LINDA (and PAUL)

“Only good tools give good results!“

This classic phrase also applies to the equipment of a cavern surveyor. Naturally SOCON bases its work on high-performance tools, winches and vehicles. But this is not everything. Also ergonomic hardware is particularly important because the technician performs a significant amount of his work sitting in front of the computer in the survey truck.

LINDA

If the headline has made you think of the McCartneys and perhaps gentle background music by the Beatles in the survey truck, well sorry, but we’ve led you astray. LINDA is in fact an acronym for

Linux-compatible **I**ntegrated **N**etwork-based **DA**ta acquisition and display.

After more than ten years of dedicated service by the current computers and instruments, a new generation of compact equipment is now ready to take over. LINDA has been developed to provide a solution capable of complete real-time working which eliminates the disadvantages of other systems, for instance the process control using a desk-top computer operating system and the significant data reduction before transferring measured data. It has therefore been possible to implement the SOCON philosophy also in this new computer generation, namely the need for the survey technician to see the real echo signal without any time delay so as to enable him to react quickly to any changes that occur.

LINDA, which is set up at a central position between the tool, the echo signals and the Windows computer, controls the entire signal process, whereby the Windows computer as an intelligent terminal solely provides the user interface and saves the survey data.

In this new computer generation LINDA together with the data acquisition software Cav*Scan* combines a range of real-time tasks:

- simultaneous display of the echo signals on the user’s screen
- digitization of the echo signals with a resolution of up to 1 µs
- signal processing, correlation calculations and echo searching
- communication with the depth calculator and the tool modules via the DIN survey bus
- sampling of the shaft encoders to achieve rapid parameter control
- communication with the Windows terminal via Ethernet
- control and monitoring of **PAUL**, the tool power supply unit

As a high-performance computer is required to perform all these tasks LINDA is equipped with a Coldfire CPU running a real-time operating system. Its extra graphic chip controls an extremely high resolution TFT display, which is ergonomically placed above the keyboard.

In addition to its intended recording purposes, **LINDA** is also a tool for monitoring faults and for further development, because another computer can be connected via Ethernet to display internal protocols through a web browser or to install new software.

In summary it can be said, only good tools give good results!

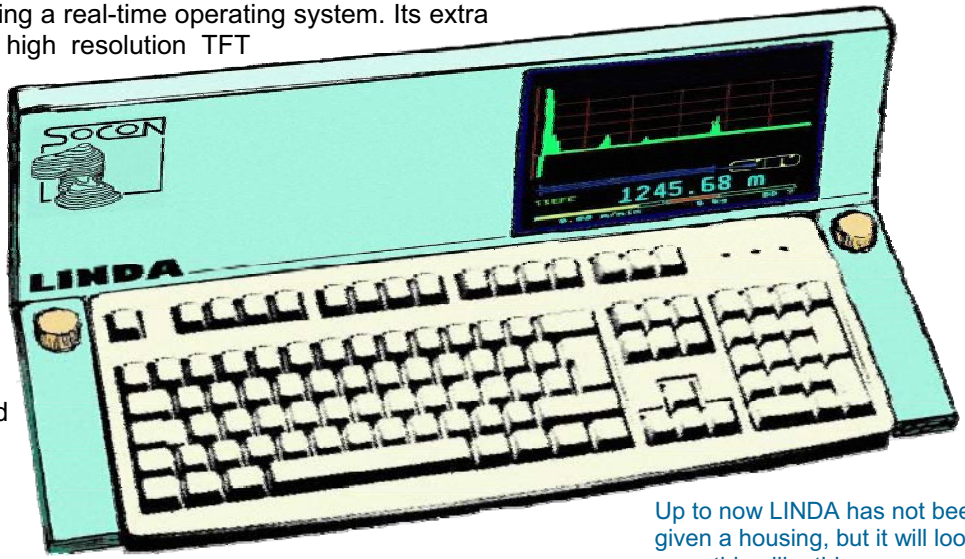
K. Gotthardt

PAUL

is a box the size of a briefcase and, controlled by LINDA, provides the power supply to the tools and the ASK modulation for digital communication along the several kilometer long survey cable.

Portable
c**A**ble interface
pl**U**s
contro**L** power pack

André Stille putting life into LINDA



Up to now LINDA has not been given a housing, but it will look something like this.