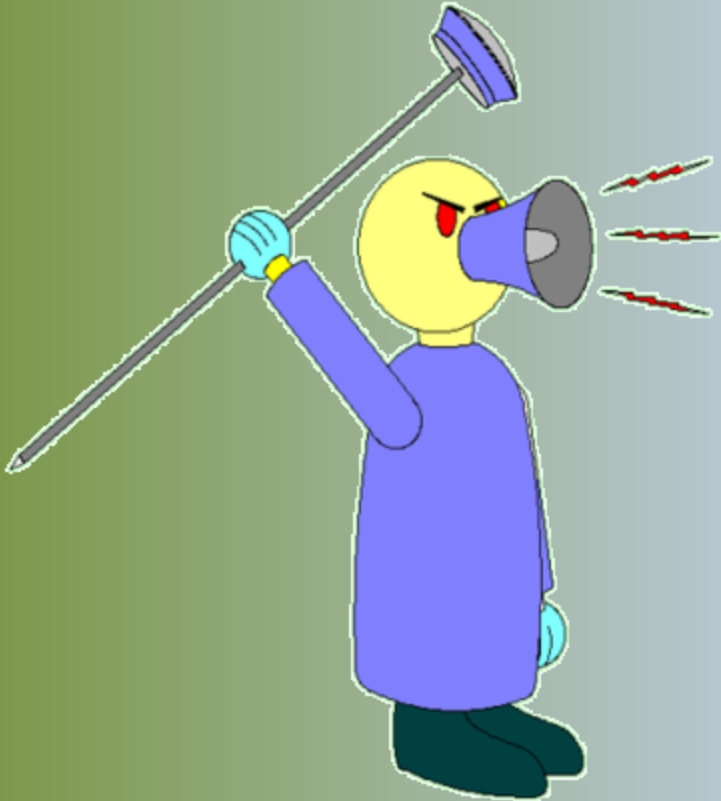




NGS RTN Guidelines:

PLANNING & DESIGN

Pre-plan !



Get er' done !

Norm for RTK services, content

- Requirements to the RTK service provider with respect to:
 - Documentation of coverage area
 - Quality of coordinates for reference stations
 - Obtainable user accuracy, horizontal and vertical
 - Monitoring of accuracy and integrity
 - Distribution of warnings and error messages
 - Availability on weekdays at 98%
 - etc.



THE SURVEY
ASSOCIATION



Best Practice Guidance Notes for Network RTK Surveying in Great Britain



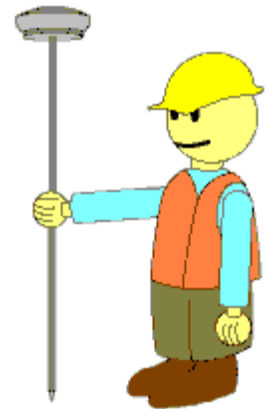
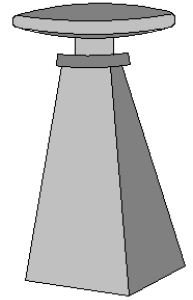
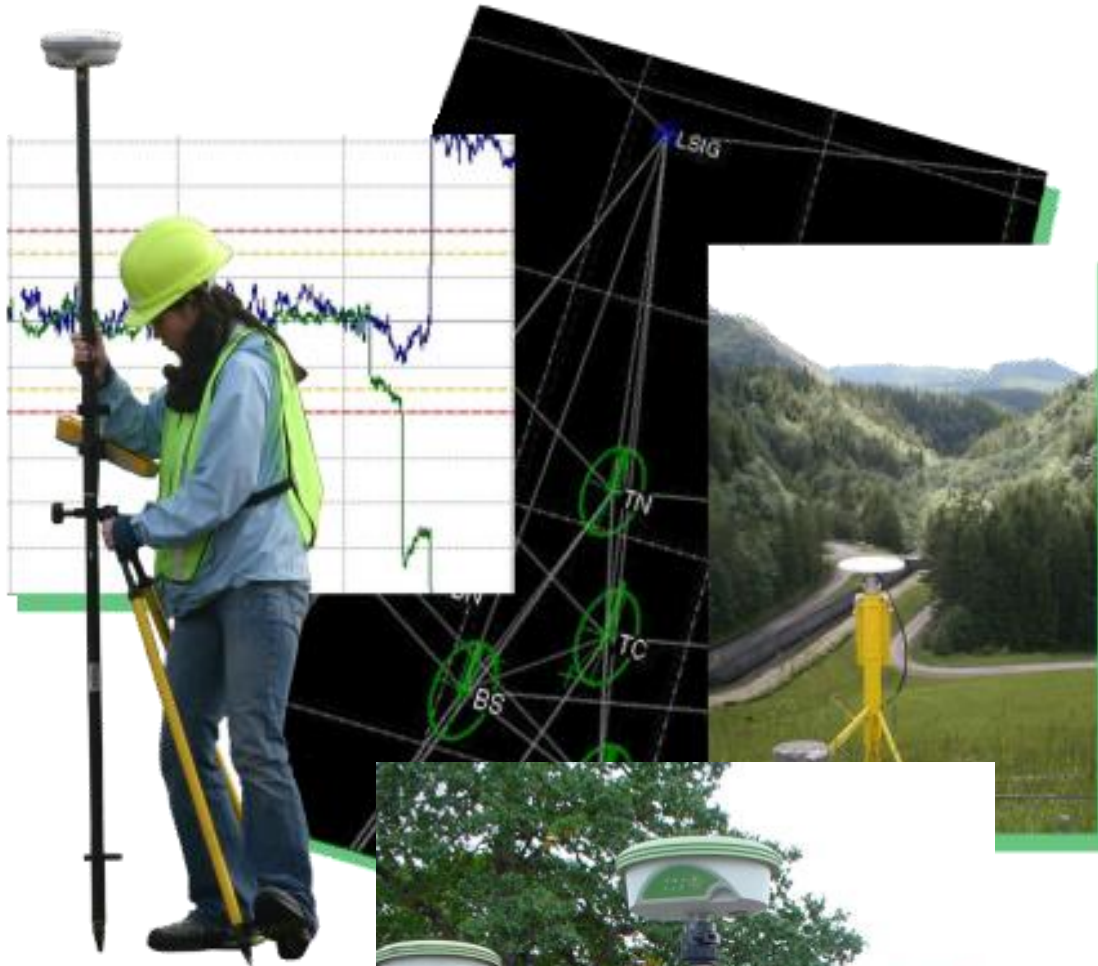
THE SURVEY
ASSOCIATION



An examination of commercial network RTK GPS services in Great Britain

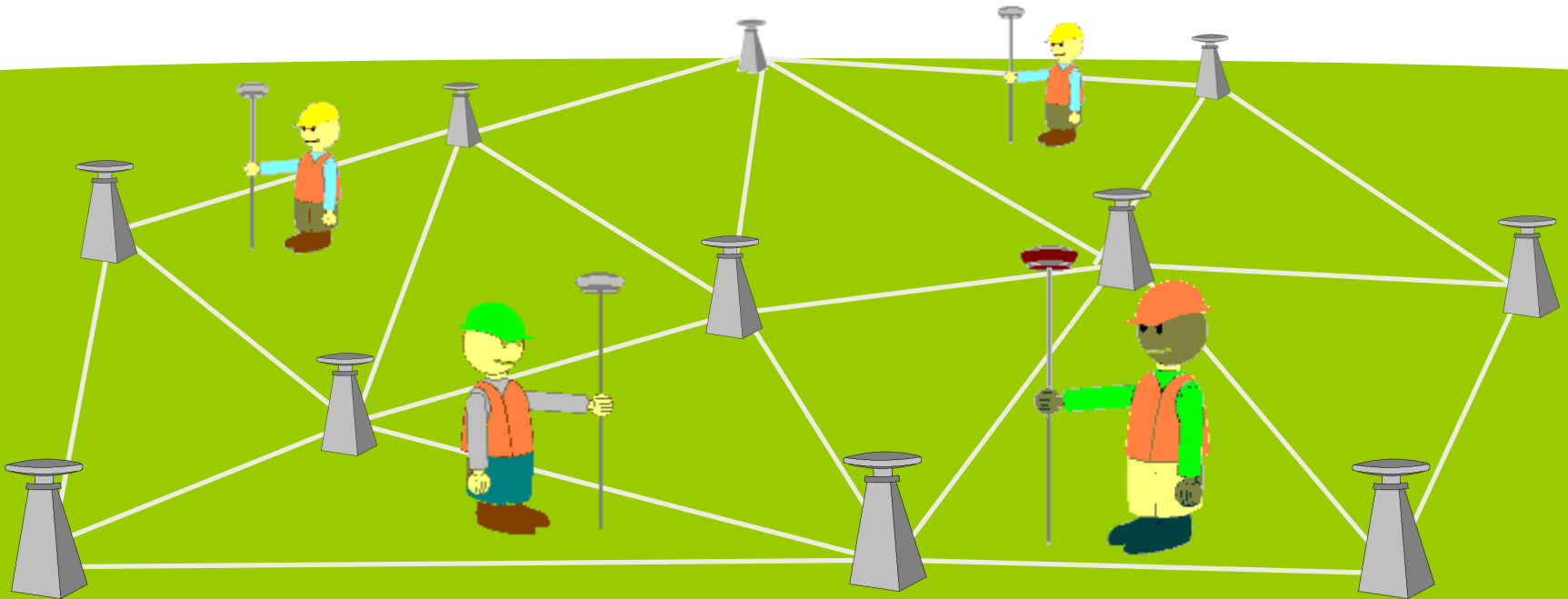


Real Time (i.e. Available in Real-Time)



Planning & Design

- Pre-Planning
- Spacing
- Processing Center



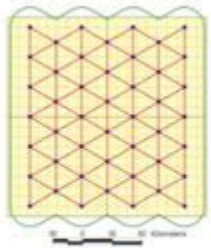
Pre-Planning

Questions to ask before planning begins:

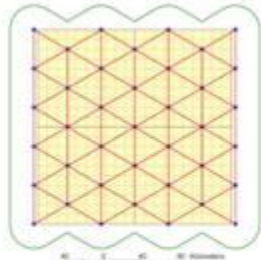
- Type of RTN
- Needs Analysis
- Cost-Benefit Analysis
- Performance Expectations
- Risks Assessment
- Operations Model
- Support Model
- Product Delivery Goals
- RTN Services
 - Single-Base
 - Network Corrections
 - Server-Side Processing
 - Static Files



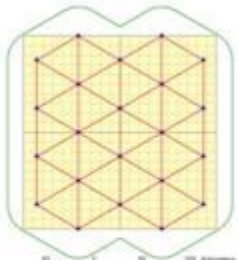
Spacing & Geometry



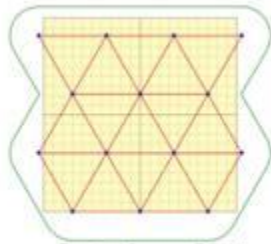
30km – 46 Stations



40km – 39 Stations

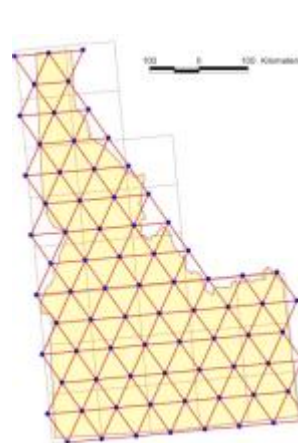


50km – 22 Stations

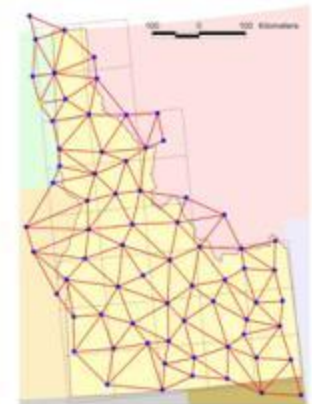


70km – 14 Stations

- Theoretical Spacing
- Siting Limitations
- Phased Implementation
- Use of Existing/External Stations
- Fiducial Stations
- NGS CORS
- Multi-Constellation Stations



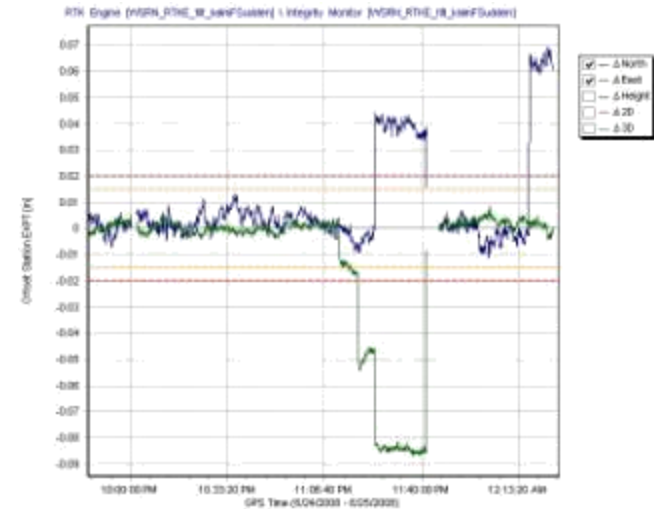
Overlay of Adjacent
Network Stations



Revised Design – 71 Stations
(50 'intra', 21 'inter')


Processing Center

- Central Processing Center (CPC)
 - Host and Host Site
 - Servers and Arrays
 - Power & Environment
 - Archiving
- Communications
 - CORS to CPC
 - CPC to End-User
 - Redundancy
- Design for Operational Levels
 - Minimal (Tool Style)
 - Full (Utility Style)
- Maintenance and Support
- Network Integrity Monitoring





Doctor L2's D.I.Y. RTN

- Secure a Big Pile of Funding
- Draw Overlapping Circles on a Map
- Stop by the Hardware Store
- Start Building Stations near the Center of them Circles
- Fly-tie some Coordinates from the Nearest Monument
- Press the  Button

Or, make several vendors submit designs then choose one with the coolest graphics...

- Everything will be OK as long as you do not answer the phone...



NGS RTN Guidelines:

PLANNING & DESIGN