Role of Manufacturers in Geodetic Infrastructure
Leica Geosystems

Neil Ashcroft

GNSS Hardware – "Future Proofing"

1998	1999

CRS1000 :

GPS : C1, P2

- when it has to be right

Leica Spider Infrastructure HW Solutions
Leica GR30 & GR50 GNSS Reference Servers

Product Range Summary

- Future Proof **555** channel GNSS SmartTrack+ capability:
  GPS – GLONASS – Galileo – BeiDou – QZSS – SBAS

- Leica GR30 – Standard Network RTK System
- "Plug & Play": Intelligent & Easy to Use
- Includes all essentials for reliable high performance service

- Leica GR50 – High-end universal GNSS "Server" System
- More than just a "receiver" – for highest demands
- Flexible & redundant communication and power solutions
- Two variants: Bluetooth - or - WLAN

What can manufacturers do to further assist ?

Respond to Requests For Information in order for you to put together a feasible operating CORS.

- Will provide simple advice on what needs to be considered.

Some key points to consider…

- GNSS Antennas should rarely be changed. Get antennas that are able to track all planned Satellite Signals now.

- Examine the upgrade path of GNSS Receivers to ensure they are upwards compatible with tracking appropriate Satellite Signals WHEN you need them.

- Get the GNSS receiver to log native RINEX on the sensor and FTP push to central archive store directly. Allows for greater manufacturer interoperability at the Central Server

- Set up front conditions that when Central Software has additional sites added there is a single fee, not manufacturer independent.

- …

- when it has to be right

Providing operational services

Managing Day-Day operations of a CORS Network through provision of Internet based GNSS Products:

- Monitoring of CORS Data Streams

- Real Time Streaming (RTCM) of Single Base and Network RTK services via NTRIP

- Providing RINEX download service and Coordinate computation through RINEX upload

SmartNet UK has been operational from Jan 2006
SmartNet AUS operational since Nov 2010

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CORS Project References
Regional

Indonesia : BIG (Bakosurtanal & BPN)

Philippines : NAMRIA

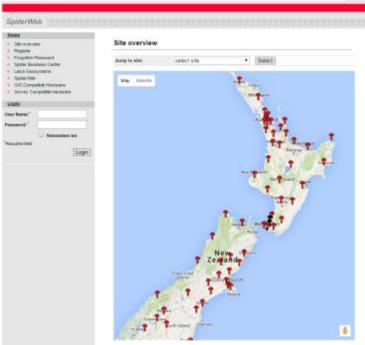**Malaysia : JUPEM**
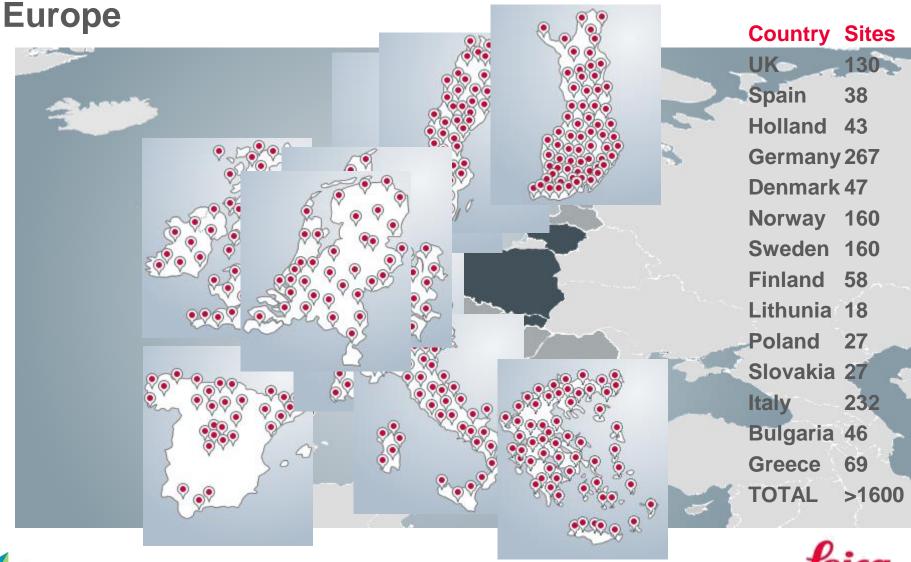
Thailand : DPTC. MET Dept

Australia : Various

New Zealand : Various

CORS Project References
Europe

Country	Sites
UK	130
Spain	38
Holland	43
Germany	267
Denmark	47
Norway	160
Sweden	160
Finland	58
Lithunia	18
Poland	27
Slovakia	27
Italy	232
Bulgaria	46
Greece	69
TOTAL	>1600

HEXAGON GEOSYSTEMS

- when it has to be right

Leica Geosystems

CORS Project References
Americas

>650 SItes

26 US States
5 Canadian Provinces

Mexico

HEXAGON
GEOSYSTEMS

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Thank you