PREFACE

Since the first Mobile Mapping Symposium held in Columbus, Ohio in 1995, there have been numerous papers on this exciting topic published in journals and conference proceedings. The emerging technology of mobile mapping and its enormous potential have attracted a great deal of attention in academic and industrial communities. We observed that a few new systems have been developed every year and thousands of miles of roads have been surveyed by the mobile mapping systems. This workshop should serve as a forum for researchers, developers and users of mobile mapping systems to summarize the achievements, find out the current problems, and map out the future development.

The papers collected in this proceedings demonstrate that building a mobile mapping system by integrating off-the-shelf hardware and software components requires significant courage, investment, and efforts, but has been endeavors of many universities and companies on almost all continents in recent years. Land-based systems have demonstrated the power promised at the early time of the development, for example in road and railway survey, utility survey and others. The takeover of the part of such traditional markets is believed to be only a start. Meanwhile, the very same concept has been transferred to airborne and satellite-borne platforms where positional and orientational sensors are integrated with imaging sensors to approach real-time mapping that is not restricted to where only land vehicles can reach. The "dream" is to achieve the same level of ground position accuracy as traditional aerial triangulation. Of course, an integration of the sensor-based orientation data with aerial triangulation would provide much better results. We trust that with the rapid development in mobile mapping, automatic triangulation, and automatic feature/image matching, a real-time system will be a reality in the near future.

A question we may want to ask ourselves is "have the current mobile mapping systems reached full potential?" The answer is a definite NO. We still see that mobile mapping takes only a small percentage of overall surveying market where it ought to do better a job. Four aspects need our attentions: a) prices of mobile mapping systems are high, partly contributed by high cost components such as INS and very large CCD chips; b) better tools for efficient or automatic extraction of useful information from massive mobile data are need; c) accuracy should be increased for applications where higher accuracy is desirable; and d) efforts should be made to make the spatial data community more aware of the existence and potential of the technology.

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