REINF ASY BDY RKR PNL LWR LH
4F93-7410461-A	REINF-FRT FLR SD INR MBR
4F93-7410143-A	REINF BDY RKR PNL LH
4F93-74100K31-A	REINF ASY BDY RKR PNL LWR RH

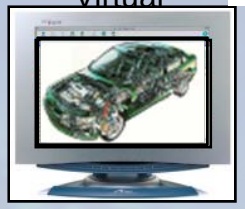
PPM gets parts list from Engineer And updates ERP

Prt No.	Prt Name
4F93-7410117-A	MBR- FLR SD INR LH
4F93-74100K32-A	REINF ASY BDY RKR PNL LWR LH
4F93-7410461-A	REINF-FRT FLR SD INR MBR
4F93-7410143-A	REINF BDY RKR PNL LH
4F93-74100K31-A	REINF ASY BDY RKR PNL LWR RH

Prototype Build gets parts From Engineer for build

Prt No.	Prt Name
4F93-7410117-A	MBR- FLR SD INR LH
4F93-74100K32-A	REINF ASY BDY RKR PNL LWR LH
4F93-7410461-A	REINF-FRT FLR SD INR MBR
4F93-7410143-A	REINF BDY RKR PNL LH
4F93-74100K31-A	REINF ASY BDY RKR PNL LWR RH

Virtual



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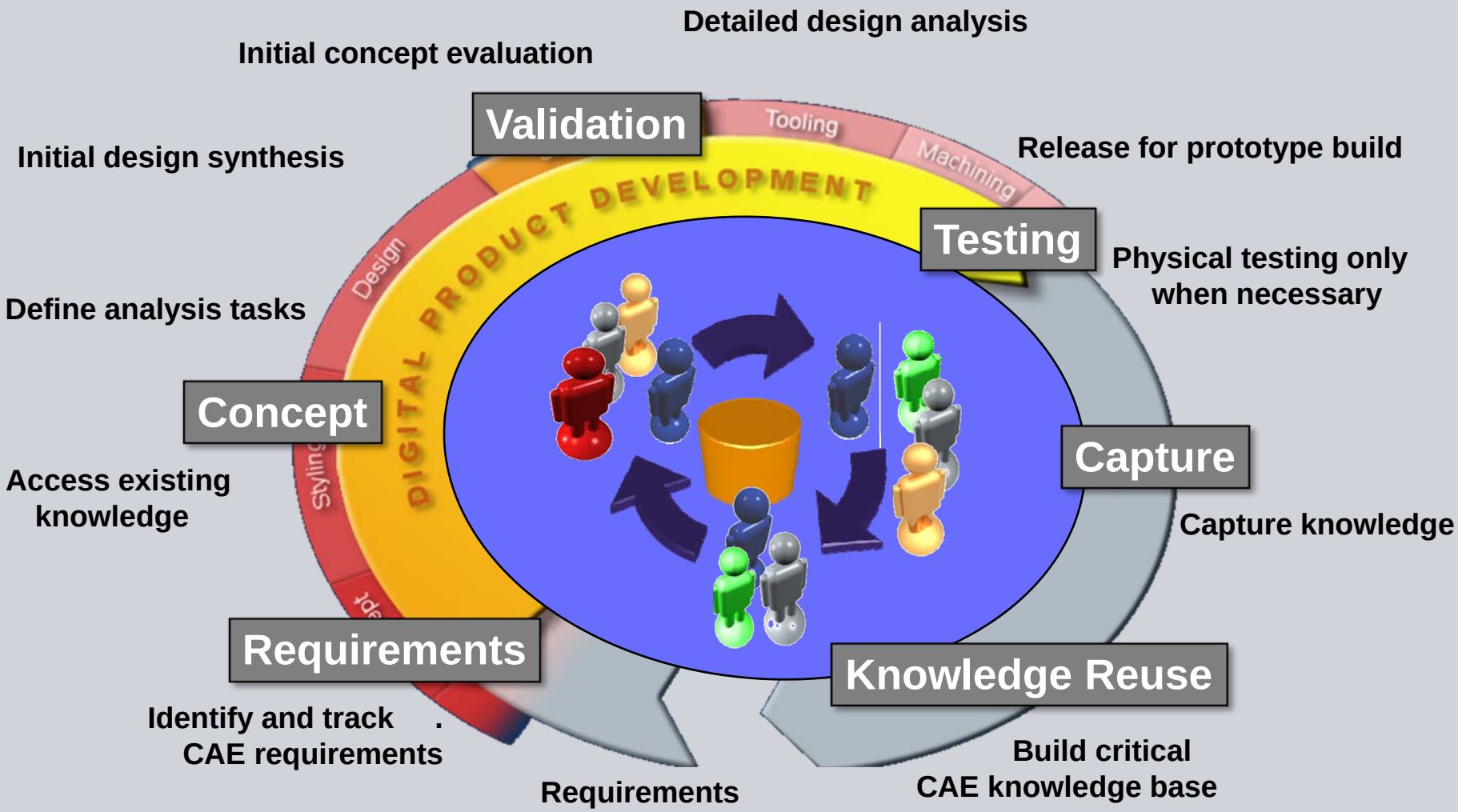
Simulation Process Management



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Solution Elements

Simulation Data in the context of Product Engineering

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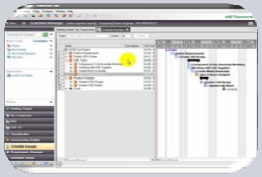
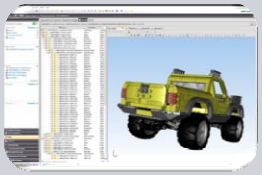


Schedule Manager

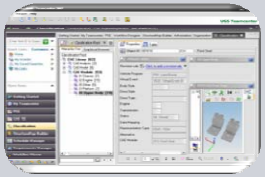


Product Configuration

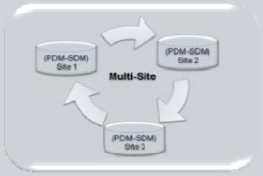
Workflow

Structure Mapping

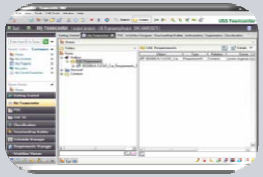
Security



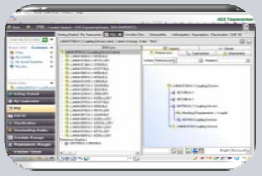
Classification



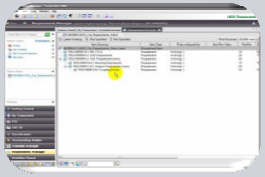
Multisite Collaboration



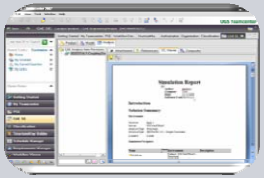
Envelop & Notification



Referencer & Queries

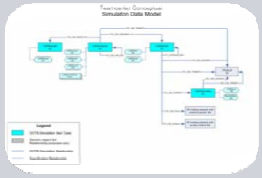


Requirements Management

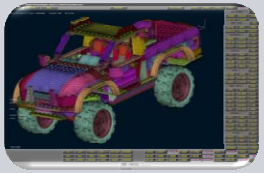


Document Management

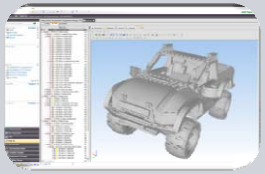
Change Management



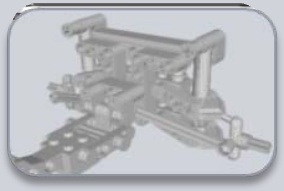
CAE Data Model



External Processes



CAE Structure Editor



Sharing CAE data and results

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A look back in time …

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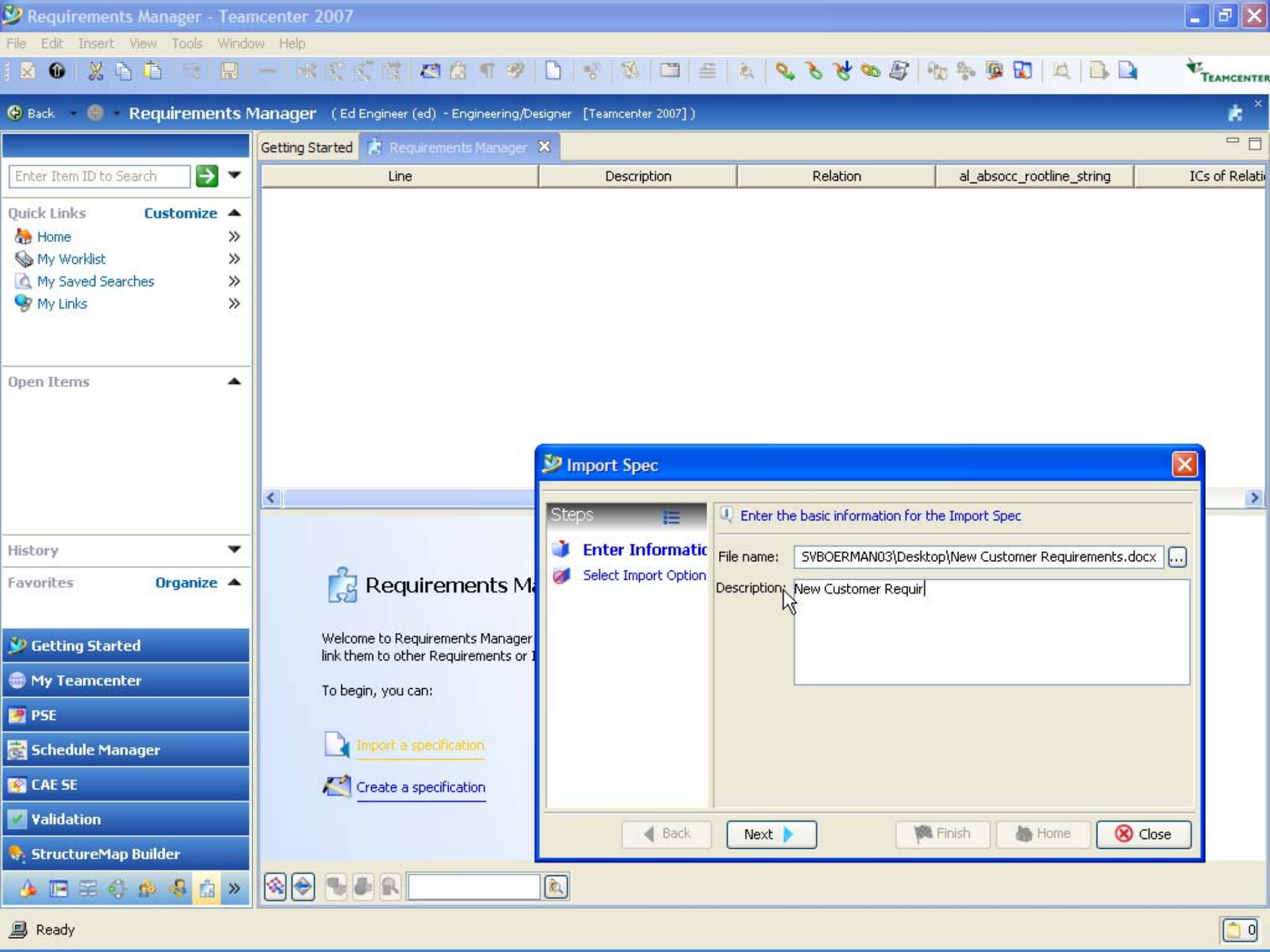
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File Edit Insert View Tools Window Help
Back
Requirements Manager (Ed Engineer (ed) - Engineering/Designer [Teamcenter 2007])
Enter Item ID to Search
Quick Links Customize
Home
My Worklist
My Saved Searches
My Links
Open Items
History
Favorites Organize
Getting Started
My Teamcenter
PSE
Schedule Manager
CAE SE
Validation
StructureMap Builder
Getting Started
Requirements Manager
Line
Description
Relation
al_absocc_rootline_string
ICs of Relati
Requirements M
Welcome to Requirements Manager
link them to other Requirements or
To begin, you can:
Import a specification
Create a specification
Import Spec
Steps
Enter Informatic
Select Import Option
Enter the basic information for the Import Spec
File name: SVBOERMAN03\Desktop\New Customer Requirements.docx
Description: New Customer Requir
Back
Next
Finish
Home
Close
Ready

Thank You!

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