

From Concept to Commercialization

The path from concept to product is rarely a straight line. The path has been simplified by multiphysics modeling software, which allows front end simulation to streamline the entire product design process. Effects of different design parameters can be observed before prototypes are developed and tested, thus reducing time to market and the entire project cost. For many, the steep learning curve required to achieve proficiency and upfront investment is a significant barrier that prevents the use of state-of-the-art modeling tools.

COMSOL MultiPhysics is widely recognized by the industry as the premier finite element modeling software, covering the spectrum from electromagnetics, structural mechanics, acoustics, heat transfer, and chemical engineering, to name a few. As one of the select few chosen as a **COMSOL Certified Consultant**, TransTech Systems will help you realize an idea and bring it to fruition. With world class service and proven track record of turning ideas into products, we can be an invaluable development resource to quickly analyze your concept, develop a prototype, enhance it through simulation and make it viable. Along the way, TransTech will work closely with your staff to ensure your needs are met in a timely manner. TransTech can provide the competitive advantage to keep you on the leading edge of your technology.

The Right Tools and the Right People

COMSOL MultiPhysics provides an efficient and effective environment for modeling scientific and engineering problems based on partial differential equations. **COMSOL MultiPhysics** allows any combination of phenomena to be simultaneously modeled in 1, 2, or 3D. Real-time solving of systems of coupled linear, non-linear, and time-dependent PDEs are possible. Additional features, such as the import of industry-standard Spice models for external electronics, or the Optimization, and Signal Processing Labs, further streamlines the process.

Established In-House Expertise

TransTech has been a frequent presenter at COMSOL sponsored workshops and conferences. Our **COMSOL Certified Consultant Group** is led by Ronald Gamache. Well respected within the industry, he recently gave a keynote address at CM2007, COMSOL's annual multi-

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physics modeling conference. Mr. Gamache has over thirty-five years experience in advanced sensing, measurement and control technologies. At TransTech, he is responsible for the development of electromagnetic sensing solutions to material characterization problems.

Among many other applications, TransTech R&D includes specialists in:

- NDE Sensor Development
- Electrical Impedance Spectroscopy (EIS) and Tomography (EIT)
- Analog and Digital Electronics
- Electromagnetic Sensor Design
- Signal Processing
- Artificial Neural Networks
- Biomedical Engineering

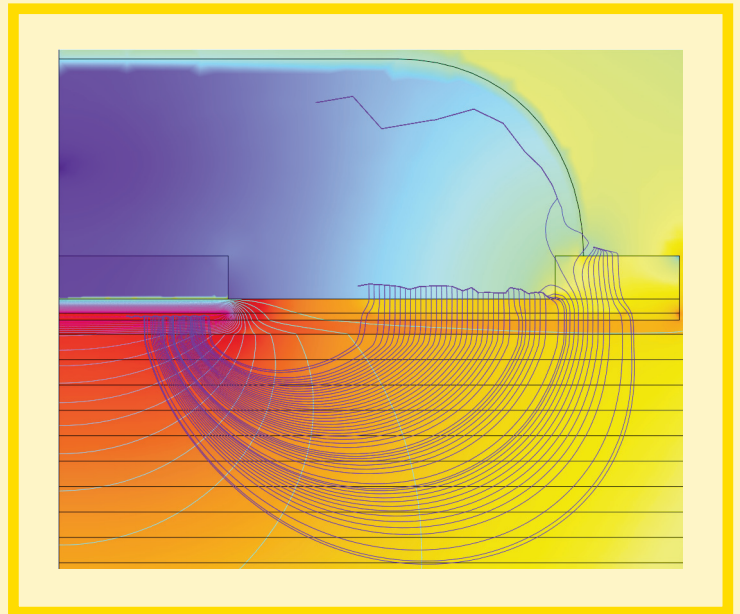
Unique Perspective and Resources

TransTech Systems, Inc. is an entrepreneurial corporation. The **COMSOL Certified Consultant Group** falls under the umbrella of our TransTech R&D division. We are innovative problem solvers, specifically in determining the physical characteristics of materials as diverse as pavement, soil, food and even human tissue. As authorities in measuring properties of dielectric materials plus the volumetric density and moisture content of substrates, we utilize advanced impedance spectroscopy and tomography techniques, electromagnetic sensor design, finite element modeling, sophisticated data acquisition and signal processing.

TransTech R&D partners with private, commercial and government sectors to provide solutions to complex electromagnetic sensing problems. These professional

and academic affiliations further expand our knowledge base, creating a resource pool enjoyed by few. A staff of over 20 technologists represents mechanical, electrical and civil engineering as well as scientific disciplines including physics and biomedical arenas. This combined knowledge base fosters a synergistic approach to determine the correct technology for a given situation and achieve a workable outcome.

The collective expertise of the **COMSOL Certified Consultant Group** covers a breadth of applications and has resulted in the commercialization of many patented products. Let yours be the next.



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