NETWORK RESILIENCE FOR RURAL AREAS

1 NETWORK
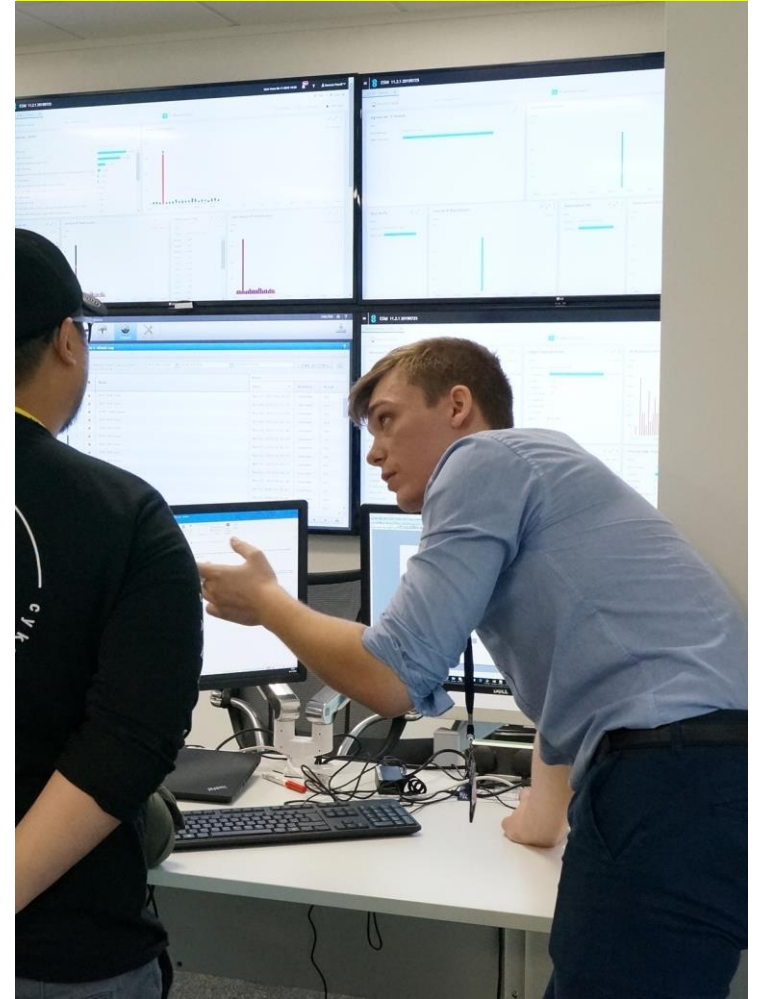
2 PROCESSES

3 PEOPLE

RESILIENCE IS AT THE HEART OF OUR NETWORK DESIGN

EE NETWORK INHERENT RESILIENCE

EE's LTE network design and build provides inherent levels of resilience before any additional measures are deployed
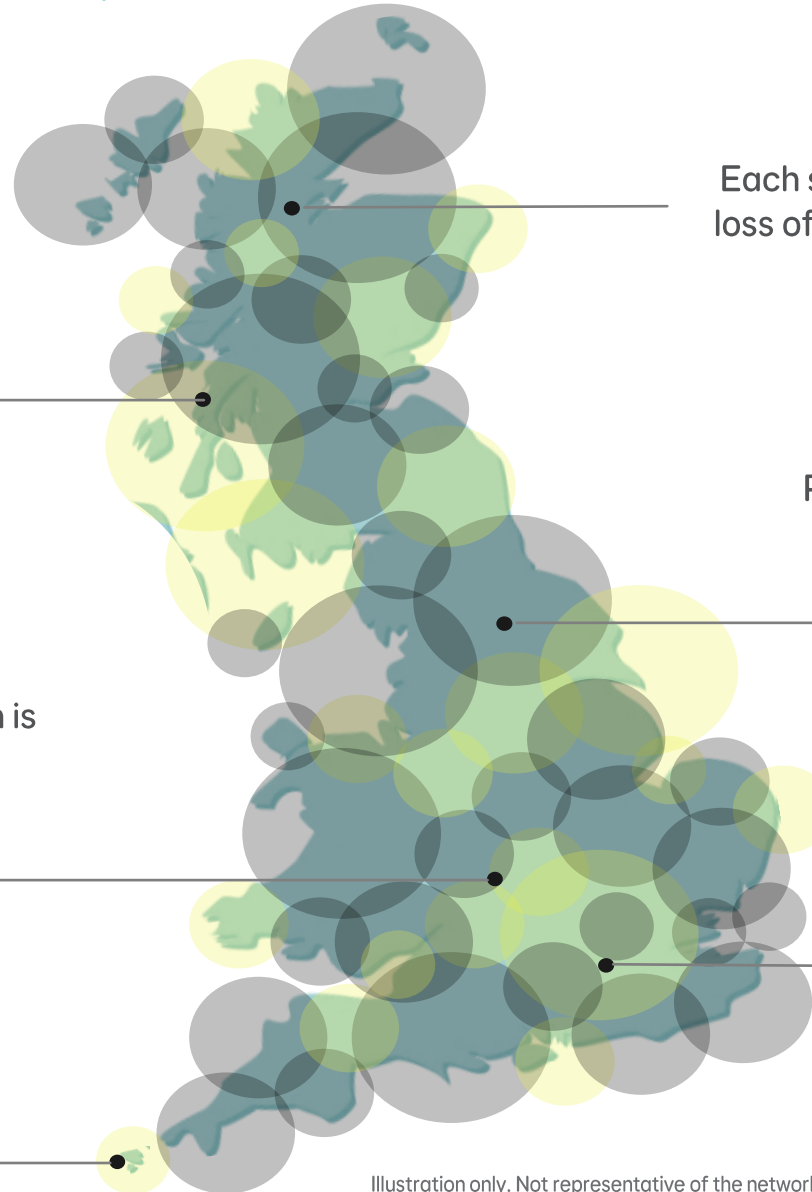
Multi-sector
Each site is multi-sector meaning that loss of a sector does not take down all the coverage from a site.

Resilient core network
Dimensioned to support high volumes. Shown to be highly fault tolerant

Multi-band radio
RAN sites are typical multi-band e.g., have 800MHz, 1800MHz & 2600MHz meaning they can sustain the loss of individual radio units on a site and still provide service.

Added resilience for Hub Sites
Hub sites (4 or more dependents) are protected with resilient power (30h supply but often more; if the 30h is by battery then the coverage of hub site will be 'dropped' to preserve dependent site coverage) and VSAT to protect against loss of connectivity to BT exchange.

Overlapping coverage
There are c. 20,000 sites providing a high degree of overlapping coverage.

Added resilience for remote/island sites
Other categories of sites such as remote/island sites are also given power and/or transmission protection.

4

Illustration only. Not representative of the network

CONTINUOUS TECHNOLOGY IMPROVEMENTS AND INVESTMENT…
…WITH LEARNINGS BUILT OVER DECADES OF OPERATION

DIGITAL & NETWORKS
BT Group, Nokia and MediaTek trial 5G RedCap technology to accelerate IoT
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DIGITAL & NETWORKS
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DIGITAL & NETWORKS
BT Group and Nokia demonstrate new network capabilities to meet future consumer demand
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DIGITAL & NETWORKS
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New 4G coverage connects Scotland's most remote emergency services
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DIGITAL & NETWORKS
BT and OneWeb deliver high-speed satellite connectivity to Lundy Island
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London, 25 July 2023
EE named UK's best mobile network for ten years in a row

PREPARATION AND PRE-EMPTION
IS KEY FOR IMPACT MITIGATION
AND QUICK RECOVERY

HOW WE PREPARE FOR SEVERE WEATHER AND STORMS

o Storm tracking via Met Office

o Additional operational and estates personnel

o Comms with 3rd party providers

o Strategic positioning of mobile assets

o Resilience operability checks

o Site availability checks

o Minimise planned changes

CONTINUOUS IMPROVEMENTS PAY OFF
STORM AGNES, 27-28 SEPTEMBER 2023

Pre-storm

o Operational comms bridge (24 hrs) established

o 3rd party provider comms ready

o Secured extra FOPS resources

o Resilience health checks repeat

o Portable SBH kits moved to Newcastle, Glasgow & Dundee (x12)

o RRVs on increased readiness for regional deployment

o TTS generators on heightened alert for deployment (6 locations)

o Access pre booked on key sites

o Change Management minimised

Storm impact

o Main impacted region west side of UK

o 17 ESN sites impacted during peak of storm

o All network resilience worked as planned

o Negligible service impact due to overlapping coverage

o 4 generators provided resilient power avoiding 27 site outages

o 2 transmission resilient SBH clusters ensured service continuity for 13 sites


8
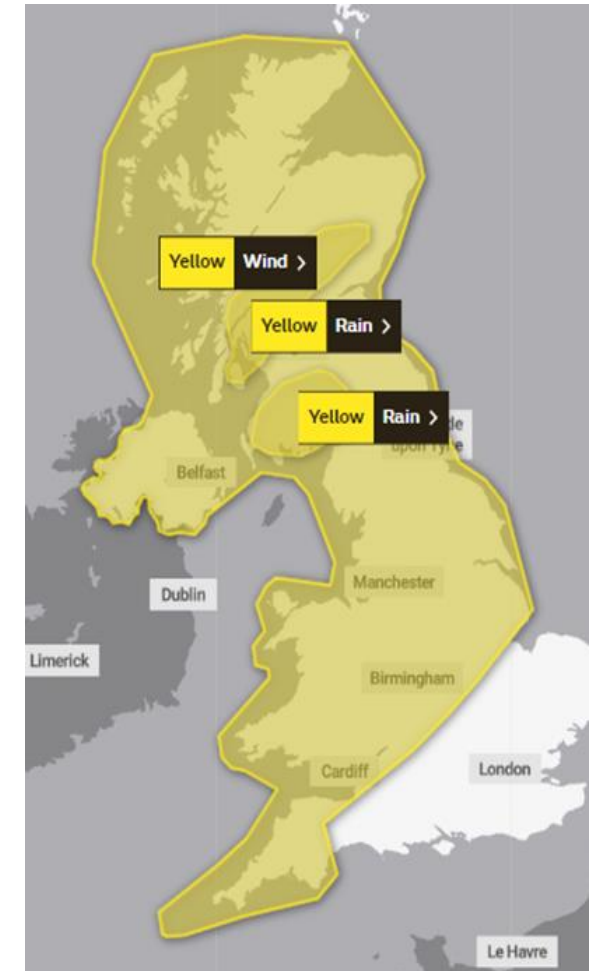
WE KEEP LEARNING AND EVOLVING
STORM BABET, 18 – 21 OCTOBER 2023

Pre-storm

- Operational comms bridge (24 hrs) established
- 3rd party provider comms ready
- Secured extra FOPS resources
- Resilience health checks repeat
- Portable SBH kits moved to Newcastle, Glasgow & Dundee (x12)
- RRVs on increased readiness for regional deployment
- TTS generators on heightened alert for deployment (6 locations)
- Access pre booked on key sites
- Change Management minimised

Storm impact

- Main impacted areas north England & Scotland
- 128 ESN sites impacted during peak of storm (361 total)
- Network resilience performed excellently – 242 site outages avoided
- Negligible service impact due to overlapping coverage
- 71% of sites restored within 2 hours
- 94% of sites restored within 24 hours
- Remaining 6% restored within 2.5 days
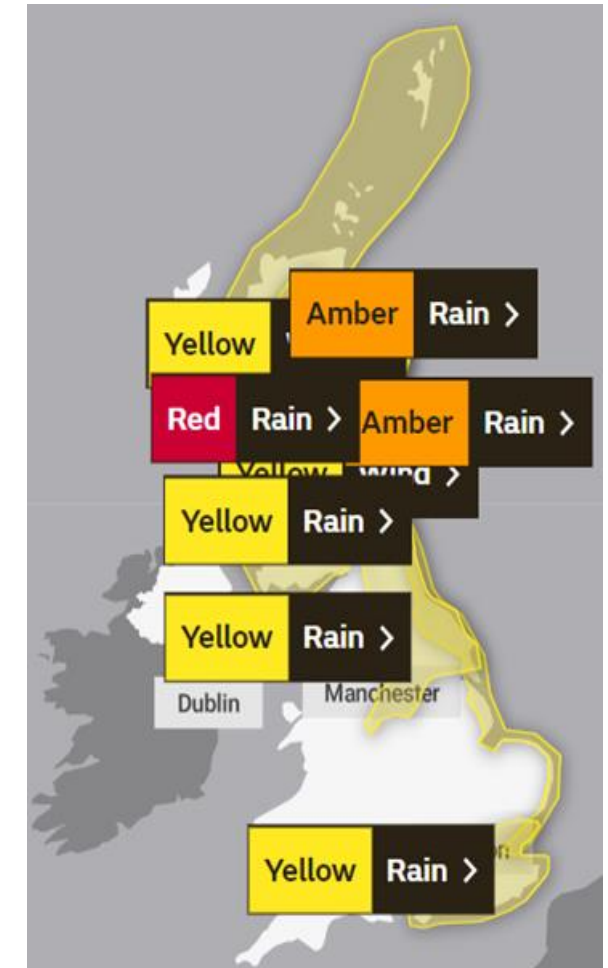
A MISSION MINDSET GETS EVERYONE PLAYING THEIR PART

IT'S GREAT PEOPLE, ALL WITH A COMMON MISSION MINDSET, THAT DRIVE PERFORMANCE BEYOND BUSINESS TO MISSION CRITICAL

How we're making that happen

o Building diverse teams

o Taking learnings from other CNI units in BT

o Continuous learning and improvement cycles

o Stress testing technologies live in the network

o BCDR rehearsals to build confidence in people and processes

o Transparency and collaboration with Users and stakeholders

We'll keep doing more...

ANY QUESTIONS?