Meeting the 4C exploration challenge

Exploration of geologically problematic areas (e.g. salt domes, gas pockets) as well as carrying out 4D surveys over producing fields cannot rely on streamer systems alone – especially if S-waves have to be recorded as well.

Ocean Bottom Cables (OBCs) run into trouble in rugged terrain, jagged areas, areas with high ground currents, and in deepwater. In these situations, autonomous 4C Ocean Bottom Systems (OBS) are a promising alternative, claims German marine data logging specialist SEND.

Due to better coupling at the ocean-bottom, the S-wave results are more reliable, it says. The use of OBS for refraction measurements on the ocean bottom also complements streamer surveying.

SEND and German mechanical structure manufacturer K.U.M. are making their OBS know-how, well proven on deep-sea seismic for European research institutes, which has been accumulated since the late 1980s, available to the exploration community. Nowadays, the OBS recovery rate is well above 95%, says SEND.

SEND builds small marine data logging electronics that work at very low power levels, using time-bases with excellent stability, and which can operate for up to 12 months autonomously if needed. K.U.M. manufactures mechanical structures to withstand the highly corrosive marine environment, using titanium as the material of choice, and both companies are working together to offer complete OBS systems.