Kinematic GNSS towards Real-time

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FIG Commission 5 *„Positioning and Measurement“, Vice Chair;*
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FIG Commission 5 – Positioning and Measurements

The mission of FIG Commission 5 is to:

- **focus on modern technologies**, technical developments and assist surveyors, engineers and GIS/LIS professionals through guidelines and recommendations, to choose and utilise those methods, technologies and instruments that are most appropriate to different applications.
- **facilitate and follow technical developments** through collaboration with other FIG Commissions and other international organisations; participation in appropriate meetings; and the preparation of appropriate publications.
- **foster and support research** and development and stimulate new ideas in the fields of expertise represented within the commission.
- **formulate and formalise collaboration** with manufacturers on the improvement of instrumentation and associated software.
- **FIG Events** - present and promote the work of the Commission and its working groups on an on-going basis at FIG Working Weeks, FIG Regional Conferences and other relevant technical meetings and in appropriate FIG and other media.

Working Groups of FIG Commission 5

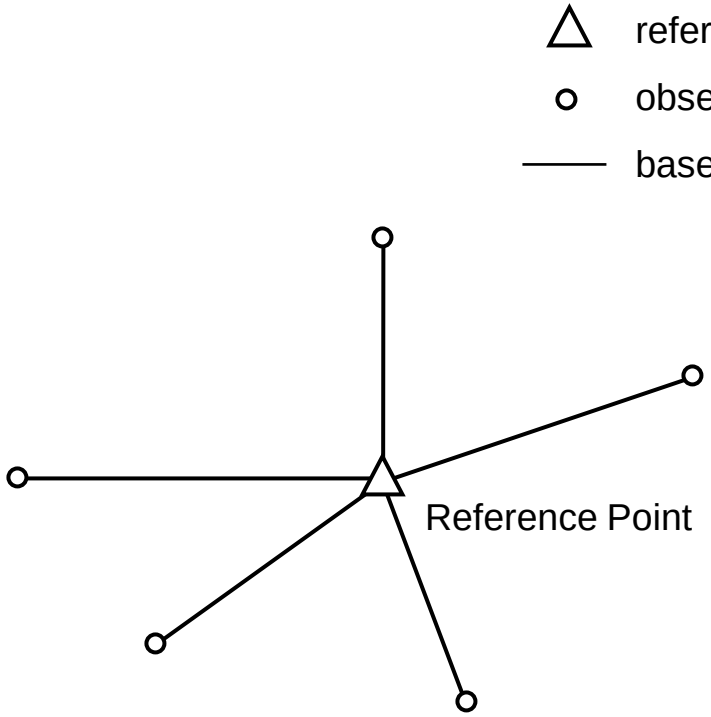
- **Working Group 5.1 - Standards, Quality Assurance and Calibration**
- **Working Group 5.2 - Reference Frames**
- **Working Group 5.3 - Geodetic and Positioning Infrastructure**
- **Working Group 5.4 - Kinematic Measurements**
- **Working Group 5.5 – Ubiquitous Positioning** (Joint Working Group with Commission 6 and IAG)







GNSS – Post Processing



Network observations, results not required in real time

Kinematic GNSS - RTK

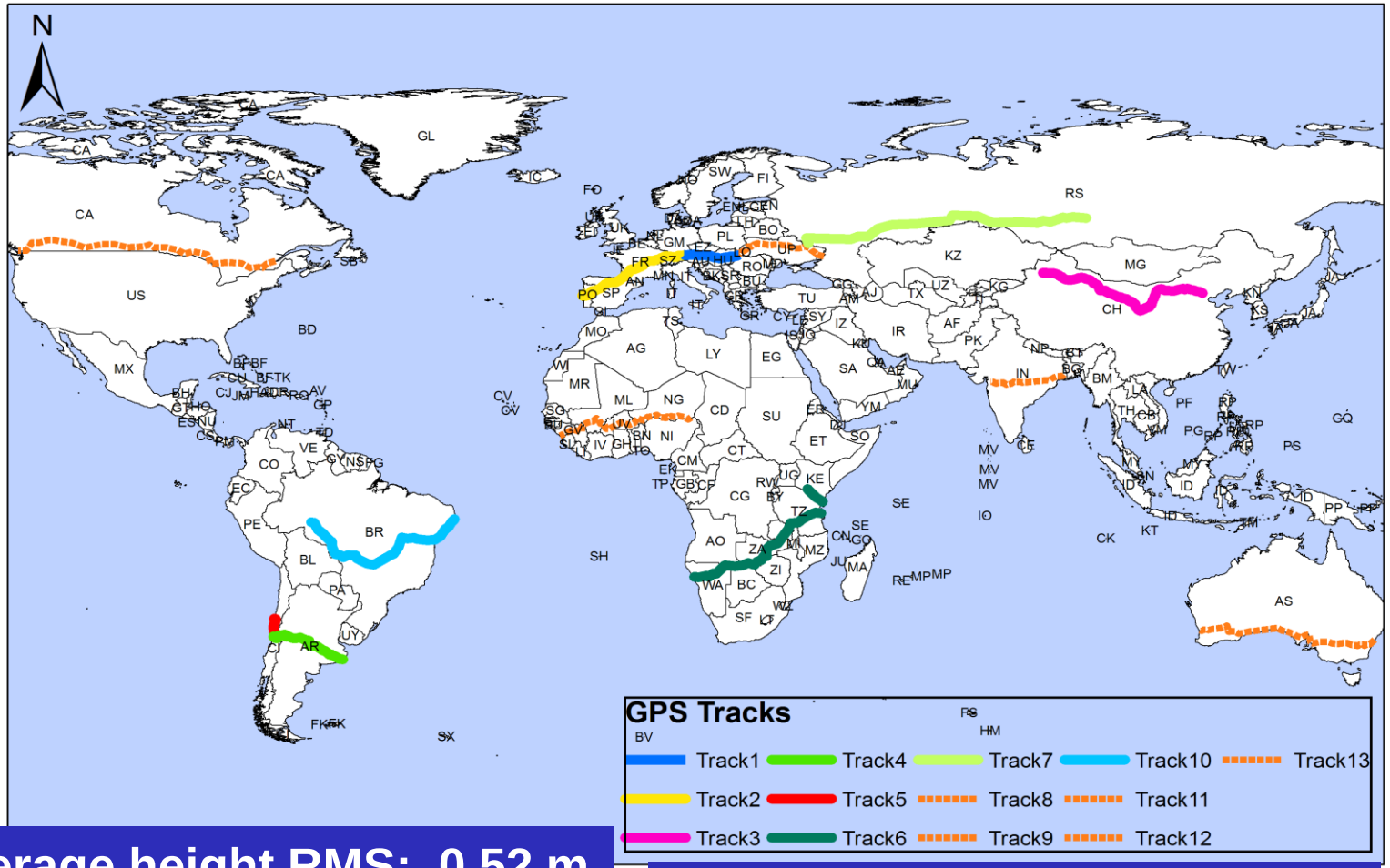
Source: Moba company

Data available in the field in real time; important for data check and closed loop systems.

Need for CORS (network) !

Kinematic GNSS – PPP – Post Processing

Overview of the eight evaluated tracks for TanDEM-X mission



Average height RMS: 0.52 m
Average availability: 59 %

Data not required in real time
No need for CORS (network) !

Kinematic GNSS – PPP – Real Time

Low-Cost GNSS

Source: Moba company

The future:
Machine Guidance
by Real Time PPP,
„no“ infrastructure required

…in an cost-efficient way!

MCG
Machine Control & Guidance

FIG

International Symposium on Machine Control and Guidance

- 1st at ETH Zürich, Switzerland 2008
- 2nd at University Bonn, Germany 2010
- 3rd at University Stuttgart (IIGS), Germany 27.-29.03.2012

Thank you very much for your attention !

A great symposium for all of us !