

Themed Entertainment Industry Capabilities

Integrated Design, Analysis, and Test Services for Themed Entertainment

ATA Engineering has supported the engineering needs of the themed entertainment industry for more than 25 years. With a multidisciplinary team of highly qualified and experienced engineers, ATA provides a comprehensive range of technical solutions to address the engineering challenges associated with reliable, high duty cycle, cost-effective operation of high-energy attractions and show action equipment. ATA offers a full range of mechanical, structural, and control system design and build services, coupled with industry-leading analysis, test, and troubleshooting services for the highly engineered, safety-critical electromechanical systems used in state-of-the-art theme park attractions. Specific services that ATA successfully and routinely delivers to the world's largest theme park companies include the following:

Design and Analysis Services:

- Conceptual Design and Trade Studies
- Analysis-Driven Design and Development
- Structural Hazard Analysis and FMEA
- Strength, Durability, and Stiffness
- Rigid/Flexible Multibody Dynamic Analysis
- Control Systems and Software
- Detailed Design for Fabrication
- Fabrication Drawings to ASME Standards

Design and Build Services:

- Ride Vehicles and Track Structures
- Motion Base Simulators
- Animatronic Figures
- Show Action Equipment
- Large Themed Structures
- Highly Engineered Structures/Mechanisms
- Control Systems and Electronics
- Low-Volume/High-Value Products

Testing and Troubleshooting Services:

- Factory, Site Acceptance, and Verification
- Strain, Acceleration, and Deflection
- Fatigue, Life, and Accelerated Life
- Structural Dynamics and Modal
- Material Properties
- Troubleshooting:
 - Structural Dynamics
 - Mechanical and Reliability
 - Control Systems and Software

Specialty Engineering Services:

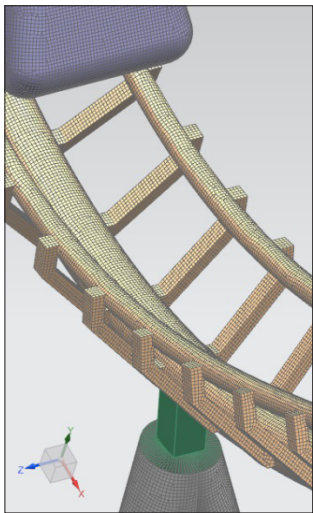
- Compliance with All Major Industry Standards
- Third-Party Design Review
- PE Review and Approval
- Test Data-FEA Correlation
- Failure and Root-Cause Analysis/Testing
- Computational Fluid Dynamics
- Vibroacoustic Analysis and Design
- Minimum Weight Design
- Design for Extreme Environments



Experts in Structural Dynamics and Structural Assessment for Ride Engineering


Codes utilized:

Siemens I-deas NX, SolidWorks, MSC Nastran, NX Nastran, Siemens Femap, Adams, MATLAB, Abaqus, Ansys, NASGRO



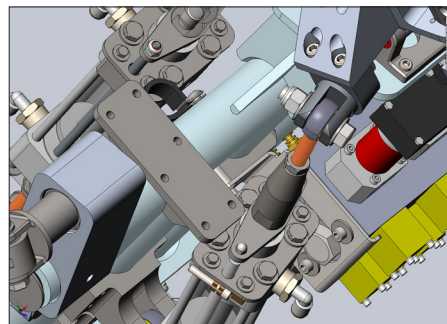
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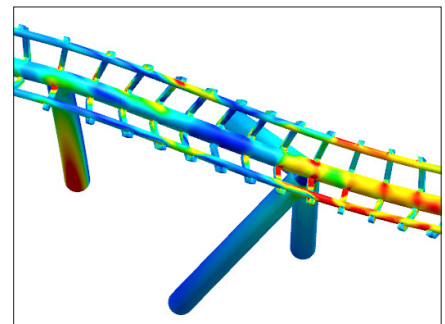
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➤ Design and analysis of animatronic figures



➤ Fatigue analysis for large theme park rides