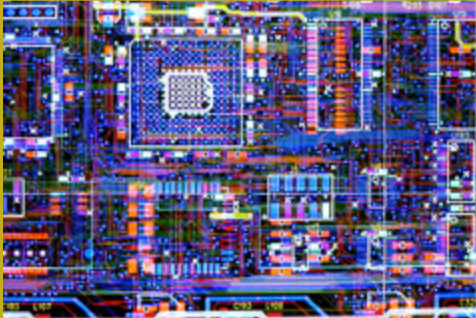



Commercial Product Realization


Make us a part of your high tech TEAM from concept to production.



THE GEORGIA TECH RESEARCH INSTITUTE (GTRI) can help you move products rapidly from concept to market. Comprehensive technology selection, product design, prototyping, production preparation, product data documentation, and testing assistance are available. As a contract research organization staffed by full-time professionals, GTRI brings you cutting edge technology development skills combined with practical business experience. It also draws on multidisciplinary talents from research and academic faculty throughout Georgia Tech. GTRI is successful because it is responsive to the needs and schedules of its customers.

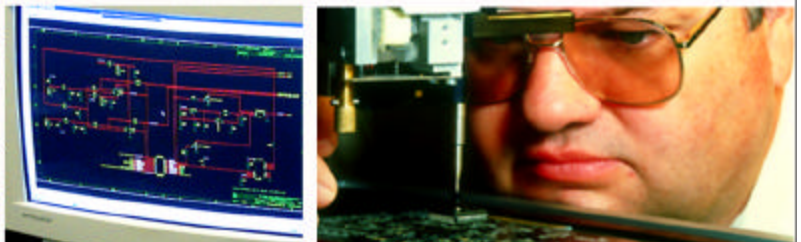


EXPERIENCE: GTRI has been working with companies for decades, honing skills and tools in collaborative engineering and understanding what must come together in components, designs, and system integration to make a manufacturable product at every stage in its evolution.



Focusing on electronics, optoelectronics, embedded systems, and information technology, GTRI has had responsibility for the development of products within such sectors as

- Broadband Multimedia Delivery Systems
- Digital Telephony
- Networks
- Wireless Applications
- Optical Fiber Communications
- Sensor Systems



COLLABORATIVE ENGINEERING: GTRI engineers approach design with many years of experience in applied engineering and supported by a network of tools that address many interrelated design issues. Such tools include

- Requirements Management Caliber RM
- Version Control MKS System Integrity
- Electronics Circuit Design ViewLogic / PADS
- Mechanical Design AutoCad 14
 ProEngineer & others
- Bill of Material Management Parts & Vendors
 Digital Solutions

Developers use their expertise to ensure that products are designed for manufacturability and many other important considerations. In today's world of rapid product development, GTRI engineers, collaborate with their customers and suppliers through the use of network-capable tools and a commitment to effective communications.

EMBEDDED SOFTWARE AND FIRMWARE: GTRI developers are experienced in a wide range of real-time embedded operating systems including VxWorks, RTX, pSOS, embedded Linux, OS9, and many more. Its engineers have created successful products incorporating many kinds of coding from assembly to C, C++, Java, and others aimed at a wide range of target microprocessors and digital signal processors. HDL synthesis tools are also employed to provide bitcodes to FPGAs, CPLDs, and the like. Large-scale system products, with many layers of code, are planned and executed systematically. Full version control is used to protect the integrity of all coding work.



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RAPID PROTOTYPING: New product ideas need to be tried and tested as soon as practical. GTRI has extensive precision fabrication facilities for both machined parts and for electronic assemblies. The latter meet the exacting standards of the latest fine-pitch electronic packages. Surface mount and flip chip lines exist for somewhat larger runs and for manufacturing process improvement research.

GTRI is experienced also at working with leading contract manufacturers and customer fabrication units in the transition to full production.

New techniques in rapid prototyping permit designers to take a quick look at mechanical functionality and to identify aesthetic and ergonomic options. GTRI utilizes the facilities of Georgia Tech's Rapid Prototyping and Manufacturing Institute including stereolithography, fused-deposition modeling, and multi-jet modeling.

These make it possible to move directly, overnight, from 3D CAD designs of complex products to plastic models, or even to tooling for product components.

PRODUCTION PREPARATION: GTRI engineers assist clients with a full range of production planning including help with component sourcing, pricing, and preparation of product data packages. Designs are aimed at high quality manufacturing results and greater cost-effectiveness. Customers often call on GTRI to use its expertise in identifying and interfacing with contract manufacturers and other service providers. Manufacturing specialists on the staff can also help customers to identify and solve particular manufacturing process problems or system bottlenecks.

TESTING: This is an integral part of many stages of product development, from proving out early concept prototypes, to testing first production articles, to the preparation of production test coverage analyses. GTRI has also developed test fixtures for use in development and production, including customized functional testers. Many products also require certifications for acceptance in the marketplace, and GTRI is experienced in preparations for testing to UL, FCC, Dolby, NEBS and the like.