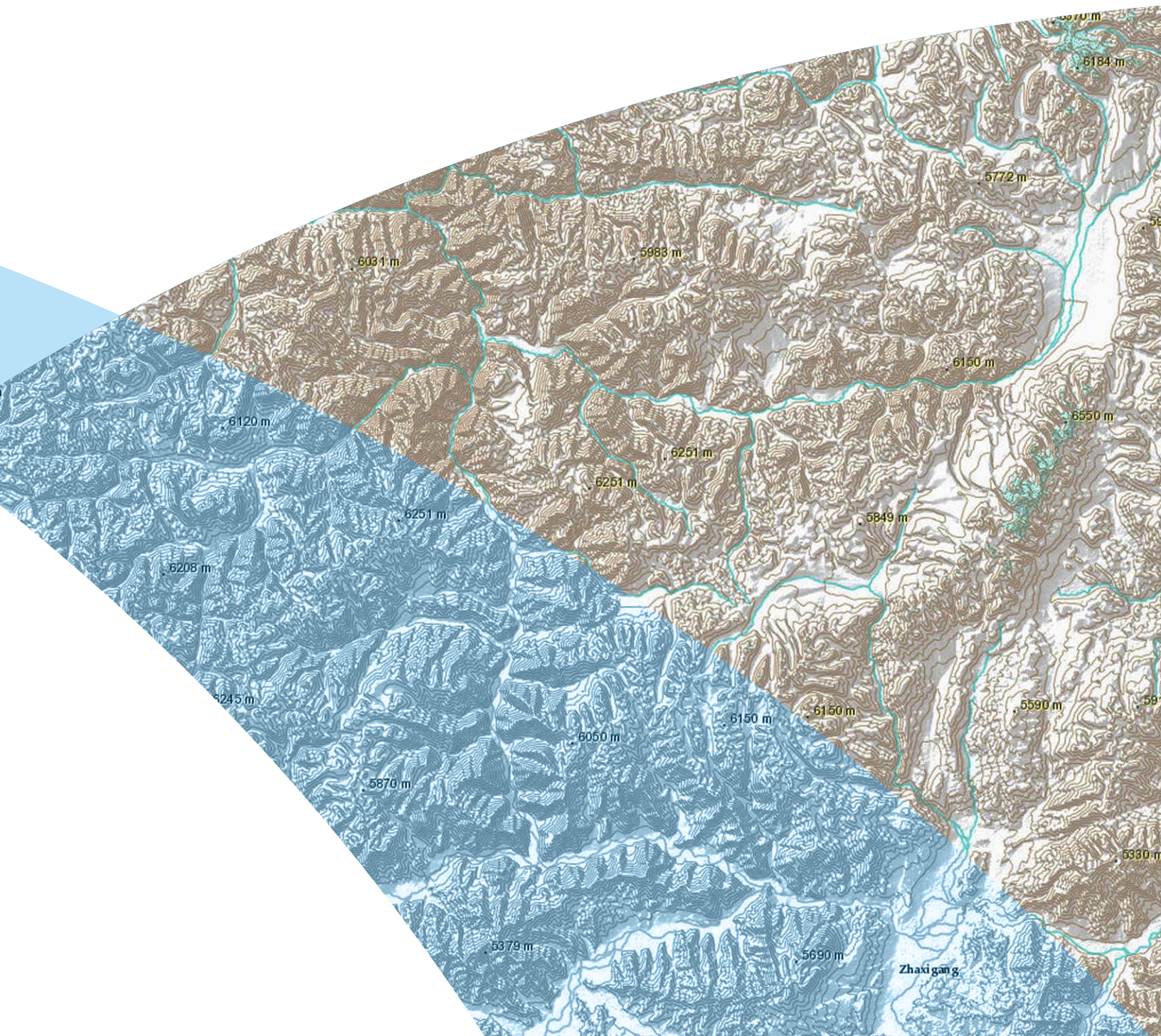# Better Topographic Map Production Using ArcGIS®
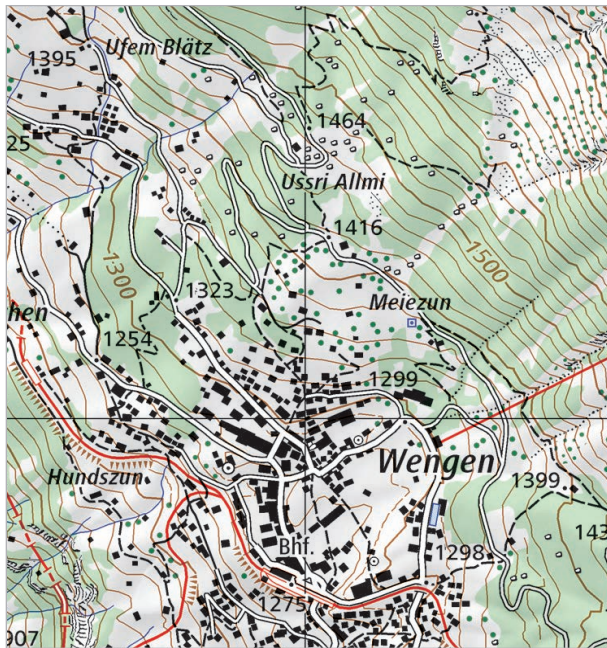
A Comprehensive Solution for Mapping Organizations

esri®

The World Is Always Changing

As a member of a national mapping organization, you know this is true. You create the authoritative products and services that continually update a nation full of people who need to know where things happen. Your information enables governments, businesses, and constituents to solve problems.

Rural Topographic Map (Copyright swisstopo)

Urban Topographic Map (Copyright swisstopo)

swisstopo
The Swiss Federal Office of Topography

The Swiss Federal Office of Topography (swisstopo) is responsible for creating and updating topographic data and production of the Swiss national map series. The office publishes the topographic map series in scales from 1:25,000 up to 1:1,000,000, maintaining the topographic landscape model (TLM) as the foundation for the vector data and the digital cartographic models (DCMs) for map symbolization and production. Created by swisstopo (swisstopo.ch), TOPGIS, the central production environment for the TLM, completely integrates photogrammetry and 3D GIS, allowing a wealth of products to be created.

A whole suite of DCMs, from which map products are derived, is produced by swisstopo—each DCM corresponding to one of the many map scales required. The office then derives printed products, like the Swiss national map series and popular hiking maps, and digital products like SwissMap.

To simplify the work of the cartographers, the links between the features of the TLM and DCM are maintained. This is of special importance when changes in the real world happen, since it increases the efficiency for subsequent updates. This enables swisstopo to maintain the currency as well as the world-renowned quality of its cartographic end products.

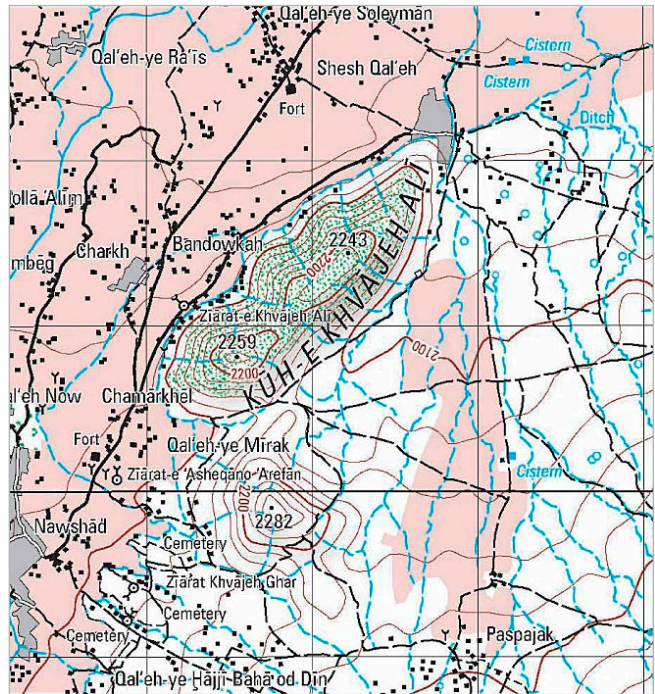# Reliability for Your Authoritative Data

You need a system that can reliably manage your authoritative data, efficiently produce the products and services you need, and provide information to people so they can make more informed decisions.

Esri® ArcGIS® technology is an enterprise data management system that gives you the ability to deliver data in any way it's needed: desktop, server, online, or mobile. ArcGIS allows you to manage your data, streamline your workflow process, and eliminate redundant tasks.
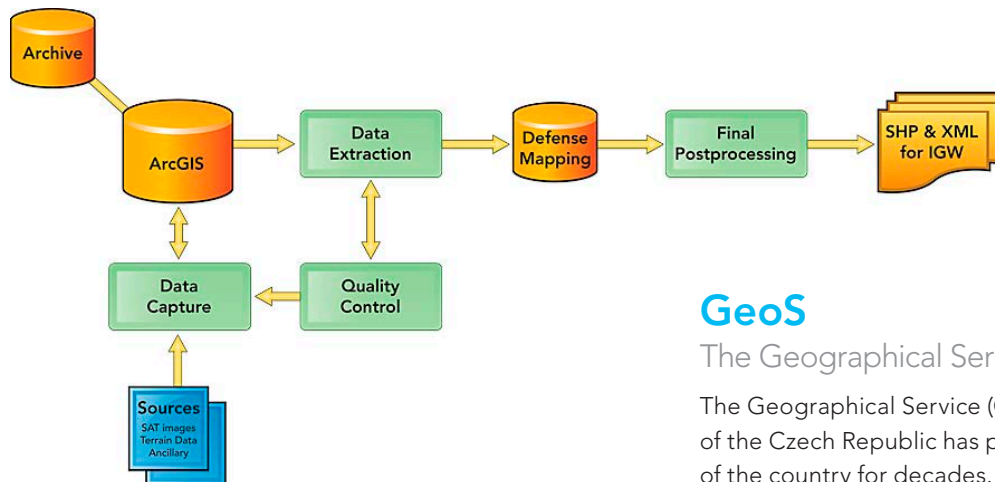
Do More with Less

With reduced budgets and staff, many organizations are streamlining their capabilities to continue creating quality data and maps that keep countries advancing. Esri provides a production management system that enables workgroups throughout an organization to work together, reducing duplication of data and systems. ArcGIS provides reliable workflows, templates, and tools to ensure that the same quality data you put into the system is readily available to meet your customers' requirements. On-demand data and cartographic products and services can be generated dynamically. This GIS-driven approach allows your organization to collect data once and then reuse it many times to meet your customers' needs for timely accurate information.

For flexible information technology resources, mapping organizations can use Esri's scalable cloud to meet fluctuating customer demands. The cloud enables you to quickly set up computing resources to cost-effectively meet customer needs.

GeoS produces maps for the Multinational Geospatial Co-Production Program, like this one for the country of Afghanistan.
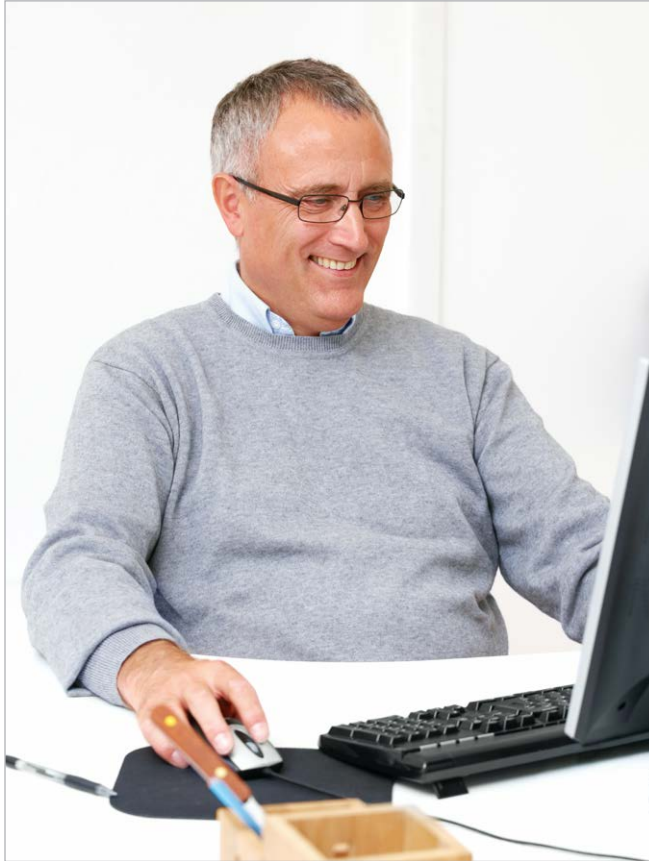

This simplified workflow is for creating high-quality military cartographic products by GeoS.

GeoS
The Geographical Service

The Geographical Service (GeoS) of the Armed Forces of the Czech Republic has produced high-quality maps of the country for decades. This experience has led the organization to partner in the Multinational Geospatial Co-Production Program (MGCP), an international program that brings together 28 participating countries from all over the world to assist in data production using commercial satellite imagery as the primary data source.

GeoS has been producing maps from the data, called MGCP Derived Graphics (MDG), since 2007. These maps resemble Topographic Line Maps at 1:50,000 scale and are used to support international humanitarian and peacekeeping operations in many countries.
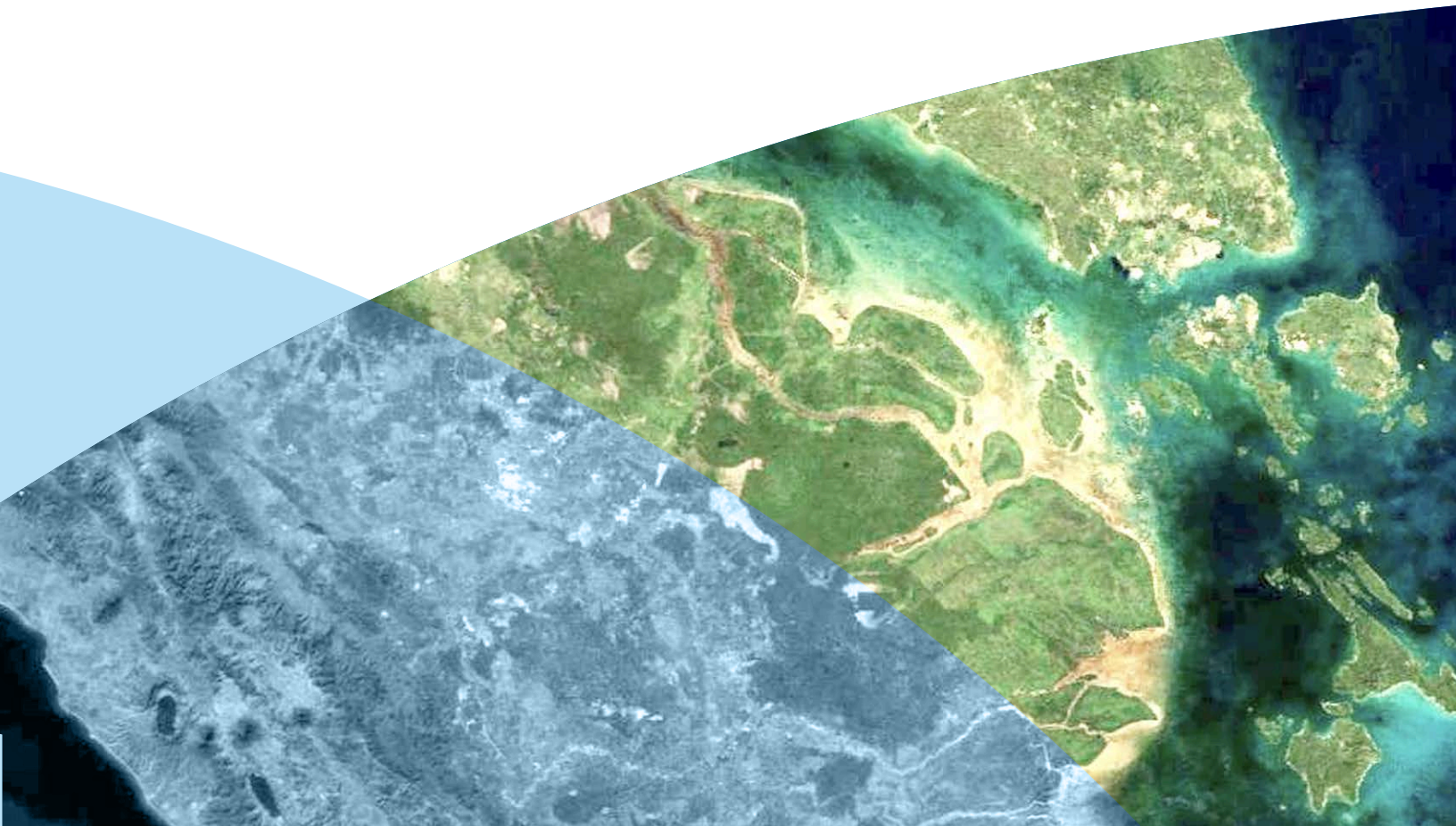
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Satisfy Customer Expectations

Your customers expect to receive your authoritative information in the same way they receive other information on the web or on their mobile devices. ArcGIS services can be deployed to easy-to-use web apps that provide timely access to the information people need. New applications can be created easily with popular application programming interfaces (APIs), ensuring that you leverage the talent you have on staff. You or your customers can use these APIs to create apps that consume and leverage your information services.

SLA
Singapore Land Authority

Singapore Land Authority (SLA), a leading geospatial agency, began the nation's networked government initiative in the 1980s—OneMap—and it continues to grow today. Agencies such as the development and land transportation authorities; the ministries of community development and education; and those responsible for schools, youth, and sports use SLA's OneMap. The initiative provides a window to public-sector geospatial content through a common map platform that can be used to deliver map-based services and information easily.
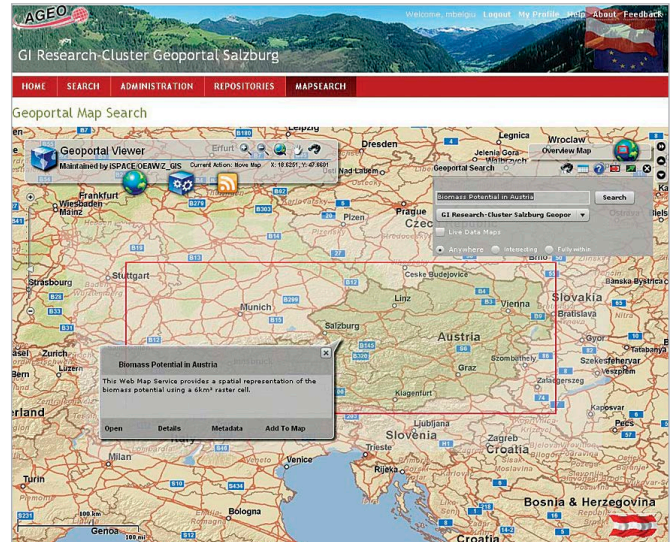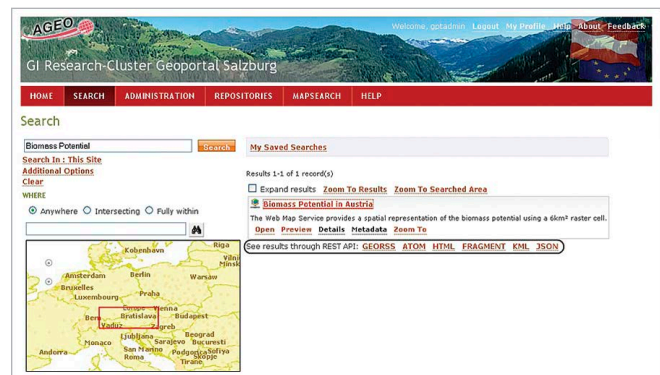
Good Governance and Economic Growth

Government agencies and businesses use your information to provide the foundation for good governance and economic growth in your nation. Maps are vital to determining where to site new businesses, why neighboring environmental factors are related, and how best to route resources and respond to and manage a crisis. Providing quality and timely information to your customers is key to keeping your own organization not only solvent but prospering.

You can make your data work for you. Using ArcGIS, you can share your information and services so they can be easily consumed by your customers' web and mobile applications.

The Austrian Federal Office for Metrology and Survey maintains geoinformation on a national level. However, Austria consists of nine independent federal states, each with its own provincial government, which has led to the creation and management of geographic resources being scattered across many organizations. Having disparate data sources makes it difficult to use information to make more informed decisions on social and environmental issues. To solve this problem, Austria developed a coordinated spatial information system capable of data sharing and reuse on national, regional, and cross-sector scales.

Visualizing Biomass Potential in Austria with Web Map Services

Geoportal Search for Biomass Potential

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Collect. Manage. Produce. Share.

ArcGIS is the one system you need to collect data once and reuse it many times. Manage the integrity of your data efficiently for use on demand. Produce high-quality, authoritative cartographic and topographic maps, data, and services that people need to do their jobs. Share your information with customers to help them solve national problems.

For more information, visit
esri.com/maps

Esri inspires and enables people to positively impact their future through a deeper, geographic understanding of the changing world around them.

Governments, industry leaders, academics, and nongovernmental organizations trust us to connect them with the analytic knowledge they need to make the critical decisions that shape the planet. For more than 40 years, Esri has cultivated collaborative relationships with partners who share our commitment to solving earth's most pressing challenges with geographic expertise and rational resolve. Today, we believe that geography is at the heart of a more resilient and sustainable future. Creating responsible products and solutions drives our passion for improving quality of life everywhere.

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