GISCON

Services • Competencies • Products

Content

Experience and commitment

We are an IT service provider with a strong focus on the application of GIS in virtually all sectors

GISCON association offers services in connection with the preparation and application of geographic information systems (GIS). Our core competencies encompass the acquisition of knowledge crucial for decision-making from data with spatial reference.

We have especially established ourselves successfully in the area of GIS consultation. Fifteen years of experience in planning, implementing and applying geographic information systems has provided us with substantial know-how to be able to implement of even the most complex of projects. This long-lasting success is due to one of our most important guidelines: We are committed to everything we do, from simple training courses to large scale projects.

Locations

With its four locations in Brunswick, Bergkamen, Dortmund and Freising GISCON is presented throughout Germany. More than 30 employees from environmental and planning divisions as well as engineers of computer science and geoinformatics guarantee an extensive and competent support of our customers. In addition, our 2012 newly established branch in Kuwait City (Kuwait) serves as centre of GIS expertise for all our customers in the Middle East.

Customer relations

Our working policy is based on the close cooperation with our customers throughout the whole project lifecycle. We believe that intensive communication with our customers and the thorough consideration of their needs are the key factors for successful solutions. Our experts always take the time needed to clearly define your individual requirements and to transform these requirements into functional GIS solutions. This is why large companies, such as the German Telecom, and medium-sized companies, local authorities and public administration offices trust our services.

4

Integrated comprehensive solutions

In order to acquire useful information from spatial data we offer you a comprehensive range of products and services. Our employees combine individual parts of this range in a competent and customer-oriented way to produce productive comprehensive solutions:

We combine different areas of our range of services into integrated comprehensive solutions

- consulting, analysis of existing systems, requirements analysis and the implementation of geographic information systems

- restructuring and optimisation of existing systems

- development of programs and applications based on the ESRI family of products (ArcGIS®, ArcGIS Server®, ArcSDE®, ArcIMS®, ArcView®), user-oriented extensions and application modules

- interface design, maintenance and support

- design and development of web-based GIS technologies

- design, modeling and development of geographic databases

- acquisition, digitising and visualisation of spatial data for analysis and planning (mapping / cartography)

- modular structured training courses for beginners and advanced users

- individual GIS software and standard products with spatial dimension

Our 'Full Service' Concept

We offer all services related to the introduction, utilization and application of geographic information systems. The range of services and activities offered by GISCON covers the whole process of GIS implementation life cycle ranging from consulting services and training to applications development and turn-key projects. That means that you receive all the necessary components for the success of your GIS project from one source.
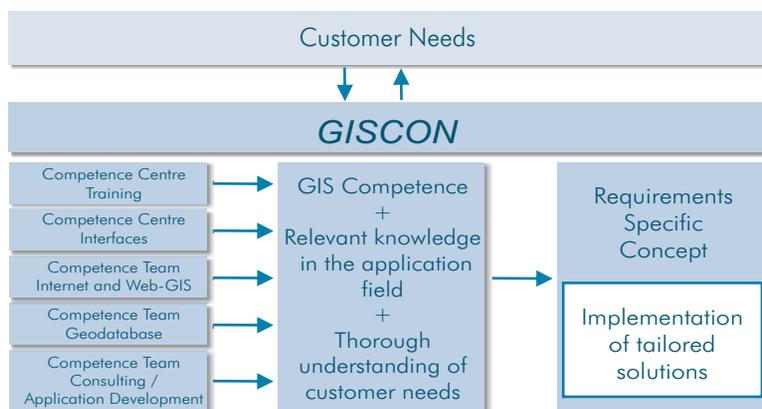
Integration

Consulting

Know-how Transfer

Field-specific Knowledge

Geo-Solutions

Information Technology

Linking experts' knowledge

Our experienced competence teams use synergy effects for the best GIS solutions

Projects are conducted through a network of competence teams according to the customer requirements. In a highly diverging GIS market with a confusing range of services and high investment risks, these 'panels of experts' are considered as pilots for your IT project.

In search of productive, low cost and future-oriented solutions, each competence team contributes to the developer pool by adding individual knowledge and experience, e.g. analysis, web GIS or custom programming. In this way we systematically use synergy effects of highly specia-lised experts to create customised GIS applications.

International projects

Our successful projects in both Western and Eastern Europe and in the Middle East have provided *GISCON* with the valuable experience to enable us to also offer high quality services outside Germany. There is an international network of qualified partners and service providers to support us if

necessary. As strategic partners, our GIS and IT specialists provide your company with comprehensive know-how in a reliable and experienced way. In order to achieve this we work in close cooperation with the management on site and involve the local personnel on a broad basis. Thus, we ensure that

all participants have access to the whole emerging project knowledge. Applications and production processes are therefore implemented under our direct supervision. We do not consider our goal to be reached before users are able to independently operate the whole system.

Standardised GIS applications

Geographic Information systems open up virtually unlimited possibilities of applications in regard to spatial issues. However, what seems advantageous at first glance often turns out to be a problem when put to practice: The countless fields of application actually require individual solutions. However, such customer-specific individual designs are usually too cost-intensive. Therefore, we pursue the concept of 'field-related standard applications'.

On a uniform technological basis we develop functional components for typical task areas in different GIS fields of application. These components can be easily modified and combined through systematic standardisation - this combination results in 'custom-made' solutions for many organizations. Thus, the development costs and all subsequent costs disperse. The applications remain flexible, cost-effective and long-lasting.

Consulting and project planning

Thanks to more than 15 years of experience we are able to understand the internal processes of your workflow quickly and completely. We determine the exact information requirement and transform this requirement into sophisticated GIS solutions. In the so-called 'customising' process, our developers merge profound knowledge from the areas of

- structured analysis,
- research methodologies and
- GIS technology.

The result is a number of analytical approaches, which we implement as logical process chains into up-to-date GIS software.

At the same time, the integration of specific methodological databases, also known as 'expert systems' takes place in a so-called 'GIS Aided Engineering' (GAE) procedure. Our GIS solutions only unfold their full potential through this connection of GIS know-how, IT trade and enough knowledge of the specific area of application.

Geographic information systems designed to meet your demand

- facilitate the systematical acquisition, administration, analysis and presentation of data related to space, time and content

- increase the efficiency of data establishment, control and updating

- allow simple and easy administration of large data sets

- allow the integration and spatial analysis of various subject areas

- can easily be integrated into or adapted to existing IT systems

- are efficient instruments for adding value and creating a competitive advantage

7

Competencies in special fields

- hydrology
- geology
- environment
- forestry, agriculture
- telecommunication
- utilities
- spatial planning
- transportation
- education

Analysis of business processes and system environment	Help with the system design, conception and tenders
Implementation of GIS applications and mobile solutions	Support in the project management

ONE Complete System with minimum interfaces possible

ONE Data Model with different applications

Target: prompt, simple and secure information flow

Applications focusing on special fields

The implementation of databases for special fields requires the identification of processes specific to their special field and their mapping in corresponding software applications, also known as application modules. If correctly planned, they work as a 'functional interface' between a standard GIS and the user to answer questions related to the specific field quickly and precisely.

The development of application modules within a given time and budget greatly depends on the insight of the developers into field-specific knowledge. One of our main advantages is therefore the interdisciplinary structure of our GISCON competence teams in which experts in the specific field always work alongside IT and GIS specialists. Thus, we can transfer complex relations without any information losses into user-friendly interface for the specific field.

System integration

Our many years of experience have shown how important it is to ensure that the existing workflow and IT structures are considered appropriately with each new release of a GIS or application as the demands on a GIS from different departments often result in the co-existence of diverse applications. In an extreme case, each of these isolated solutions has its own requirements regarding data storage, processing and maintenance, meaning each data transfer between the departments inevitably causes additional expenses of time and costs.

The release of a geographic information system as well as the improvement of such isolated solutions requires a comprehensive understanding of existing special fields' applications, related work flows and superior business processes.

The consultants in our competence teams create solutions for the integration of new GIS concepts and technologies into existing IT structures using specific knowledge from the areas of system design and system integration quickly and safely. The results are more efficient work flows and hence a real added value without any extra cost.

We provide knowledge to suit your needs

Investments in high-capacity GIS solutions will only pay off if the users have the necessary knowledge needed to work with the system. Our GIS training provides you with the necessary know-how. In order to be able to adapt as individually as possible to the actual training requirements, we offer (in addition to the standard ESRI training) customised training courses composed of modules. Those are thematic blocks of courses from the ESRI family of products, which are to be combined flexibly to suit your needs resulting in perfectly tailored training programs, e.g.

- Training for users changing from ArcInfo to ArcGIS: geo-database, topology, geo-processing with ArcToolbox

- professional cartography in ArcGIS: icon design, annotations, layout design

- data analysis and integration with external data sources: spatial analysis, statistic evaluation, geo-processing with ArcToolbox

Feel free to contact us - we would be delighted to make you a 'custom-made' training package offer!

GIS Standard Courses

- ArcGIS Desktop
- ArcView 3 GIS
- Programming with .NET® and VBA®
- ArcGIS Server
- ArcIMS
- ArcObjects
- Building Geodatabases
- ArcSDE for ORACLE®
- Spatial Analyst / 3D-Analyst
- System Design
- ArcGIS Geoprocessing: ArcToolbox, Commandline, Model Builder, Python®

...either at our training centre or in-house

Our well-equipped training centre in Dortmund offers beginners and advanced learners alike best training conditions in a pleasant atmosphere with high-quality technical equipment. Small groups of attendees (up to a maximum of 8 participants) guarantee high quality training and supervision. Our instructors are certified by ESRI - they have comprehensive practical GIS experience and share their know-ledge professionally. Training materials in German and English language referring to the latest software versions support the learning process in an optimum way.

Depending on your requirements, we would also be prepared to organise in-house courses and workshops at your company's premises so that individual questions can be addressed directly within the work environment and the training can be given 'on the job'. We also offer the seminars in English and Arabic.

i If you have further questions about our training...

...we will be glad to send you our training brochure. Do not forget to have a look at our latest news on the internet: www.giscon.eu

Areas of application

- Desktop applications based on ArcObjects
- Web and portal solutions, Web services (SOA)
- Mobile solutions
- Database-oriented administrative and ERP solutions (Enterprise Resource Planning)
- Interfaces for the ESRI family of products

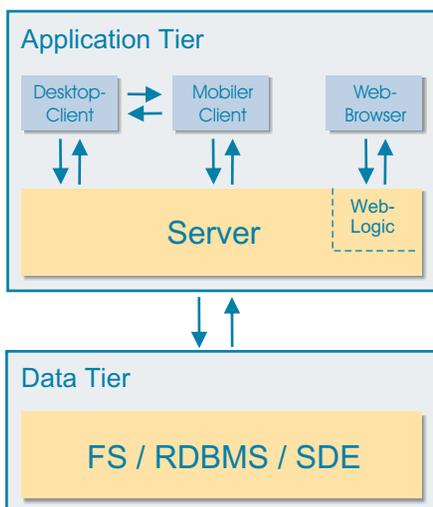# Products development

We develop GIS products in two ways:

- Based on customer solutions - in which case we extract a standard software as a core for the new project from the individual solution that we developed before. We complement this software core with further functions and modules.
- Based on our own developments, meaning we develop applications that we use ourselves in order to complete service assignments. This can be seen as 'from professionals for professionals' that is how productive applications evolve that can be handed on to customers.

The products that originated from this process are integrated into a comprehensive release and maintenance process. The main components of this process are our internal quality assurance and documentation procedures. Various efficient solution packages therefore emerge along with the corresponding service and training offers.
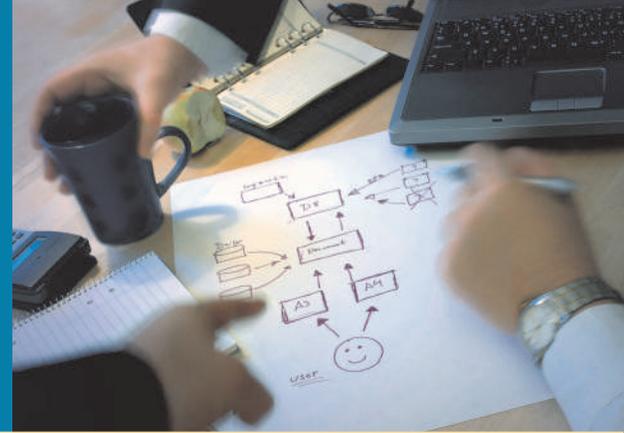
IT Technology

Alongside the classic ArcGIS desktop extensions based on ArcObjects, our solutions often exceed the narrow GIS area. They expand over different areas of the modern IT landscape:

- web-based client-server-solutions allow for the use of central data and typical GIS functions as services via browser. As an integrated portal solution they allow for the visualising and analysis of geodata, the editing of geometries and attributes as well as the effective management of applications, users and access rights. In this process, all of the requirements of a modern geo-data infrastructure (GDI) are taken into consideration, such as SOA (Service-Oriented Architecture) and approved internet standards (e.g. from the OGC).
- Our effective administration systems provide an integrated operation, communication and company management solutions. As they have an independent connection to Relational Database Management Systems (RDBMS) they are also able to be used by several users.

Applications in multi-tier architecture

- Apart from stand-alone single-user systems we offer solutions for mobile components (PDA / handheld) with well-engineered check-in / check-out mechanisms and GPS link.

- Interface programs play a big role in our product portfolio: as one of ESRI's development partners we offer the development, sale and support of bi-directional format converters for the transfer of data to and from ESRI family of products.

Development platforms

We support all common platforms in software development in the classic desktop area as well as server area.

- In the desktop area we are mainly referring to the operating systems Windows XP® and Windows Vista®.

- The use of Windows Terminal Server® / Citrix-Metaframe® is supported in enterprise systems.

- In addition, we are currently developing applications for Windows 2003®, Solaris® and diverse Linux-Derivates in the server area.

- In the mobile area, our developments for the operating system Microsoft Windows Mobile® are from version 5 onwards.

Integrated
Development Environment

- Visual Studio®
  - VB.Net, C#
- Eclipse®
  - Java, Python
- Sun Studio®
  - C, C++
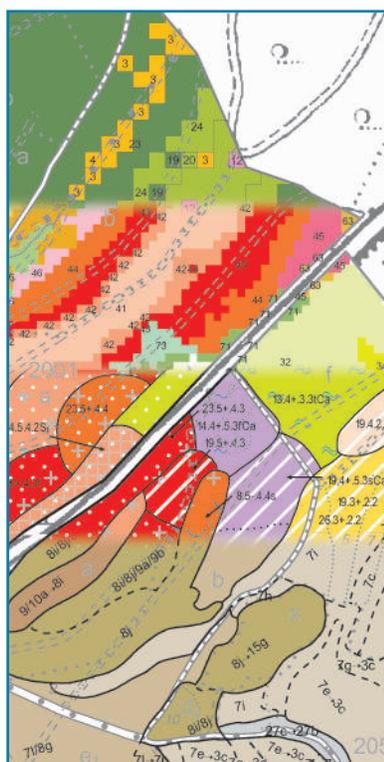- Team Developer® (Unify)
  - SQLWindows

Components technology

Components technology is one of the most important innovative processes of our object-oriented software development. We have a framework of combinable software modules, which are assembled into new applications each time according to the customer's demand. The recurring use of well-engineered and tested components not only increases the speed of development but also the quality of the emerging products. Another advantage of this technology is the very simplified and therefore very quick code adaptation in case of change-requests or product enhancement.

An example of data processing:
From the two datasets of the terrain modelling Surface Hydrology and Geology (top) the Soil Types map (middle) is produced. Linking it with a special soil suitability model, the potential natural vegetation (PNV) is calculated and stored as a new dataset (bottom).

Geo-Processing

Apart from the 'classic' creation of high-quality map products, we offer a broad range of functional services around geo-processing to customers without internal GIS competencies:

- Data modelling
  - The development and creation of data models (in UML)
- Data compilation
  - scanning and geo-referencing of plans and maps
  - full and semi-automated vectorisation
  - manual digitising of analogue maps
  - mobile data compilation
  - orthophotos creation and aerial images interpretation
- Data processing
  - terrain modelling
  - data conversion of different formats
  - linking and integration of external databases and information systems for specific fields
  - database preparation and development based on specific rules
  - analysis, modelling and simulation
- Data output
  - digital cartography including layout and map composition
  - print-ready map production
  - automatic generation of reports and statistics

As a long-standing ESRI partner, we mainly use software from the ArcGIS family of products in the area of data processing.

Apart from the most modern hardware, we use exclusively high-performance peripheral devices from market-leading brands for the digital data compilation and data output. All of the work is carried out by highly qualified personnel in the relevant subjects.
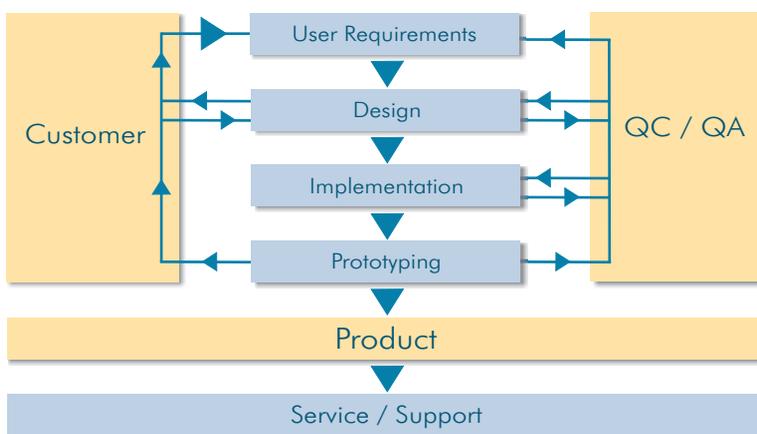
Good performance in the long run

In order to guarantee the quality of our work in the long run we place great value on the improvement of all business processes and comprehensive quality management. Part of this is, along with process definition and information storage in professional documentation systems, the project management following the German Standards adapted V-model XT and the software development in compliance with international standards.

The application of the most modern technologies of well-known brands and partnerships with market-leading GIS and IT corporations (e.g. ESRI, ORACLE and Microsoft) provide the basis for our state-of-the-art solutions. We continually integrate up-to-date know-how by cooperating with institutes and service providers of neighbouring fields of expertise.

Agile development process

Our software development follows a standardised multi-step process:

In the analysis phase, we work with our customer to define both the system and user requirements. Subsequently the functions and software modules are graphically modelled using the unified modelling language (UML) and the interfaces are developed taking software ergonomic aspects into consideration. Due to immediate feedback with the customer we meet all requirements in an optimal way and can detect deviations at an early stage.

Quality assurance mechanisms

- Continual training of staff members
- Project execution following adapted V-model XT
- IT supported document guidance
- Software development according to international standards
- Competent analysis of requirements
- Close involvement of the customer in the software concept and interface design
- Agile development methods:
  - customer involvement by Project Board and Feedback
  - Test Driven Development
- Modification management

13

Some of our customers

In Germany

- ADAC Geodatenzentrale - The Geoinformation center of ADAC
- Bavarian State Agency for New Media
- Federal Agency for Cartography and Geodesy
- Federal Agency for Environmental Protection
- Federal Institute for Geological Sciences and Raw Materials
- Deutsche Steinkohle AG
- Federal Ministry for Land use Planning, Agriculture and Environment
- EW Gas, Electricity and Waterworks, Cologne AG
- Water Management and Water Protection Departments of Lower Saxony
- State Ministry of Interior, Lower Saxony
- State Ministry of Environment, Lower Saxony
- T-Mobile, the German mobile telecommunications company
- Daimler Chrysler AG
- National Parks Office of Lower Saxony, Wadden Sea
- State Agency for Environmental Protection, Saxony-Anhalt
- Bavarian State Agency for Water Management
- State Agency for Nature and Environment, Schleswig-Holstein
- State Agency for Rural Zoning, Baden-Wuerttemberg
- State Agency for Soil Research, Hessen
- Bavarian State Agency for Land Development and Environment
- State Forestry Department, Saxony
- City Administrations of Munich, Cologne, Nuremberg, Leipzig

International

- Environment Public Authority (EPA), Kuwait
- ESRI France
- National Information Center (NIC), Yemen
- Agriculture and Surveying Authority of Canton Chur, Switzerland
- National Water Resources Authority, Sana'a, Yemen
- City Administration Office, Graz, Austria
- The Petroleum Research and Studies Center (PRSC), Kuwait
- ETH Zurich, Switzerland
- Geological Survey and Mineral Resources Board, Sana'a, Yemen
- Carl Bro Pavement Consultants, Kolding, Denmark
- Faculty of Engineering, Ain Shams University, Cairo, Egypt
- The City of Aargau, Switzerland
- National Center for Remote Sensing, Lebanon
- Pacific Access Pty Ltd, Box Hill, Australia
- Ministry of Agriculture and Agrarian Reform, Syria
- The Environmental Information Centre, Moscow, Russia
- Arriyadh Development Authority, Saudi Arabia
- SynerGIS Informationssysteme GmbH, Vienna, Austria
- FARSI Maps, Jeddah, Saudi Arabia
- The Slovak Environmental Agency, Slovakia
- Ministry of Agriculture and the UN-Food and Agriculture Organization (UN-FAO), Libya

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