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Operations  
Technology  
Development

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# Operations Technology Development

## A Utility Partnership Program

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For many years, natural gas utilities, both public and investor owned, have recognized the value of supporting technology developments for their customers and their own infrastructure. Industry-supported technological advances have provided improvements in the quality of service, reduced costs, greater efficiency, enhanced safety, and considerable environmental benefits. Natural gas distribution utilities have also recognized the importance of leveraging their investments with others who have similar interests to minimize the risks and improve the potential for success. Given this need, utilities are pursuing funding alternatives to support critical technology developments.

One option was to create an entity where utilities come together as partners to jointly fund technology development solutions to common issues. The concept is not new. Gas Technology Institute (GTI) developed and evolved a program called the Sustaining Membership Program (SMP) that enables utilities to partner and decide which projects best address their mid- to longer-term needs. With GTI's history, management capabilities, and technology development expertise, a group of utilities approached GTI in 2002 to work with them on further developing the concept. The primary areas to focus on were Gas Operations, End Use, and Environmental Science. Gas Operations was identified as the first area to address.

Under the partnership program, Operations Technology Development (OTD) was created. After several individual meetings and two group meetings with utilities, GTI initiated, on behalf of a select group of utilities, a not-for-profit Illinois company called Operations Technology Development, NFP, in June 2003. Currently, each funding member of the SMP program, is also a member of OTD, as each program is administered with a similar structure.

The scope of the OTD program includes mid- to near-term technology developments. Each OTD member nominated an individual from their company to serve on the Board of Directors and an individual to serve on the Technical Project Committee. The participants vote with their funds by choosing which projects best address their customers' and utility operations' needs.

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## Background and Utility Needs

▼ Natural gas distribution utilities have traditionally placed great importance on the safety and reliability of the operation of the gas distribution network. Residential, commercial, and industrial customers receive safe, reliable gas service through the focused efforts of the gas company, and through the use of new technologies that enhance field operations.

The development and implementation of new technology for gas industry field operations, whether new tools, equipment, processes, or procedures, has enabled the industry to continually improve operations while reducing operating costs. Since 1995, the gas industry in the United States has reduced its annual costs for operations and maintenance from \$3.2 billion to \$2.8 billion. Although significant, additional development and implementation of new technology can further enhance these savings while having a positive impact on safety, operating efficiency, labor requirements, reliability, and integrity.

Today, natural gas distribution utilities continue to support the need to develop technology solutions for the natural gas industry and the gas consumer, but place a stronger emphasis on working collaboratively. This is especially apparent in the distribution operations area. There are numerous benefits to working collaboratively to develop technology solutions for utilities including: the leveraging of funds (no single utility is responsible to carry the entire financial burden); the ability to gain the interest of a commercializer based on broad industry support; and using input from numerous expert sources that result in a stronger solution. There is also a significant benefit to working collaboratively on programs or projects that can impact regulatory issues, such as pipeline integrity management.

## Operations Technology Development Program Overview

▼ Operations Technology Development (OTD) develops, tests, and implements new technology, providing solutions to a wide range of issues relating to gas operations and its infrastructure. It is designed to provide new tools, equipment, software, processes, or

procedures that will enhance safety, increase operating efficiency, reduce operating costs, and help maintain system reliability and integrity.

## Program Size and Scope

▼ The program seeks the long-term participation of utilities. The cost of participating in OTD is between US\$150,000 and US\$750,000 per member per year. The number of customers, at 50 cents per customer, determines the funding level for each participant. Each participating member votes with their funds when selecting projects of interest. In the case where companies fall significantly below the US \$150,000 range, aggregation can be an option providing it adheres to a set of guidelines approved by the OTD Board. For example, the APGA Research Foundation aggregates the financial resources of its members and participates in OTD as a single member. The funding commitment is for an initial one-year period, with annual approval thereafter.

The OTD program focuses its technology development efforts on distribution and transmission activities identified by the members. The RD&D program includes a mix of short-term (less than 3 years) quick-response research, engineering, or testing activities; and mid- to longer-term research projects (3-7 years to implementation). The current OTD projects are divided into the following three categories:

- Infrastructure and Gas Operations
- Risk, Integrity, and Environmental Matters
- Smart Utilities

## OTD Governance

▼ The overall structure of this LDC partnership program is shown in Figure 1. OTD retains the assets of the Partnership. This includes the cash assets of the technology development budget and any intellectual property. OTD has been established as a not-for-profit corporation.

# LDC Partnership Structure for Operations

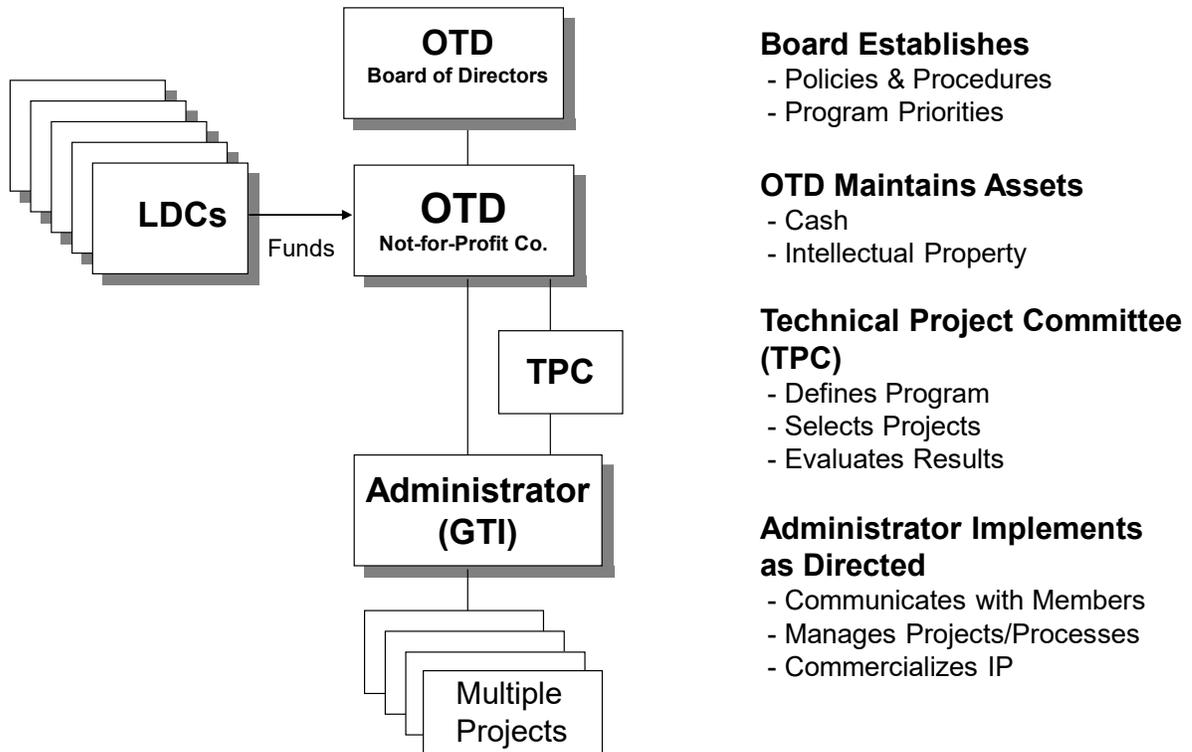


FIGURE 1

The OTD Board of Directors consists of one member from each participating company. The Board establishes the policy and procedures that govern the operation and conduct of the partnership, provides strategic guidance on program priorities, and sets long-term goals and objectives.

The Technical Project Committee (TPC) is comprised of representatives from the participating companies who are knowledgeable in gas industry operations and the challenges and problems they face. The TPC identifies the overall operational issues to be addressed in the program, and the specific topics that will be the focus of individual research projects. GTI, working with TPC members, identifies research and technology development options with potential for providing solutions to the problems being addressed. The TPC reviews the progress of individual projects and provides direction on project continuations, terminations, and initiations. TPC members are also the main conduit for disseminating the results and deliverables from the program into their companies.

GTI is contracted by OTD as the Administrator to provide services including overall management, project management, technology commercialization, and all administrative functions. GTI's role in a given development effort is determined by the project participants and by the requirements of the project.

## Project Funding

Individual projects are proposed by various sources including OTD members and research performers. Those proposals are reviewed and prioritized by the OTD members. Projects designated as high priority to one or more members are presented to the membership for funding consideration. Each member has control over their funds and determines what to fund and how much to invest on each project. A participating LDC has the option to fund or not fund an individual project. The program operates on a "customer choice" basis, with each member investing in the projects they wish to fund. Once participating companies elect to move a project forward, and the scope of work is finalized, the project participants may elect to seek additional non-utility project cofunders outside of the Partnership. Cofunders solicited may include federal and state

government agencies, and product  
manufacturers/developers.

[www.otd-co.org](http://www.otd-co.org)

### **Additional Information**

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