

HITS – High Integrity Telecommunications System

Presentation to RUSI

Emergency Response 2009: Communicating in a Crisis

7 December 2009

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Introduction

- **HITS Rationale and Requirements**
 - **HITS Delivery**
 - Supporting Infrastructure and Capability
 - Services and Terminals
 - Rollout
- 

Context



HITS Rationale and Requirements



RUSI – London, December 2009

**Making
government
work better**

Civil Contingencies Secretariat

- **The Secretariat sits within the Cabinet Office at the heart of government**
- **Role to enhance the UK's ability to:**
 - ▶ **prepare** for
 - ▶ **respond** to and
 - ▶ **recover** from emergencies
- **Work in partnership with:**
 - ▶ government departments
 - ▶ devolved administrations and
 - ▶ key stakeholders
- **Chronology**
 - ▶ Established July 2001
 - ▶ Civil Contingencies Act (2004); Regulations (2005)
 - ▶ Act Enhancement Programme commenced 2008



What we get up to ... preparing for emergencies

- **Spotting trouble, assessing its nature and providing warning**
 - ▶ “Horizon scanning”
- **Identifying the hazards that might pose a problem**
 - ▶ Assessing our level of concern
 - ▶ Communicating with Ministers through the National Risk Assessment (NRA)
- **Assessing our level of preparedness**
 - ▶ Capability assessments
- **Enhancing capability to respond**
 - ▶ Specific programmes, for example **Resilient Telecoms Programme**

What we mean by resilient communications ...

- **Able to absorb or mitigate the effects of disruption to normal life in the UK**
- **Events or circumstances such as**
 - ▶ **natural events** for example flooding or fire
 - ▶ **human intervention** for example a terrorist incident or electrical power failure
- **‘Planning assumptions’ observed when developing capabilities**
 - ▶ Derived from the National Risk Assessment processes



Terrorist bombs on public transport (London, UK)

July, 2005



Bridge on the River Derwent (Cumbria floods)

November, 2009

HITS – High Integrity Telecommunications System

- **HITS provides a telecommunications capability**
 - ▶ secure service, primarily voice, also data providing access to National Resilience Extranet
 - ▶ fully reflects national response arrangements (CONOPS)
- **High Integrity telecommunications provided over**
 - ▶ Skynet 5: military hardened x-band satellite
 - ▶ private terrestrial connectivity
- **Capability derived from National Risk Assessment process**
 - ▶ initially to 50 core resilient sites and extendable
 - ▶ 3 transportable satcom units
 - ▶ hybrid sites; “boxed” satellite supported by terrestrial; and terrestrial only sites



HITS DELIVERY: Supporting Infrastructure and Capability

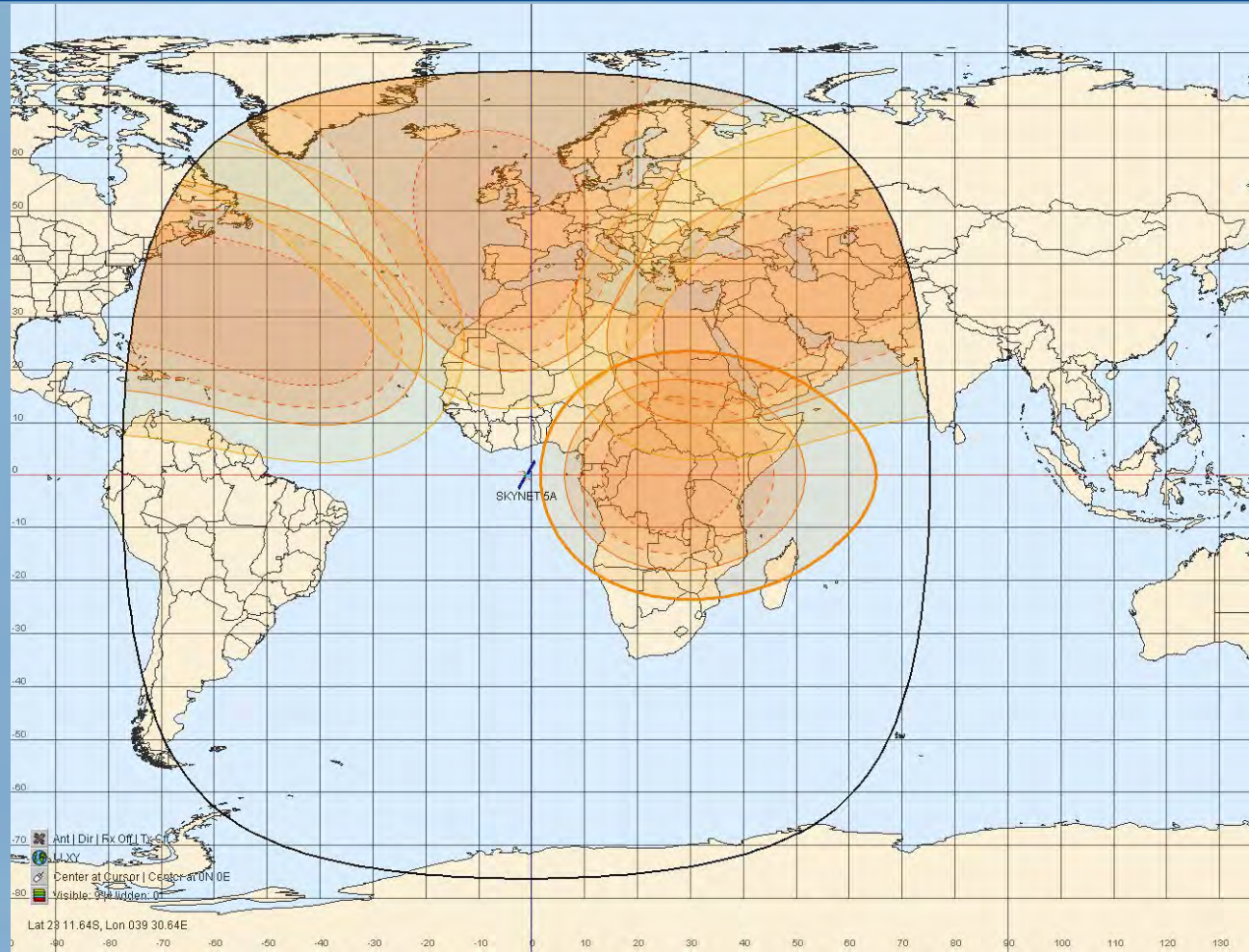
HITS Supporting Infrastructure: Skynet Constellation



Resilient, assured, secure, high power

Satellite positions are illustrative

UK and international coverage – 5A shown



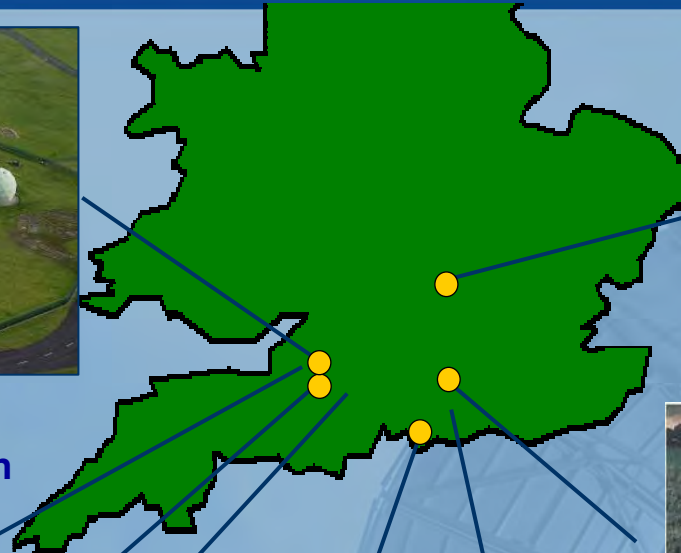
Supporting Infrastructure: UK Ground Facilities



**Colerne
Satellite Ground Station**

**Backup
Operations
(Transitional)**

**Hawthorn
Operations and 24/7
Helpdesk**



**Stevenage
HQ and VSAT Facilities**

**Portsmouth
Engineering**

**Backup
Operations**



**Oakhanger
Satellite Ground Station**

UK Facilities – Operations Centre



Paradigms Heritage – A range of resilient telecoms services in remote locations and harsh environments






HITS DELIVERY: Services and Terminals

HITS - High Integrity Telecommunications System

- “.. will provide an independent and highly resilient telecommunications network which will allow emergency responders to communicate both with Police Force Areas and with Central Government in the event of widespread telecommunications failure”
- For national, regional and local levels of crisis coordination
- Fixed sites across UK located mainly in Police Strategic Command Centres (one per police force area) supported by deployable transportable units
- Connects with central government crisis management
- Factsheets: www.cabinet-office.gov.uk/HITS




CIVIL CONTINGENCIES SECRETARIAT

HITS

HIGH INTEGRITY TELECOMMUNICATIONS SYSTEM

HITS Factsheet No. 1, Version 3, July 2009




No.1

No.1

WHY?

There are many potential causes for disruption and failure of national telecommunications, and never before has the UK been so reliant on telecommunications. Since the obsolete Emergency Communications Network (ECN) was decommissioned there has been a need to set up a **resilient and independent** telecommunications system that will still function when the main networks (such as landlines and mobile phones) are unavailable or degraded. HITS is designed to provide this essential service and will allow communication between National, Regional and Local levels of crisis coordination during almost all disruptive events.




WHAT?

HITS is a satellite-based independent communications system that will use the advanced Skynet 5 military network. There will also be terrestrial connections to increase redundancy at most sites. It will be accredited to RESTRICTED and will allow digital transmission of both voice and data. Fixed sites will be located across the UK, supported by Transportable equipment that can be deployed as required. Each site will have a satellite dish installed along with the necessary electronics, including laptops and digital phones (some sites may have "Boxed" equipment instead of a permanent dish). The supplier is Paradigm Secure Communications Ltd.

WHERE?

The map below shows where it is anticipated that the core HITS sites will be located:

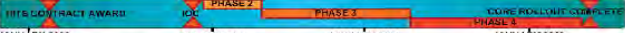


FURTHER INFORMATION

Please visit the HITS website for more details:
www.cabinet-office.gov.uk/HITS

If you have any questions please contact the HITS Team at HITS@cabinet-office.x.gsi.gov.uk

WHEN? HITS will be developed and tested during 2009, with IOC (Initial Operating Capability) currently scheduled for mid-November 2009. Full rollout of HITS should be complete by mid 2012.



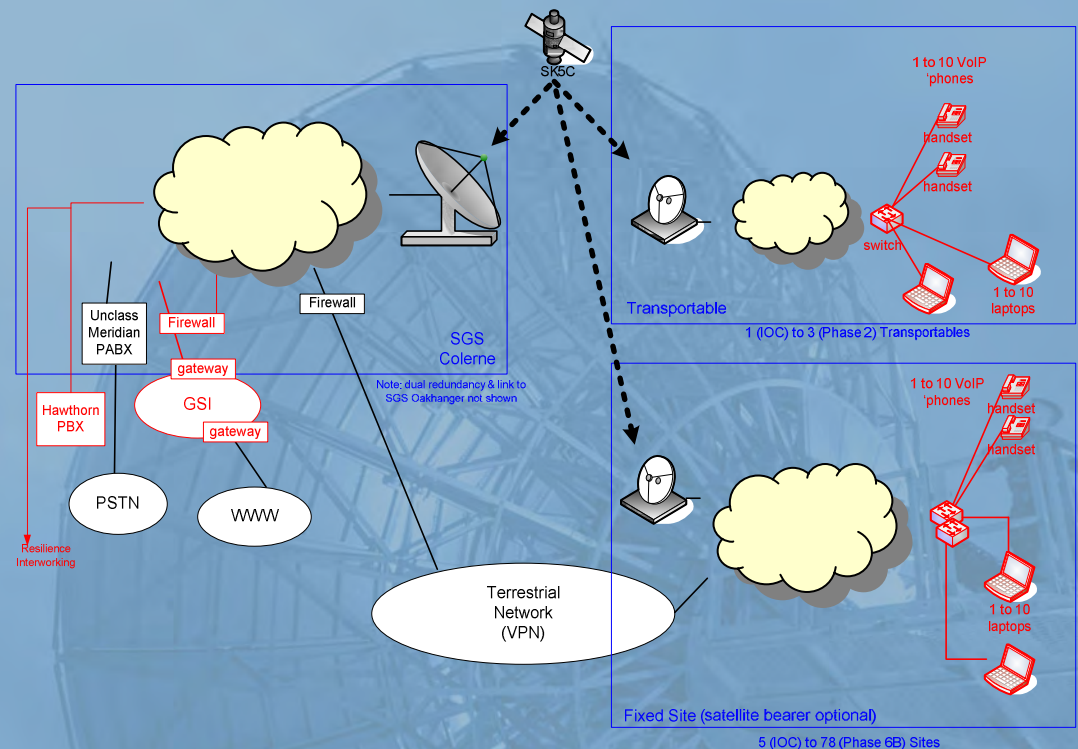
JANUARY 2009
JANUARY 2010
JANUARY 2011
JANUARY 2012

For the latest version of this factsheet, please contact the HITS Team via email on: HITS@cabinet-office.x.gsi.gov.uk

paradigm CABINET OFFICE - CIVIL CONTINGENCIES SECRETARIAT

HITS Network Overview

- **Resilience**
 - Multiple independent, dedicated paths to each fixed site
 - Satellite path – high survivability
 - Satellite gateway redundancy
 - Full service capability and capacity from either gateway
 - COTS equipment
- **Flexibility, scalability, efficiency**
 - DVB-RCS
 - Cisco Call Manager
- **Functionality**
 - VPN
- **Site sensitive installation**
 - Terrestrial with satellite resilience
 - Terrestrial only
 - Fixed and deployable



HITS Terminals

- **Fixed**
 - For sites where planning permission granted
- **Boxed**
 - For sites with fixed installation restrictions
- **Transportable**
 - For deployment on demand



Fixed Terminal



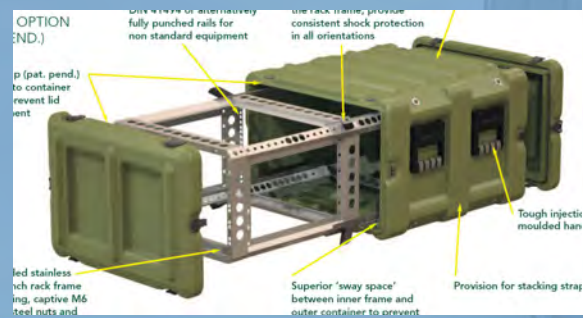
Illustrative only

Boxed Terminal



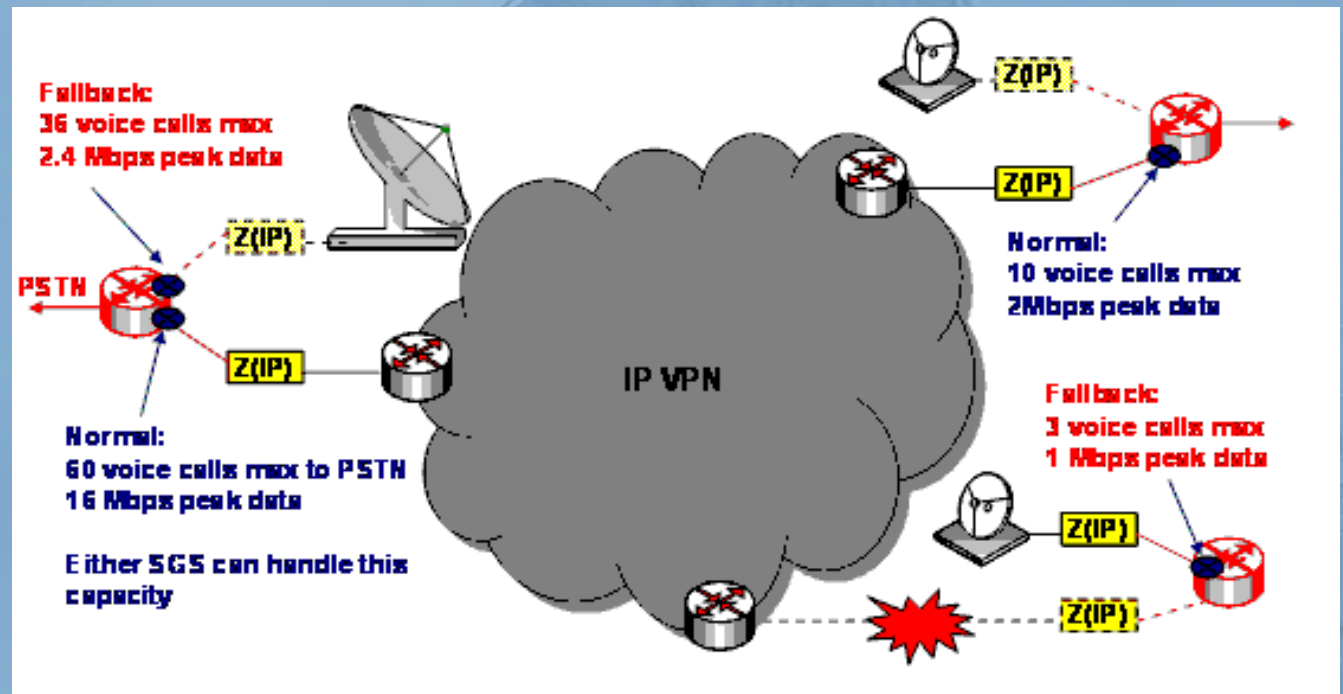
Transportable

- Commonality with fixed terminal
- Ruggedised, waterproof, shock resistant
- 24/7 Paradigm operated when deployed
- 6 hours notice to move
- >7 days unsupported running
- Stationed at Hawthorn Main Operations Centre



HITS Service Capability

- IP Data
- VOIP
- Seamless cut-over to satellite in event of terrestrial VPN bearer failure
- Connects via GSi and to NRE
- Restricted Level
- Fully managed
- Consistent with Cabinet Office CONOPS





HITS DELIVERY: Rollout

HITS Rollout

- **IOC – This month**
 - 5 Fixed Sites
 - 1 Transportable
- **Phase 2**
 - March 2010
 - +10 Fixed Sites
 - +2 Transportables
- **Phase 3**
 - March 2011
 - +24 Fixed Sites
- **Phase 4 (Option)**
 - Mid 2012



Summary



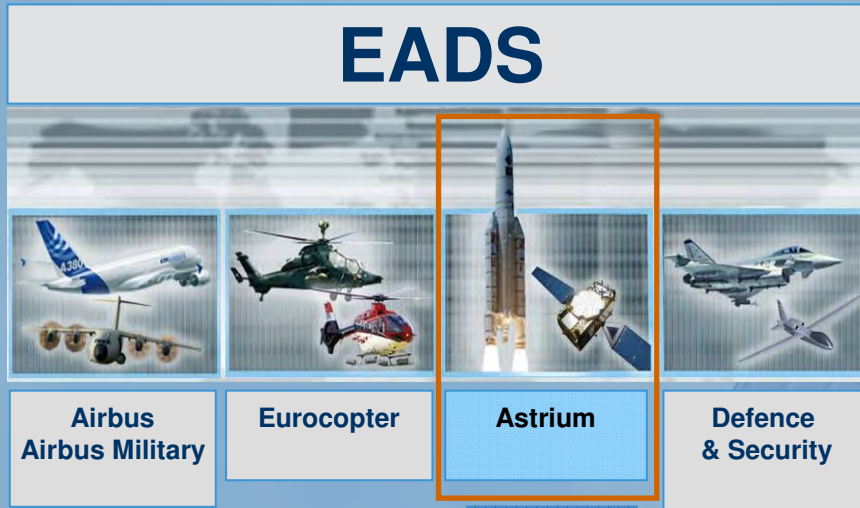
QUESTIONS



Backup Slides



Paradigm in Context



118,000 Employees
€43.3 bn Revenue (2008)

Astrium Services
Telecom Services



Skynet 5 PFI

Other Milsat

Government