

We **Fit** Your Analysis Challenges

Applied Engineering's talent, technology and adaptability will help you conquer your challenges.

Simulation

Structural Analysis

Our FEA team specializes in structural analysis of mechanical systems, including complex non-linear materials and effects.

Fluid Dynamics

Our CFD experts will help you analyze complex fluid flows to optimize product behavior before manufacturing.

Failure Analysis

Have a problem in the field? Our analysis team can look at the failure, analyze it and recommend corrective actions.

Knowledge

Your Application

Our Applied analysts will take the time to understand your company and the application thoroughly, ensuring services meet your expectations.

Tools

We know how to get the most out of today's most technologically advanced software.

Industry

We are more than just data crunchers. Our analysts have real-world experience correlating analysis results to physical tests, ensuring reliable results you can trust.

Improve Your Business

Reduce Time To Market

Digital simulation helps you reduce physical prototyping and testing, allowing you to beat your competitors to market.

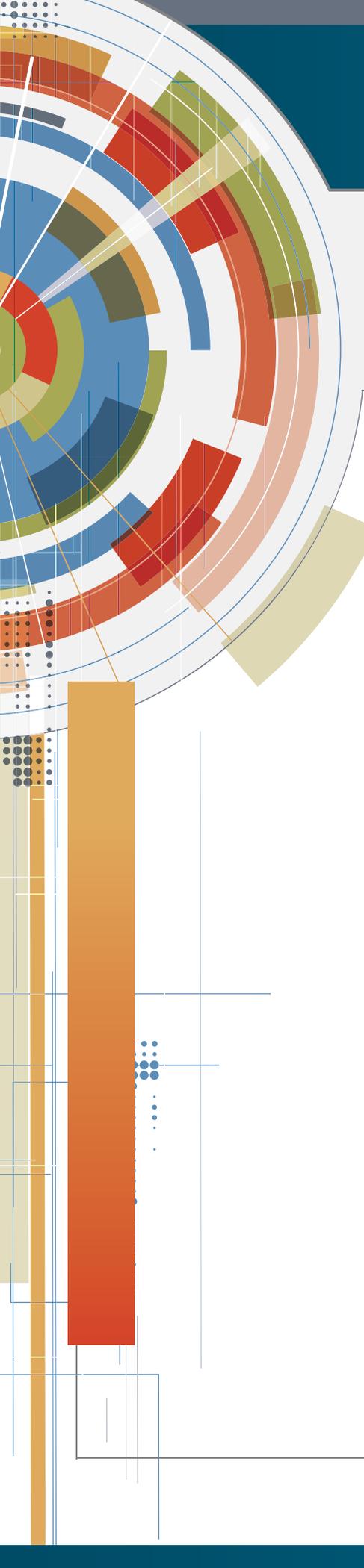
Improve Quality

Warranty repairs are costly and negatively affect your brand. Our analysis services can help reduce or eliminate these failures.

Reduce Product Cost

Applied can help you improve your products by eliminating unnecessary material, fasteners and complexity

Applied Engineering is the only firm with the talent and technology to fit your project, your process and your culture.



A Case Study of How We **Fit** Finite Element Analysis for Amber Waves, Inc.

Issue

Amber Waves produces a variety of agriculture-related products, including large bin storage hoppers. These bins are built to hold grain or other 'flowable' material with extra heavy steel made-to-order and made-to-last. The combination of the welded steel and aeration prevent contamination of the material stored. Amber Waves wanted to reduce costly field service repairs and evaluate structural stability given the bins can exceed 500,000 pounds. Amber Waves primary concern was within the assembly design. Specifically, where the side walls met with the bottom cone and the connection to the rest of the structure. Physical prototypes were too costly because of the short run nature of each project and the size of each bin.

Solution

*Applied Engineering gathered information from Amber Waves to create the digital prototype with use of product specifications, crop data and analysis of grain loading. Their experienced engineering staff used advanced 3D design and finite element analysis software to analyze the proposed design. Static structural analysis was used to verify and optimize the strength of the assembly design to test for field performance. **Creation of a digital prototype was less than 10% of the cost to build a physical prototype. Amber Waves now had the reassurance the new design would withstand the unique crop loading conditions in the field at a significant cost savings.***



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