FIG XXV Congress 2014

Engaging commercial RTK Network Services: Experiences from SmartNet Australia

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SmartNetAUS Networking Australia

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**

- when it has to be right Leica Geosystems

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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***

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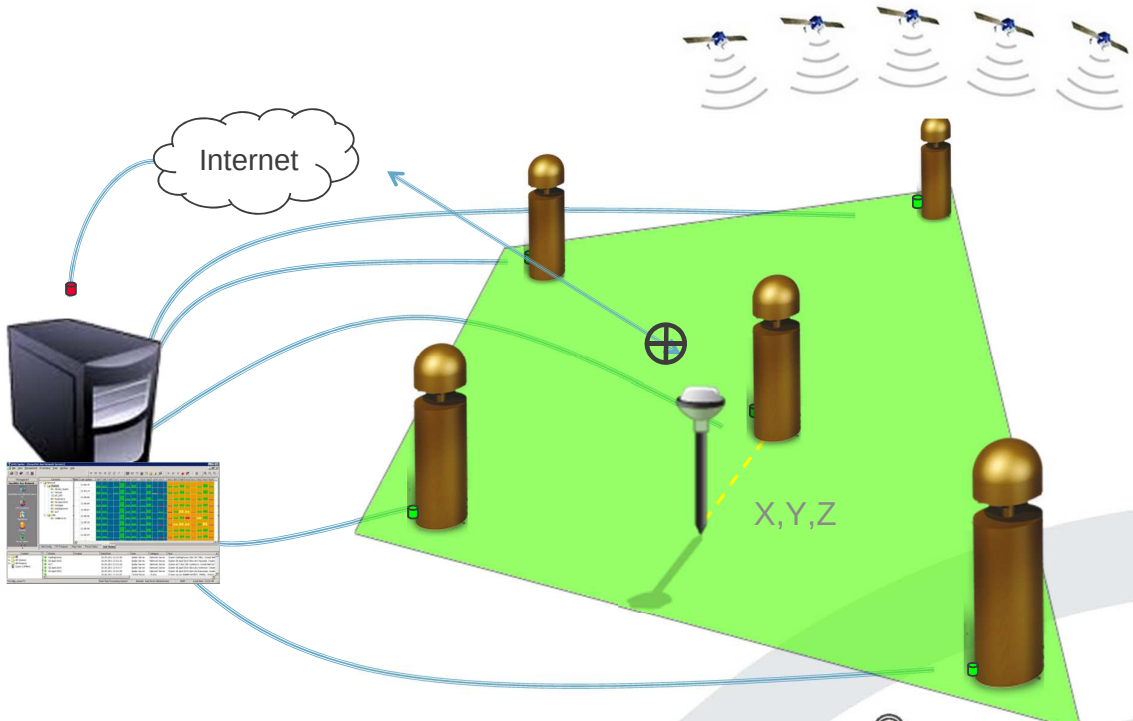
CORS Based Services Overview



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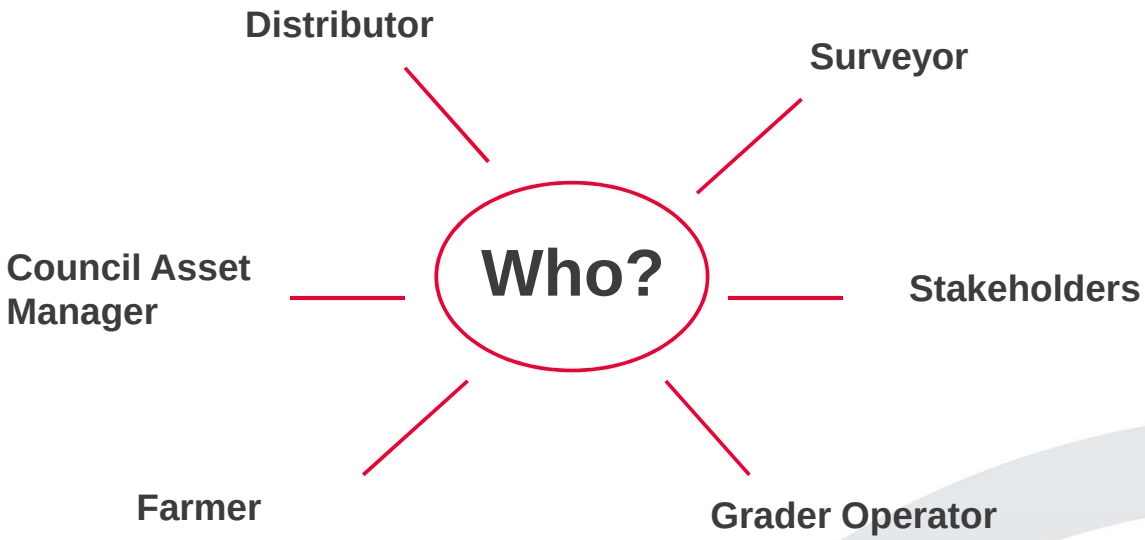
Meeting Expectations



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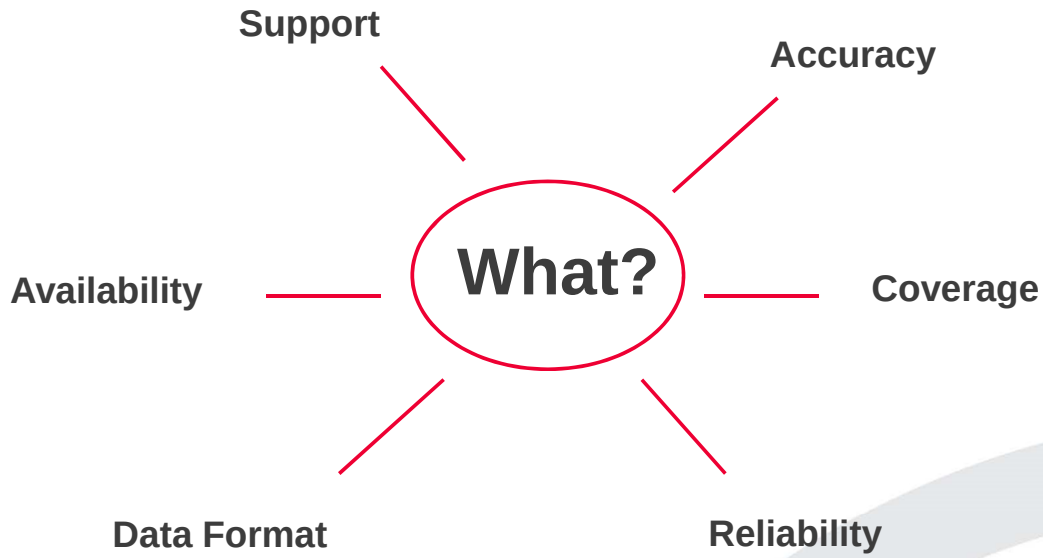

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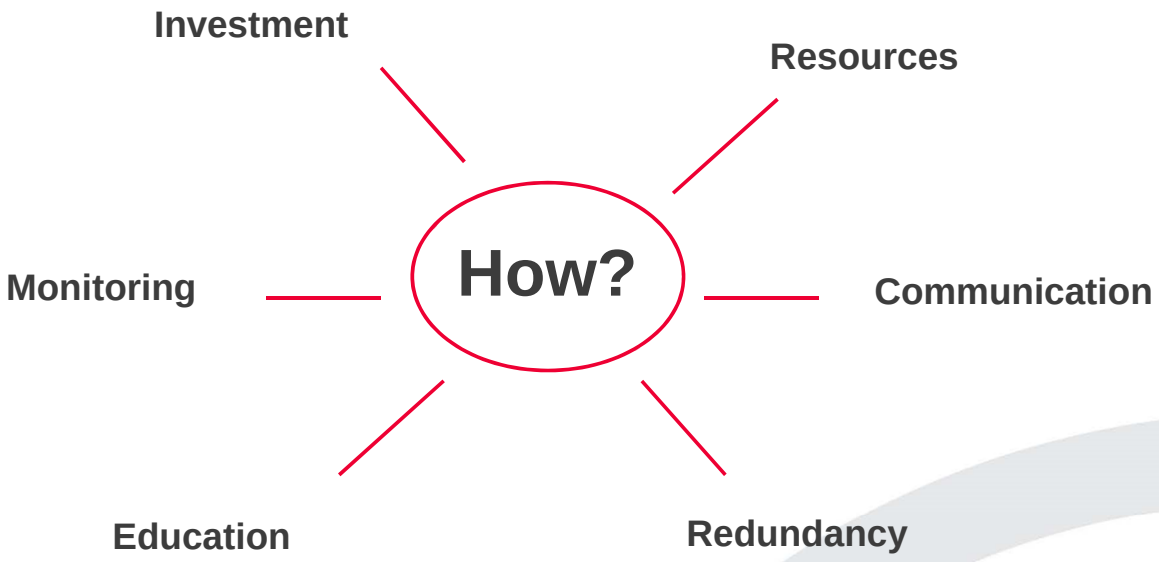

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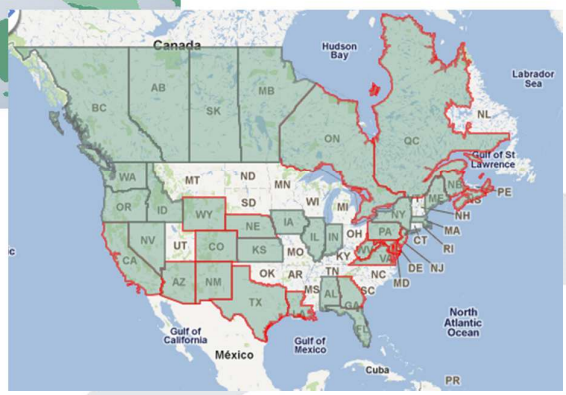
SmartNets in Europe and North America

Europe – 1600+ CORS



North America – 500+ CORS

More than 10,000 active users

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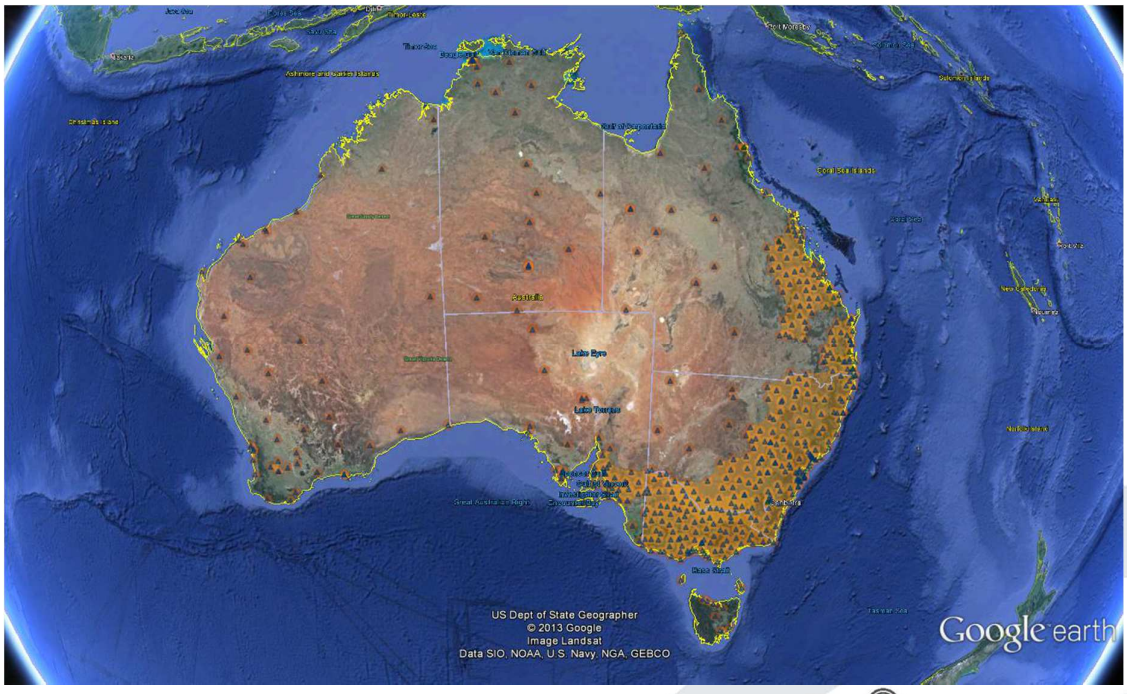
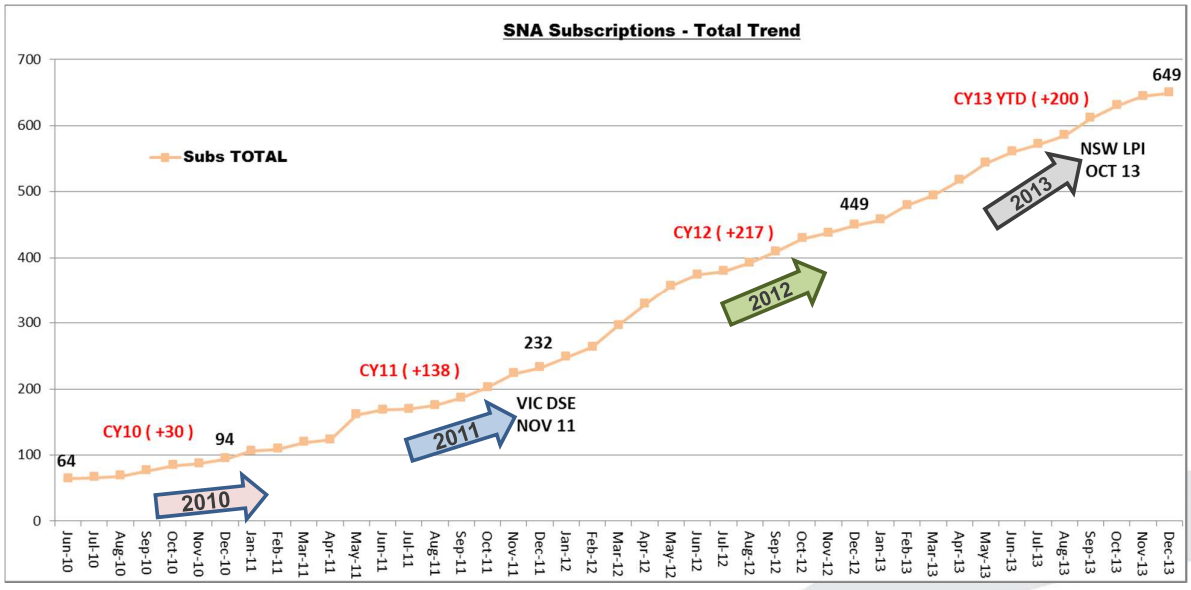
CORS Coverage – Australia (530+ sites)



Current Coverage – visit www.smartnetaus.com

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

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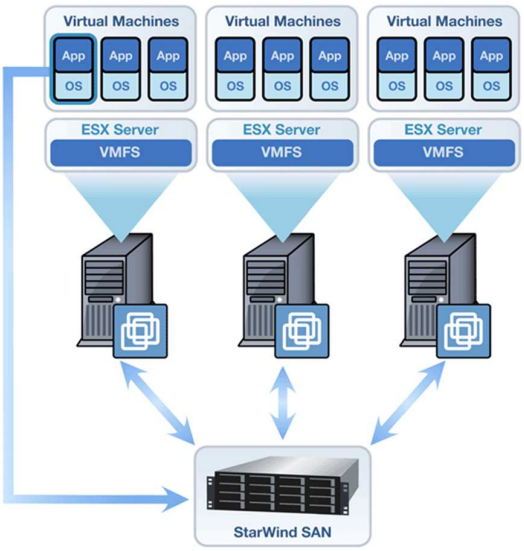
Meeting Expectations

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



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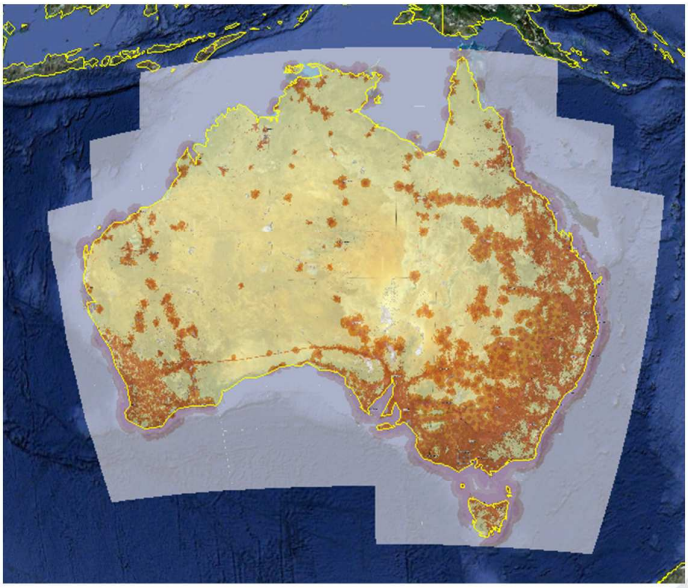
Meeting Expectations

End User Communications – consider Mobile Phone Coverage



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

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Meeting Expectations

Smartphones have the capability to ‘choke’ mobile networks

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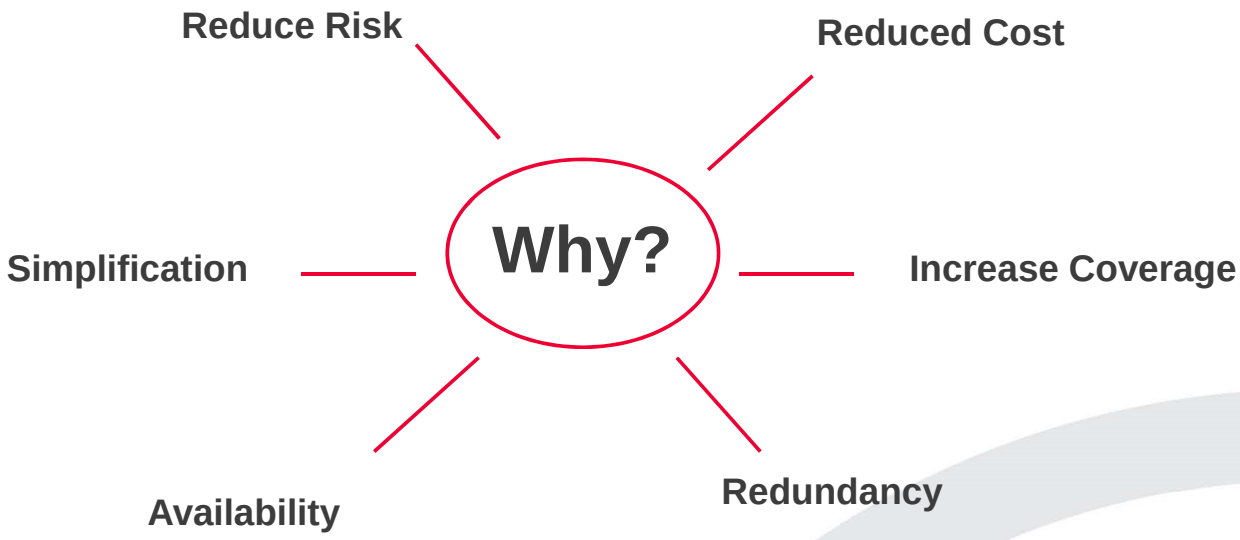
Meeting Expectations

Shared Infrastructure



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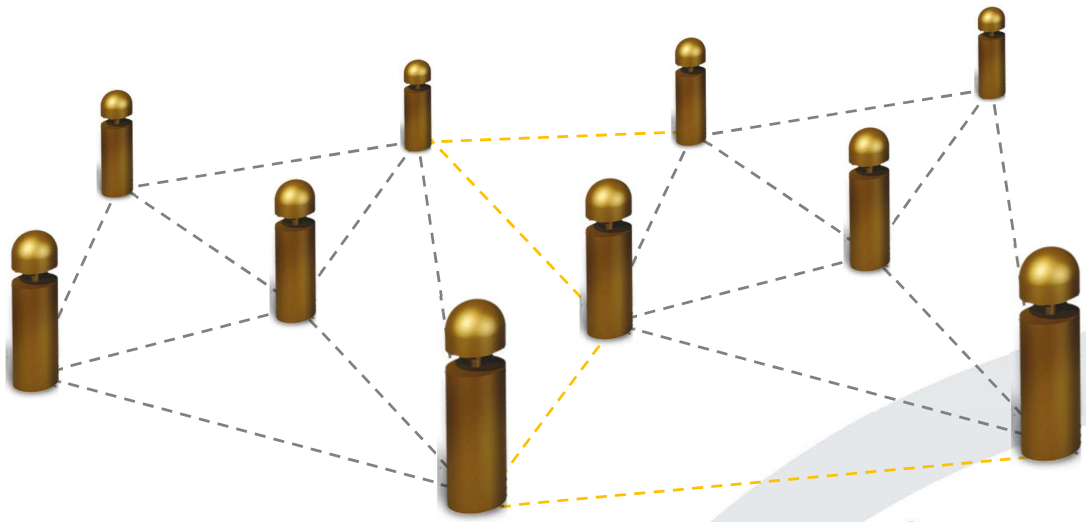
Meeting Expectations

Shared Infrastructure – Community Approach



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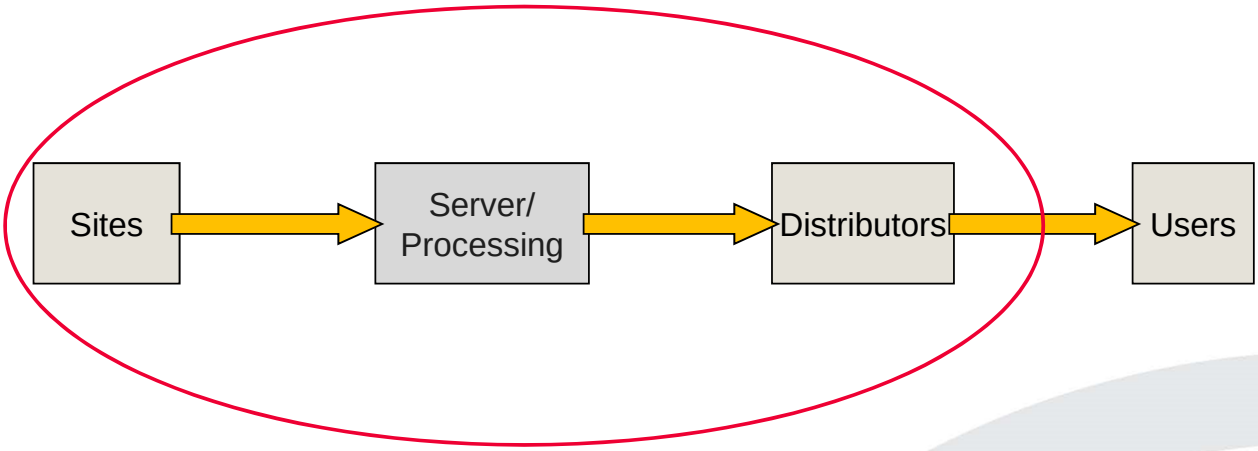
Meeting Expectations

Business Models



Own Everything

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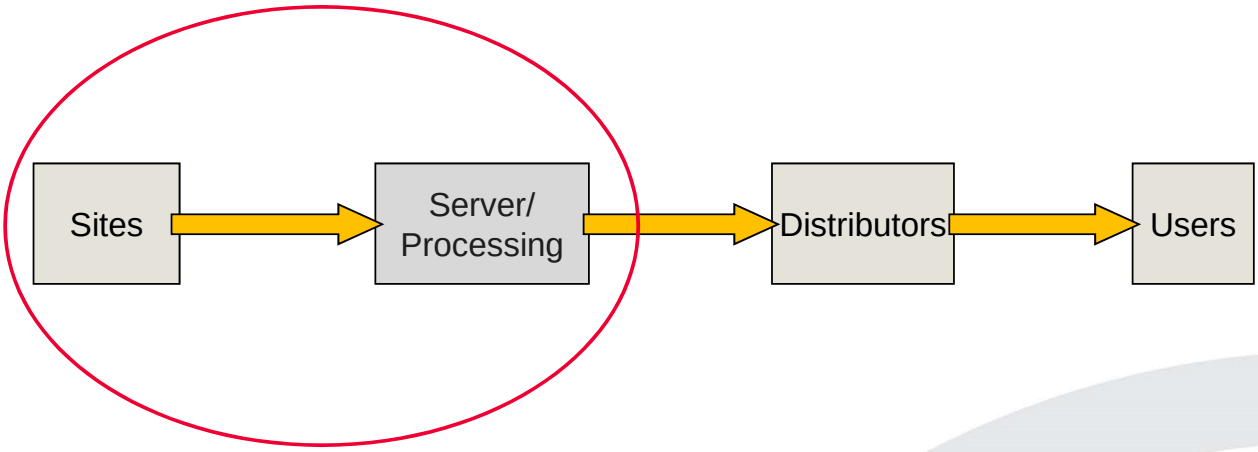
Meeting Expectations

Business Models



Own Most of it

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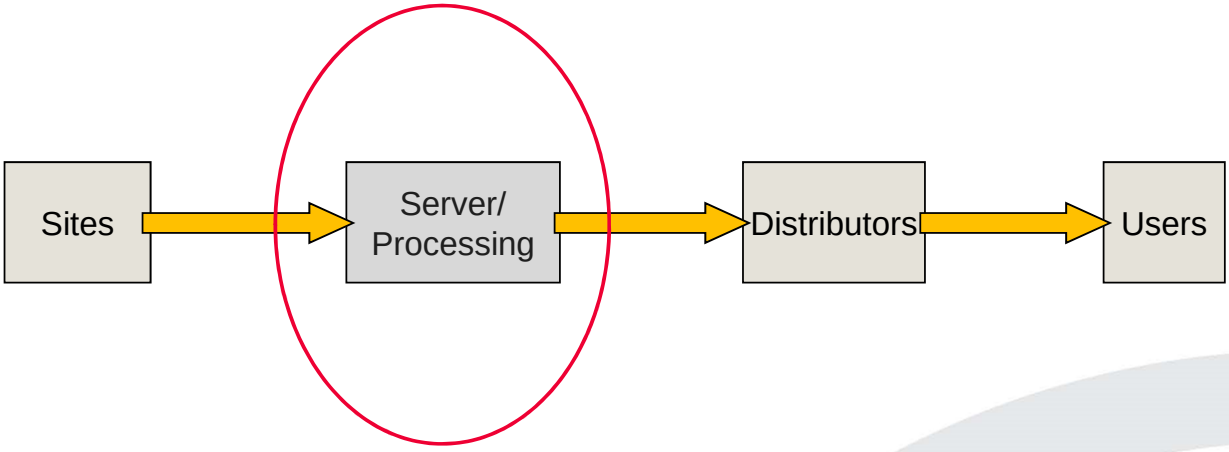
Meeting Expectations

Business Models



Own the Core of it

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Meeting Expectations

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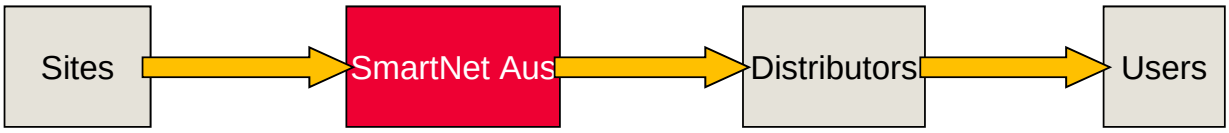

Concluding Remarks – Commercial RTK Networks

- 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

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Thank You!

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