

# English Summary

## Geo-ICT an effective and efficient solution for geo-information problems

Taking decisions nowadays means taking into account ever-larger quantities of information of the most diverse kinds. To manage these information flows more efficiently and render the information more accessible Fugro increasingly relies on 'geo-ICT': a collection of technologies that makes it easier to find and process information by computer. A characteristic feature of geo-ICT is that the information is made accessible and is presented in the form of (digital) maps. The many years of experience and professional expertise at Fugro guarantee the most efficient, user-friendly and reliable solution at all times.

## WLB Amsterdam changes over to Instap and Bentley Water

To manage its water mains, the Amsterdam municipal water authority (WaterleidingBedrijf Amsterdam, WLB) had to change over to a new system. Together with Fugro-Inpark a number of alternatives were examined. The system finally selected was Bentley Water combined with Instap; Fugro-Inpark's cable and pipeline management package. The reasons for this choice were that no changes were required to the existing data structure and that the Microstation licences could be converted free of charge. It was also possible to continue to use the interrogation system based on Instap and the Instap-KLIC module.

## Digging for treasure in soil survey archives: GEODIG

TNO-NITG intends to make the results of soil surveys conducted throughout the Netherlands available via its DINO database. And it is precisely in this field that Fugro Ingenieursbureau, one of the largest geotechnical consultants in the country, has accumulated a wealth of information in its 40-year history. All these files have now been digitised as part of the GEODIG project: more than 80,000 projects, over 600,000 cone-penetrometer tests and 50,000 borings. However, a scanned cone-penetrometer test without accompanying information such as project number, location, length, reference elevation, etc., is of little or no use. Which is why the ICT specialists at Fugro have developed an input program that makes it easy to store the information directly in a central database.

## FAST4DMAP reveals details of water-retaining structures

The FLI-MAP Analyst product has been specially developed for Dutch water control authorities. It allows users to effortlessly generate cross-sectional profiles from digital elevation data at any point along a water-control structure. Using the Geotechnical Analyst extension, even more information on the subterranean aspects of a water-control structure, such as the results of previous geotechnical tests within a specified distance of the profile, can be displayed. The subterranean extension is part of the FAST4DMAP concept.

## Design and management of traffic control equipment: INCA-VRI

Together with the City Management Service (Dienst Stadsbeheer) of the Municipality of Utrecht, Fugro-Inpark has developed a new application for the design and management of traffic control equipment (VRI). The VRI module is based on INCA: a basic generic application under MicroStation V8 that can be adapted to a variety of uses. INCA-VRI is standard software that enables the user to access an extensive library of traffic-control devices and specific installation routines.

## VCP-GIS indispensable aid in planning roadworks in North Holland

The Traffic Coordination Centre (VCP) of the Province of North Holland has the task of coordinating all work carried out on the provincial roads in North Holland and ensuring that the concerned parties and the public are informed of such work. To keep all the information from the various sources – provincial, municipal and the Ministry of Public Works project managers, etc. – well-organized and manageable, the VCP and Fugro-Inpark together developed a central data system: VCP-GIS.

## ArcGIS: more efficient geodesic data management in the Province of North Brabant

The Geographic Information Provision and Geodesics Office of the Province of North Brabant asked Fugro-Inpark to develop a central database for registering and managing base and control points. The database had to be such that it could be interrogated with a single application. The database model has been designed such that any time data are changed, the user, date and change of status (if applicable) are automatically registered in a digital log. This makes it easier to trace and solve gaps in the data.

## No more inconsistent data on traffic control equipment in Nijmegen

The City Management Service (afdeling Stadsbeheer) of the Municipality of Nijmegen wanted to automate the management of its traffic control equipment. Together with Fugro-Inpark it embarked on registering all the objects managed by it together with the accompanying administrative information into its central database. The application used, Infra Veldwerk, includes a 'check-in/check-out' feature: when a field officer takes along ('checks out') a dataset to carry out field work, the office staff are still able to access that part of the data but cannot make changes. This prevents inconsistencies in the data and has proved a very valuable tool.

## Drilling to 45 m depth at minus 20 °C

In the north of Norway, some 150 km south of the Arctic Circle lies Mosjoen: an industrial town where the Elkem company produces aluminium. Elkem wants to expand its plant with an anode production line on a site that has been reclaimed from the fjord and filled in with marine sediment. Because it was anticipated that the sediment might include elements prone to compaction, Fugro conducted a detailed programme of soil surveys to map out the bearing capacity and susceptibility to settlement of the construction site.

## Search for unexploded bombs near engineering structures A12

During World War II, a section of national road A12 was frequently bombed by the Allied Forces because the Germans used to transport V1 and V2 rockets to their launching site at Scheveningen along it. On account of the possible presence of unexploded bombs, the entire section is classified a high-risk area. Because of the proposed widening of the road, the existing engineering structures will have to be modified or replaced by new ones at a number of places. This will entail pile driving. The explosive combination of a 'high risk of unexploded bombs' and 'pile driving' meant that further investigations were required, which Fugro carried out using a variety of techniques.

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