

GAS TECHNOLOGY INSTITUTE

# Energy Solutions... Delivered

## Solving Important Energy Challenges and Creating Value in the Marketplace

GTI is the leading research, development and training organization addressing energy and environmental challenges to enable a secure, abundant, and affordable energy future. For 70 years, we have been providing economic value to the natural gas industry and energy markets by developing technology-based solutions for industry, government, and consumers.

### Programs and Services

GTI programs are based on the business and technical needs of customers and constituents in the market.

- **Research and Development.** With a reputation for achieving market results, R&D efforts at GTI are customer-driven initiatives that focus on securing an economic, reliable, and clean energy future.
- **Program Management.** GTI brings together the right team to support key technology initiatives. Through our collaborative R&D programs, we offer unique opportunities to optimize research funding.
- **Technical Services.** By leveraging our expertise at our state-of-the-art laboratories and test facilities, we offer the capability to perform hundreds of standardized and custom tests.
- **Analytical Services.** Our knowledge-based services use several models and approaches—assessing technical markets, benefits, feasibility, and regulatory implications—to understand and address energy challenges.
- **Consulting.** GTI experts help companies accomplish strategic performance objectives through analysis of existing business and technology issues, developing improvement plans, and providing litigation support.
- **Commercialization.** Through a variety of business arrangements, GTI provides the expertise and support needed to bring new energy-related technology to market.
- **Education and Training.** GTI offers training programs in gas distribution and transmission, utilization technology, LNG, and exploration and production. Training options include classroom courses, e-learning, and on-site programs.



### OUR STAFF

- 250 employees
  - 60% scientists/engineers
  - 44% advanced degrees

### OUR LOCATIONS

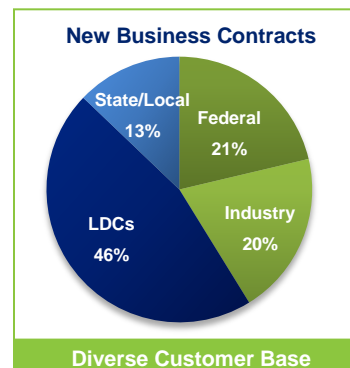
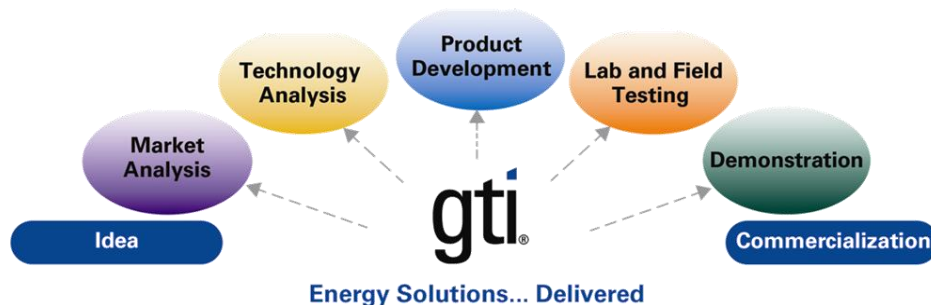
- Des Plaines, IL (Headquarters)
  - 18-acre campus
  - 200,000 ft<sup>2</sup> lab space
  - 28 specialized labs
- Washington, DC
- Birmingham, AL
- Houston, TX
- Sacramento, CA
- Needham, MA
- Pittsburgh, PA

### OUR RESULTS

- 500 products
- 750 licenses
- 1,200 patents

## How GTI Works with Customers

For decades, we have been recognized as a valued partner providing research programs that lead to emerging technologies across market sectors and service at every phase of the technology development cycle, from concept to commercialization.



2011 Revenue: \$63.6 Million

## GTI Capabilities

Our research initiatives address issues impacting the natural gas and energy markets across the industry's value chain—supply, delivery, and end use. We offer an integrated systems perspective to expand the supply of affordable energy, ensure a safe and reliable energy delivery infrastructure, and promote the efficient use of energy resources.

### Supply

### Delivery

### End Use Solutions

GTI's **Energy Conversion Sector** seeks to transform coal, biomass, and raw natural gas resources into clean fuels, power, and chemicals.



- Gasification Process Development
- Integrated Biofuels Technology R&D
- Syngas Generation and Processing
- Natural Gas and Syngas Cleanup and Separations
- Subquality Gas Upgrading

The **Infrastructure Sector** addresses challenges in unconventional gas production, pipeline integrity and environmental footprint reduction—from down hole to the meter.



- Produced Water Management
- Reservoir Characterization
- Well Construction and Completion
- Environmental Matters, Enabling Renewables and Gas Quality
- Infrastructure Rehabilitation and Improvements
- Data and Integrity Management
- High Tech Sensors and Automation

The **End Use Solutions Sector** develops and deploys high-efficiency and low-carbon natural gas technologies that benefit our customers, partners, and end users.



- Residential/Commercial Equipment and Building Systems
- Industrial Processes
- Power Generation and CHP
- Transportation and Alternative Fuels

## MARKET IMPACT

- GTI's coal-bed methane and other unconventional gas processing technologies now a U.S. staple
- GTI's fluidized bed gasifier commercially deployed in Europe and China for power and chemical production
- Nearly every directional drilling system on the market functions with GTI technology
- More than 65 patents on high-efficiency, low NO<sub>x</sub> burners and systems to control emissions

