



Working in Partnership to Improve  
Public Safety Technology

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# Welcome

## MAIT Roundtable

26<sup>th</sup> September 2023



[www.linkedin.com/company/british-apco](https://www.linkedin.com/company/british-apco)



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# Welcome

**John Anthony**, Past President, British APCO

**Chris Lucas**, Chair, British APCO



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MAIT Roundtable: 26 September 2023

# An update on MAIT

## Tony Bracey, Welsh Government



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# The aims and objectives for MAIT across English FRS

Keith Donnelly, Home Office Fire



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Home Office

# Multi Agency Incident Transfer

Keith Donnelly  
Home Office

# Why MAIT?

- Recommendation 33.16 of the Grenfell Tower Inquiry Phase 1 report states:  
*‘that steps be taken to investigate methods by which assisting control rooms can obtain access to the information available to the host control room’*
- In 2020 a Home Office Grant was secured with the aim of using it towards:  
*‘making changes to control room arrangements to address the above recommendation’*

# Why MAIT?

- The Main issues on the night of Grenfell
  - Large number of people dialling 999 meant that London Fire Brigade control room were unable to answer all 999 calls in a timely manner
  - To protect the 999 system and to help the callers get the necessary help, BT asked for the assistance of other fire control rooms to take overflow 999 calls.
  - This was done on an “Ad Hoc” basis with 6 Fire Control rooms in England agreeing to provide assistance
  - Assisting control rooms had limited situational awareness of what was happening at the incident and therefore were unable to give the most up to date advice.
  - Assisting FRSs were unable to get critical information back to London Fire Brigade in a timely manner
  - Delays in critical information being passed between fire control rooms in fast time can have a negative outcome to the overall successful resolution of an incident



# Three projects aimed to resolve the issues identified in recommendation 33.16

Three initiatives were identified to share information:

1. Creation of a national radio broadcast talkgroup
2. A national fire and rescue service 999 call redistribution scheme
3. Multi Agency Incident Transfer

# Three associated projects

Three initiatives were identified to share information:

1. Creation of a radio broadcast talkgroup
  - Work completed in 2021, fire control operators can now broadcast situational awareness to all fire control rooms via Airwave Radio
2. A national fire and rescue service 999 call redistribution scheme
  - National Call Distribution Scheme known as “Operation Willow Beck” was introduced in 2022 and is up and running
3. Multi Agency Incident Transfer
  - The final piece of the Jigsaw



# Operational benefits

- More effective methods of communication between fire controls
- Faster sharing of incident information
- Significant benefits when used in conjunction with Operation Willow Beck
- Provides an audit trail of incident exchange between fire controls
- A way of standardising and automating flow of information
- Building and sharing situational awareness between fire controls and other agencies

# Overview of the English fire and rescue service

- 43 fire and rescue services
- 33 fire controls
- Variation across the country:
  - Single service fire controls
  - Joint fire controls e.g. Surrey Joint Fire Control
  - Partnerships e.g. Networked Fire Service Partnership (south west)
  - Consortiums e.g. East coast consortium
  - North West Fire Control (Greater Manchester, Lancashire, Cumbria, Cheshire)
  - Size, number of personnel, mobilising systems



# Our Journey

- Project team established including colleagues from:
  - The Home Office
  - The National Fire Chiefs Council with fire control room and technical/infrastructure backgrounds
  - NFCC procurement hub
- Engagement with the fire sector:
  - Single point of contact established within each fire and rescue service
  - Chief fire officers
  - Briefing packs and presentations





# Risks to Success of project

- Limited uptake from FRSs
- High integration costs from CAD suppliers
- Lack of engagement from CAD suppliers
- Current procurement activities with FRSs would result in services not wanting to implement MAIT
- MAIT would only be successful if ALL FRSs were on board.

# MAIT Web and Integrated

- Two options for fire and rescue services
- MAIT Web – stand-alone solution available on an ‘admin’ PC within the fire control room
- MAIT Integrated – Integrated within the command and control mobilising system

# Project Scope

- **In scope:**

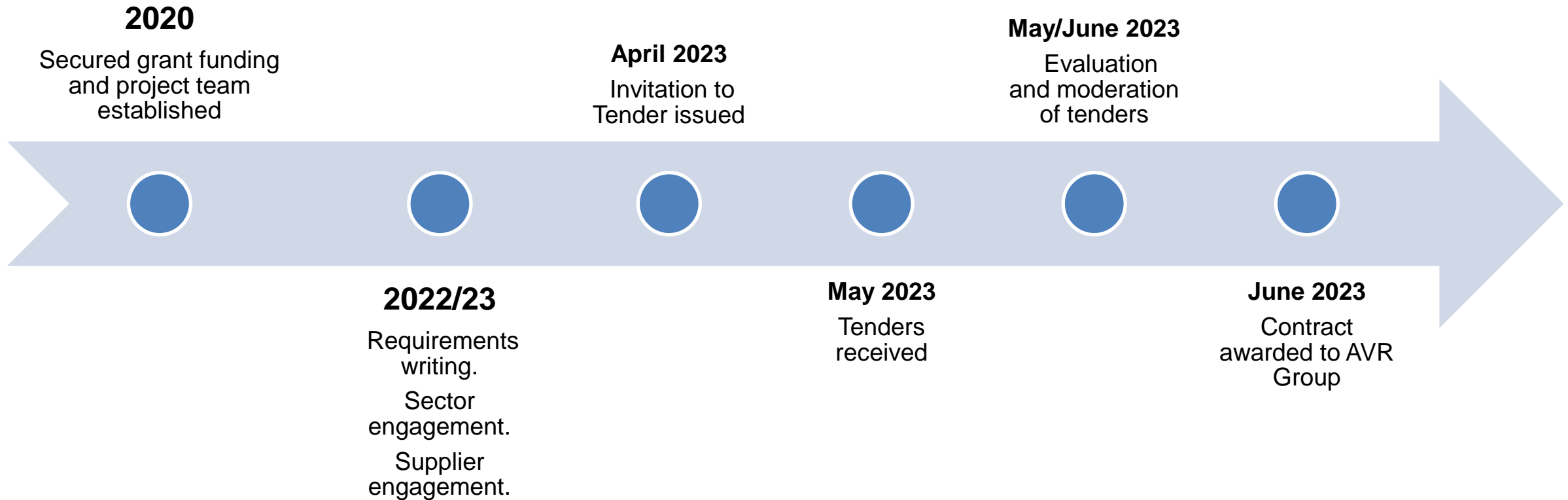
- Procurement exercise to bring a MAIT connection to the 'door' of fire and rescue services in England
- Providing a framework for fire and rescue services to 'call off' a MAIT contract with the successful supplier
- Funding for initial on-boarding and a period of running costs

- **Out of scope:**

- Funding for devolved administrations
- ICT changes required for individual fire and rescue services
- Implementation of MAIT into individual fire and rescue services



# Project timeline



# Next steps

- Early adopters (to be confirmed):
  - Surrey Joint Fire Control
  - North West Fire Control
  - Merseyside Fire and Rescue Service
- Development and testing of MAIT Web
- Evaluation and feedback
- Engagement with fire services for MAIT Integrated
- Engagement with fire services in Scotland, Wales and Northern Ireland

# Questions



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# Is there a case for agencies using DEIT to consider migrating to MAIT?

**Brian Chappelle and Jim Dutton,**  
National Highways



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# Incident Transfers and National Highways

**Jim Dutton –  
Senior National  
Configuration Manager**

**Brian Chappelle –  
Business  
Systems Owner**



# Our road network



**20,000**  
bridges and other structures



**150,000**  
signs



**100,000**  
sensors, including traffic sensors

**10,000**  
miles of carriageways



**100,000**  
street lights



**3,500**  
electronic messaging signs



**4,300**  
miles of motorway and major A-road





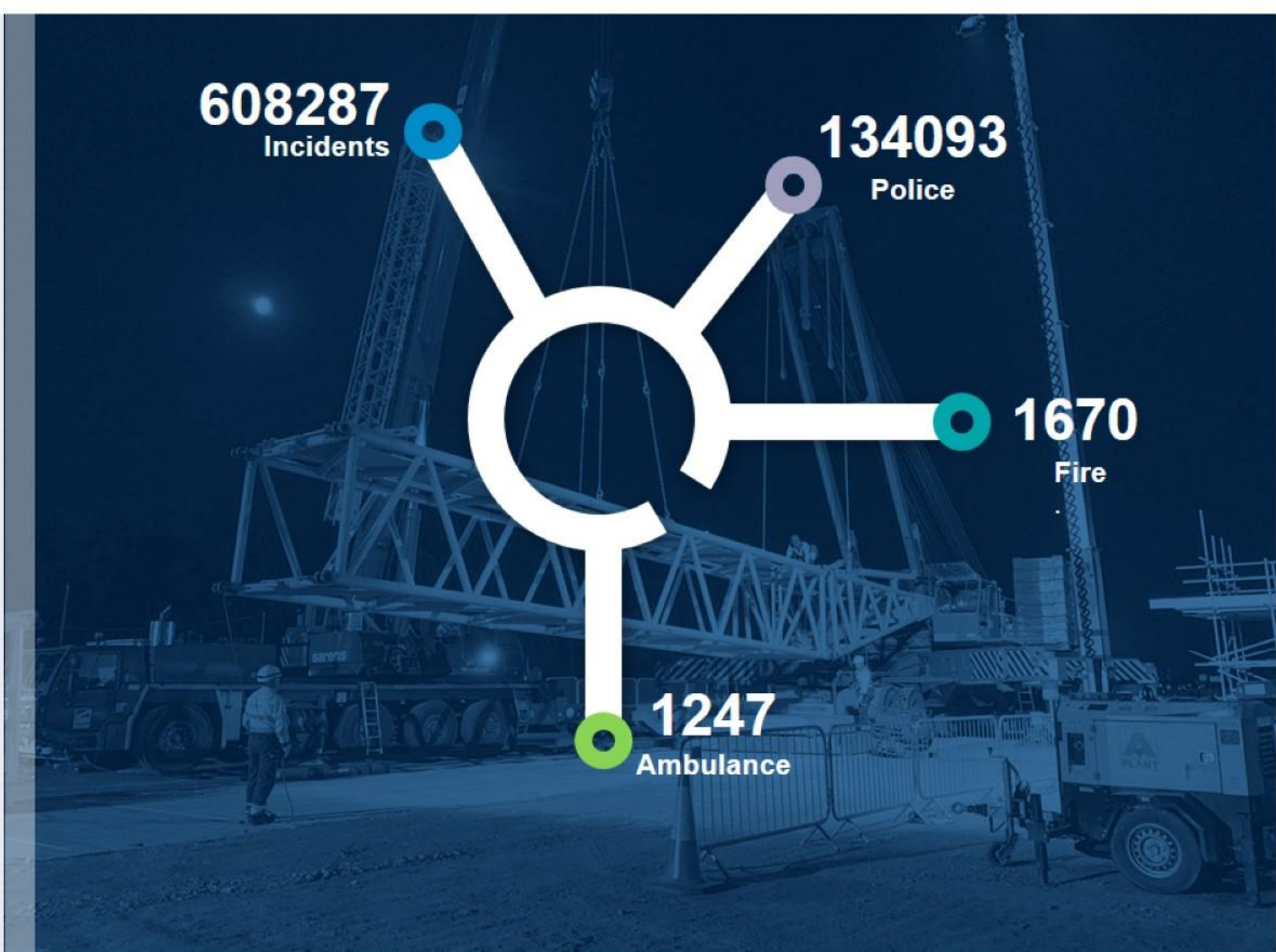
# Traffic Management Centres





# Incidents numbers

Data from 1<sup>st</sup> September 2022 – 31<sup>st</sup> August 2023.



# National Highways & Incident Transfers

Police services  
interface  
connections



Fire and Ambulance  
Telephone  
communication only



Average Police  
incident transfers  
per day  
(excluding duplicates)





## Communication & security issues with DEIT

1. Currently no national communication structure in place – how do we know who to contact when interface changes or new connections are required?
2. Requests are currently sent via email, sometimes with the entire IP raising security concerns.
3. No agreed mutual process of how much notice is given, sometimes we are approached on the day.
4. How are the changes and test incident transfers managed on the day? Bridge call?





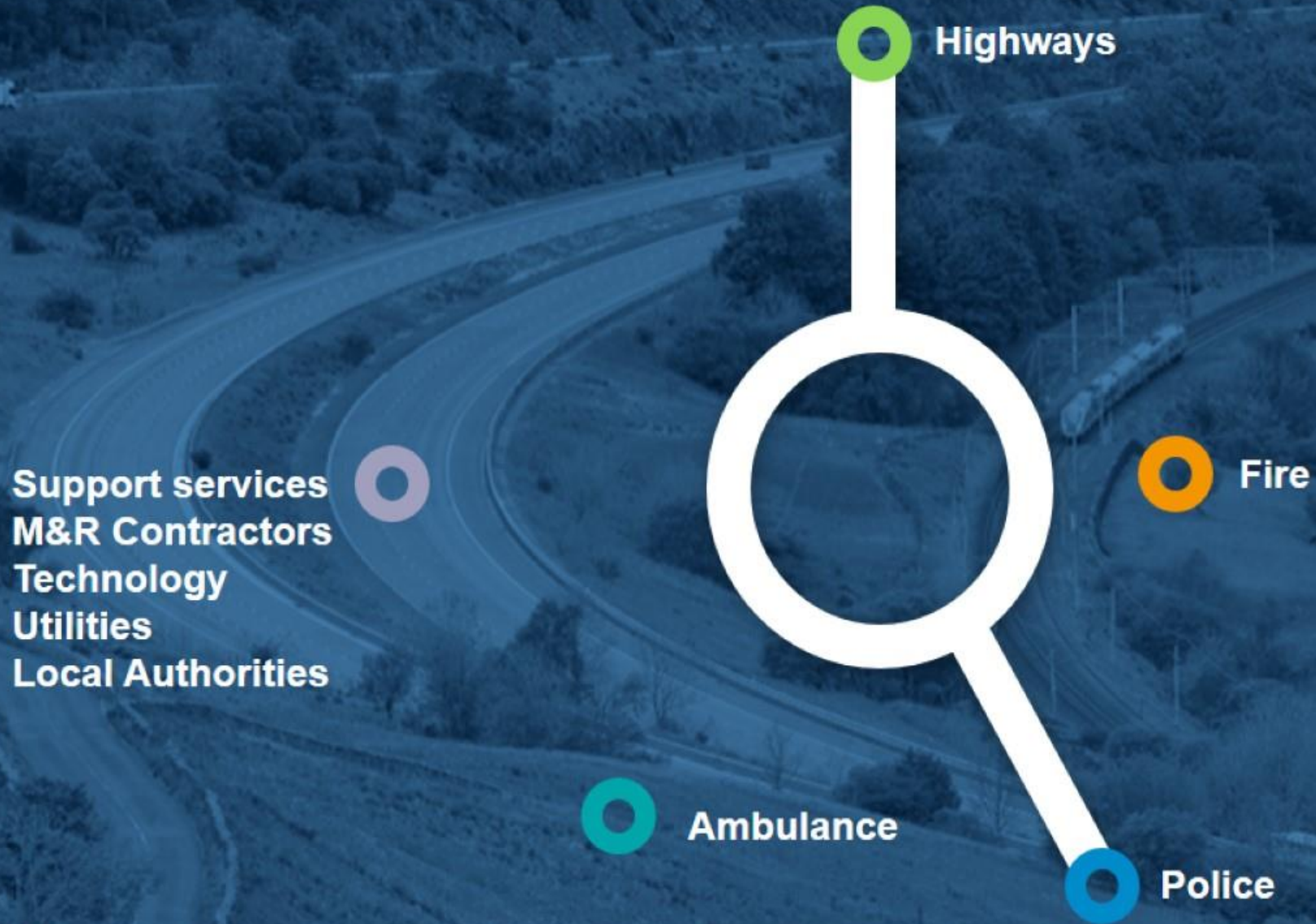
# MAIT benefits to National Highways

1. No change to our configuration management process within ControlWorks command and control system
2. Efficient process for adding new connections
3. Airwave overhead saving on hailing channels
4. Reduction in telephone calls managed by control room staff
5. Enhance the speed of transfers and quality of information compared to phone/airwave.
6. Reduce Traffic Officer response time to incidents and improve safety
7. Desire to work smarter with more agencies utilising modern technology to achieve our common goal, public safety



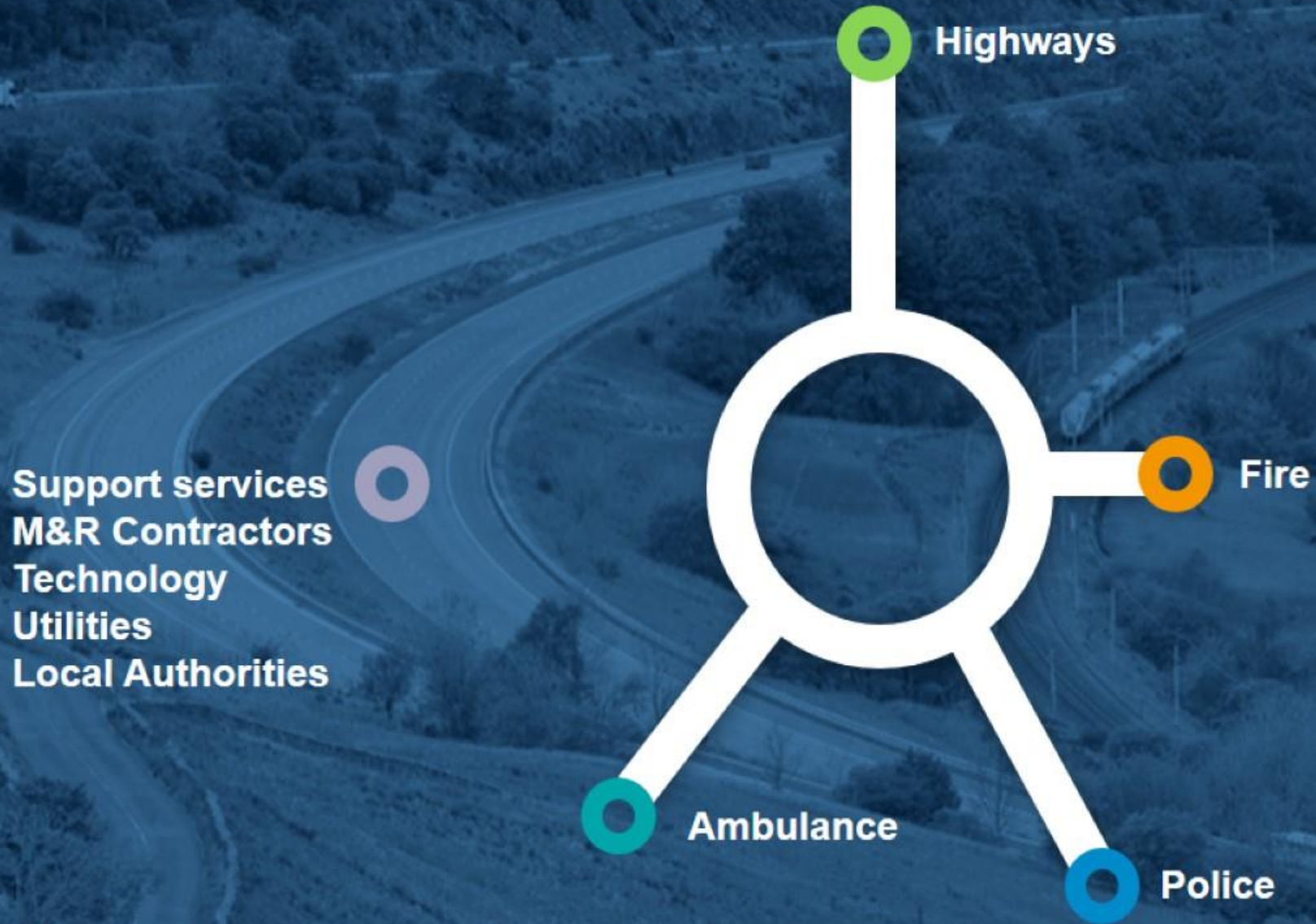


What if we could go from this ...



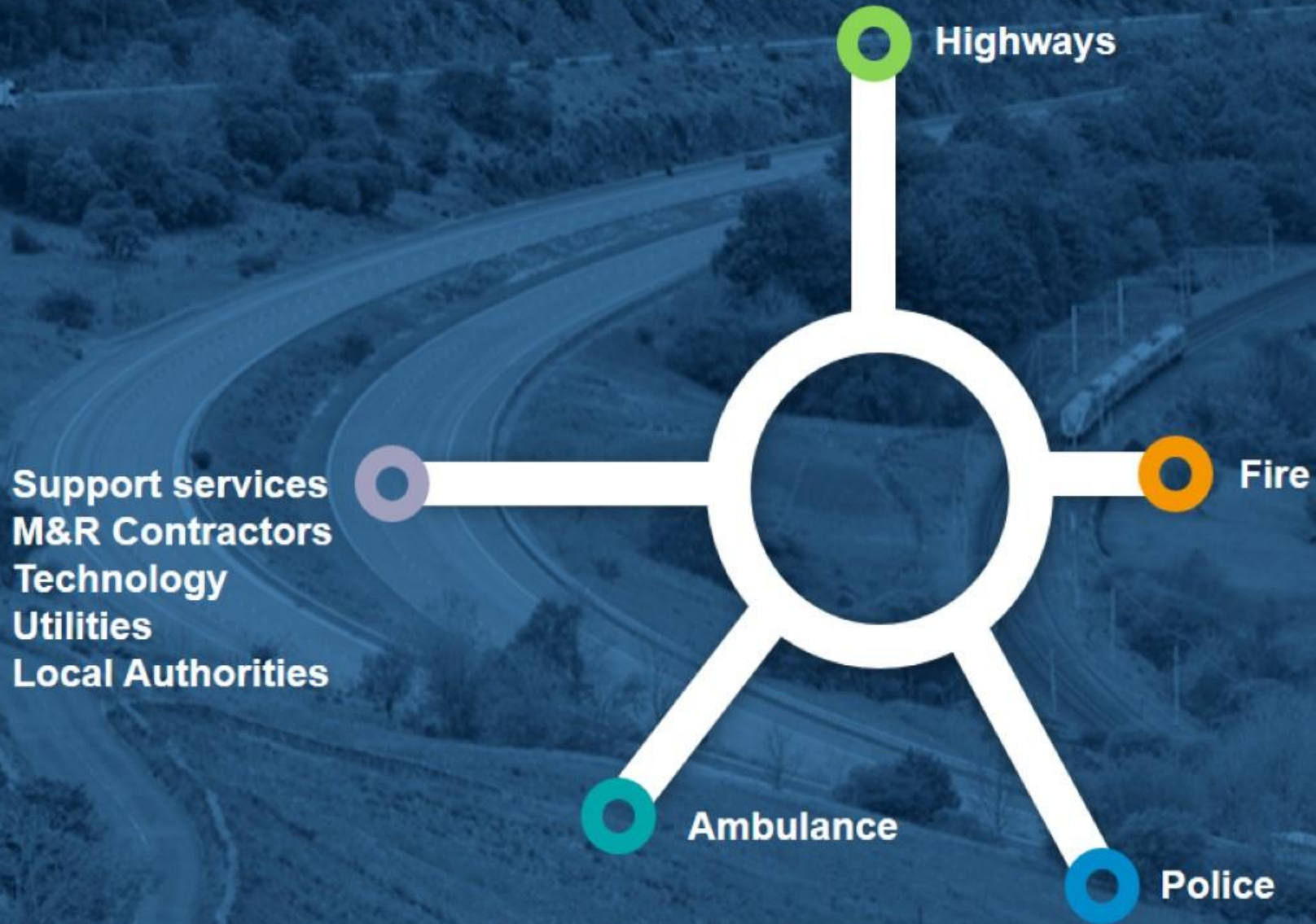


... to this ...





...or even this?







# Questions and Discussion

# Ambulance Service Improves Patient Journey

**Ola Zahran**, Chief Technology Officer,  
Yorkshire Ambulance Service



**ASSOCIATION OF  
AMBULANCE  
CHIEF EXECUTIVES**

Bringing together skills,  
expertise and shared knowledge  
in UK ambulance services

# Ambulance Service Improves Patient Journey

**Ola Zahran  
Chief Technology Officer  
Yorkshire Ambulance Service**





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CHIEF EXECUTIVES

# Our Services



**999 Emergency service** - 14 Ambulances across UK provide the **999 Emergency** service.



Number of **999** calls received in 22/23 was **13,263,670**. Monthly - **1,105,306**, Daily - **36,339**



**111 Urgent service** - 6 Ambulance trusts provide the 111 service (LAS, YAS, NEAS, N WAS, SECAM, SCAS)



**Patient Transport Service PTS** - 9 Ambulance trusts provide the PTS service

## Example-Yorkshire Ambulance services (YAS) and calls received in 2022-23



**999** emergency calls received **1,208,907** and an average of **3,358** calls a day



% Number of emergency calls responded to (**999**) **65%** and transport Hospital **56%**



**111** urgent calls received **1,766,792** and an average of **4,907** calls a day



**Patient transport service PTS** Total number of calls **887,290** and an average of **2,464** calls a day



The Intelligent Routing Platform (IRP) is a cloud telephony solution that sits between BT and the ambulance services. It collects real-time data from ambulance services and uses it to inform routing decisions. It also provides real-time and historical reporting.

## Enhance the National 999 Ambulance performance through the Intelligent Routing Protocol (IRP)

### Problem

- Increase in 999 activity resulted in, call answering times has been delayed significantly
- 999 calls were taking longer to be answered by BT due to the existing manual process.

### Solution

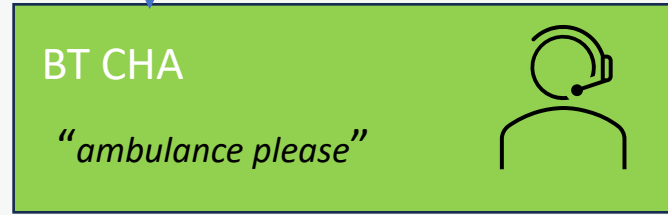
- Distribute unanswered calls to other Ambulance.
- Use IRP to automate and improve the speed and accuracy of existing BT manual process

### Benefits of using IRP

- Provides the capability to distribute unanswered calls to other ambulances.
- Enhance Ambulance Service infrastructure and interoperability
- Virtual 999 call handling resilience such as major incidents, extreme weather events and localised trust failures.

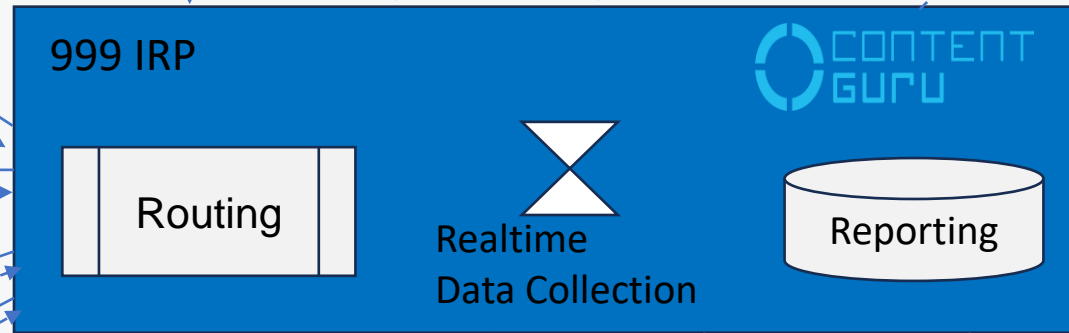


999



Normal Critical Reroute

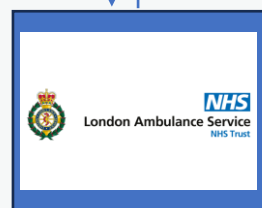
wavenet



Dashboard



Key

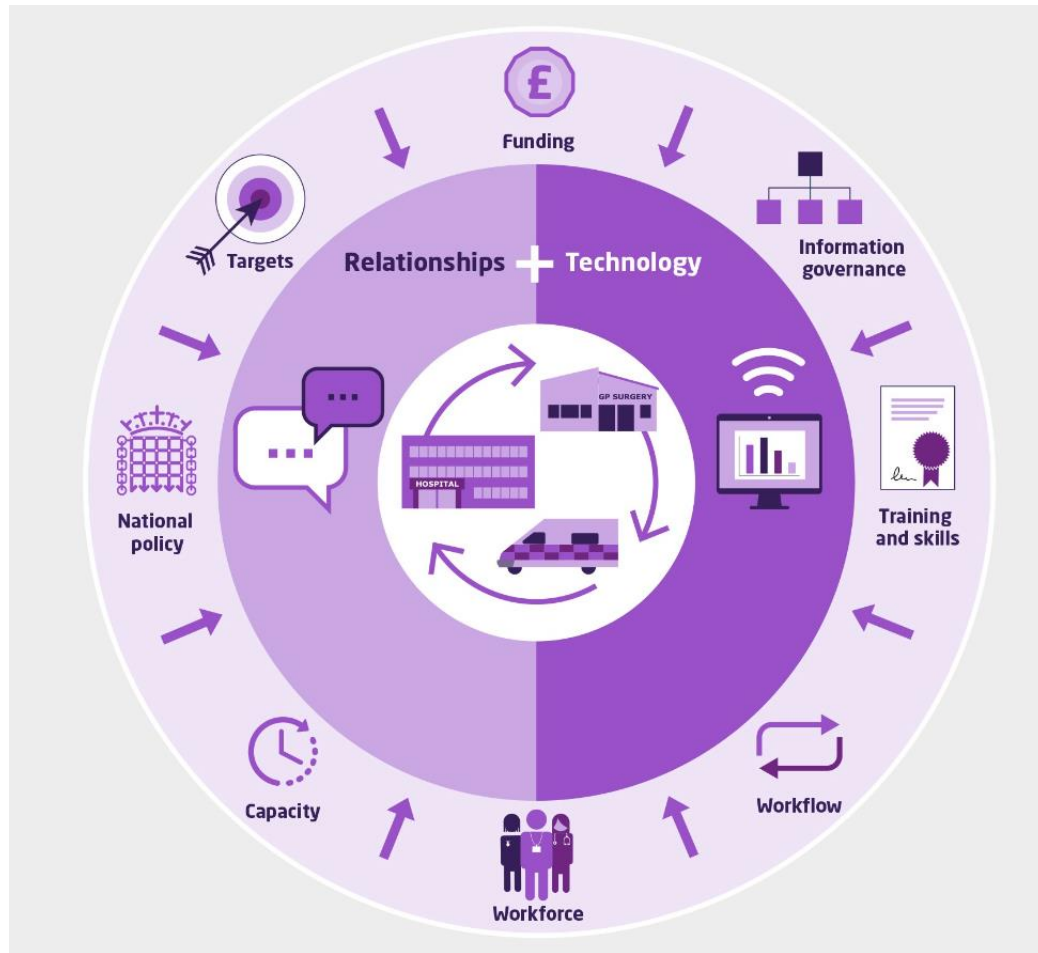


The Intelligent Routing Platform (IRP) is a cloud telephony solution that sits between BT and the ambulance services. It collects real-time data from ambulance services and uses it to inform routing decisions. It also provides real-time and historical reporting.





# The Interoperability Toolkit ITK



Receiving trust call taker will answer the rerouted call via IRP



Passing call electronically via ITK to the home trust



Home trust dispatch an ambulance



Any further update to the call from the receiving trust sent down to the home trust



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# Future - Booking and Referral Standard (BaRS)



Provide an interoperability standard that allows multiple systems to communicate with each other



BaRS is based on FHIR R4 (Fast Healthcare Interoperability Resources)



Improved infrastructure using integration engine and not point to point.



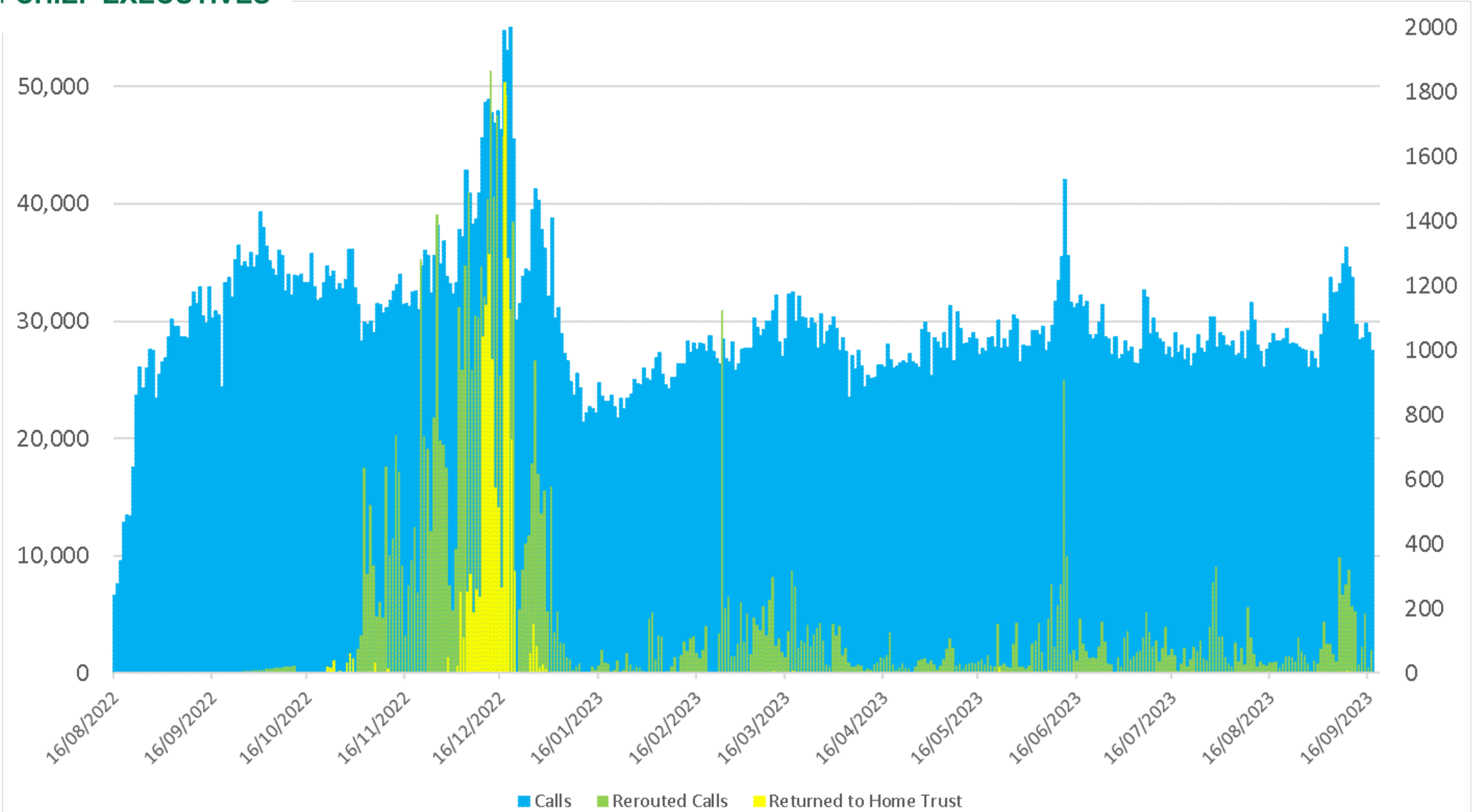
Send and receive booking and referral data ( A&E, CAS, GP..)



Increased functionalities, including enhanced information to assist dispatch

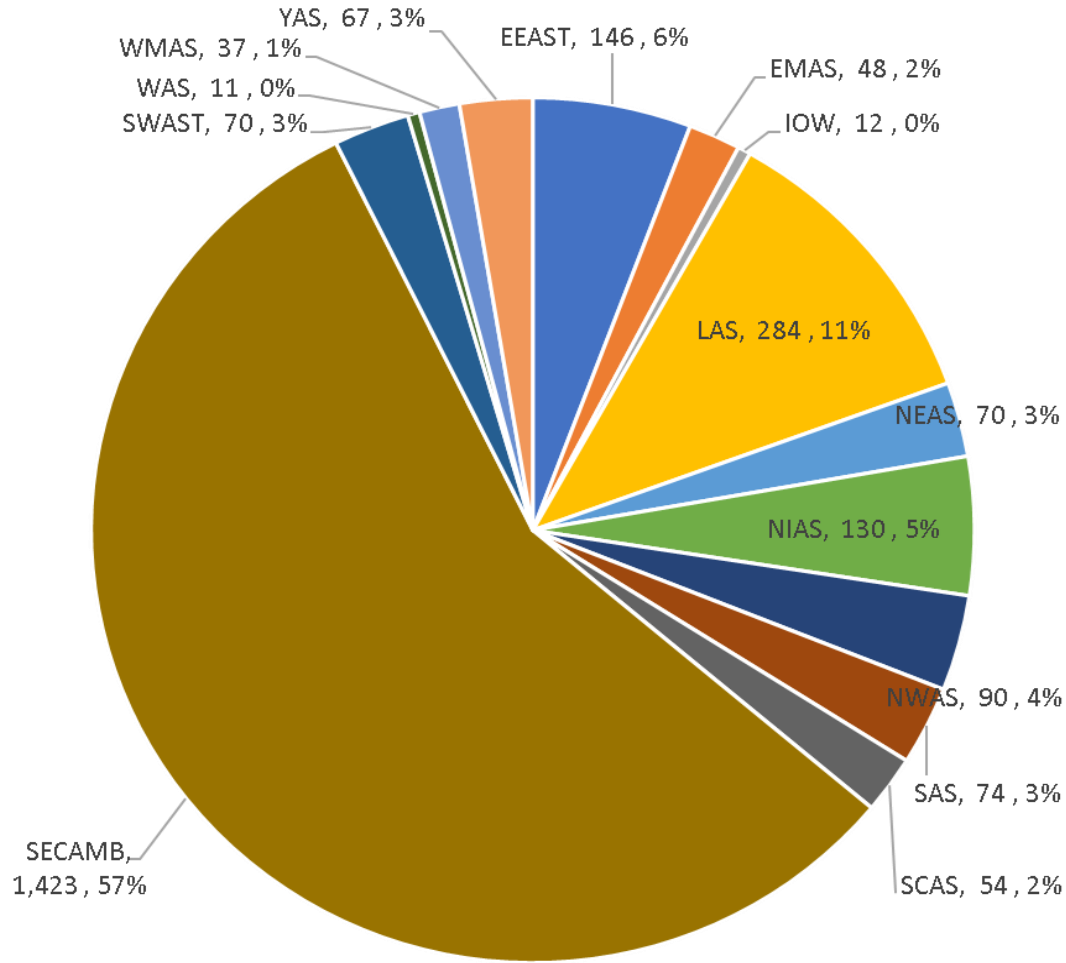


# The total number of calls routed through IRP since September 2022 is 11,891,617

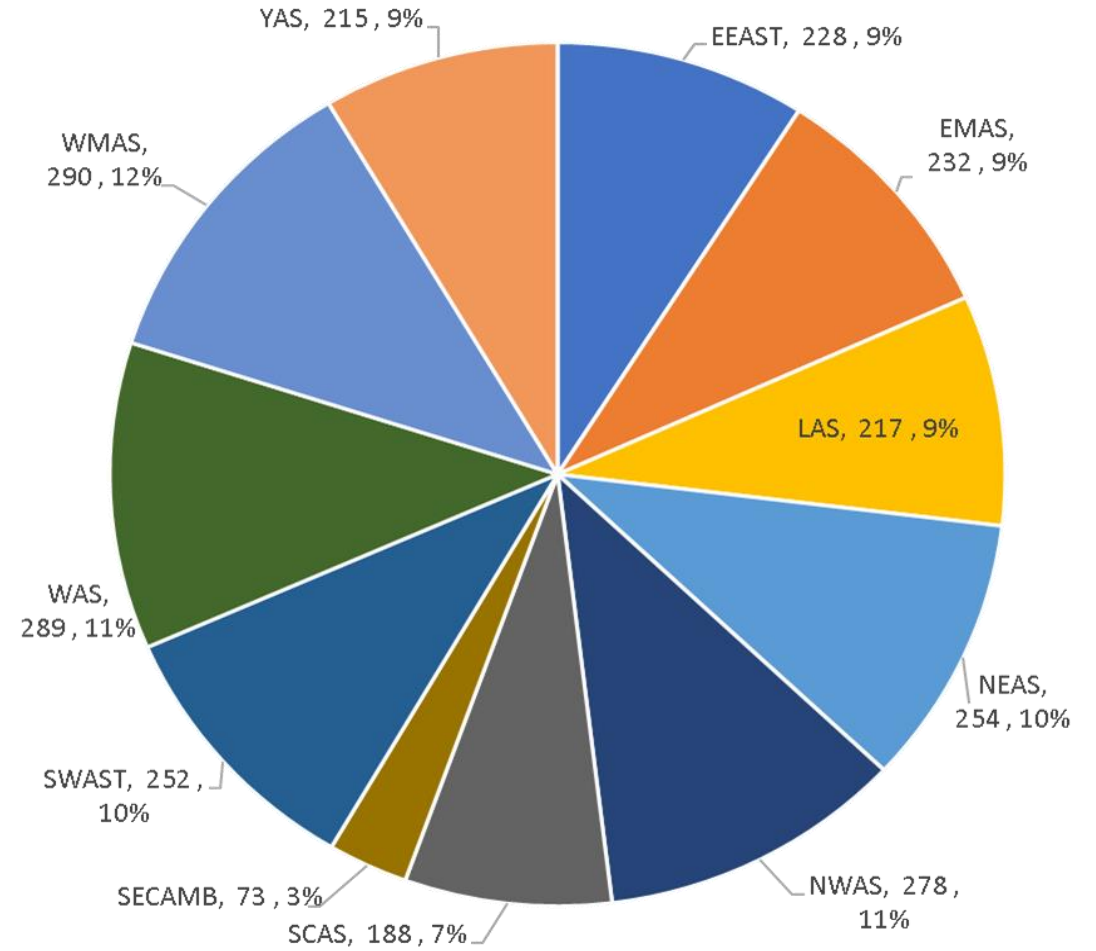




# September Reroute shares up to 18/09/23



**Offered Rerouted Calls**



**Accepted Rerouted Calls**

EMAS

IOW

LAS

NEAS

NWAS

SECAMB

SCAS

SWAST

WAS

WMAS

YAS

**Current Status**

 Agents Logged On **15**

 Agents Available **0**

 Calls In Progress **5**

 Expected Wait Time **0:00**

(Normal)

**Call Counts**

 Critical Call Count **10**

 Normal Call Count **1276**

 Reroute Call Count **1**

 Rerouted Calls In **0**

 Rerouted Calls Out **1**
**SCAS Normal C...**

**SCAS Critical Ca...**

**SCAS Reroute C...**

**Rerouted Out Fro...**

 EEAST **0**

 EMAS **1**

 IOW **0**

 LAS **0**

 NEAS **0**

 NIAS **0**

 NWAS **0**

 SAS **0**

 SECAMB **0**

 SWAST **0**

 WAS **0**
**Call Rerouted to ...**

 EEAST **0**

 EMAS **0**

 IOW **0**

 LAS **0**

 NEAS **0**

 NIAS **0**

 NWAS **0**

 SAS **0**

 SECAMB **0**

 SWAST **0**

 WAS **0**



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Bringing together skills,  
expertise and shared knowledge  
in UK ambulance services

 **Ola Zahran**

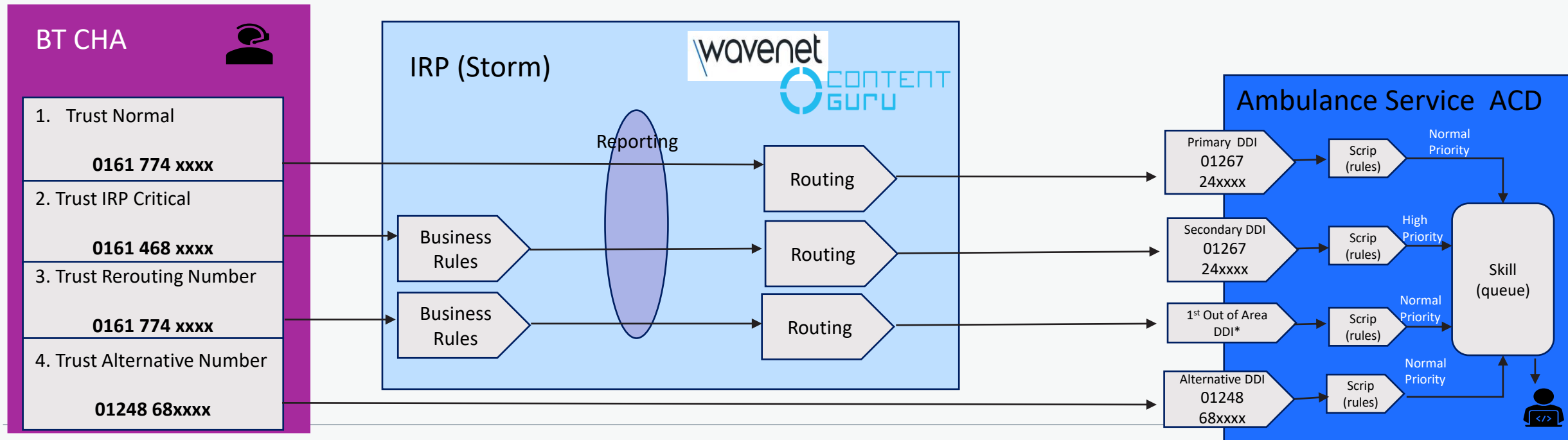
Email: [ola.zahran@nhs.net](mailto:ola.zahran@nhs.net)

Thank you.  
Any questions?



# How does it work now?

- The BT agent establishes the need for an ambulance by asking which service is required and identifies the caller's location using data received with the call, then connects the call to the “normal” line for the ambulance trust covering that geography, remaining on the line (unless deemed critical in which case the “critical” line is used).
- After a prespecified wait time (4 minute), if not answered on “normal” the BT agent takes the call back and connects to the same trust’s “reroute” line.
- On the reroute line IRP creates a pool of ambulance services with 3 or more agents free, removes from that pool the last trust to take a rerouted call then randomly selects one of the remaining trusts in the pool to maintain equitable distribution of rerouted calls.



Note: In the event of a failure IRP can be bypassed using the “alternative” line.

# Insights into how industry is supporting MAIT

**Gordon Ellen, Seraphina Earl and  
Graham Snee, Eviden, ATOS**



**We are**



**We expand the possibilities** of data and technology,  
now and for generations to come.

BAPCO Presentation 2023

# EVIDEN

## Agenda

**01** Eviden Overview

**02** MAIT Overview

**03** Q&A

## Presenting for you today



**Gordon Ellen**  
Client Executive  
Partner (CEP), UK  
Emergency  
Services



**Seraphina Earl**  
Account Manager,  
UK Emergency  
Services



**Graham Snee**  
MAIT Product  
Owner, Microsoft  
Practice



## A snapshot

- We're a **circa €5 billion revenue** Atos business that will become an independent company in late 2023.
- **A new digital scale-up** where brilliant minds come together to sustainably expand the possibilities of data and technology.
- We cover **6 areas** (Digital Transformation, Smart Platforms, Cloud, Advanced Computing, Digital Security and Net Zero) in **7 industries**,
- We're unique in being able to bring all these capabilities holistically for our clients with the **combination of our own Intellectual Property (IP) and of the IP of our leading partners.**

**57,000** engineers and problem-solvers in 45 countries.

**Worldwide #1** in managed security services

**Worldwide #3 and European #1** in high-performance computing

**Visionary** In Public Cloud

**Leader** in Data & Analytics

Deep expertise in technology and data value chains: **2,100 patents, 50,000+ certifications**

# Why are we here today?

75% of all 999 calls require support from multiple agencies

## Manchester Arena Bombing 22<sup>nd</sup> May 2017



## Grenfell Tower 14<sup>th</sup> June 2017





# Our response to these tragic events - MAIT

We have reduced resource deployment time by over 3 minutes per emergency

<https://youtu.be/v8prshthYXc>

# Management Summary

## Why Eviden – Building Key National Infrastructure with our MAIT Offering

### ✓ Proven Track Record

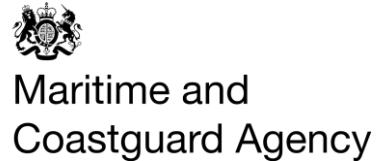
- Live service for >2 years (Mar-21)
- We provide the same, qualified, experienced core team for all MAIT customers

### ✓ Strong Customer Base

- 9 agencies across England and Wales extensively use the service or are due to go live soon
- Including Fire and Rescue services

### ✓ Delivery Excellence

- 24\*7, 365 days of the year
- 100% SLA achievement since go live in 2021, resulting in no of loss of service



# Our Customer Base and Partnership Status

## Credibility

- ✓ Proven Track Record
- ✓ Strong Customer Base
- ✓ Delivery Excellence

### Blue Light Customers Outside Scotland



### Microsoft Practice



**1300+**  
Microsoft full time resources in Microsoft Practice

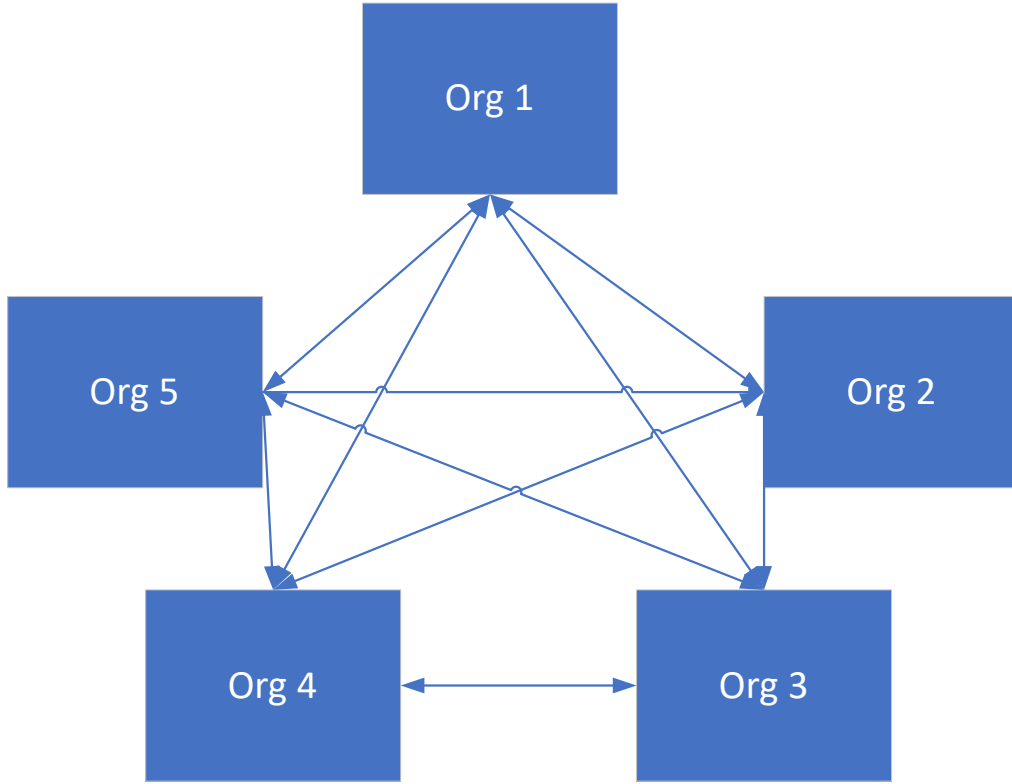
**1660+**  
Microsoft Competency Certifications

**170+**  
Active Customers

# MAIT Connections

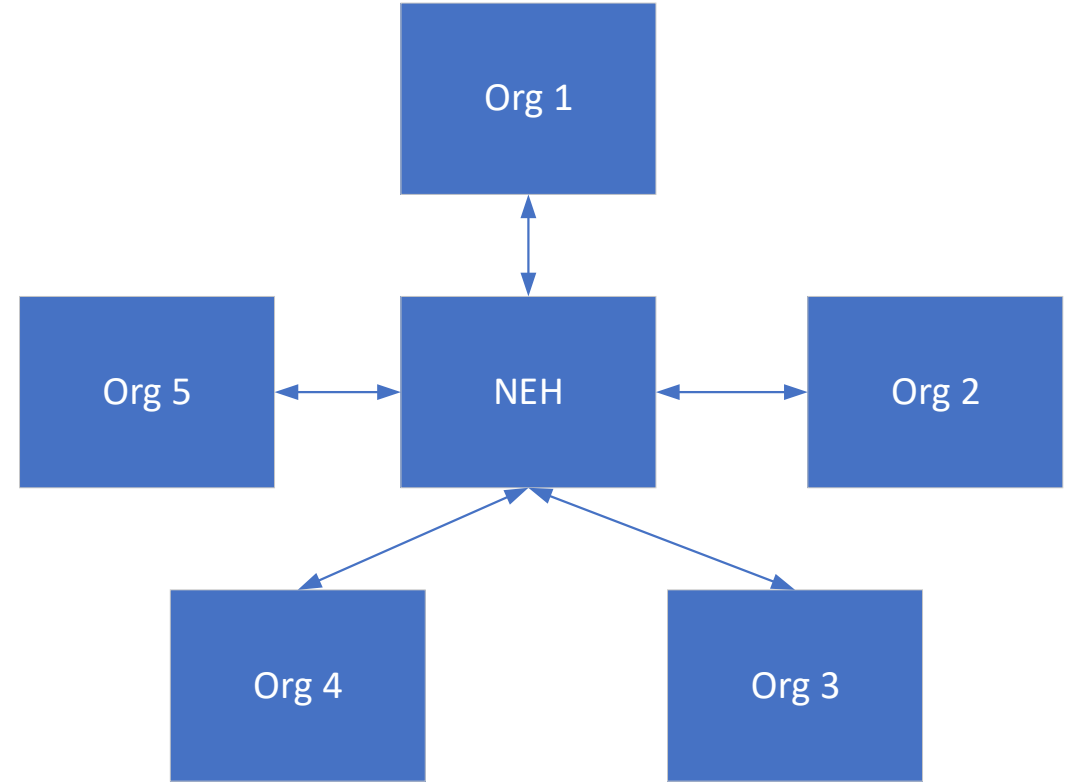
## Why Hub based via National Emergency Hub (NEH)

- ✓ Proven Track Record
- ✓ Strong Customer Base
- ✓ Delivery Excellence



Point to Point solution

10 connections,  
each agency response for 4 connections



Eviden Hub based solution

5 Connections,  
each agency only has to be concerned about its own  
single connection

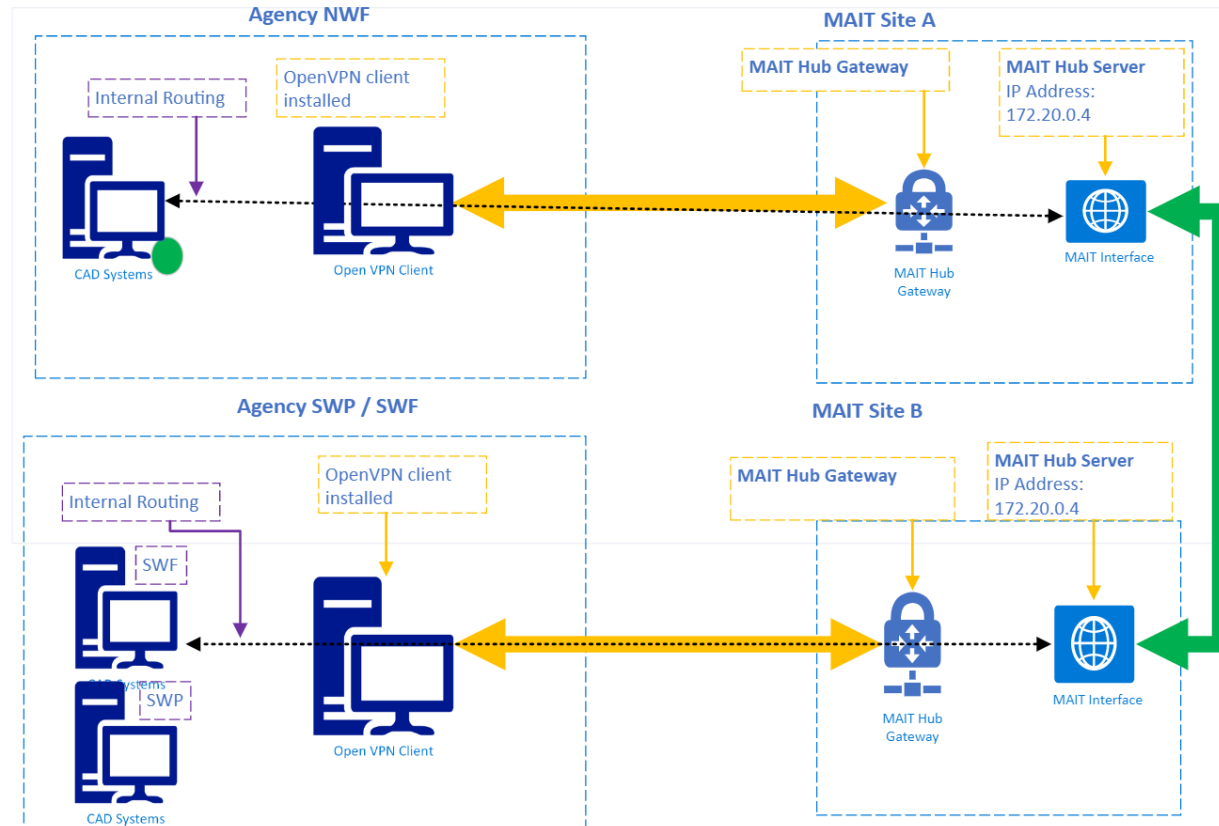


# Our MAIT Solution

## How message flow through the solution

Demonstrating speed, Security and Resilience, DR built in by design

- ✓ Proven Track Record
- ✓ Strong Customer Base
- ✓ Delivery Excellence



# Service Management

Providing you a reliable MAIT Service

- ✓ Proven Track Record
- ✓ Strong Customer Base
- ✓ Delivery Excellence

## Priority Definitions/SLAs

Priority Level	Description	Result	Target Resolution
Priority 1 - P1	System Down	The Service cannot operate due to failure of the Eviden MAIT Router in the Production environment.	Resolve 95% in 4 Support Availability Hours
Priority 2 - P2	Major Disruption	The main software function of the Service operates but is disrupted (i.e., has an impact on the end result of the software) due to failure of the Eviden MAIT Router in the Production environment.	Resolve 95% in 8 Support Availability Hours
Priority 3 - P3	Non-critical	Impact to Service which has operational Service reduction, but no direct effect on Service availability. An alternative/workaround is possible	Resolve 95% in 2 Support Availability Days
Priority 4 - P2	Non-Impact	An incident requiring resolution, but which currently is not affecting Service or availability.	Resolve 95% in 5 Support Availability Days

## Service Hours

Service Hours		
<b>Operational Area</b>	Support Hours	Priority 1 Incident Support
<b>Incident Management</b>	08:00 – 18:00 M-F	24 X 7 365 days per year
<b>Problem Management</b>	08:00 – 18:00 M-F	N/A
<b>Application Support</b>	08:00 – 18:00 M-F	N/A

## SLA's Achieved – >500,000 incident messages passed through MAIT in this timeline

	Metric	SLA	Since go-live
Gwent Police	within agreed metric for P1-P4	95%	100%
Joint Fire Control*	within agreed metric for P1-P4	95%	100%
South Wales Police	within agreed metric for P1-P4	95%	100%

EVIDEN

02 Q&A



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# Insights into how industry is supporting MAIT

Paul Miller, AVR Group



[www.linkedin.com/company/british-apco](https://www.linkedin.com/company/british-apco)



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# ECHO & MAIT

Paul Miller – Director AVR Group Limited

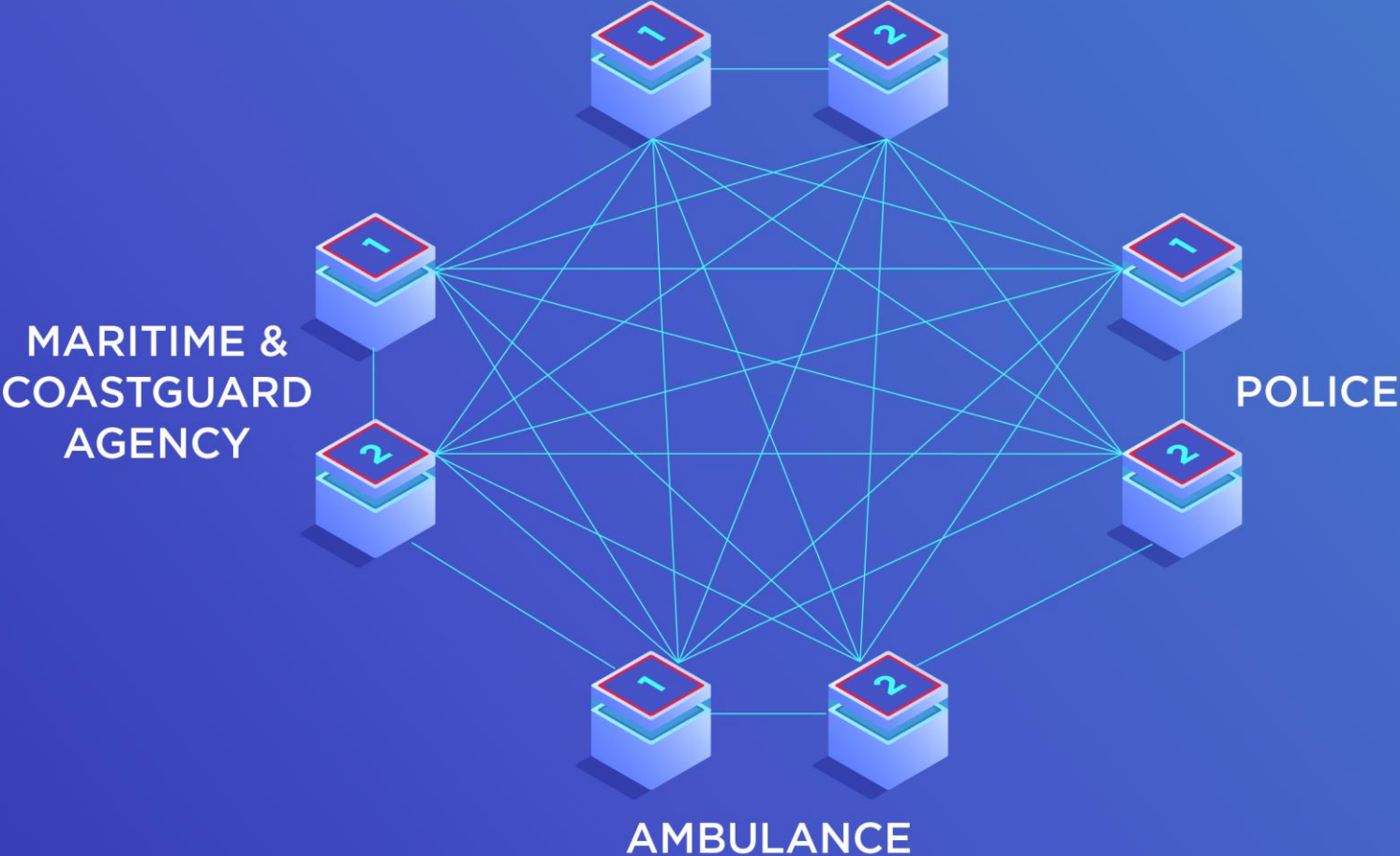
# Multi Agency Incident Transfer

- Electronic communication
- Secure transmission
- Standardise and automate information
- Quicker mobilisation





# FIRE & RESCUE SERVICES









# Not for profit organisation

PARTNERS





First phase - police services

ARC Platforms



Monitor Computer Systems

Police Platforms





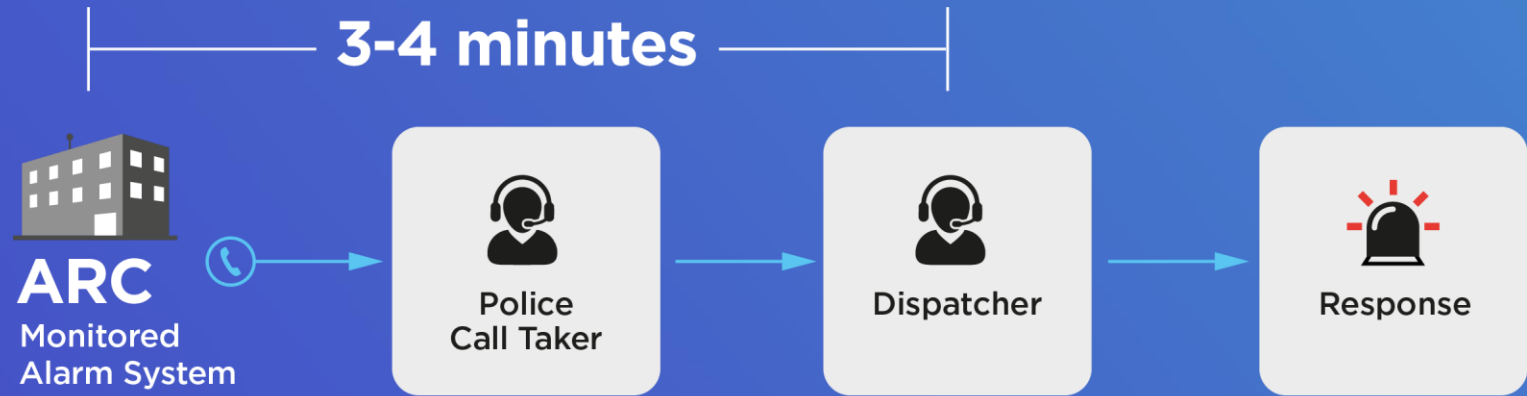
46 Connected ARCs  
36 Live

14 Connected Police Forces  
11 Live

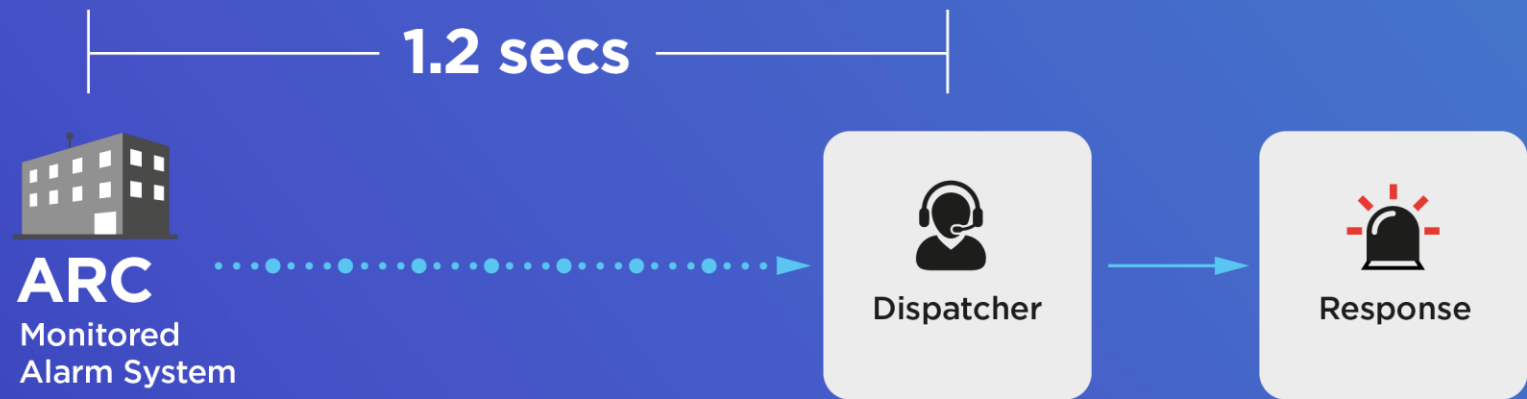
PARTNERS



Without  
ECHO



With  
ECHO





Over 350,000 police approved alarm systems  
signalling in those areas

NPCC – saves up to 4 minutes in response times

PARTNERS





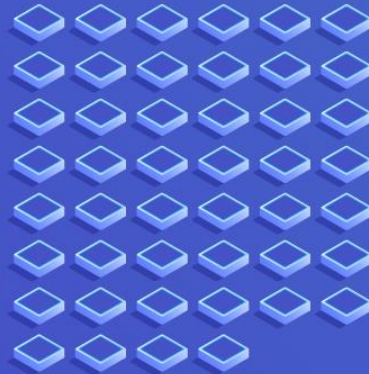




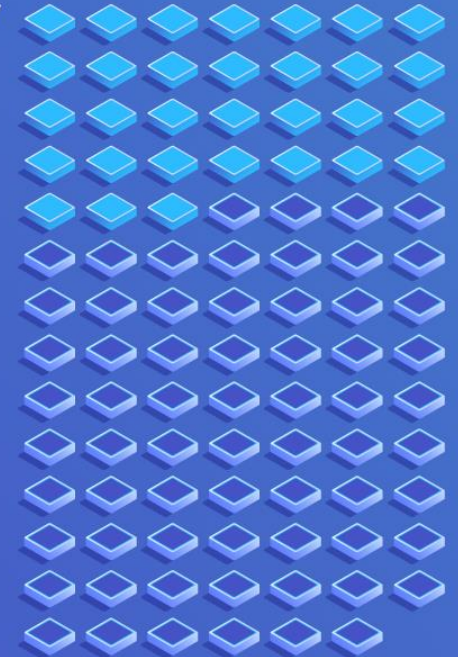
43  
POLICE  
FORCES



46  
FIRE &  
RESCUE  
SERVICES

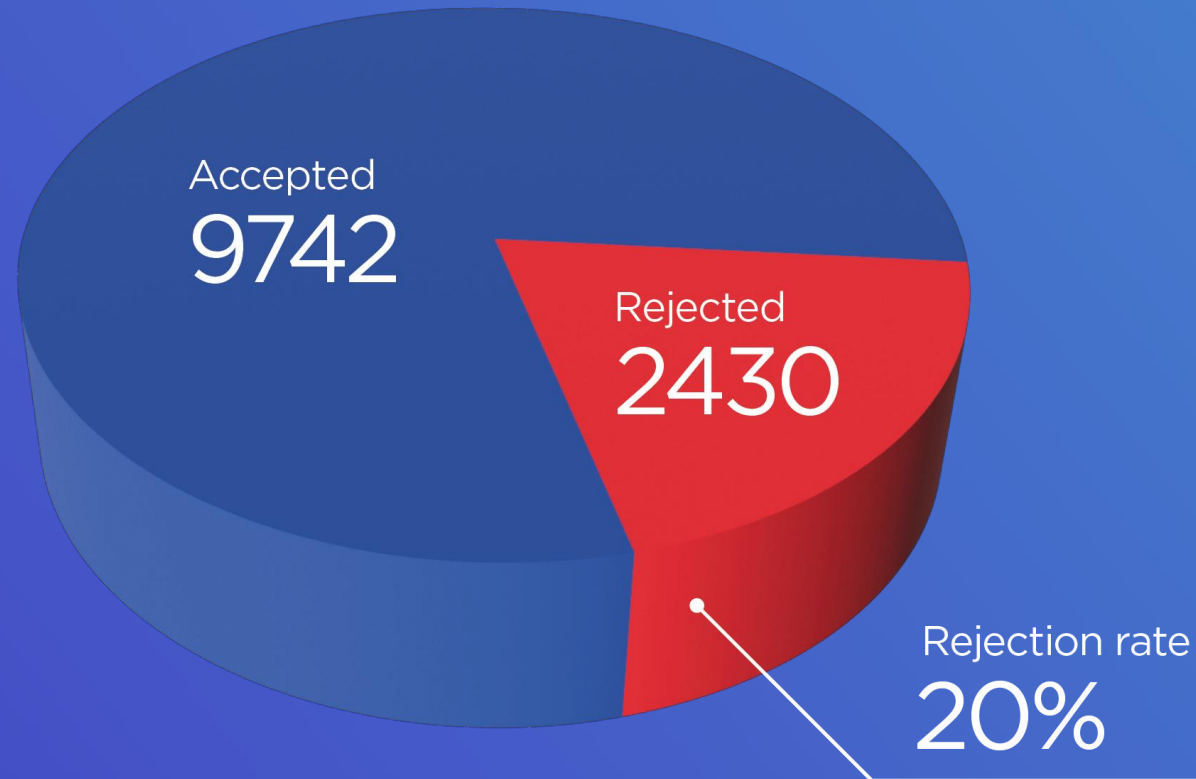


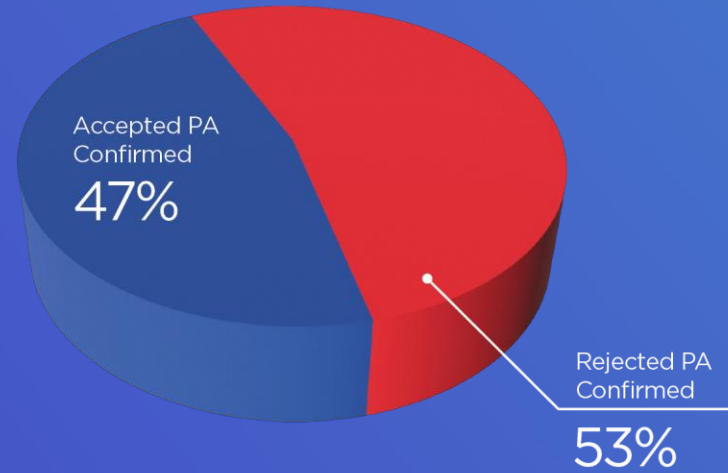
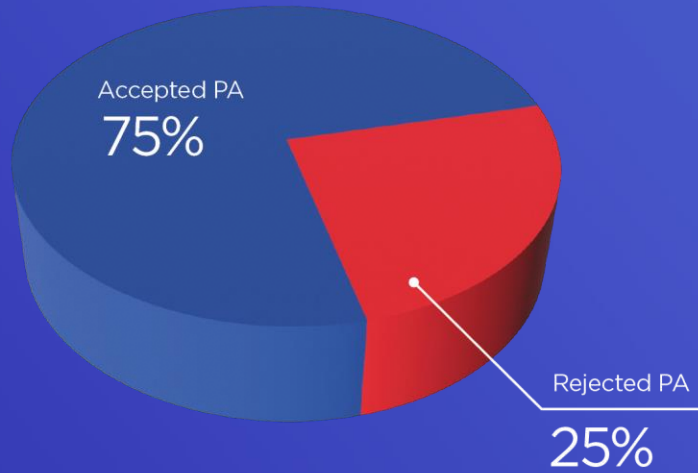
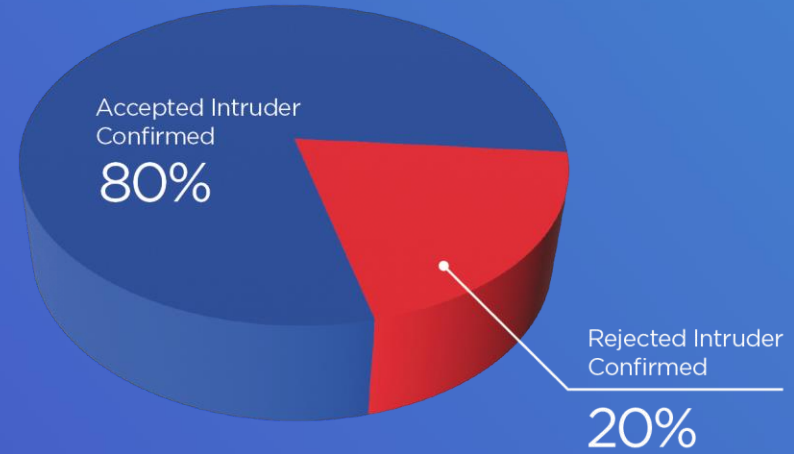
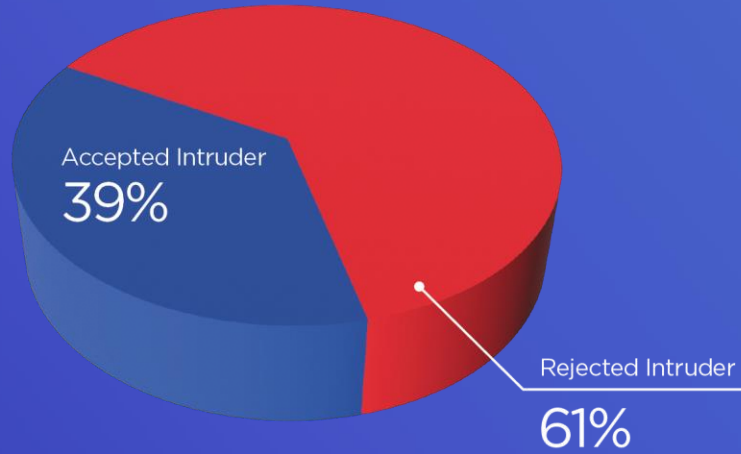
97  
ARCS

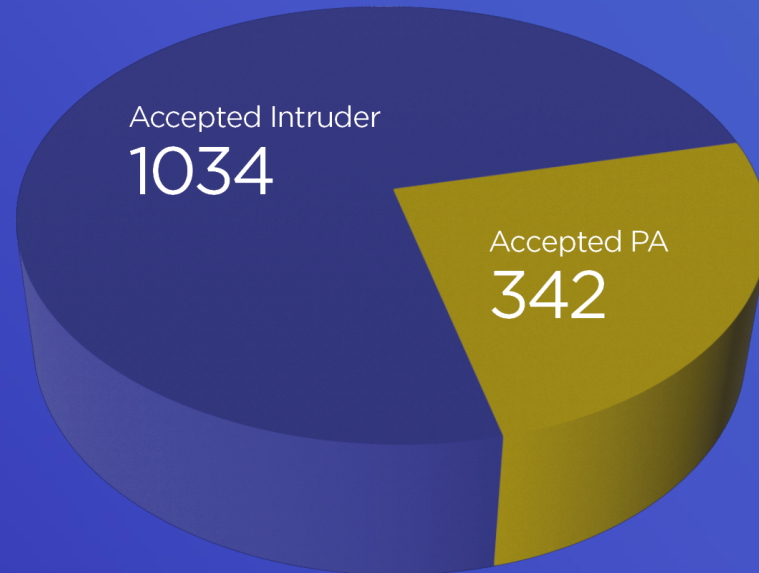


## ECHO stats April-June 2023

Total automated transfers  
12,172







Total	1376
Rejected	0
Assume 20% rejection	275
Response cost @ £200	£55,000
<b>Potential annual saving</b>	<b>£220,000</b>





## Summary

- MAIT allows emergency services to share incident records
- Using this standard, means emergency services can reduce the time it takes to respond to an incident
- MAIT is a government approved open standard

## Results

Response time reduced from over **4 minutes**  
**per call to 16 seconds**

Reduces the impact on those involved

Increases confidence in the incident location.

## Results

Over 300,000 calls annually  
save over 18,000 hours.

Operators can spend more  
time with callers









**Thank you**

**[paul.miller@monitoring.co.uk](mailto:paul.miller@monitoring.co.uk)**  
**[www.echo.uk.net](http://www.echo.uk.net)**



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**Maintaining the MAIT schema to ensure it remains fit for purpose; is a core requirement for control room CAD solutions; and has no barriers between suppliers offering MAIT enabled solution**

**Discuss!**



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- **How do we get the M into MAIT**
  - **Marcomms for MAIT**
    - videos
    - user case studies
  - **Governance**
- **Understanding the Schema**
  - comms, training....



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# Closing Remarks

John Anthony, Past President, British APCO



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