

# Mobile Mappers

Mobile mappers are a recent development and their introduction demonstrates the vitality of the surveying profession. A number of leading geomatics companies accepted our invitation to participate in this, the first ever product survey on mobile mappers to appear in GIM International.

Basically, mobile mappers integrate GPS, GIS, geo-database and mapping into one compact, handheld device of which the weight is typically less than 1kg. They are becoming increasingly important in geo-data collection, not only for the surveyor but also for the GIS user who wants to update his database or to create a new data layer on top of, for example, an existing base map. Since the characteristics of surveyor and GIS-user differ, manufacturers approach the two markets differently. For example, the Leica Geosystems SR20 has been developed to support the land surveyor, whilst the GS20 is designed with an eye on the GIS user. The mobile mappers listed here are all single-frequency GPS receivers that make use of code and phase measurements. The achievable accuracy depends not so much on the device itself, but more on the chosen GPS infrastructure support. In the stand-alone mode accuracy is usually limited to about 3 metres, whilst accuracies at sub-metre and even decimetre level are possible when use is made of differential GPS services. Several manufacturers already measure the storage capacity of their mobile mapper in Gb. Nevertheless, to store the result of a whole day's fieldwork or more, data compression is needed to shrink the size of a dataset such that sufficient data can be stored. For more thorough consideration of the principles of data compression see the Technology in Focus feature in this issue. Topcon has already paved the way for forthcoming new developments: the incorporation of additional features into the lightweight, handheld device, such as electronic compass and digital camera, to make data collection in the field even more easy and complete. For more detailed information on features and applications of mobile mappers see the article; *Mobile Mappers: Features and Applications* of this issue.

## Product Survey

### Participating Companies

In the survey the following companies participated:

- **Leica Geosystems:** SR20, GS20
- **Strata:** Pocket Penmap
- **Thales Navigation:** MobileMapper Pro, MobileMapper CE
- **Topcon:** GMS-2
- **Trimble:** GeoXH handheld, GeoXt handheld, GeoXM handheld, Trimble Recon GPS Card