LEVERAGING ADVANCED DIGITAL TOOLS TO SOLVE YOUR MOST COMPLEX PROBLEMS

element

DIGITAL ENGINEERING

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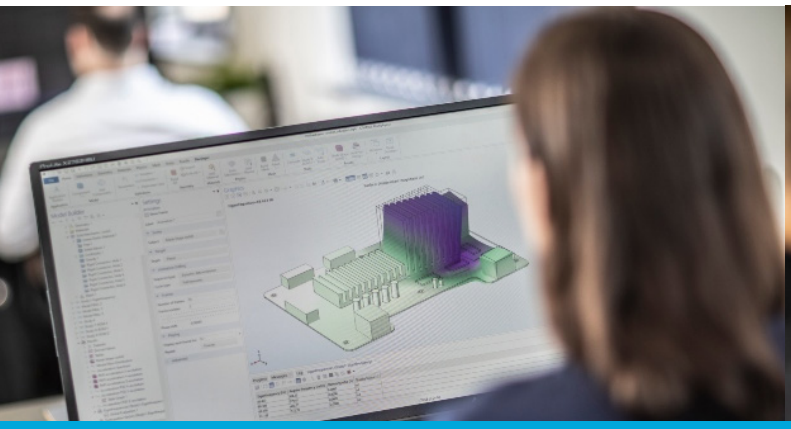
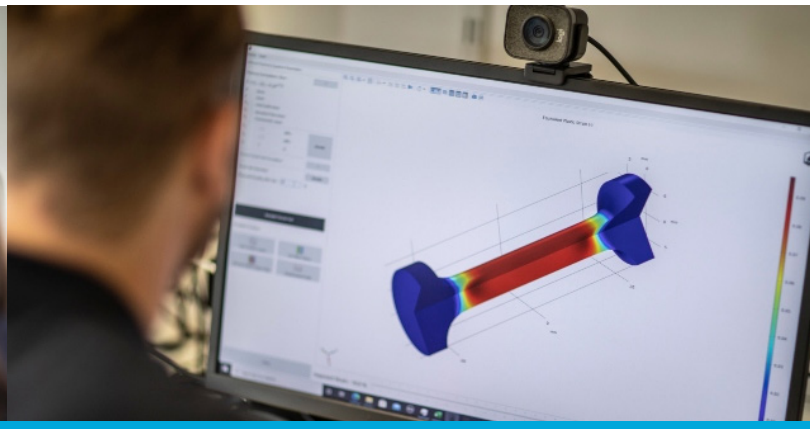
Digital Engineering





MODELING I SIMULATION I DATA SCIENCE

Element's Digital Engineering team specializes in engineering simulation services, including advanced mathematical modeling, data science, and artificial intelligence to solve complex challenges in a wide variety of industry sectors.

OUR SERVICES

Our Digital Engineering services include **advanced finite element analysis, computational fluid dynamics, discrete element modeling**, and **data science**, which are augmented with additional high-performance computing, scientific programming, and software development capabilities.

We have expertise in structural mechanics, fluid mechanics, heat and mass transport, materials science, mechanical engineering, machine learning, and the design of experiments.

Modeling and Simulation

We use Discrete Element Modeling (DEM), Finite Element Analysis (FEA), and Computational Fluid Dynamics (CFD) to determine, evaluate and optimize performance through our advanced computational tools. Our modeling and simulation services combined with our vast testing capability give you a new dimension to generate the data for input to the models and product testing to validate any model, realize processing and manufacturing efficiencies, and enhance your industrial and commercial competitiveness.

Data Science and Machine Learning

Our expert team combines state-of-the-art data science and machine learning methods, higher-level statistics, and scientific programming with expertise in the physical sciences to increase productivity and growth and identify new revenue streams for clients.

We use physics domain agnostic tools to solve data problems and leverage probabilistic, generative, and discriminative modeling for stand-alone data projects or to complement modeling and simulation projects to relieve bottlenecks.

Our approach to data science allows you to gain insights and knowledge about your problems. Our applied science and statistics draw on methods from various fields, including:

- Computing
- Problem conceptualization
- Mathematics
- Machine learning
- Data processing

Digital Twins

Our digital twins are typically used in the Aerospace, Automotive, Energy, Manufacturing, and Construction industries. We can integrate the internet of things (IoT), artificial intelligence, and mathematical optimization to reduce your manufacturing design cycle and minimize the need for expensive prototypes. Our digital twins serve as a real-time digital representation of the product or process, including its shape, position, gesture, status, and motion.

Our simulation tools, data analytics, and modeling capabilities accelerate your research and development initiatives. This allows you to optimize the design process to give you the best possible products, realize processing and manufacturing efficiencies, and enhance your industrial and commercial competitiveness.

Send your inquiries to: contact.us@element.com or call us:
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