

# Mobile Mapping and the Role of the Geomatics Specialist



The demand for detailed, up-to-date 3D maps of cities, roads and large buildings is steadily growing. This demand is nourished by the ongoing exponential decrease in the cost of [collecting point clouds \(PCs\)](#). A major source of PCs are [mobile mapping systems \(MMSs\)](#), usually mounted on a car, van or other vehicle that can travel at the normal speed of traffic on roads and highways. An MMS usually consists of a positioning and orientation system, one or more laser scanners, one or more digital cameras and a control unit.

However, the ongoing miniaturisation of sensors and electronics is leading to the construction of laser scanners which are light enough to be mounted on [unmanned aerial systems \(UASs\)](#), trolleys, backpacks or sticks. The stick can be held in a surveying layman's hand to capture rooms, corridors and [many other indoor spaces and outdoor scenes](#). Many construction engineers, facilities managers and architects already acquire dense points by walking through the scene with just a handheld laser scanner on a stick. Hence, the acquisition of point clouds is no longer the sole domain of geomatics specialists. The key to this are easy-to-use, reliable sensors accompanied by robust software. Operating in buildings, tunnels and mines requires advanced solutions since there is no GNSS coverage.

As a result, the role of the geomatics specialist is shifting from surveyor to advisor and software developer. An essential part of the knowledge spectrum concerns the understanding of the nitty-gritty of geospatial datasets, their fusion with other data as well as the storage demands of big data.