

Measuring with the Map: Building the Future of Field Surveying

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SUMMARY

Draft Abstract – “Measuring with the Map: Building the Future of Field Surveying”

In a rapidly changing world, the demand for efficient, reliable, and sustainable surveying solutions continues to grow. At the Netherlands’ Cadastre, Land Registry and Mapping Agency (Kadaster), we envision “The Future We Want” as one where surveyors are empowered by technology that enhances accuracy, efficiency, and accessibility. Our project “Measuring with the Map” (“Meten met de Kaart”) represents a major step towards this future.

Through a European tender, we selected a software supplier capable of providing an open and flexible solution for controlling our GNSS and total station instruments directly from our own tablet PCs. The resulting software environment, Delfy, integrates seamlessly with our field workflows, ensuring that surveyors can focus on the quality of their work rather than on the complexity of their tools.

A key innovation lies in the real-time feedback loop built into the system: during measurement, the observations are immediately adjusted and validated, allowing the surveyor to see in the field whether the data meets all quality requirements. This supports both experienced professionals and practically oriented field staff, reducing dependence on highly specialized personnel while maintaining — and even improving — data integrity.

The automatically generated survey sketch further streamlines field documentation. Originally designed for a single A4 layout, the new system dynamically creates one or more A4 pages or, in the future, a zoomable PDF — ensuring both legibility and consistency in presentation. This shift towards a digital-first, scalable format enhances the efficiency and sustainability of our data

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management.

By prioritizing open standards, supplier independence, and an architecture that can evolve with emerging technologies, Measuring with the Map builds a foundation for a more resilient and adaptable cadastral organization. It exemplifies how thoughtful digital transformation can make surveying more efficient, inclusive, and sustainable — shaping the future we want for the profession.

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