GeoResearch, Inc. is widely recognised for its innovations in the development of GPS/GIS technology to better manage resources in the real world. Shortly after the company was established in 1979, founder and geographer, Dr Douglas Richardson, recognised the benefits of marrying GPS with GIS to solve business problems. By the mid-1980s, the company’s focus included the development of GeoLink, the world’s first commercially available GPS/GIS system. This early work led to a U.S. patent in 1993 and represents the essence of the technology out of which the GPS/GIS industry has emerged.

GeoResearch, Inc. develops and deploys GPS/GIS products and services to create robust GIS databases for clients, resting on complete and accurate collection of field data. The company also provides real-time GPS/GIS applications, such as vehicle tracking, to meet client business objectives.

Current Status
GeoResearch, Inc. is headquartered in Bethesda (MD, USA), a business community adjacent to Washington, D.C. The company’s western U.S. office is located in Billings (MT, USA). GeoResearch GIS data processing centres are located in both the Bethesda and Billings facilities. The company also maintains a world-wide sales and support distributor network with offices in Europe, Asia and North America. Over the years, GeoResearch has become a leading provider of GPS/GIS for field data collection and real-time applications. Today, the company has over a hundred employees dedicated to GPS/GIS software development, commercial products and client services.

History of Innovation
GeoResearch was one of the first companies to embrace the utilisation of GPS technology in commercial markets. By the mid-1980s, when the U.S. Department of Defense sponsored GPS satellite constellation was only partially deployed, GeoResearch-trained personnel were busy driving along U.S. Interstate highways mapping the location of highway infrastructure for transportation agencies using GeoLink. This marked one of the many early uses of GPS/GIS technology pioneered by GeoResearch for commercial mapping projects.
By the end of 1991, the company was supporting a proliferation of GeoLink users performing field mapping projects.

**GPS/GIS Field Services**

For more than ten years GeoResearch has performed GPS/GIS field mapping, data collection and GIS database development services for a wide variety of customers. The company’s services emphasise the creation of complete, accurate, high-quality products and geospatial database deliverables referenced to the real world. GeoResearch utilises its own GPS/GIS field mapping software in most of its projects. Development and support of GeoLink software in-house enables GeoResearch to provide very cost-effective field mapping tools which are customised for each client project.

In November 1996, Allegheny Power contracted with GeoResearch to collect geographically referenced electric facility feature and attribute data for use in the utility company’s AM/FM system. Over forty GeoResearch field staff equipped with GeoLink and the company’s GPS Workhorse receivers are cataloging and mapping sub-transmission and primary distribution facilities along 22,900 circuit miles in a 12,000 square mile portion of the utility’s service area. At the conclusion of this one year project, GeoResearch field crews will have mapped approximately 560,000 utility poles and 202,000 overhead distribution transformers in West Virginia, South Central Pennsylvania and Southern Ohio. GeoResearch services have also been used in support of a wide range of environmental and natural resource initiatives undertaken by the federal government to include vegetation mapping for the USDA Forest Service, environmental impact studies for EPA, archaeological mapping for the National Park Service and radiation detection mapping for the Department of Energy. The company has worked with rural counties, states, Federal agencies and Indian tribes throughout the United States to create up-to-date and accurate rural street address guides.

**Early Systems Integration**

GeoResearch was one of the first companies to integrate laser rangefinding equipment, digital cameras and electronic sensors into a GPS/GIS field mapping system. In 1994, GeoLink was one of the first GPS/GIS systems used in the mapping of radioactive hot spots, in this case at the Department of Energy’s Hanford nuclear facility in Washington state. GeoResearch integrated radiation monitors with GeoLink to create a radiation survey system later named RadRover.

**Uncompromising GPS/GIS**

The introduction of Microsoft’s Windows 95 and NT paved the way for GeoResearch to develop GeoLink PowerMap for Windows NT/95, its newest GPS/GIS Field Mapping System. PowerMap utilises full 32-bit processing and manages multiple activities in real-time under multi-tasking. The system’s moving map display allows the user to create maps and record feature attributes in the field, display and track user positions in real-time on a raster or vector background map and update a GIS database from the field. PowerMap’s Open GPS and Open Systems design provides straightforward support for the most popular GPS receivers, as well as translation of field data into the leading GIS and CAD software environments, including ArcView, ARC/INFO and AutoCAD.

**Combined Vehicle Tracking and GIS Data Collection**

In May 1997, GeoResearch unveiled the GeoLink PowerTrak Fleet Management System for Windows NT/95. GeoLink PowerTrak builds upon the GeoLink PowerMap GPS/GIS Field Mapping System to provide continuous tracking of multiple vehicles, central dispatch fleet management, two-way digital messaging and GIS feature data collection in real-time. The system’s GPS/GIS engine can be used to map and update roadside features to build a GIS while automatically tracking moving vehicles at the same time.

PowerTrak’s in-vehicle moving map display traces the vehicle’s path and marks the location of field collected data on the background map in transit. At the dispatch centre, the locations of roving vehicles are displayed in PowerTrak on multiple background maps, while the software’s two-way messaging feature keeps drivers in constant communication with the fleet manager. PowerTrak is designed as an integrated system to support user needs in both vehicle tracking and field mapping well into the future.

---

Inventory of an electric utility pole as part of the Allegheny Power project.

Feature mapping in real-time.