e=MSC engineering. education. enterprise. 2009VPD virtual product development conference

Simulation Driven Design: Using FEA Tools to Make Better Design Decisions

Scott Ragon, Director of Research

Scott Woyak, President

James Mullins, Director of Services

PHOENIX INTEGRATION

MSC Software

Phoenix Integration

- Engineering software and services for aerospace, defense, and related industries
- 14 year history
- Virginia Tech spin out
- Office locations
  - Philadelphia, PA (Corporate)
  - Blacksburg, VA (R&D)
  - California (Technical, Sales)
  - Northeast (Sales)
- Customers in North America, Europe, and Asia
- Products
  - ModelCenter
  - CenterLink

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Sample Customers

Simulation Driven Design

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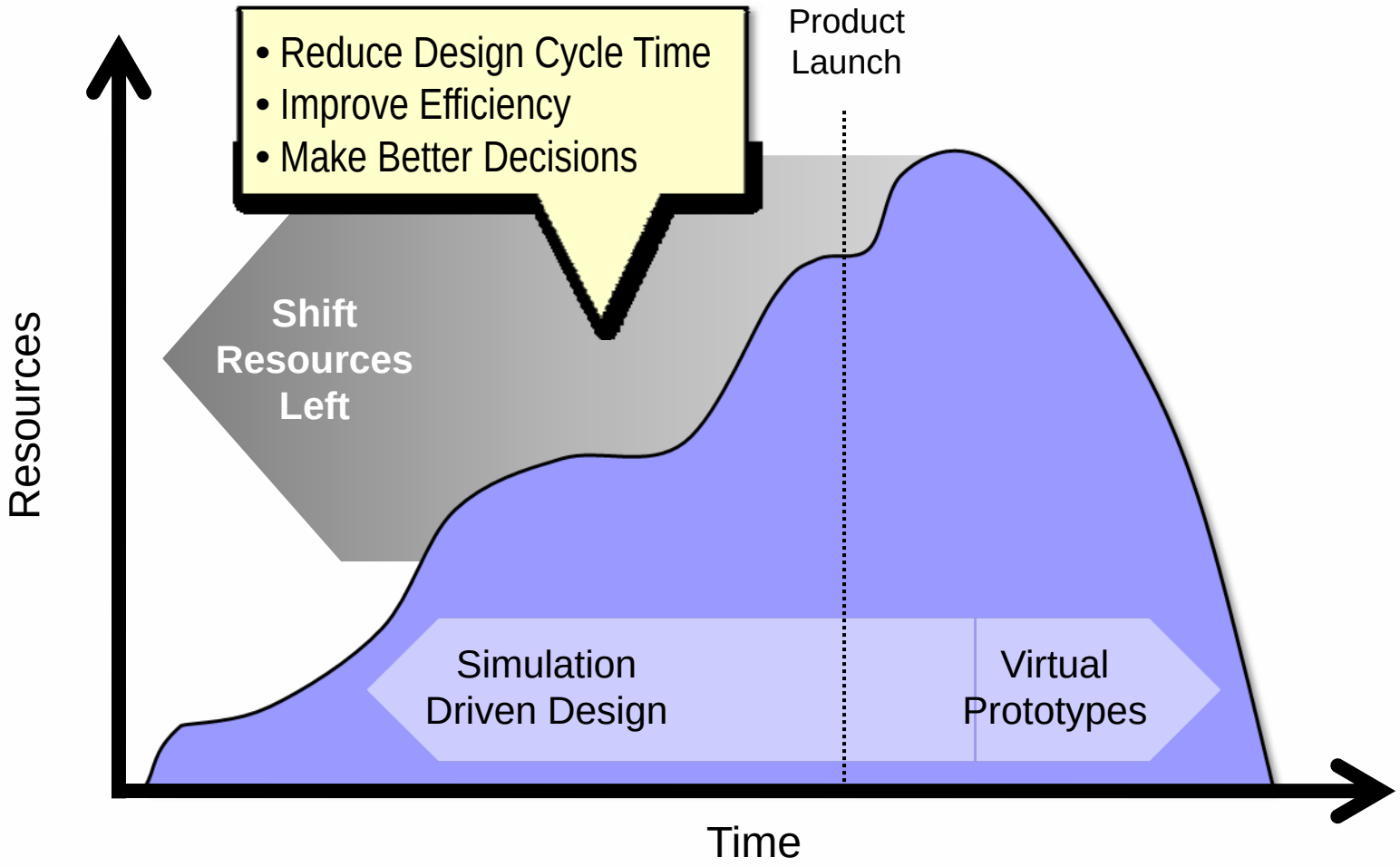

Upfront Simulation

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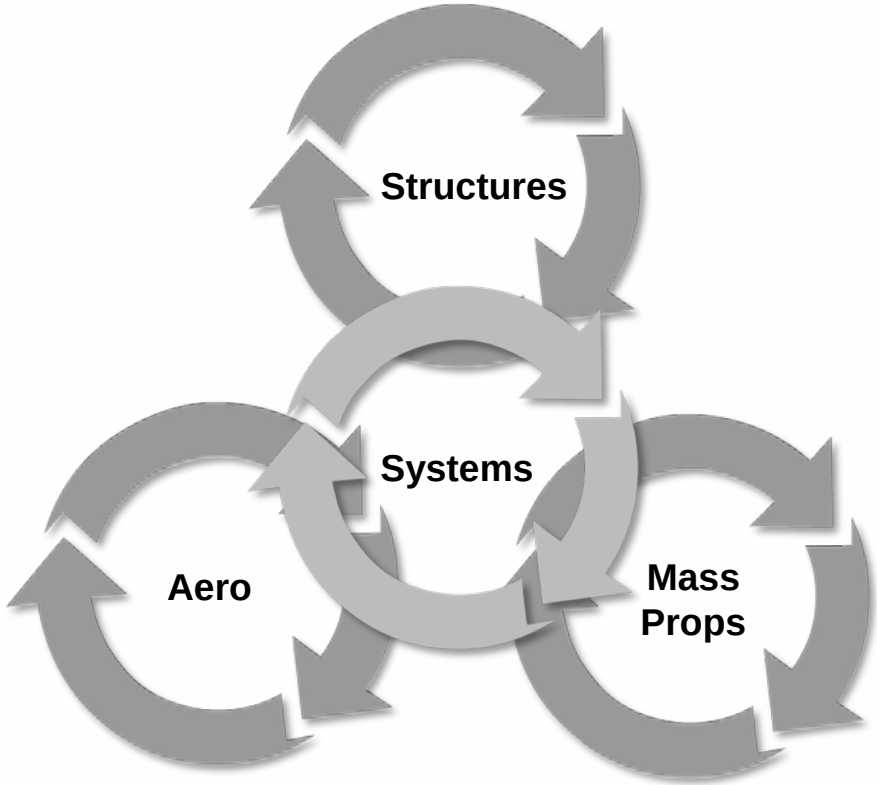
Goals

- Reduce design cycle time
- Better, more reliable products
- Improve decision making

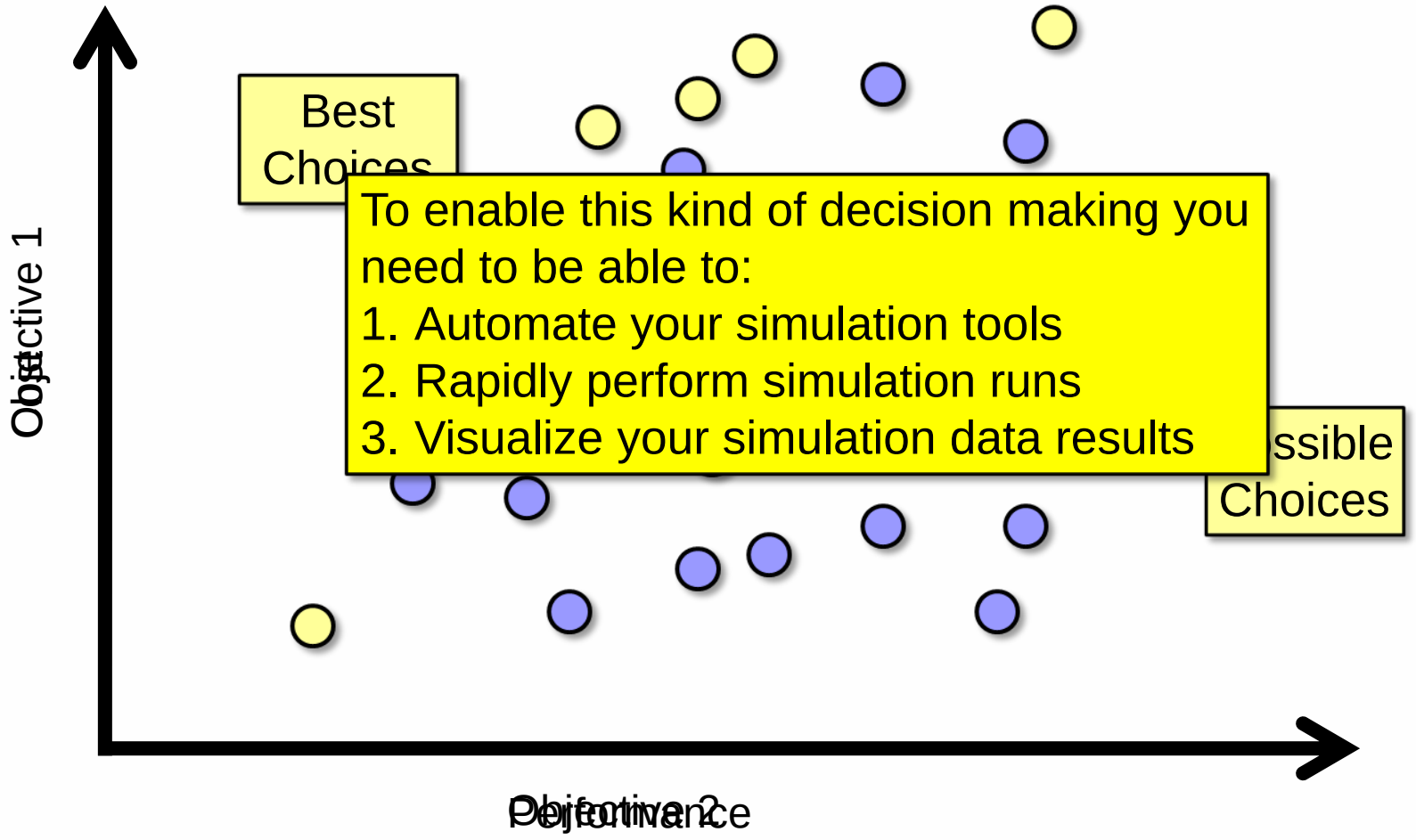
Means

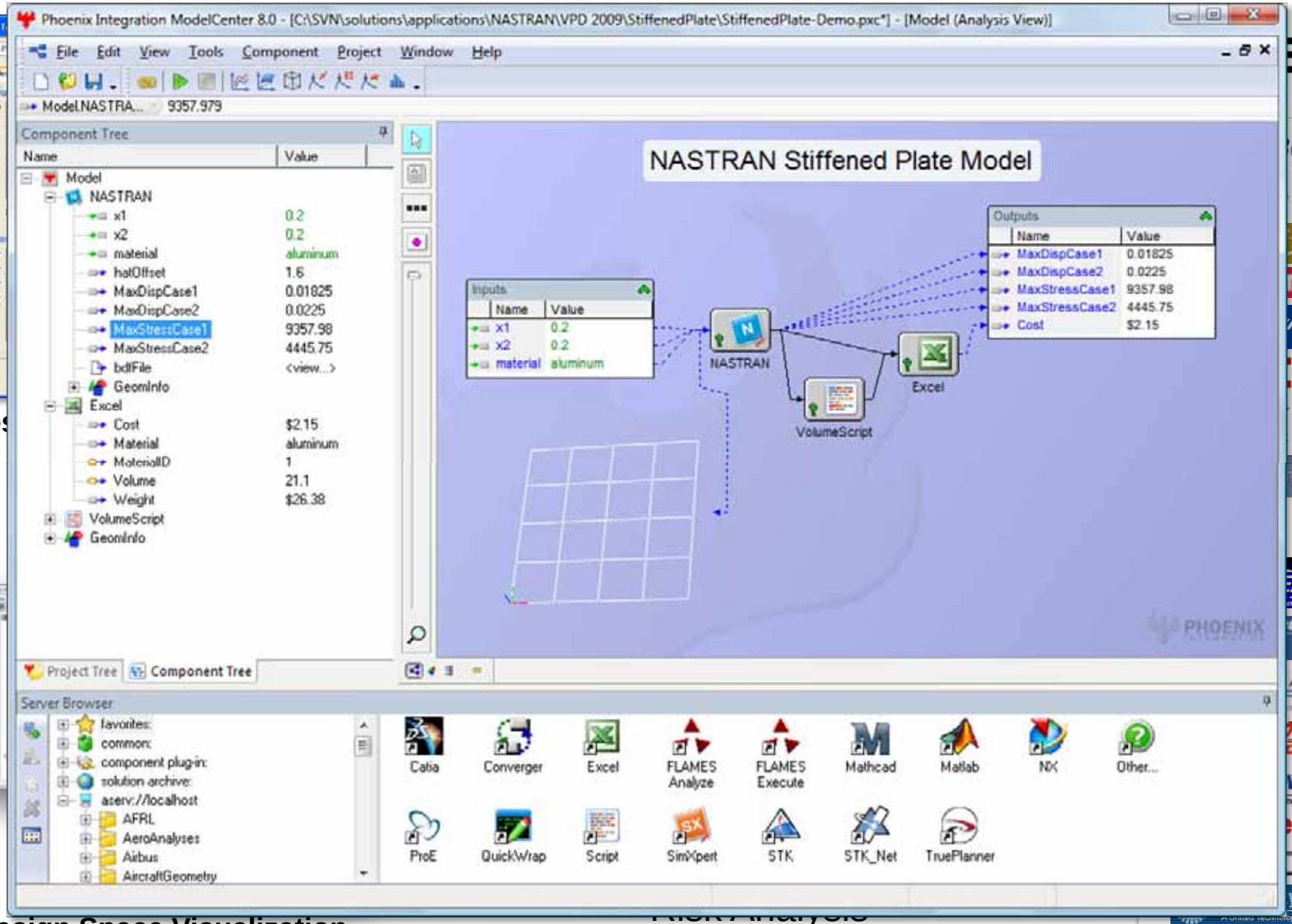
- Automation of simulation workflows
- Repeatable processes
- High performance computing
- Data visualization
- Design optimization



Example: Pareto Fronts

Design is about the compromises you make





Design Space Visualization

Surrogate Models

Hands-On Training Workshop

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Tomorrow

Wednesday 4/22

9:00am – 5:00pm

VIRTUAL PRODUCT DEVELOPMENT CONFERENCE

e=MSC

PERSPECTIVES ON ACCELERATING PRODUCTIVITY IN A SLOWING ECONOMY

Multidiscipline Trade Studies with PHX ModelCenter®
Simulate More…Hands-on Training!

VPD 2009 Workshop

MSC is excited to provide you with **hands-on interaction with our latest CAE solutions and products in conjunction with Phoenix Integration's PHX ModelCenter.** This workshop is intended to provide general product introductions and overview including basic examples of how to use PHX ModelCenter in conjunction with MSC's SimXpert and MD solvers to explore alternatives and find your best design.

During this Workshop, attendees will:

- Get hands-on introduction and overview training to PHX ModelCenter and SimXpert
- See how you can quickly create an engineering process using visual tools
- Run design studies and explore results to find your best design
- Learn how to use PHX ModelCenter, SimXpert, and MD to make your designs more robust

Workshop Example: NASTRAN

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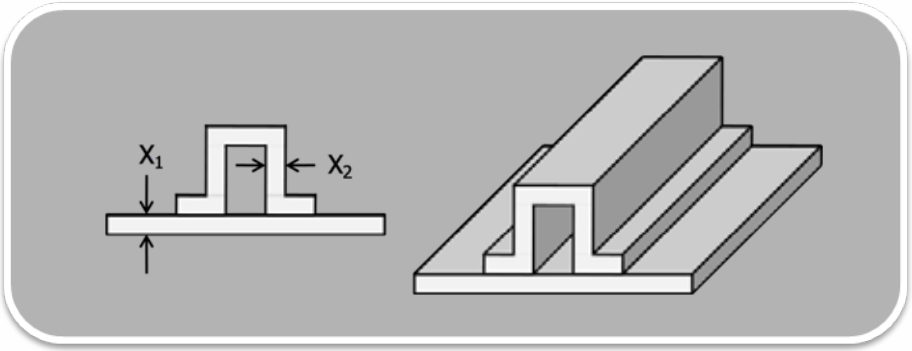
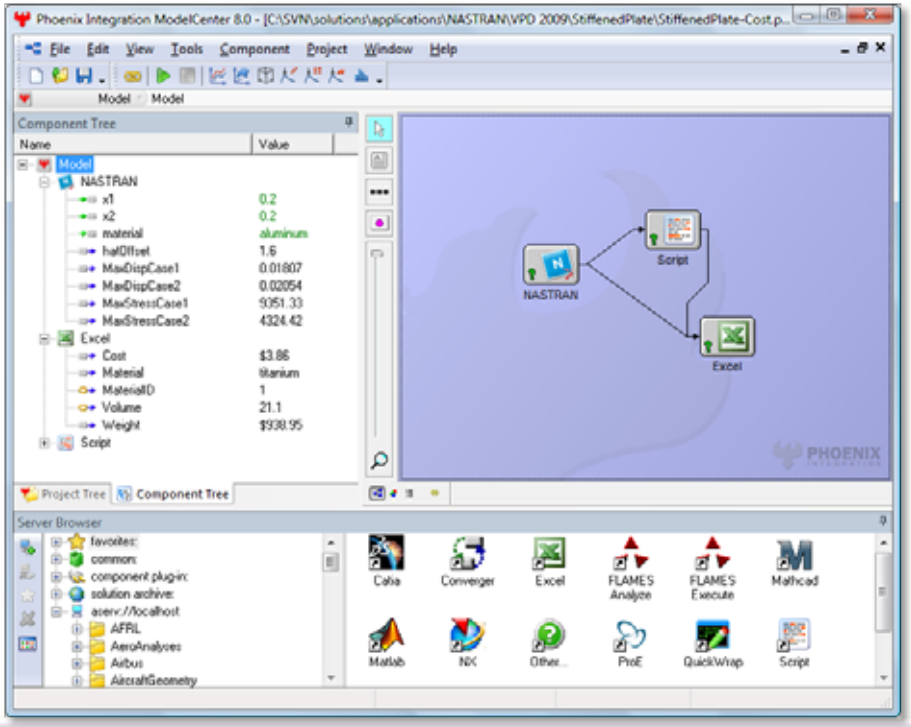
- Learn how to automate NASTRAN and SimXpert
- Create simulation workflows
- Automate workflows to do:
  - Sensitivity Analysis
  - Design of Experiments
  - Optimization
  - Monte Carlo





Workshop Example: NASTRAN

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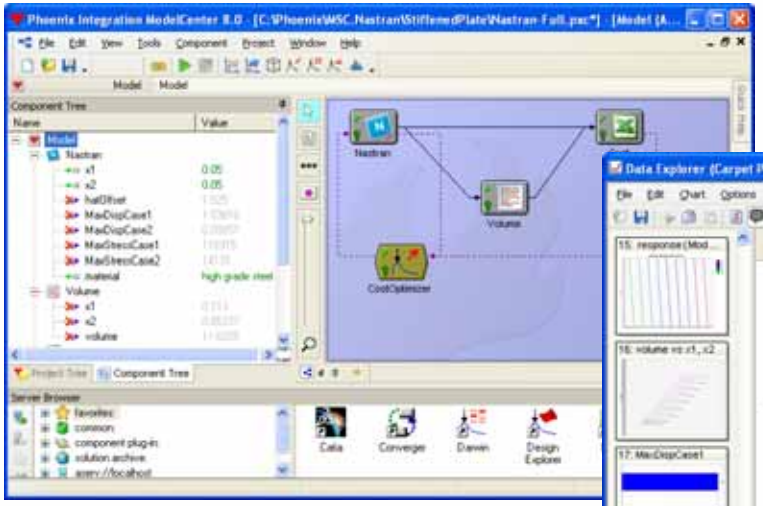
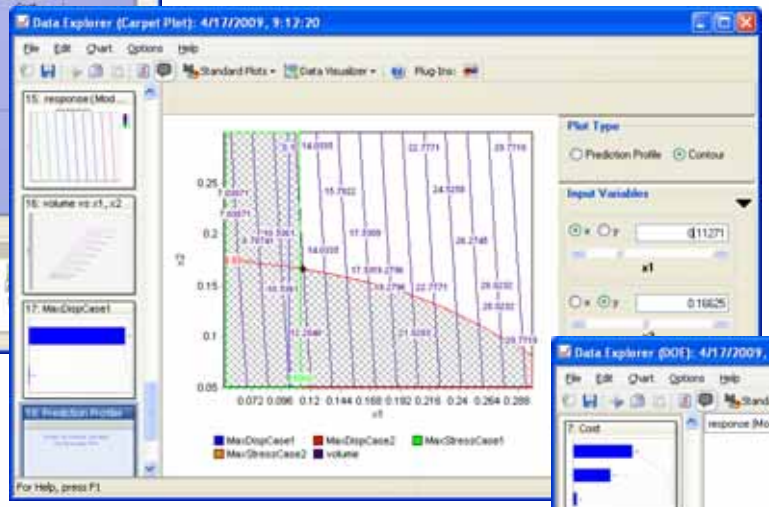
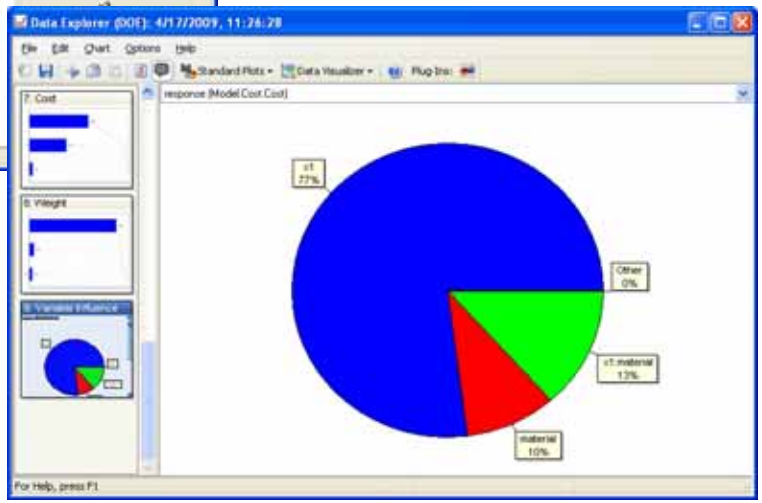
Optimization



Design Space Visualization



Variable Sensitivities



Contact Details:

- For further information please contact

Scott Ragon
Phoenix Integration

1715 Pratt Drive
Blacksburg VA, 24060

540-961-7215 x321
sragon@phoenix-int.com

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www.phoenix-int.com