



The Swedish Deep Drilling Program - an emerging scientific drilling program and new infrastructure.

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Scientific drilling projects imply numerous aspects that are difficult to handle for individual research groups. Therefore, about three years ago a joint effort was launched in the Swedish geoscientific community to establish a national program for scientific drilling, the Swedish Deep Drilling Program (SDDP). Soon afterwards, several working groups established drilling proposals with Nordic and, also, international participation. With this serious interest in scientific drilling SDDP was able to successfully promote the Swedish membership in ICDP which commenced in 2008. Two SDDP projects achieved workshop grants from the International Continental Scientific Drilling Program (ICDP) in 2009. In the same year the Swedish Research Council decided to support an application for a truck-mounted drill rig - a big success for the SDDP working group.

Scientific Drilling infrastructure:

SDDP envisages a mobile platform that is capable of core drilling to at least 2500 m depth. The procurement will be made during 2010 and first operations are planned for 2011. This drill rig is primarily intended for use in the SDDP drilling projects, but will be rented out to other scientific drilling projects or even commercial enterprises in the remaining time to cover maintenance and future upgrade costs.

SDDP's drill rig will be unique in Europe and complementary to the deep drilling InnovaRig of the GFZ German Research Centre for Geosciences. Until now, drilling to 2000 - 3000 m implied the use of a full-sized drill rig like the InnovaRig or the mobilization of a core drill rig from another continent. This gap will now be filled by Sweden's upcoming scientific drilling infrastructure.

Drilling projects and proposals:

Presently, SDDP serves six projects: "Collisional Orogeny in the Scandinavian Caledonides" (COSC; ICDP workshop spring 2010), the "Postglacial Fault Drilling Project" (PFDP; ICDP workshop autumn 2010), a "Deep Rock Laboratory" (DRL), "Palaeoproterozoic Mineralized Volcanic Arc Systems" (PaMVAS), "Concentric Impact Structures in the Palaeozoic - the Lockne and Siljan craters" (CISP), and "Svecofennian accretion, an example of the early Structural Evolution in a Large Hot Orogen" (SELHO).

More information on each drilling project is available at SDDP's website (<http://www.sddp.se/projectabbreviation>), where also the Science & Technology Plan is publicly available.

The Nordic perspective:

Recently, the researchers network "Scientific Drilling in the Nordic Countries" has been funded for three years by NordForsk, the Nordic Council of Minister's advisory board on research strategy (<http://www.nordforsk.org>). The aim of the network is to consolidate the competence and experience from past and present (and future) scientific drilling projects in the Nordic countries, and to propagate it to the scientific community. Within the scope of the researchers network, workshops and excursions will be tightly coupled to on-going scientific projects and bring together experts, experienced scientists and novices for knowledge exchange and transfer. The participation of all the Nordic countries and the ambitious drilling projects in their diverse geological settings – from the Archaean shield to active volcanoes – form an ideal basis for engaging and successful collaboration over many years to come.