

INDUSTRY

CENTRAL AND FEDERAL

GOVERNMENT SOLUTIONS

INTERGRAPH®





INTERGRAPH®'S ADVANCED GEOSPATIAL SOLUTIONS FOR CENTRAL AND FEDERAL GOVERNMENT OPERATIONS

Central and federal governments are continually asked to do more with less. With ever-increasing demands and limited funding, central and federal governments must maintain existing resources while using streamlined processes to collect, analyze, and distribute new data. This includes data relating to land records, defense, and cartography – all of which incorporate geospatial technology. The proven geospatial technology from Intergraph® is based on interoperability, scalability, and flexibility and enables central and federal government personnel to perform the complicated tasks of developing and maintaining national infrastructures.

For more than 40 years, Intergraph has met the challenges facing central and federal governments with proven solutions including products, processes, and experienced professionals. Our comprehensive solutions help you meet your enterprise and operation goals, while sharing data enterprisewide. Central and federal governments around the world depend on Intergraph for advanced geospatial solutions for every aspect of their operations.

Spatial Data Infrastructures (SDIs)

An executive order issued by U.S. President Bill Clinton in April 1994, defines national spatial data infrastructure (NSDI) as “the technology, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve utilization of geospatial data.”

According to a report from the Federal Geographic Data Committee for NSDI, government agencies and other organizations are frequently asked for quick responses to natural disasters, industrial accidents, environmental crises, and homeland security alerts. “Much of the information needed to make sound decisions in such cases is based on geography. There is constant pressure to make wise decisions in a more cost-effective and efficient manner. Accurate and current geospatial data are critical to these decisions.”

Another study, “Developing Spatial Data Infrastructure: The SDI Cookbook,” supports the value of geographic information in making sound decisions at the local, regional, and global levels. “Crime management, business development, flood mitigation, environmental restoration, community land use assessments, and disaster recovery are just a few examples of areas in which decision-makers are benefiting from geographic

information, together with the associated infrastructures (i.e., SDI) that support information discovery, access, and use of this information in the decision-making process.”

Intergraph provides geographic information systems (GIS) and interoperability technologies to enable the deployment of spatial data infrastructures for collaboration and distribution of geospatial data. This framework of spatial data, metadata, and tools is interactively connected to allow government agencies around the world to use and share spatial data in an efficient and flexible way. Some regions of the world enforce laws on sharing geospatial data, and there is also a strong demand for it from a business perspective.

From Intergraph’s perspective, SDI will change the world of geo-related solutions to a mainly service-oriented business. Traditional services that mainly integrate GIS processes (data capture, data maintenance, software integration, database-related implementations, etc.) will change to integration projects, which support the meaning of state-of-the-art services and Internet services among players in the market.

SDI also opens up spatial data for wider use, such as integration within other (non-spatial) business systems and integration with complete, end-to-end online services, which usually require interaction with multiple systems. This is a key driver for governments in the EU looking to reduce government overhead and increase economic competitiveness by harnessing IT to improve the efficiency, quality, flexibility, and accessibility of services. These same drivers motivate private sector organizations to do the same by linking data and process silos to improve business insight and increase operational efficiency.



ORDNANCE SURVEY, GREAT BRITAIN

Ordnance Survey maps are internationally renowned and its data is essential to the country's government, business, and individuals. The agency's national geographic database describes more than 440 million individual features – such as every house, road, and field. Each year more than a million changes to the British landscape need to be measured and assimilated into this database. This equates to 5,000 changes every day and it requires efficient planning and control.

The Intergraph system will provide enterprisewide capabilities for the management, planning, coordination, and control of data capture and production activities. Ordnance Survey's large-scale data holdings will be managed in a centralized geospatial database, and a standards-based interface will integrate field and office-based editing tools as well as those from external contractors. The system will ensure consistency between Ordnance Survey products and enable it to develop new ones.

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Intergraph's SDI application, based on GeoMedia® technology using Open Geospatial Consortium (OGC®) and ISO Web services, offers best-in-class Web tools to build geospatially powered intranet and Internet solutions in minutes. With this technology, governments can implement SDI systems to provide communication and collaboration among government entities, businesses, and the public. Spatial data infrastructures are being defined by government initiatives, such as European Union INSPIRE, United Nations SDI, Canadian Geospatial Data Infrastructure, and the U.S. National Spatial Data Infrastructure.

Taking advantage of Microsoft® .NET, GeoMedia technology readily integrates with other corporate applications through OGC-compliant Web services. This unprecedented level of software integration lets multiple departments, other government entities, businesses, contractors, suppliers, and citizens effectively share information and services seamlessly across the enterprise and beyond.

Land Information Management

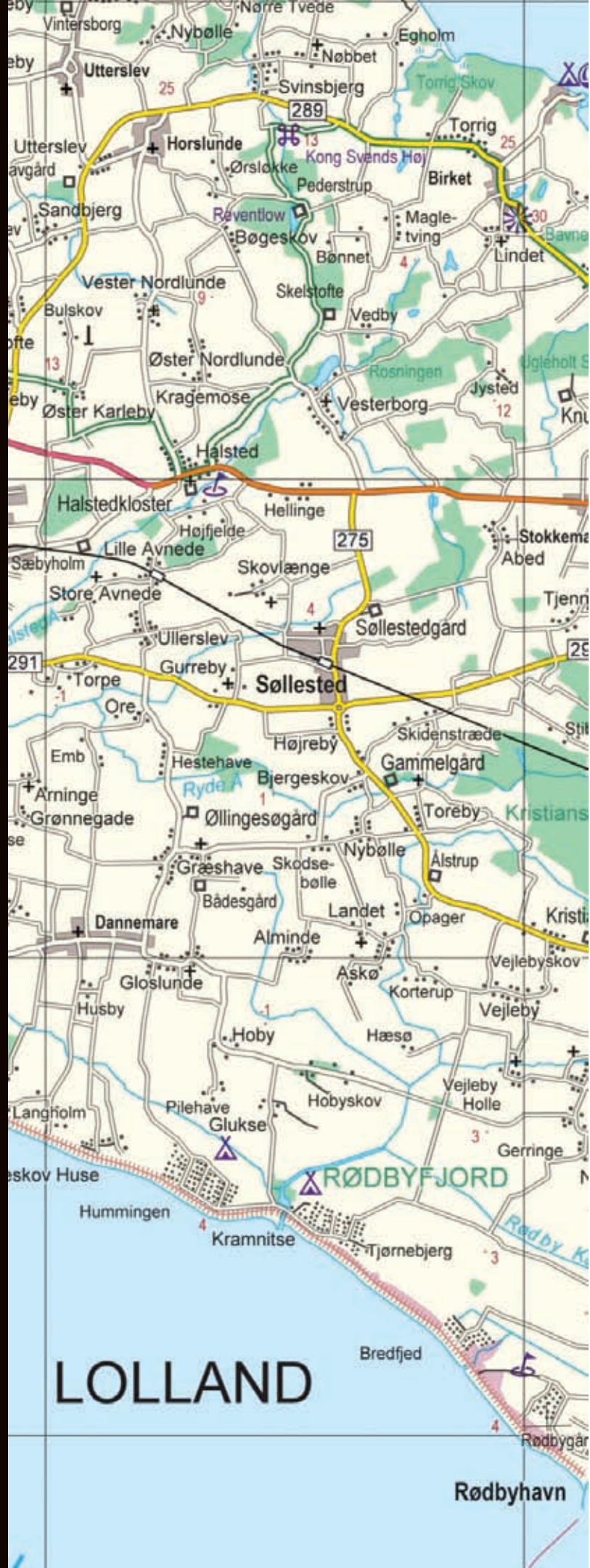
Governments at all levels must manage a wide range of land information management processes, including surveying, mapping, title/deed recording, planning, addressing, and more. The geospatially enabled IT infrastructure should streamline processes and produce accurate, timely, and current information for all users and constituents, regardless of their locations and means of access. Intergraph's geospatially powered business solutions for government span the full spectrum of land information management, including:

- Maintenance solutions integrated with key business systems, such as title/deeds recording, cadastral registration, valuation, planning and permitting, and property addressing
- Enterprise access to geospatially powered information and geospatial functionality at desktop, Web, and field levels
- Integration of geospatial technology with non-spatial business systems to spatially enable and leverage more value out of non-spatial systems

As part of Intergraph's geospatially powered solution for land information management, GeoMedia products offer you best-in-class tools for cadastre management, providing modern workflows necessary for efficient and timely input, adjustment, and integration of parcel data at all stages of the parcel life cycle. Intergraph's advanced data modeling, enterprise transaction management, effective dating, and lineage tools and processes ensure flexible, powerful, and scalable solutions. Using GeoMedia Web products, Intergraph's solutions provide enterprise, spatially enabled viewing and analysis of key, non-spatial data assets.

KORT & MATRIKEL-STYRELSEN (KMS) (DANISH MAPPING AGENCY)

KMS performs topographic map production from cartographic editing to final color separated output involving GeoMedia technology. Currently, this workflow is used to produce all its topographic maps including 1:25k, 1:50k and 1:100k maps, JOGs and a 1:200k Road Atlas.



CENTRAL AND FEDERAL GOVERNMENTS AROUND THE WORLD DEPEND ON INTERGRAPH FOR ADVANCED GEOSPATIAL SOLUTIONS.

Transportation

The transportation infrastructure is the lifeblood of all countries. Transportation agencies must constantly manage the construction, inspection, and maintenance of roads, lighting, and bridges to ensure the safety of citizens. Whether you manage your roads on a segmented basis or use linear referencing techniques and dynamic segmentation capabilities, Intergraph's transportation solution, based on GeoMedia technology, provides all the tools necessary to spatially manage transportation-related information.

Geospatial Intelligence Solutions

Defense and intelligence personnel face unprecedented, high-stress situations and a growing need for quicker response times. Today's defense and intelligence agencies must meet – or exceed – the expectations of people and agencies that deal with natural disasters, an unsettled global economy, rising energy costs, and global military activities. So it's imperative to quickly and accurately collect and analyze intelligence data to make sense of current situations to reduce risk and minimize harm and efficiently generate geospatial intelligence products to support these missions. Geospatial intelligence agencies around the world consistently rely on Intergraph's Geospatial Intelligence Exploitation Solution (GIES) and

Geospatial Intelligence Production Solution (GIPS) to provide these capabilities.

GIES provides robust tools for organizing, pre-processing, managing, and integrating geospatial data for advanced image exploitation and geospatial intelligence fusion. This proven solution allows you to dynamically combine large amounts of data in a responsive, easy-to-use environment for swift, informed decision-making. Military organizations rely on Intergraph's GIES solution to discover, connect to, and analyze a wide variety of disparate geospatial data – such as high-resolution imagery, aerial photos, UAV video, and GPS-tracked objects – fuse that data into an accurate, meaningful representation, perform sophisticated analysis, such as line-of-sight analysis or convoy route planning, and then rapidly generate intelligence product and reports.

GIPS enables large-scale map production while giving special attention to accuracy and quality checks throughout all phases of the map production workflow, including data collection, data integration and management, and product generation. Our solution provides a comprehensive means to collect, validate, manage, and exchange feature data, so you can produce the highest-quality, most robust intelligence products with unmatched efficiency. Intergraph's GIPS suite is designed to support large-scale operations by providing powerful capabilities, such as automatic instantiation of complex schemas in an enterprise Oracle database, enterprise transaction management, offline editing, edge matching, and a rigorous set of customizable QA commands and processes that work interactively or in batch mode.



Cartographic Production

Map producers around the world share a common mission – providing quality, accurate map products in a timely manner to support the requirements of the industries and customers they serve. This can include hardcopy and softcopy map products, the generation of cartographic databases, and sometimes the exploitation and distribution of these products over the Internet, e.g., Web services.

Cartographic production solutions from Intergraph enable national mapping agencies to accomplish their missions and meet their production objectives by providing a robust, adaptable environment supporting all aspects of high-end cartographic production. This includes processes and workflows that support sophisticated data management, complex data modeling and data validation, efficient cartographic geo-processing, artistic graphic rendering, flexible map design, and lithographic output.

Using GeoMedia technology, our cartographic production solutions include a cartographic edit database separate from the cartographic source database. This provides you with the unique ability to build and maintain cartographic databases separately from the originating source data. This capability has the added benefit of maintaining the integrity of the source data as cartographic edits occur, and eliminates the need to make copies of the source data for cartographic products. This can be critical for mapping agencies that generate cartographic products in a different department from the one responsible for managing the data. GeoMedia supports various configurations for managing the relationship between the cartographic source data and the cartographic edited data, allowing you to define the configuration best suiting your business needs. Since the

source data and cartographic edited data are linked, it enables the portrayal of the data collectively in a single view, providing a more current and accurate representation. This improves productivity for cartographic editing, quality control/assurance, and significantly reduces the time and effort required for map revision workflows.

Geospatial Data Catalog

An increasingly important part of any database system is the maintenance and deployment of a catalog of geospatial data resources within your enterprise via an intranet or Internet. Intergraph provides tools for creating, querying, and managing a geospatial metadata catalog, allowing you to maximize your data investment. Intergraph's metadata solutions for authoring and serving a metadata catalog are transitioning from the U.S. Federal Geographic Data Committee's standards for geospatial metadata to the more robust, international standards and specifications for data and services metadata (ISO-19115, 19119, and 19139). Intergraph's adherence to evolving technology standards and integrated catalog architecture ensures you can easily discover and use your geospatial resources for key workflows in your government operations.

Enterprise Image Discovery, Management, and Distribution

The use of imagery content is critical to the success of many workflows in local and regional governments. Intergraph's Geospatial Content Management application, using TerraShare® technology, provides a single, open geospatial metadata database specifically tailored for geospatial data that allows you to address your image management and distribution needs within a single environment. This single environment approach

is valid whether your organization has one workflow or several different operational flows. TerraShare is a multi-tiered, client-server product environment designed specifically for geospatial content management, access, and distribution.

This solution helps government entities avoid wasting time searching for existing imagery files that are needed for planning, design, construction, and maintenance. Our content management application differentiates itself by providing a solution that manages terabytes of geospatial data and metadata – from acquisition and storage to exploitation and distribution – and provides a return on investment of improved, end-user performance and increased system efficiency.

Imaging Solutions

Intergraph's Z/I Imaging® products provide proven imaging tools used worldwide by central and federal government personnel. Z/I Imaging solutions include aerial cameras, photogrammetric workstations, and the ImageStation® photogrammetry solutions.

Intergraph offers the Z/I Imaging Digital Mapping Camera (DMC®), a turnkey digital aerial camera system designed to support aerial photogrammetric missions that demand high resolution and accuracy. Designed from the ground up as a digital replacement for film-based photogrammetric mapping centers, the DMC features breakthrough technologies that enable successful, high-resolution engineering projects. Intergraph also offers the new Z/I Imaging RMK D camera, which is a smaller footprint, medium-format aerial imaging system designed to meet the high-accuracy/high-resolution requirements of engineering mapping and remote sensing tasks.

DIRECTORATE GENERAL FOR SPATIAL PLANNING AND URBAN DEVELOPMENT (DGOTDU)

DGOTDU, the Portuguese national spatial planning agency, is implementing a National Spatial Planning Data Infrastructure (SNIT) aimed to provide public access to spatial plans and to disseminate territorial information to the general public and other public and private parties. Development of SNIT started 2007, in the framework of an official portal dedicated to territorial and urban development issues. Intergraph was selected to implement the geospatial platform feeding SNIT with geospatial data, services, and tools.



Added Value Through Partners

Intergraph has developed a valuable partnering program, Intergraph Synergy, to create solutions around our technologies. The program provides consultants, value-added software developers, and research from leading universities to support your projects. Intergraph Synergy has more than 400 participants worldwide and continues to grow. Visit <http://synergy.intergraph.com> to learn more about how our partners can help you.

WHY GOVERNMENT LEADERS CHOOSE INTERGRAPH

Government agencies around the world choose Intergraph solutions for their geospatial workflows.

Key benefits include:

- We provide the ability to build and integrate GIS, interoperability, and enterprise GIS capabilities to offer complete central and federal government business workflows.
- We can lower deployment costs with our solutions using pre-configured data models and user interfaces.
- GeoMedia continues to provide best-of-class geospatial capabilities for our government solutions. Its open architecture, including industry standards (OGC, FGDC, ISO/CEN, SOA), provide an excellent platform for solutions solving government business problems and ensure legal compliance.
- Our GeoMedia products use Oracle Spatial data structures and long-term transaction technology or Microsoft SQL Server technology to provide IT standards for data management.
- GeoMedia extends your enterprise data and geospatial capabilities with today's leading map browsers – Google Earth and Microsoft Virtual Earth.

- With the demand for imagery data increasing, our Geospatial Content Management application using TerraShare provides a scalable enterprise solution for managing and exploiting imagery data across all government solutions.
- Our direct participation with industry and government policy initiatives (INSPIRE drafting teams, EU referenced projects, OGC technical committees) brings the knowledge and experience of industry standards directly to customer solutions.
- The ability to share geospatial data and services via SDIs using Intergraph solutions enables governments to better cooperate across departments, with other governments, and with businesses.
- We provide the ability to distribute government information out to the public via SDIs to improve e-government services.
- Our industry-specific tools for SDI management increase customer productivity through easy maintenance and administration access via a single environment.
- For Europe, Intergraph's Web-based solutions and SDI-ready tools follow INSPIRE directives to ensure legal compliance.
- Our Web-based geospatial technology solutions and tools are used globally for data distribution and Web services that follow OGC and ISO standards, minimizing disconnects among groups and maximizing communication.



ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

For more information, visit www.intergraph.com.



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