FIG XXV Congress 2014
Engaging commercial RTK Network Services: Experiences from SmartNet Australia

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SmartNet Aus – Our Services

SmartNet Aus is a Leica Geosystems and C.R. Kennedy Initiative

- Largest provider/facilitator of CORS services in Australia since 2009

Community approach to establish and grow a CORS network

- 530+ CORS sites throughout Australia

Provide GNSS CORS based services via the Internet

- Real-Time Kinematic GNSS Corrections
- Differential Code Corrections
- RINEX downloads for Post-Processing
- Goals of highest Accuracy, Reliability and Availability
Our Services

Networked CORS corrections, not just single bases
- Offering open standard RTCM messages for greatest interoperability

RTK corrections also supplied in non-proprietary formats
- Provide services to any GNSS manufacturer

Target various Market Segments
- Survey, Construction & Engineering
- Precision Agriculture
- Machine Control & Mining
- Cadastre, GIS & Mapping
- Anyone needing accurate GNSS positioning and timing

CORS Based Services Overview
Meeting Expectations

Who?
- Surveyor
- Stakeholders
- Council Asset Manager
- Farmer
- Grader Operator
- Distributor

What?
- Accuracy
- Coverage
- Availability
- Data Format
- Support
- Reliability
Meeting Expectations

How?

Investment

Resources

Monitoring

Communication

Education

Redundancy

SmartNets in Europe and North America

Europe – 1600+ CORS

North America – 500+ CORS

More than 10,000 active users
CORS Coverage – Australia (530+ sites)

Current Coverage – visit www.smartnetaus.com

XXV International Federation of Surveyors Congress, Kuala Lumpur, Malaysia, 16 – 21 June 2014

CORS Adoption Trend for SmartNet Aus

CORS user base has grown 10-fold over last 3.5 years

- Increasing adoption of CORS
- Proven technology
- 60% Survey & 40% Agriculture
Meeting Expectations

IT Infrastructure

- Own and operate a redundant Virtual Server Infrastructure – hosted in a dedicated Data Centre
- 530+ sites constantly being processed in 42 virtual servers 24/7
- Continuous investment – added 4th server in Nov 2013 & 5th server in Feb 2014
- 2014 Q1 – Total of 5 physical servers to accommodate growth plans, redundancy and robustness
- Annual server replacement plan to keep up with technology

Meeting Expectations

End User Communications – consider Mobile Phone Coverage

- Continues to expand
- CORS needs telcom coverage
- Opportunity for more CORS expansion
Meeting Expectations

Smartphones have the capability to ‘choke’ mobile networks

Why?

- Reduced Cost
- Increase Coverage
- Redundancy Availability
- Simplification
- Reduce Risk

Meeting Expectations

Shared Infrastructure

Reduce Risk  Reduced Cost

Simplification  Increase Coverage

Availability  Redundancy
Meeting Expectations

Shared Infrastructure – Community Approach

Meeting Expectations

Business Models

Own Everything
Meeting Expectations

Business Models

Own Most of it

Own the Core of it
Meeting Expectations

Business Models

Concluding Remarks – Commercial RTK Networks

- Commercial CORS providers are experienced in building **Spatial Data Infrastructure (SDI)**
  - Competent and capable to advise and manage both the operational and commercial aspects
  - As HW manufacturer, LGS know rover technology & positioning algorithms & performance
  - Drive the open standards of RTCM
  - Involved at all levels of GNSS research and technology
- Reducing risks for Business Plan sponsors
- Maximising commercial ROI of CORS infrastructure
- Maintaining **Quality of Service (QoS)**
  - Accuracy
  - Reliability
  - Availability
- Increasing the adoption of GNSS technology across multiple segments
Thank You!

www.smartnetaus.com