

possible. All data are authenticated and archived for open access by any participating State. The IDC also collects other seismological information (gamma data) from NDCs. It monitors calibration of the Alpha and Beta stations, and ensures quality control of data.

3. Station requirements

The GSE has defined the minimum technical specifications that should be covered by so-called "ISMS-standard" stations. This does not necessarily mean that these facilities consist of identical technical components, but the components of these systems must meet basic functional and technical requirements. During GSETT-3 as many participating stations as possible should conform to these ISMS standards.

For the instrumentation of such systems the following general design requirements should be taken into consideration: modularity; flexibility; reliability; robustness; incorporation of widely used components; and, low power consumption.

If the selection of the technical components follow these criteria, instruments can be configured in many ways covering the full range from three-component to array stations. Thus, an ISMS station could be tailored to the local conditions and be coupled to the network configuration to produce a uniform detection threshold for monitoring.

An ISMS-standard three-component station would consist of the following elements:

- Three-component broadband seismometers;
- A data acquisition system with digitizers to convert the seismometer output signals into digital form and modules for placing authentication signatures in the data stream;
- Electronics for very accurate synchronization to Universal Time;
- A system for transmitting data to the IDC, either directly or through an NDC (Alpha stations only) or responding to IDC requests for data (Beta stations), as well as for managing the flow, calibration, and archival of the data;
- Devices for data archiving;
- Communication interfaces for data transmission to NDCs and IDC; and
- Data channels for additional input signals (e.g. wind indicators, temperature, and other environmental data) and station status indicators.

Some of the data handling facilities may be at the NDC rather than at the station.