

# Heuvelman Ibis

Heuvelman Ibis BV is a medium-sized Dutch-based firm with extensive experience in civil engineering contracting. Today, many of their projects involve dredging, piling, remediation, stone-protection schemes, bridge/lock building, dike rehabilitation and strengthening, steel constructions, as well as specialist projects such as unexploded ordnance detection and clearing. This short article provides an overview of company activities with examples of how they approach their shallow water hydrographic operations.<P>

The company was founded in 1975 by the Heuvelman family, using a converted sailing clipper as a self-propelled clamshell dredger. In those days, the depth of the dredge was found using a piece of cleaning cloth tied to the hoist wire. Since then, Heuvelman Ibis has followed a strategy of embracing technological innovations and keeping ahead of customers' requirements. This has led to a long history of successful high-profile projects and expanding activities. The company now operates more than 20 fully equipped modern operational ships, including suction dredgers, backhoe dredgers, clamshell dredgers, transportation ships, pontoons, survey vessels, tugs, etc.

Most of the work the company is involved in today is to do with public tender projects. The tender requirements are very information-intensive and proving the quality of the work that has been carried out is essential. Arco Heuvelman, Technical Manager of the company, commented, "Our experience has shown many times that a key factor in carrying out efficient engineering operations is the requirement for accurate and timely project information. This is needed at all stages of a project if it is to be completed in a cost-efficient and high-quality manner".

This experience has led to extensive investments in equipment used for hydrographic mapping as the projects progress. For positioning of the dredging equipment, Heuvelman Ibis uses real-time kinematic GPS positioning systems in combination with 3D visualization software, boom sensors and waterway navigation programs. To provide a current view of the bottom as the works progress, the project engineers deploy state-of-the-art swath bathymetry systems, having recently purchased a GeoSwath Plus sonar manufactured by GeoAcoustics Ltd (a Kongsberg Maritime company). This sonar is installed on the small trailerable launch m/v Racheland has been used extensively in the summer of 2008 to provide efficient full-coverage bank-bank river mapping. These accurate hydrographic surveys are particularly vital in dredge contracts, where the GeoSwath sonar has been used to collect pre- and post-dredge engineering data with centimetre accuracy. Heuvelman Ibis knows that delivered survey quality is key to a project's successful outcome, both in terms of keeping costs down (through accurate and timely knowledge of what work has been completed and what still needs to be done) and in providing the client with proof that the work has been completed to the standards required.

This type of project work has resulted in Heuvelman Ibis acquiring a unique range of experience and expertise. The company is continuing to expand its operations in terms of the size and scope of the civil engineering works contracted and the geographical extent of its operations. Recent successful river banking projects in Germany stretched the capability of the survey and civil engineering departments to the limits. These projects included layer for layer removal of old protection materials, and then rebuilding them with virtually no tolerance in the height and slope. Arco Heuvelman said, "From a logistics point of view this was a major task, one of the most challenging we have faced. The use of the GeoSwath interferometric sonar helped us do all the survey work in between the layering of the banks and dredging in a cost-efficient and fast way. We ran a survey and processing office at the project site and this kept processing time to a minimum and enabled us to get the data from the survey launch to the dredgers' computer systems very fast." The systems being used on the dredgers are Prolec's PCX3D for the excavators and Dredgepack for the clamshells.

Heuvelman Ibis sees its technological capabilities as vital as it continues to expand its presence in the civil engineering marketplace in northern Europe. This capability enables it to deliver efficient operations to the civil customer combined with confidence in the quality and durability of the works carried out. With the increased government focus on river defence and flood prevention around the low-lying and highly populated northern European river systems, Heuvelman Ibis is in a great position to facilitate the future works that will be required.