



DI

DEFENCE INTELLIGENCE



Defence's Geospatial Data Challenge

Lt Col PM Hammett RE
CO 42 Engr Regt (Geo)

Scope

- Context
 - Defence's need for Geospatial data
 - Role and Mission
- The data challenge
- How we use data
 - Lessons Identified
- Future support to the Warfighter
 - Developing a data Centric model



The military and Geospatial data...

- Royal Engineers Geographic
 - Approx. 600 Geo specialists
 - Trained at the Royal School of Military Survey, Hermitage
 - 42 Engineer Regiment
 - 450 Personnel
 - 150 Reservists (135 Geo Sqn)





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We are Military Geographers, held at readiness to deploy

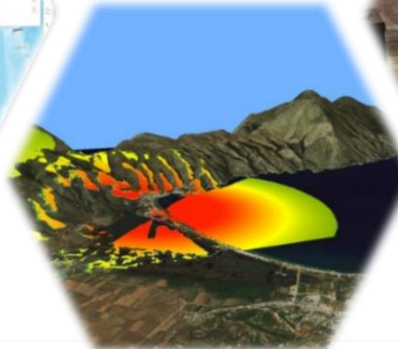
We plan and execute precise & assured geodetic surveys in the land environment



We enable access to the full range of GEOINT capabilities, including by interoperability with allies & partners

What we do...

We deliver location-based services to support understanding & decision making



We visualise the operating environment, ensuring that deployed forces 'operate off the same map'

We analyse the operating environment, exploiting the Where & the When to understand the Why & the What (next)



Delivering world-class GEOINT products to Defence and OGD's from a single unique intelligence fusion location in the UK

NCGI-ANALYSIS

DEFENCE & CROSS-GOVERNMENT STAKEHOLDERS

6 MISSION TEAMS - SUPPORT TO 15 DI MISSION TEAMS

LIAISON OFFICERS / NATIONAL GEOSPATIAL OFFICERS

INTERNATIONAL COLLABORATION

370 ANALYSTS

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NCGI-DEPLOYABLE
Delivering GEOINT support to deployed forces, enabling commanders and forces to navigate, target and understand

- ON OPERATIONS AND EXERCISES WORLDWIDE
- GEOSPATIAL INFORMATION DISSEMINATION
- GEODETIC SURVEY
- GEOSPATIAL ANALYSIS
- GEOSPATIAL SUPPORT

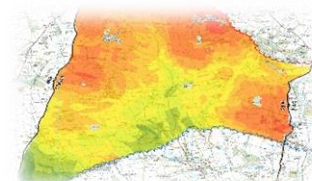
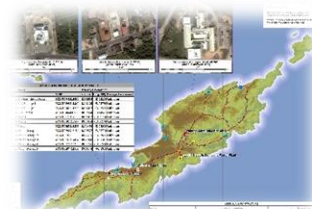
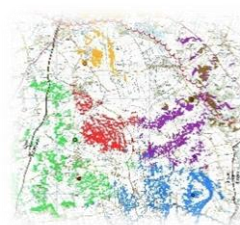
NCGI-FOUNDATION
The collection, analysis, interpretation, presentation and provision of data describing the Earth's physical and cultural characteristics

- AIR, LAND & MARITIME SAFETY OF NAVIGATION
- MANAGEMENT OF GEOSPATIAL INTELLIGENCE
- ASSURED GEOSPATIAL INTELLIGENCE
- PHYSICAL & CULTURAL GEOGRAPHY
- INTERNATIONAL COLLABORATION

NATIONAL CENTRE FOR GEOSPATIAL INTELLIGENCE



Mission



*Deliver geo force elements,
information analysis and services to
defence, to enable decision makers to
achieve the Defence Objectives*

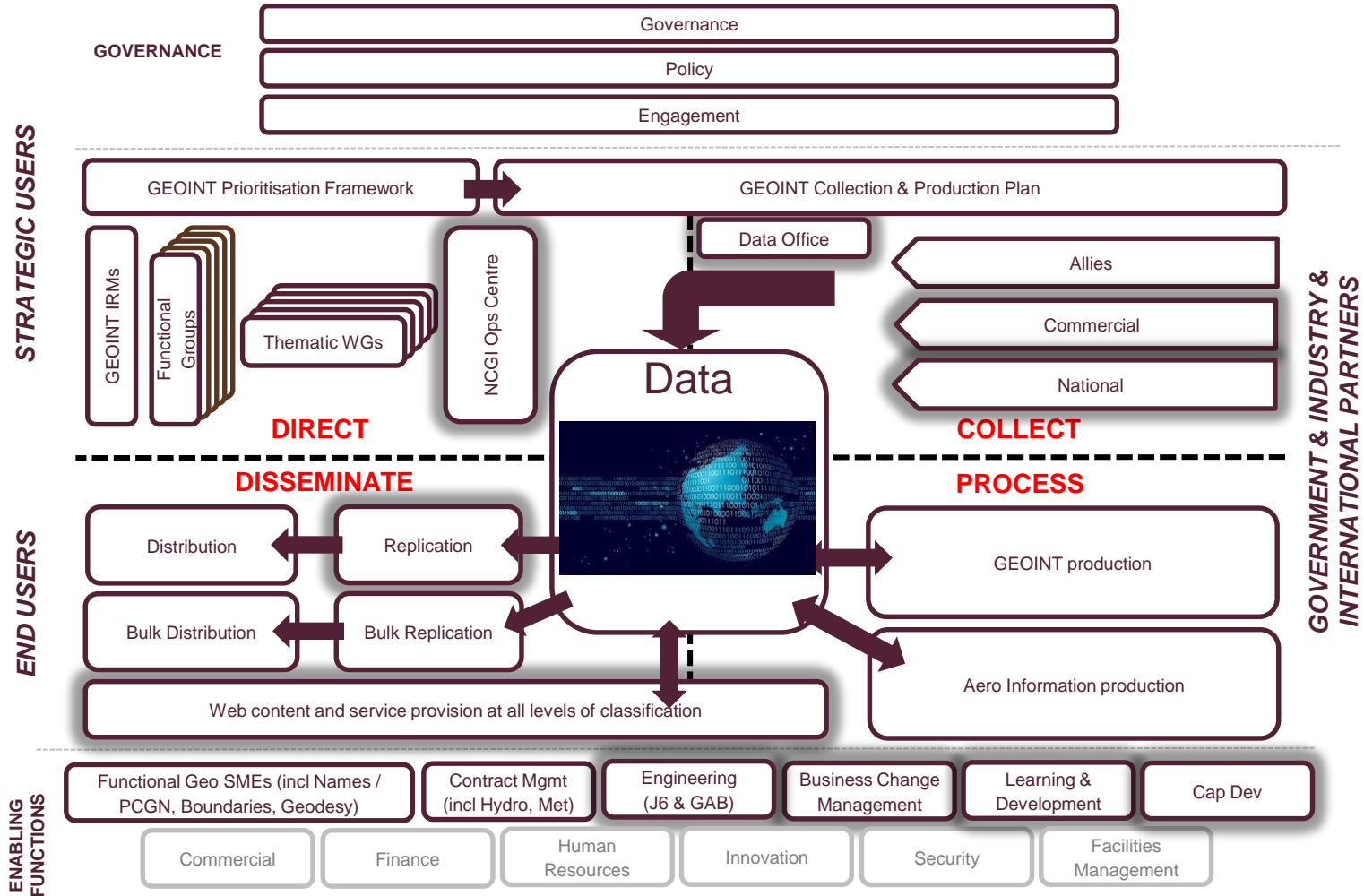


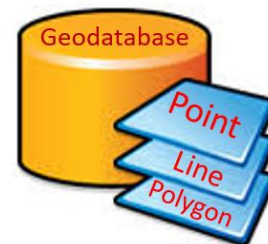
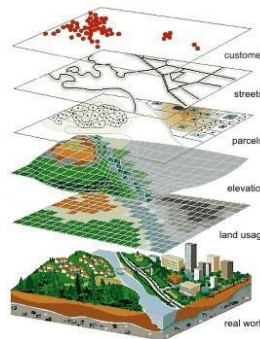
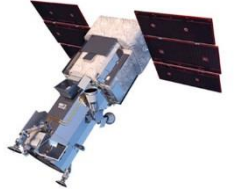


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Data centricity









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Hurricane Disaster Relief



AS AT 14 SEP 17

1:40,000

WGS 84 - LAT/LONG

ANGUILLA MEDICAL FACILITIES



Hughes Medical Centre (As At: 01FEB15)
(MGRS: 20QMF808510970)
1:1,000



Atlantic Medical Centre (As At: 01FEB15)
(MGRS: 20QMF9073211636)
1:1,000



Princess Alexandra Hospital (As At: 01FEB15)
(MGRS: 20QMF9489214578)
1:1,000

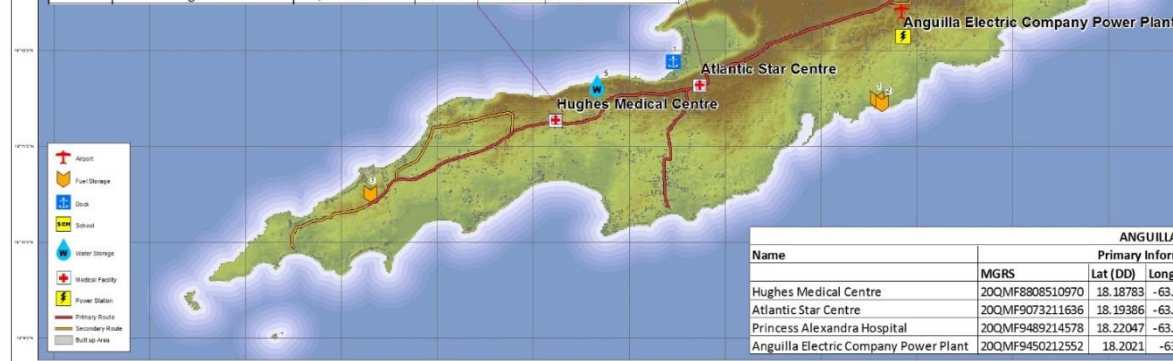
CURRENT SITUATION - AS PER DI REPORTING

AS AT 091730 SEP 17

Princess Alexandra Hospital: Largely intact. Operating theatre generator unserviceable but being repaired.

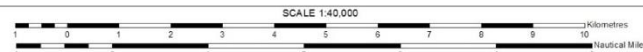
Power: There are power outages and lines are down. Key generators working or being fixed.

| ANGUILLA INFRASTRUCTURE FACILITY MATRIX | | | | | |
|---|--------------------------|-----------------|---------------------|-----------|-------------------|
| Serial | Name | MGRS | Primary Information | | |
| | | | Lat (DD) | Long (DD) | Damage Assessment |
| 1 | Clayton J. Lloyd Airport | 20QMF9443913039 | 18.20664 | -63.05264 | Unknown |
| 2 | Fuel Storage 1 | 20QMF9398811362 | 18.19176 | -63.05766 | Unknown |
| 3 | Fuel Storage 2 | 20QMF9408111278 | 18.19062 | -63.05586 | Unknown |
| 4 | Fuel Storage 3 | 20QMF8464409533 | 18.17514 | -63.14525 | Unknown |
| 5 | Dock 1 | 20QMF9023312116 | 18.19832 | -63.09264 | Unknown |
| 6 | Dock 2 | 20QMF9983118587 | 18.25664 | -63.00144 | Unknown |
| 7 | School | 20QMF9567913883 | 18.21434 | -63.04002 | Unknown |
| 8 | Water Storage 1 | 20QMF9297915184 | 18.22577 | -63.06724 | Unknown |
| 9 | Water Storage 2 | 20QMF9699618118 | 18.25235 | -63.02866 | Unknown |
| 10 | Water Storage 3 | 20QMF9856314467 | 18.21978 | -63.01311 | Unknown |
| 11 | Water Storage 4 | 20QMF9314514250 | 18.21776 | -63.06544 | Unknown |
| 12 | Water Storage 5 | 20QMF8884711572 | 18.19374 | -63.1058 | Unknown |



| ANGUILLA INFRASTRUCTURE | | | | | | | | |
|---------------------------------------|---------------------|----------|-----------|-------------------|--------------------|-------------|-------------|-------------------|
| Name | Primary Information | | | | On Site Facilities | | | |
| | MGRS | Lat (DD) | Long (DD) | Damage Assessment | No. Beds | No. Doctors | Trauma Care | Operating Theater |
| Hughes Medical Centre | 20QMF8808510970 | 18.18783 | -63.11267 | Unknown | Unknown | 2 | Y | Y |
| Atlantic Star Centre | 20QMF9073211636 | 18.19386 | -63.08764 | Unknown | Unknown | Unknown | N | N |
| Princess Alexandra Hospital | 20QMF9489214578 | 18.22047 | -63.04831 | Unknown | 36 | 9 | Y | Y |
| Anguilla Electric Company Power Plant | 20QMF9450212552 | 18.2021 | -63.0519 | Functioning | | | | |

CAUTION
This product contains OSM data and is to be used for defence purposes only.



OFFICIAL SENSITIVE



Multi-criteria analysis



Product 1: IPOE/Threat Assessment

Product 2: Existing Cap' Assessment

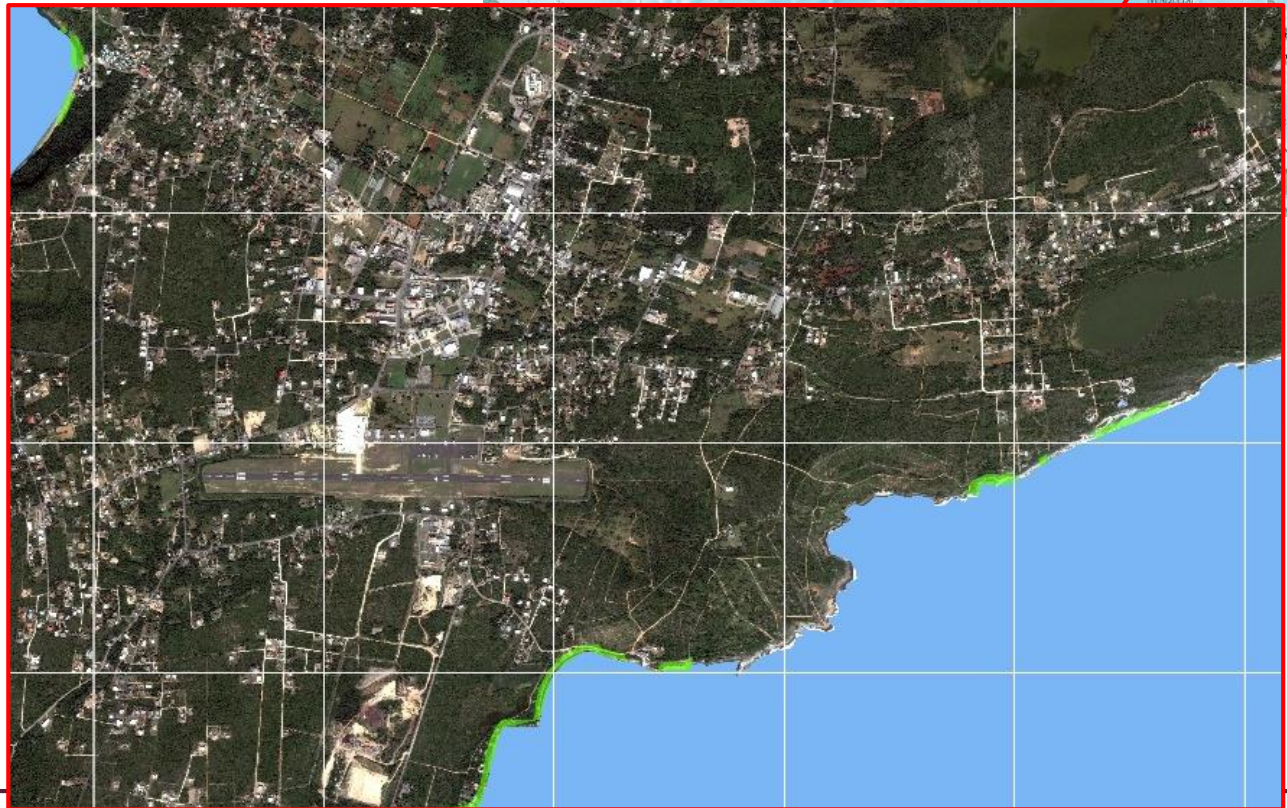
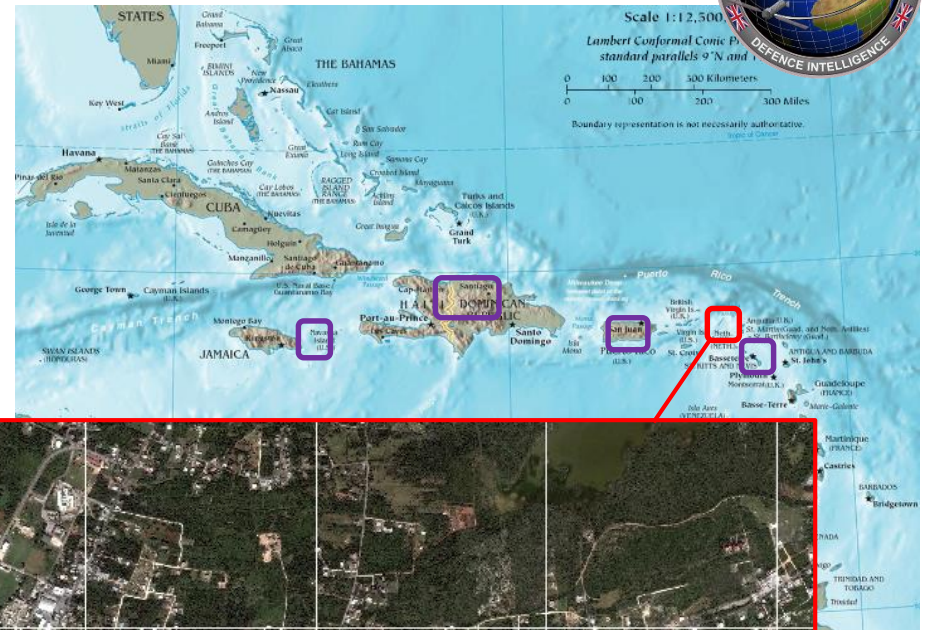
Output 1: Future Threat

Output 2a: Baseline Capability

Output 2b: Guidance to FY19/20

Output 3: Roadmap

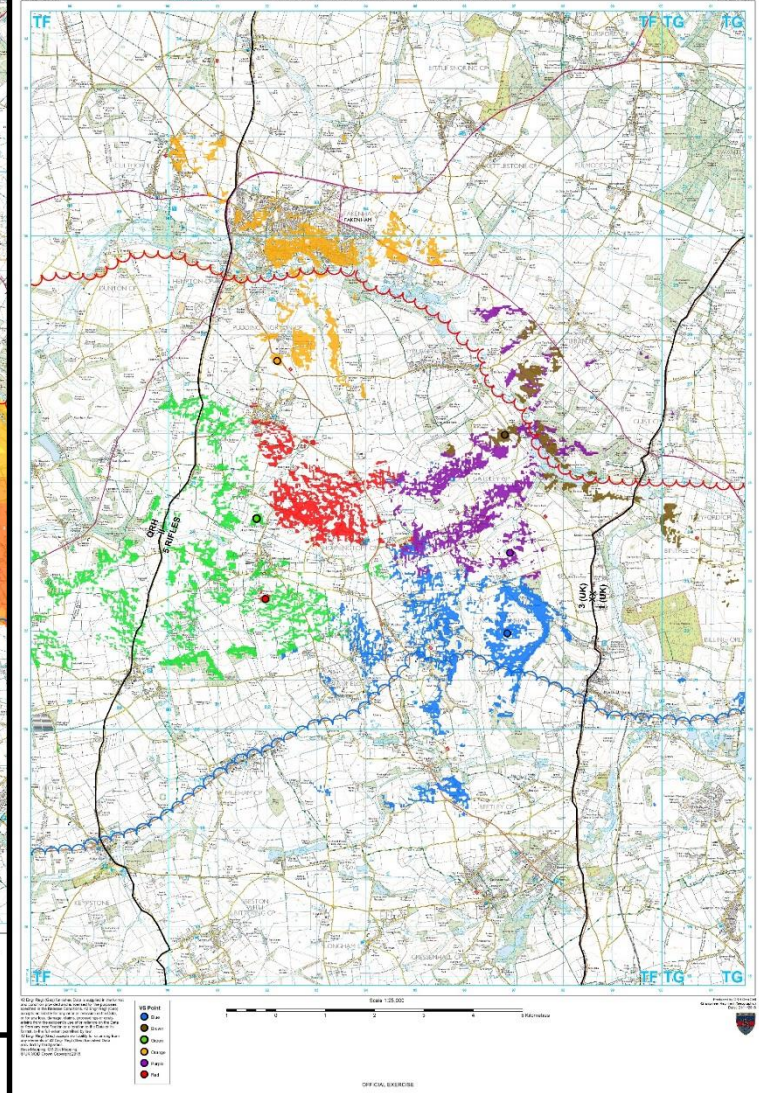
Geographic Support





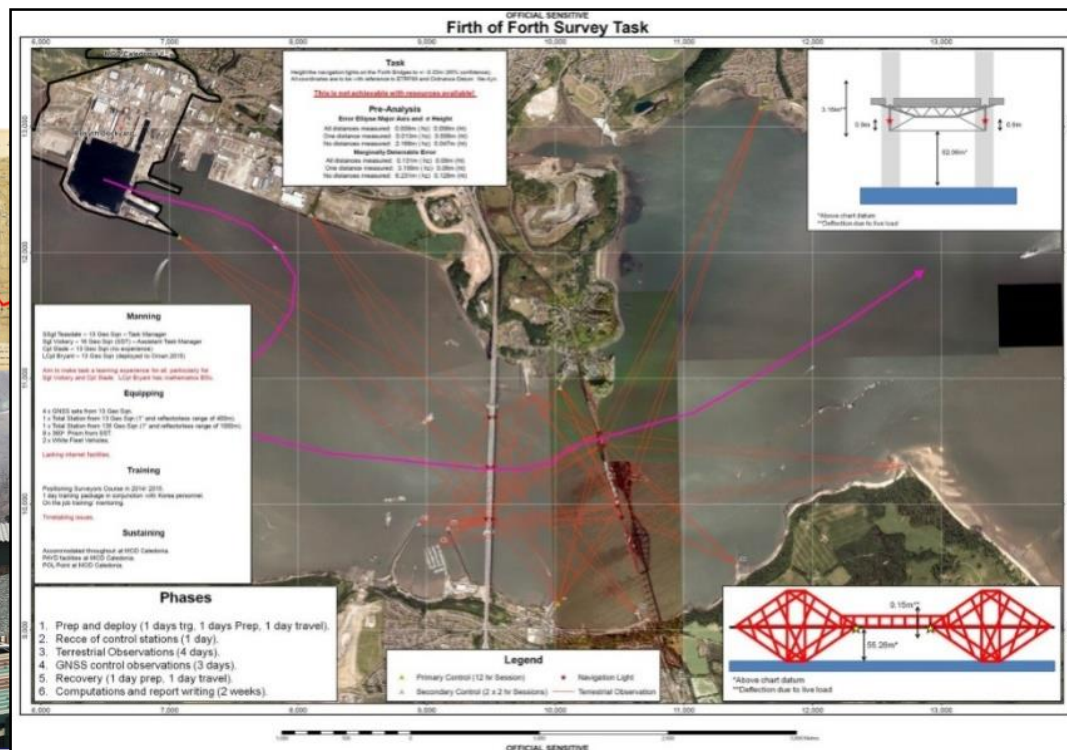
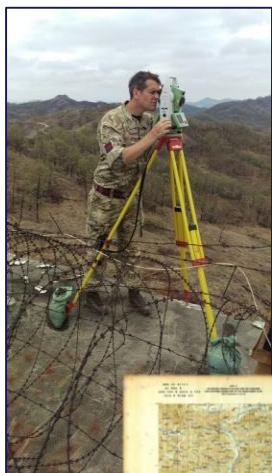


Data analysis...





- Unique capability
 - Boundaries and Borders
 - Airfield Surveys
 - Unmanned Aerial Vehicles (UAVs)





2017 – the beginning of a journey...



UK National Centre for Geospatial Intelligence ArcGIS Online

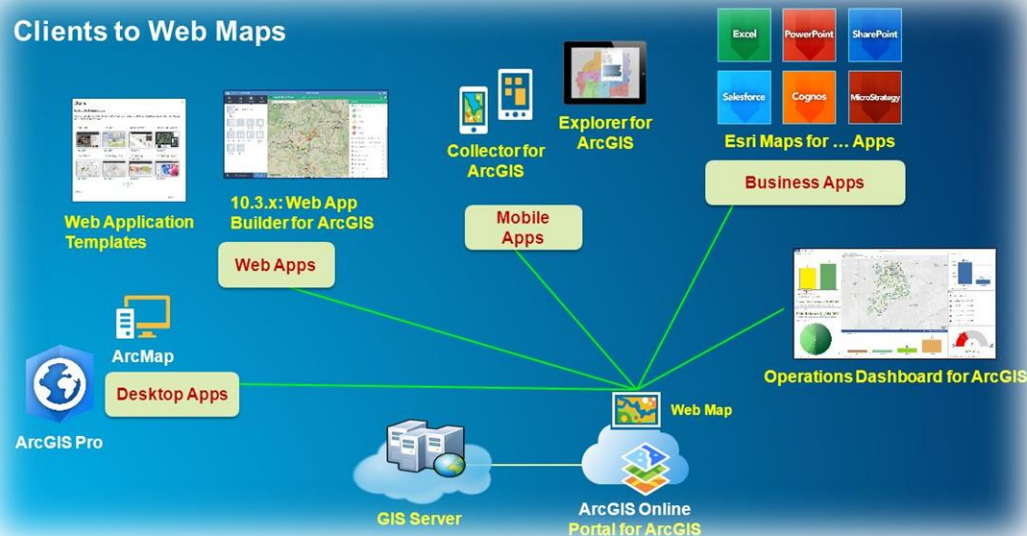
Welcome to the UK National Centre for Geospatial Intelligence (NCGI), part of the Joint Forces Intelligence Group (JFIG) within Defence Intelligence (DI) in the UK Ministry of Defence (MOD).



Commercial Geospatial Applications



Clients to Web Maps





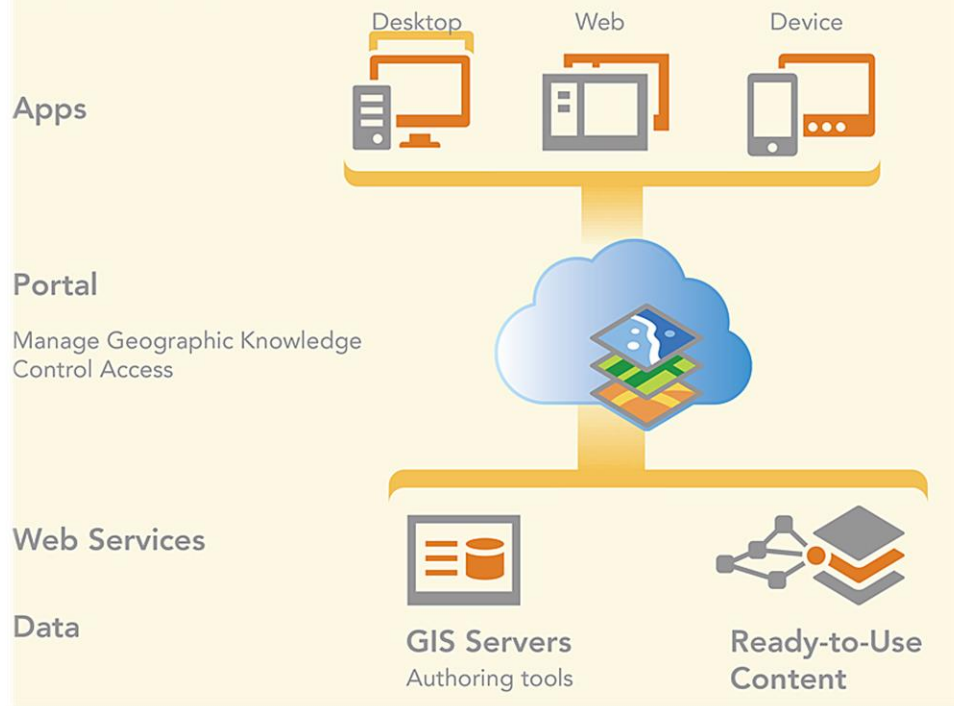
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Geo as a platform...

Web GIS



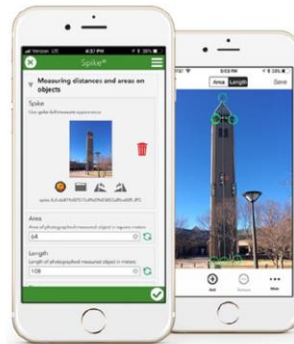
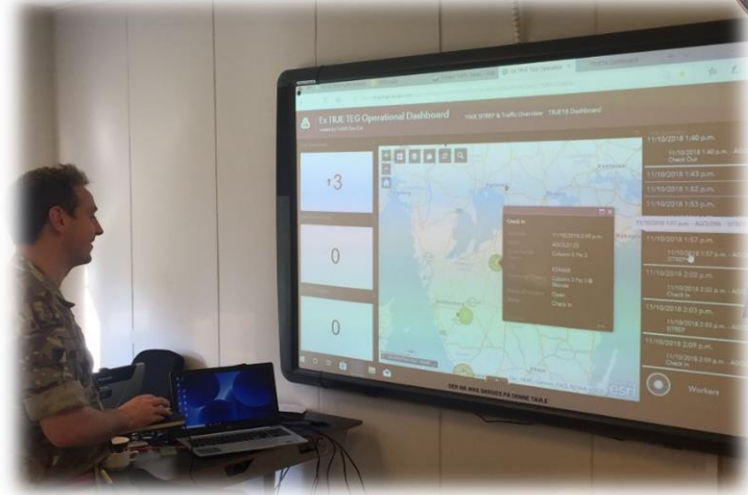
- Enhanced geospatial capability within defence networks
 - MODNet
 - OpCIS/NSoIT(D)
 - TacCIS





Future Opportunities

- Realising new technology
 - Collections
 - Dissemination
- Defining data flows
- Enabling the future
 - AI
 - Big Data Analytics



Summary

- Geo data is critical to defence
 - What, where, when, why... so what?
- Poor understanding of data workflows
- Volume and nature of data is overwhelming
 - Multiple forms
 - Multiple systems
 - What's left on the Cutting room floor?
- Technology is driving change
- Must move geo beyond the map
 - Geo as a Platform



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Questions?



Twitter: @42EngrRegt_Geo

Facebook: 42 Engineer Regiment - Geographic
