

**Products Used:**

- GeoMedia®
- GeoMedia Professional
- GeoMedia Transaction Manager
- Digital Cartographic Suite
- Oracle® Spatial
- Oracle 9i™

**Key Benefits:**

- Users have access to the most up-to-date information, including a full variety of raster, vector, elevation, alphanumeric, and image data in one centralized location
- Users can manage the data changes while safeguarding the validity of the data
- Geospatial data from various data sets can be linked, accessed, and merged into combined queries
- Users can obtain ready-made maps or assemble layers of data into unique custom geoinformation products

**Profile:**

Name – Geoinformation Office of the German Federal Armed Forces, Germany

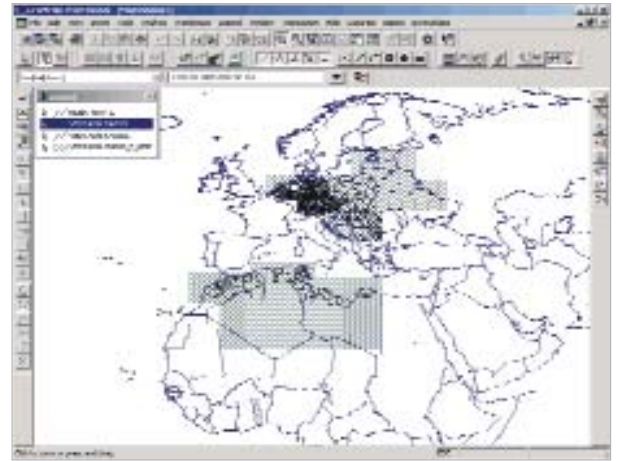
Based in Euskirchen outside of Cologne, Germany, the Geoinformation Office of the German Federal Armed Forces is tasked with providing maps, digital geoinformation products, and meteorological data required for peacetime duties and operational deployments of the German Army,

## German Federal Armed Forces Launches Geoinformation System

### Complete geospatial solution serves as both a spatial data repository and a high-resolution production engine

**The Challenge:**

In 1976, the Geoinformation Office of the German Federal Armed Forces (BGIO) came up with an idea to create a single system that would serve both as a repository where spatial data could be seamlessly archived and maintained as well as a production engine capable of outputting standard or customized maps in scales ranging from 1:25,000 to 1:1,000,000. At the time, technology capable of accomplishing these lofty goals did not exist, and the project simmered until 1996 when Intergraph and BGIO readdressed the challenge.



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**The Project Objectives:**

- Create a single geospatial system that serves as both a spatial data repository and a high-resolution production engine.
- Provide users with the ability to query databases, obtain ready-made maps, and assemble several layers of disparate data.

**The Solution:**

BGIO tapped Intergraph to provide its geospatial data management solution, a geographic information system called the Bundeswehr GeoInfo Data Base, that stores and maintains a variety of geographic source data and generates digital and hardcopy maps to support German military activities.

Although it is called a database, the GeoInfo Data Base is actually comprised of five separate databases containing raster, image, elevation, alphanumeric, and vector data sets. Directories have been established so that geospatial data in the various data sets can be linked and accessed for merging into combined products. Despite the fact that so many disparate data sets and data types are included in the GeoInfo Data Base, the system has a single interface built with Intergraph's GeoMedia Professional product.

Working through this interface, the user can query the databases, obtain ready-made maps, or assemble several layers of data into unique custom geoinformation products. In keeping with BGIO's desire to build a software-neutral system, the GeoMedia Professional universal server is able to output data sets in any of the common GIS and image processing software formats, ensuring compatibility with geospatial applications utilized by any German or NATO military organization.

Navy, and Air Force. With the safety of military forces as the ultimate objective, BGIO strives to create consistent geoinformation products for training, simulation, navigation, and other applications in national and international locations.

At the core of the GeolInfo Data Base is the Vector Basic Data, a collection of vector data sets and the workflow that stores and maintains them. This Vector Basic Data is managed by the Feature Level Data Base (FLDB) workflow adopted by the U.S. National Geospatial-Intelligence Agency (NIMA). The unique characteristic of the FLDB data schema and workflow is the archiving of vector data into four separate Oracle 9i databases.

To develop the Vector Basic Data Base, BGIO used the FLDB workflow to import data of different types and formats and revise it to the FLDB schema. This involves a variety of database and software products as described in the FLDB specifications. Oracle Spatial was chosen as the vector database product for its ability to store, manage, and retrieve graphic and attribute information.

BGIO had some flexibility in the specific GIS software it would use to implement and operate the overall system. After a review of available products, it chose the Intergraph line because of its superior capability in the capture, management, and analysis of both raster and vector data types. Several products from this line are incorporated into the system, including GeoMedia, GeoMedia Professional, GeoMedia Transaction Manager, and the Digital Cartography Suite.

A major challenge in managing spatial data is that the data resides in various databases, in many different formats. The user needs to be able to access this data and integrate it into the daily workflow. GeoMedia technology solves the problem of disparate data formats and makes it easy to share up-to-date spatial data across borders, industries, and disciplines. BGIO users can be confident that they have access to the most up-to-date data available.

With data continually being added to the GeolInfo Data Base, the system is already operational, providing military users with access to the full variety of raster, vector, elevation, alphanumeric, and image data.

#### **Future Plans:**

Plans are in the works to begin transferring elevation data into the FLDB workflow format in 2004. Having the elevation data included in the Oracle Spatial database creates the availability of seamless elevation and integrating it easily with production workflows.

In the next phase of development, BGIO plans to incorporate GeoMedia WebMap so that end users can query the database and extract data and map products through a standard Internet browser.

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#### **Geoinformation Office of the German Federal Armed Forces, Germany**

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#### **Intergraph Security, Government & Infrastructure**

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