

Engineering

Design and Manufacturing Engineers

Finite Element Analysis Expertise

Prototype Simulation

Project Engineering

Programming

3D Modeling

Commercial

Automotive

Aerospace

Structural

Analytical

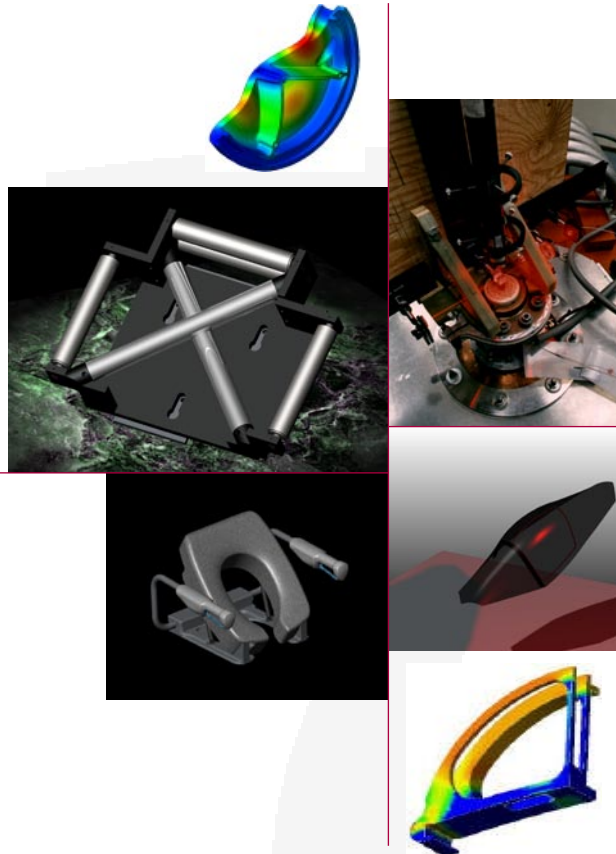
Research

Electrical

Defense

Medical

Military



Knowing Ahead of Time.

We deliver engineered answers. We deliver analytical solutions.

We deliver questions. We deliver 3D-modeled simulations, customized teamwork, listening.

Our work is guided by the vision of a future workplace for inventors, creators, end-users and your uniqueness.

We bring partners from both research and manufacturing to collaborate in developing the tools and services for simulating, prototyping and producing your product. Our in-house experts and partnered vendors tailor each process to meet your unique requirements. Our creativity allows us to embrace and integrate current and legacy systems.

Requirements | **Research** | **Unusual**

Simulations, LLC

9 East Tomstead Road

Simsbury, CT 06070

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f 860 217 0384

info@SimulationsLLC.com

www.SimulationsLLC.com

ElectroMechanical

Machine Design

OEM and Aftermarket

Detailed Mechanical Analysis & Design

NonLinear Finite Element Analysis

Concept through Production

Kinematic Animation

AfterMarket Design

ElectroMechanical

3D Solid Modeling

CAE / CAD /CAE

Fatigue Analysis

Re-Engineering

OEM Design

2D Drafting

Aerospace

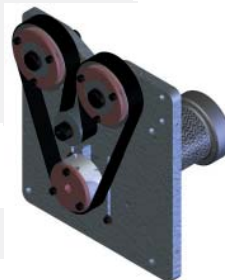
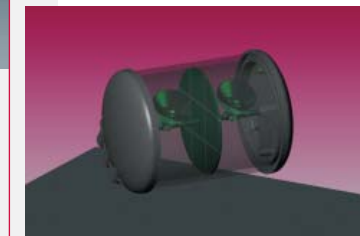
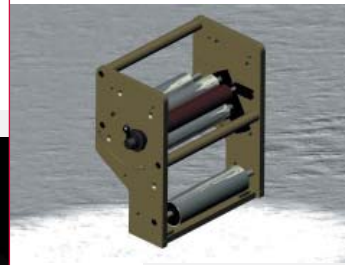
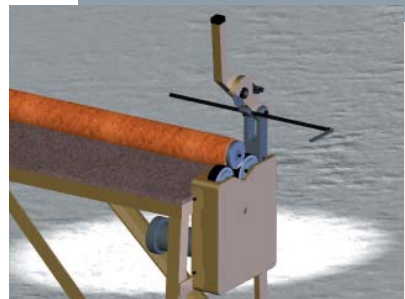
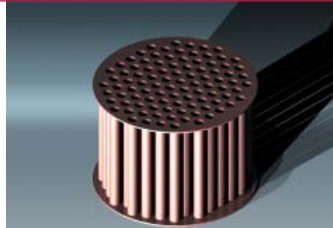
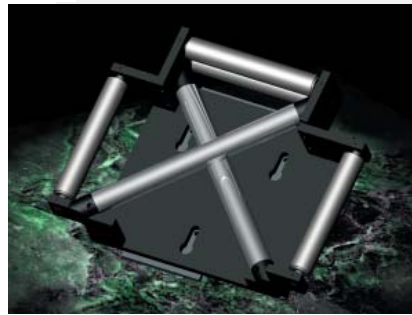
Integration

Military

Plastics

NASA, MIL, SAE, ASTM

ASME, ANSI, ISO, DoD, SME



simulations LLC

Knowing Ahead of Time.

Whether a printing press shaft, a shape roller for a short-run extruder, an autonomous stand-alone multi-disciplined machine, a cam based robotic arm or a modified heat sink to redirect PC board power, Simulations provides all the detailed design and engineering expertise. We evaluate new, used, OEM and aftermarket parts, provide a full-on market technology trade study, perform the complete prototyping process and research functional requirements...through to detailed feature analysis and tolerancing...delivering all levels of FEA, 2D, & 3D CAD and CAM models, reference documents, customized reports and endless follow-on support.

We design product. We put it in your hands.

Modeling | **Designing** | **Collaborating**

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Electromagnetics

HyperVelocity

Pulsed Power

Axial, Lateral, Compressive EM Loads

Intergrated Launch Package Analysis

Laser Interferometric Diagnostics

NonLinear Finite Element Analysis

Rail and Launcher Joints Design

Launcher Structural Analysis

Armature and Sabot Design

Transition Loads

Muzzle Design

Mass Balanced

Railgun Design

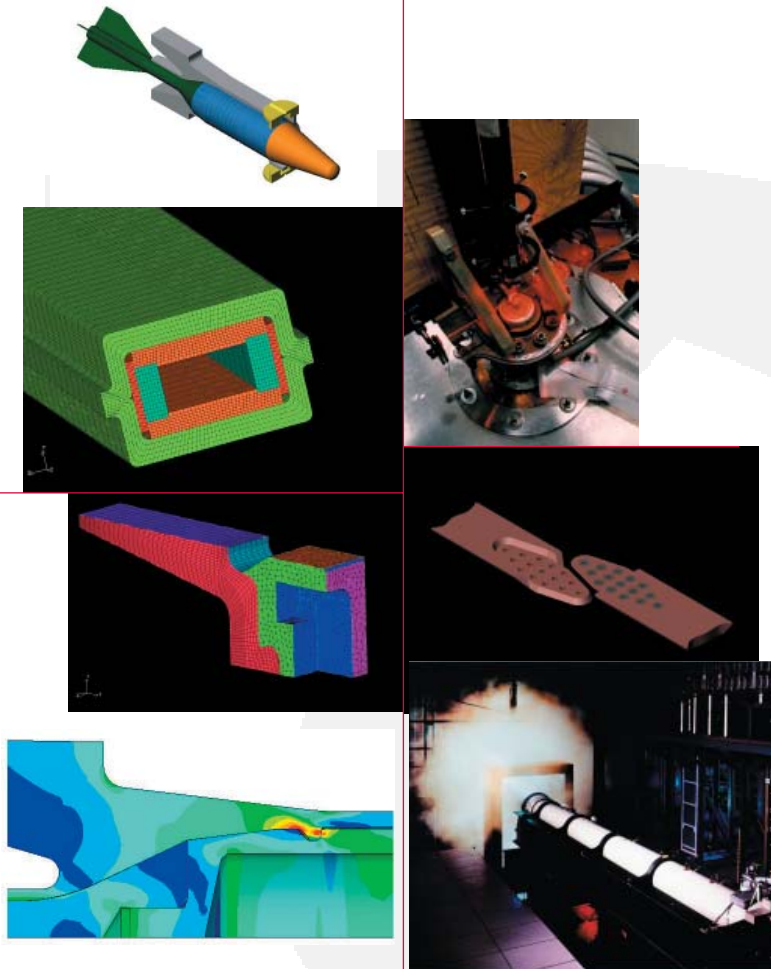
Rail Expansion

Breech Design

Sabot Discard

Rail Loads

Balloting



Knowing Ahead of Time.

We have an expertise in engineering for the electromagnetic pulsed power community. We offer proven and immediate solutions to understand and design for the complex dynamic and nonlinear phenomena occurring in electromagnetic pulsed power railgun systems. The founder of Simulations leads this expertise with a seasoned career of conceptual, analytical, design, prototyping and testing of pulsed-power electromagnetic railguns.

- 3D simulations
- 3D EM Loading, Integrated Launch Package structural analysis
- Customized parametric and FEA coding
- Contact, sliding, load path, mass optimization

Modeling | **Designing** | **Collaborating**

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Fabrication

Complete Part & Assembly Fabrication

Small | Medium | Long Run

Conventional and CNC Machining

Wire and Conventional EDM

General Machining

Prototypes

Lapping

Rounds

Tooling

Honing

Flats



Simulations manufactures per your specifications, prints and models. We do so with our full service engineering team, and depending on the complexity of your requirements, we have designers, analysts, machinists, program managers and assembly processes all available for you.

Project and manufacturing engineers bring their skills to your products through all stages of development, testing and fabrication.

Precision, quality, and schedule are a given.

We focus on minimizing costs.

Prototype | **Assembly** | **Production**

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Tooling and Supply

Precision Conventional & CNC Machining
Precision Flat and Round Grinding
Wire and Conventional EDM
Carbide Wear Parts
General Machining
Carbide Punches
Custom Tooling
Header Dies
Tool Design
Cased Dies
Draw Dies
Lapping
Fixtures
Honing
Quills
Dies
Jigs



Simulations recently expanded its vendor base and resource network by acquiring Advanced Tools & Products, a thirty-year custom tooling firm. Simulations continues to fully support this industry, applying its expertise to the design, supply and creation of tools for forming, stamping, commercial, aerospace, research and medical parts manufacturers.

Simulations designs and engineers custom tooling for the aerospace, defense, medical and commercial industries. From plastic's handling, to explosive's assembly processes, to custom grinding tools for high abrasive applications, we are ready to take on your project.

Precision | **Long-Life** | **Specials**

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