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Using Large Scale Metropolitan CCTV systems in Control rooms

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Agenda

- An Overview of a Large Scale Metropolitan CCTV System…
- How CCTV is used
- Implementing CCTV System
- Benefits and non-benefits
- Current and Future Developments

Crime Statistics London

- Monthly there are:

  Approx 15,000 violent attacks

  Approx 15,000 vehicle crimes

  Approx 10,000 burglary and robbery offences

  Plus over 200 serious crimes, including gun crime and homicide

  Over 4,500 major events per year

  Over 2.5 million emergency calls per year

  Over 10 million non-emergency calls per year


NEW
SCOTLAND
YARD

The Stats….

- Operational Since February 2006
- Tasks:
  - Incident Management 24/7; Planed Events & Major Incidents (SOR)
- 3 New Command Centres
  - 2 newly build, 1 refurbished
  - >23,000 sq m Floor, >1340 sq m Equipment Rooms >800km data cabling
- 3 Main Sites + Special Locations
  - City of London Police, 15 London Sporting Venues, 2 Motorway Control rooms, Royal Parks, City of London Police, Heathrow, 17 additonal MPS Sites, Parliament, Diplomatic Protection Group
- 533 ICCS Positions (after Olympics: 630+)
  - 437 CCTV Equiped and 96 remote positions
  - Special Operations Room: 111 in Centre 1, 54 in Centre 2
  - Digital Radio: Motorola Dimetra Tetra (560 CCI Ports + SDS Proxys + MCADIs)


VICTORIA
OLD FORD
PARK

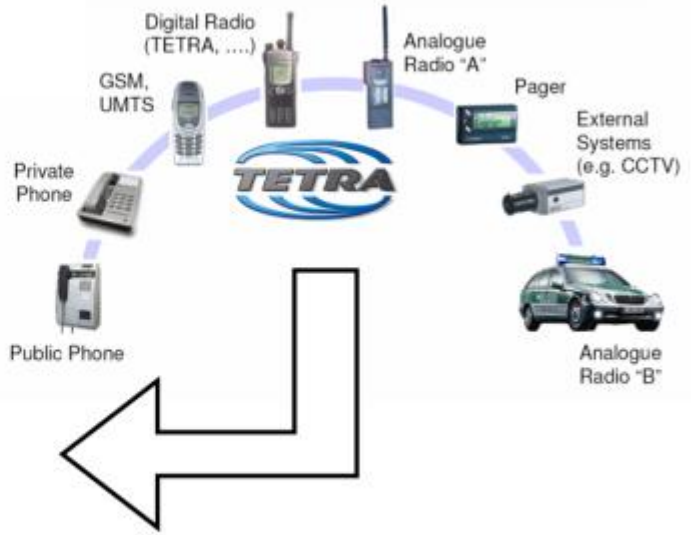
(Quick one: What's and ICCS?)

→ **I**ntegrated **C**ommunications **C**ontrol **S**ystem

- Provides resilient, integrated access to a multitude of communication and data systems
- Unified presentation to Operator, Unified call routing (ACD)

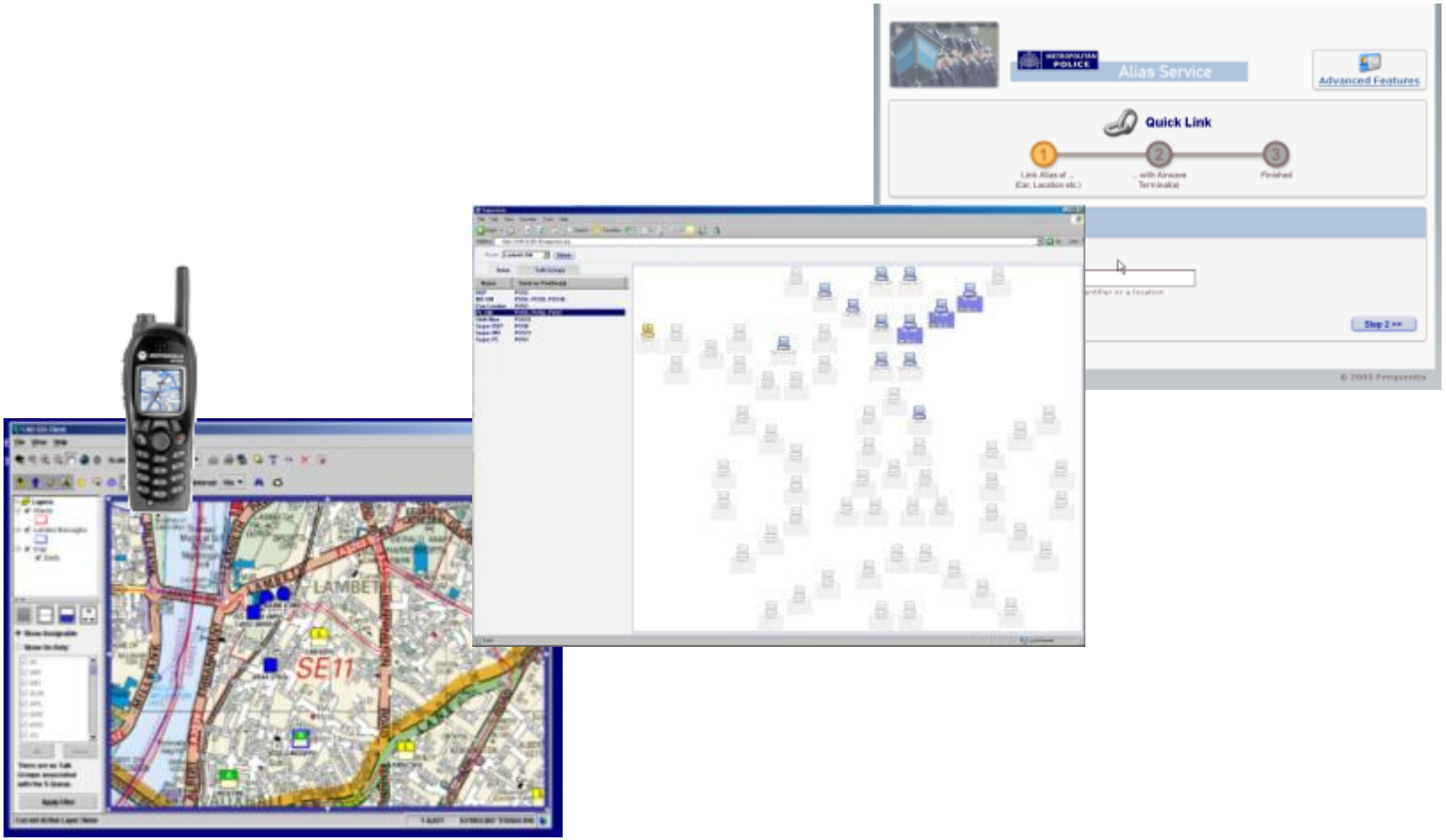
→ Benefits:

- Technologies used transparent to the user
- Interoperability between communication channels
- Scalability (Free Seating, Role System)

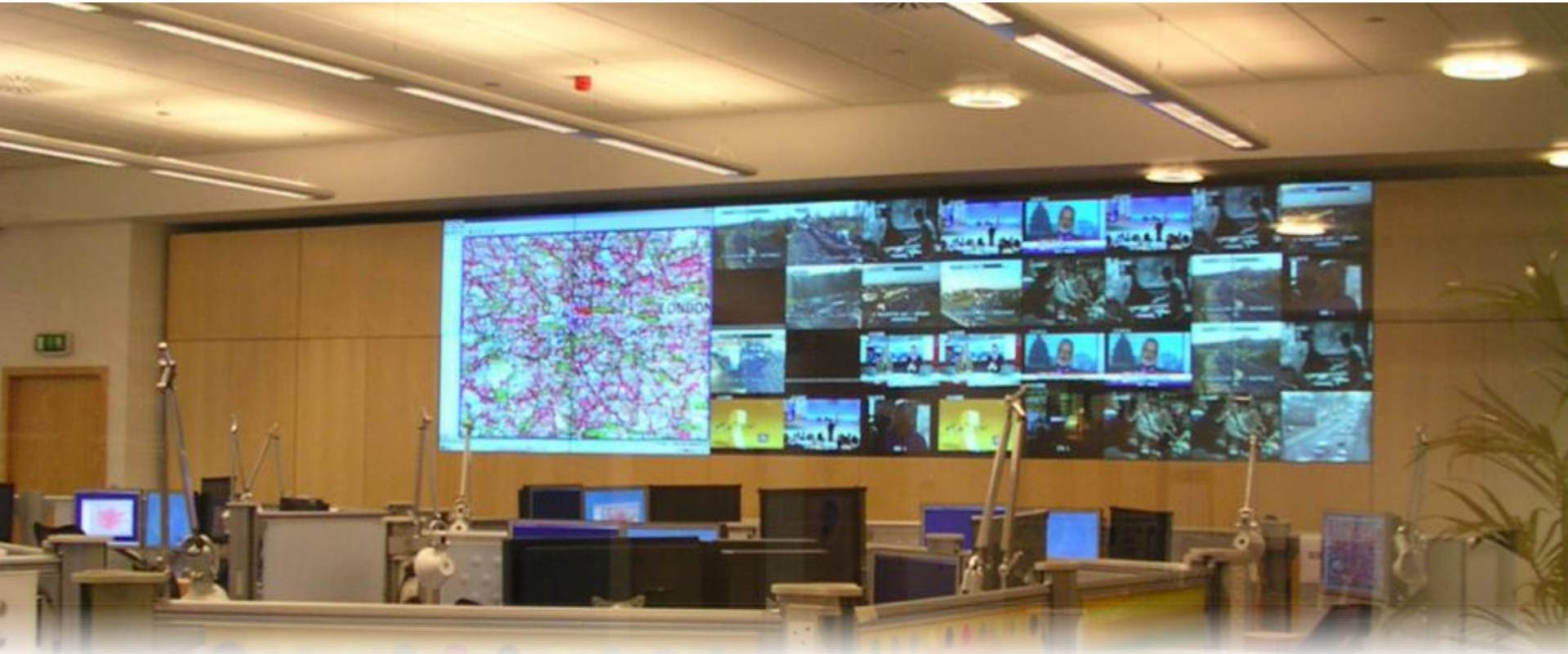


(Quick one: Also provided…)

→ APLS, Supervisory Tools, Alias Service



CCTV



- Access to >50,000 cameras
- 3 Video Matrices: Centre 1 Biggest matrix with 256 inputs and 1100 outputs
- 10 Video Walls

CCTV Cameras

- Access to >50.000 Cameras (‘pull’ access <8000)
- Which Cameras?
  - Agreement to access Transport for London Cameras
  - Mobile ‘Special Event’ Cameras
  - Number of Camera Schemes (local Authority, Public Order and Counter Terrorism, etc.)
  - **NOT**: Private CCTV systems (pubs, shops, job agency etc.) Although some have the capability to relay images to the polices
- Analog or Digital?
  - Cameras: Predominantly Analogue
  - Camara features: Mostly Static, some have PTZ or ANPR
  - CCTV Network: Predominantly Analogue
  - Distribution in Control Rooms: Analogue, moving to Digital

How CCTV is Used

→ All: Access to main broadcast channels

Central Control Rooms

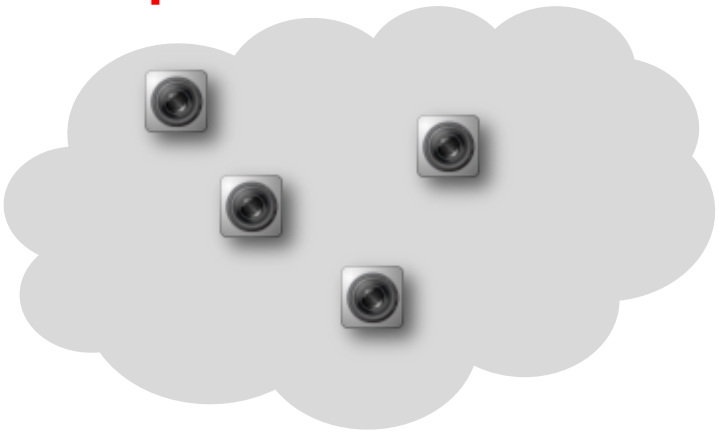
SKY NEWS

CNN

BBC NEWS

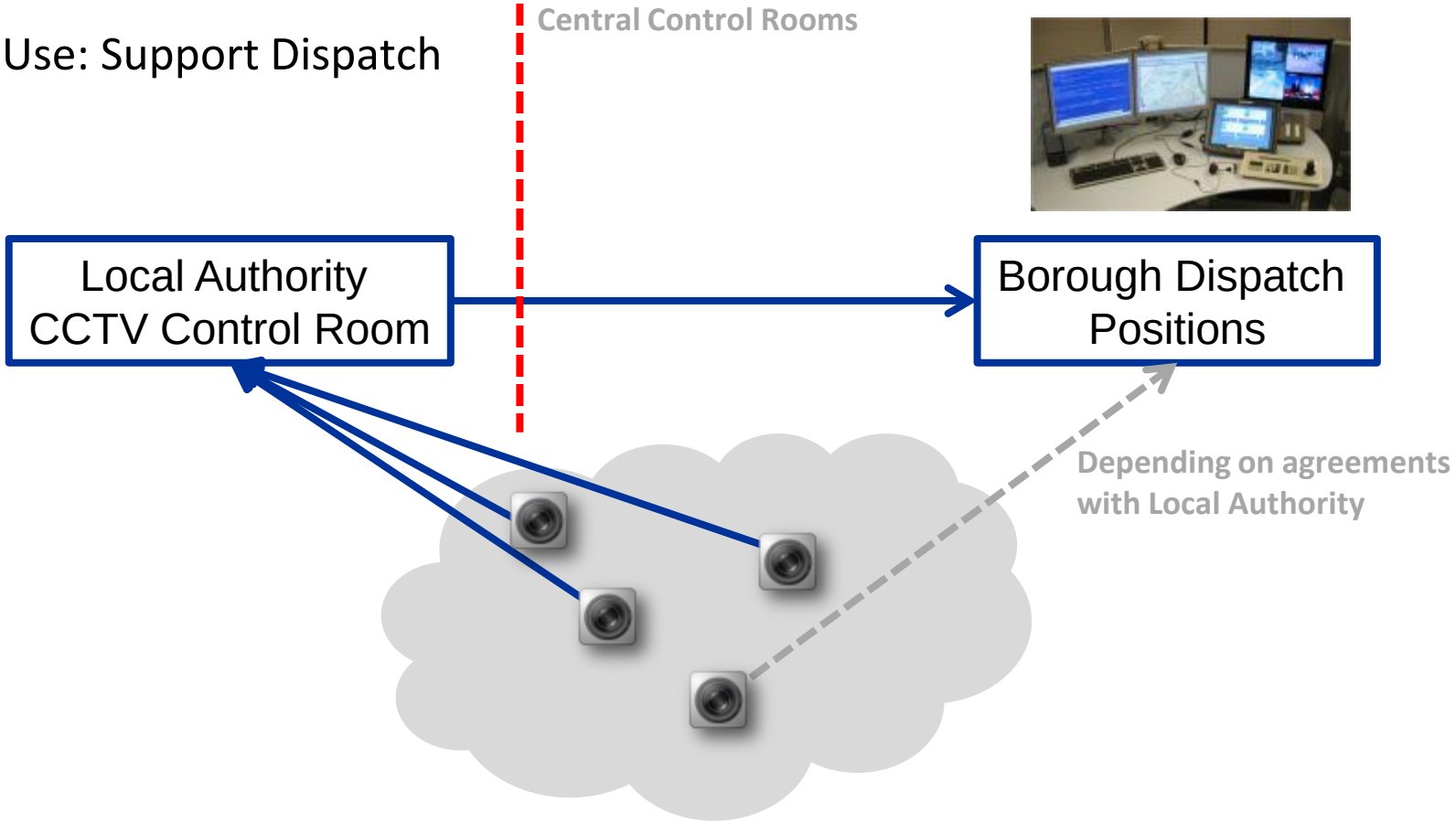
itv

...



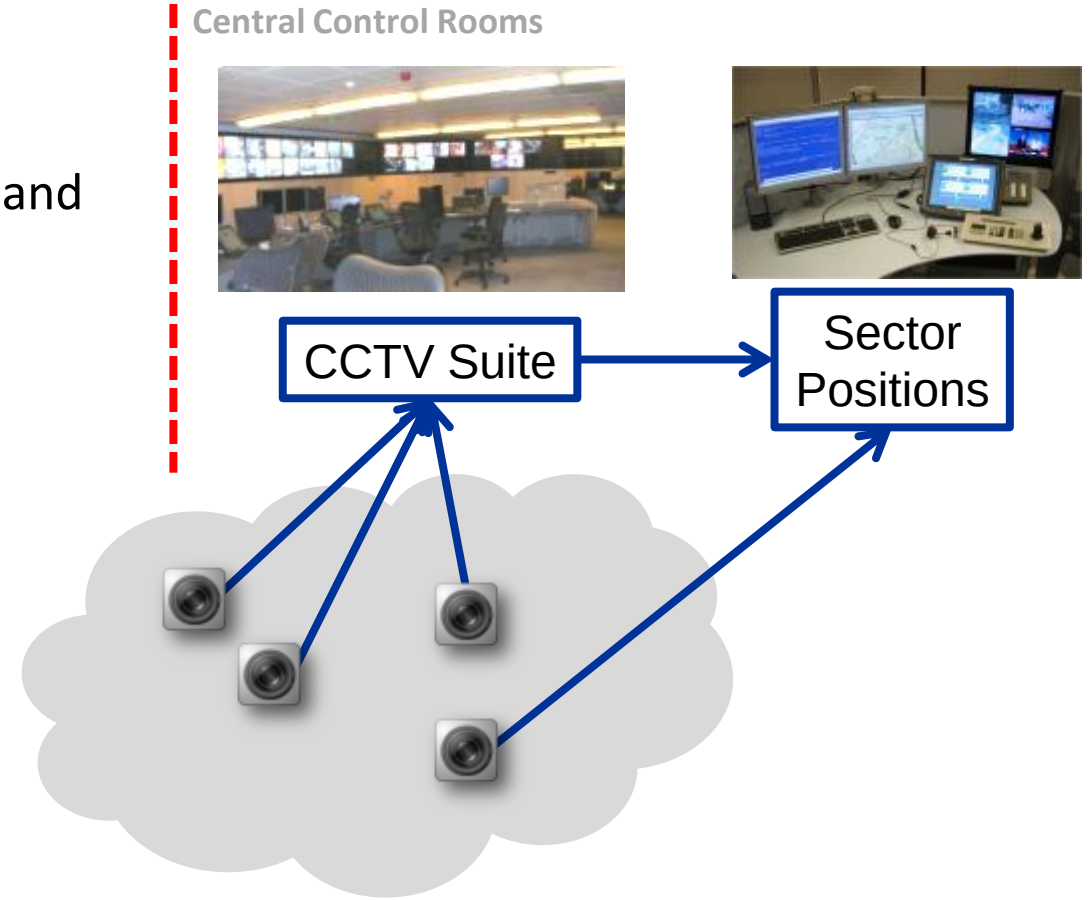
Images to Operator…

- 24/7 Operations: Push
- Use: Support Dispatch



Images to Operator…

- Special Operations (planned Events etc.): Pull-Push and Pull
- Use: Situational Awareness for Gold/Silver command



Implementing CCTV System

- FREQUENTIS was tasked to provide through the ICCS access to the CCTV system
- Subcontracted Tyco (CCTV Routing) and Meyertech (Analog Video Matrices) for ‘back-end’ system parts.
- MPS managed arrangements with Local Authorities
- About the requirements…

User Involvement is…

- Just tick ~~the consult users box~~ and move on

- Throughout procurement, system design and delivery a consistent **Integrated Team** composed of:
  - Customer side:
    - Key stakeholders: Operational Lead/Operators/Officers
    - Business Architect
    - Strong project management focused on the goal of project
    - System Maintenance
    - Training
  - Supplier side:
    - Technology experts
    - Usability Engineer/Process Verification
    - Project Management

Key Success Factors of an Integrated Team

- Have clear objectives and needs
- Stay grounded
- Retaining knowledge and understanding
- Internal Marketing
- Ownership of the solution is shared
- Composition of Team skills/knowledge/dynamics
- Supplier must be brave enough to say Give us an integrated team.
- Be honest about possibilities & limitations

Success of an Integrated Team…

Metropolitan Police Service
Directorate of Information

COMMENDED

Awarded to

Frequentis GmbH

for

outstanding professionalism and commitment to the MPS in successfully completing the ICCS Phase 1 and 2 migrations and meeting operational requirements.

December, 2006
Date

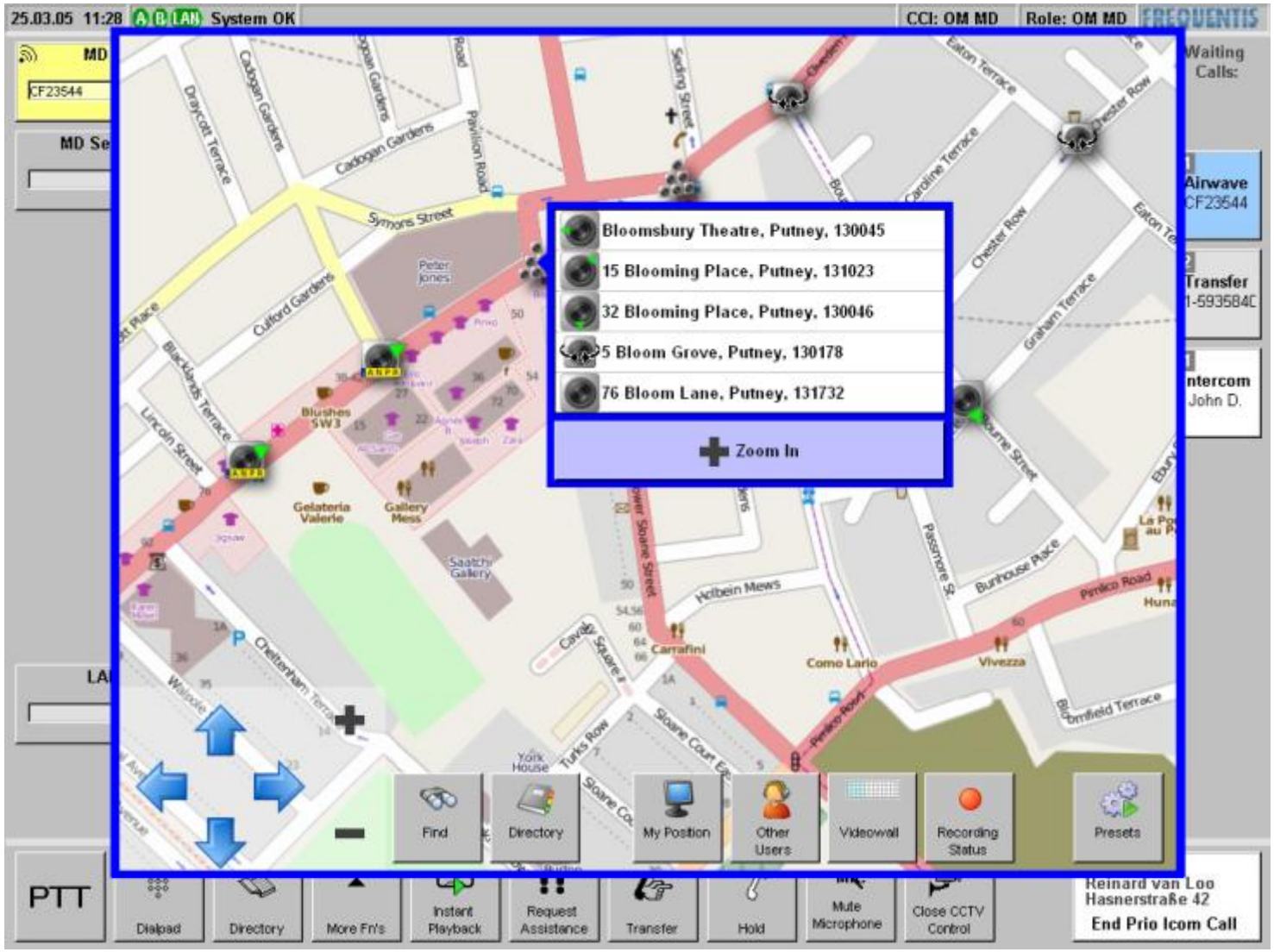
Director of Information

Benefits and Non-Benefits

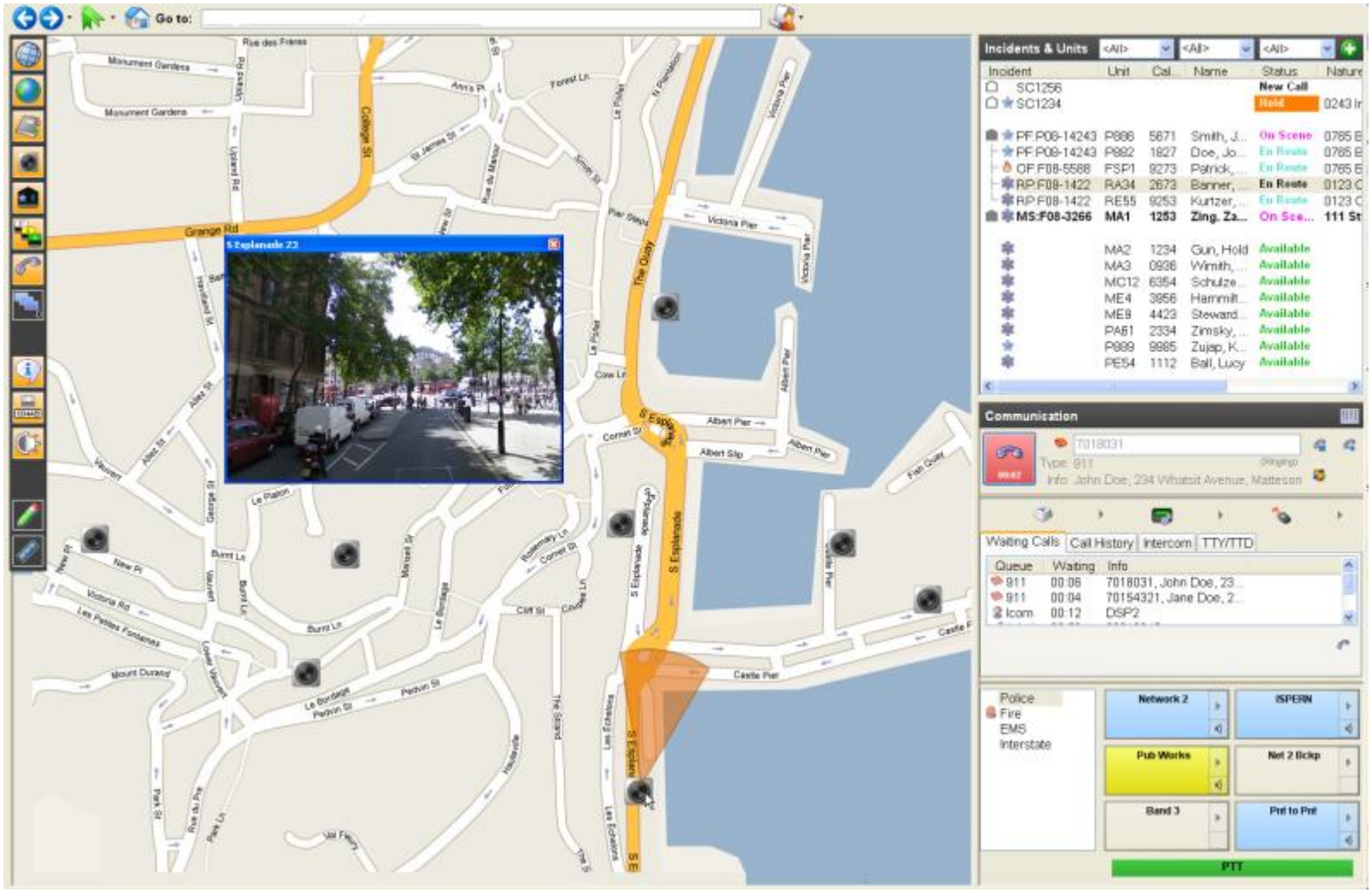
- Controversial Topic
- Research and Reviews show: Weak on Prevention
  - Ineffective in Reducing overall Crime rates
  - Presence of Camera has reducing effect on types of Property/Vehicle Crimes
  - No or little effect in reducing fear of Crime

- Practice shows: Strong on Finding, Operational support
  - After the fact person searches (missing or criminals)
  - ANPR Effective in searching vehicles
  - Provide Situational Awareness during Events
  - Support Dispatch operations

Current and Future Developments for Control Rooms



Digital Distribution



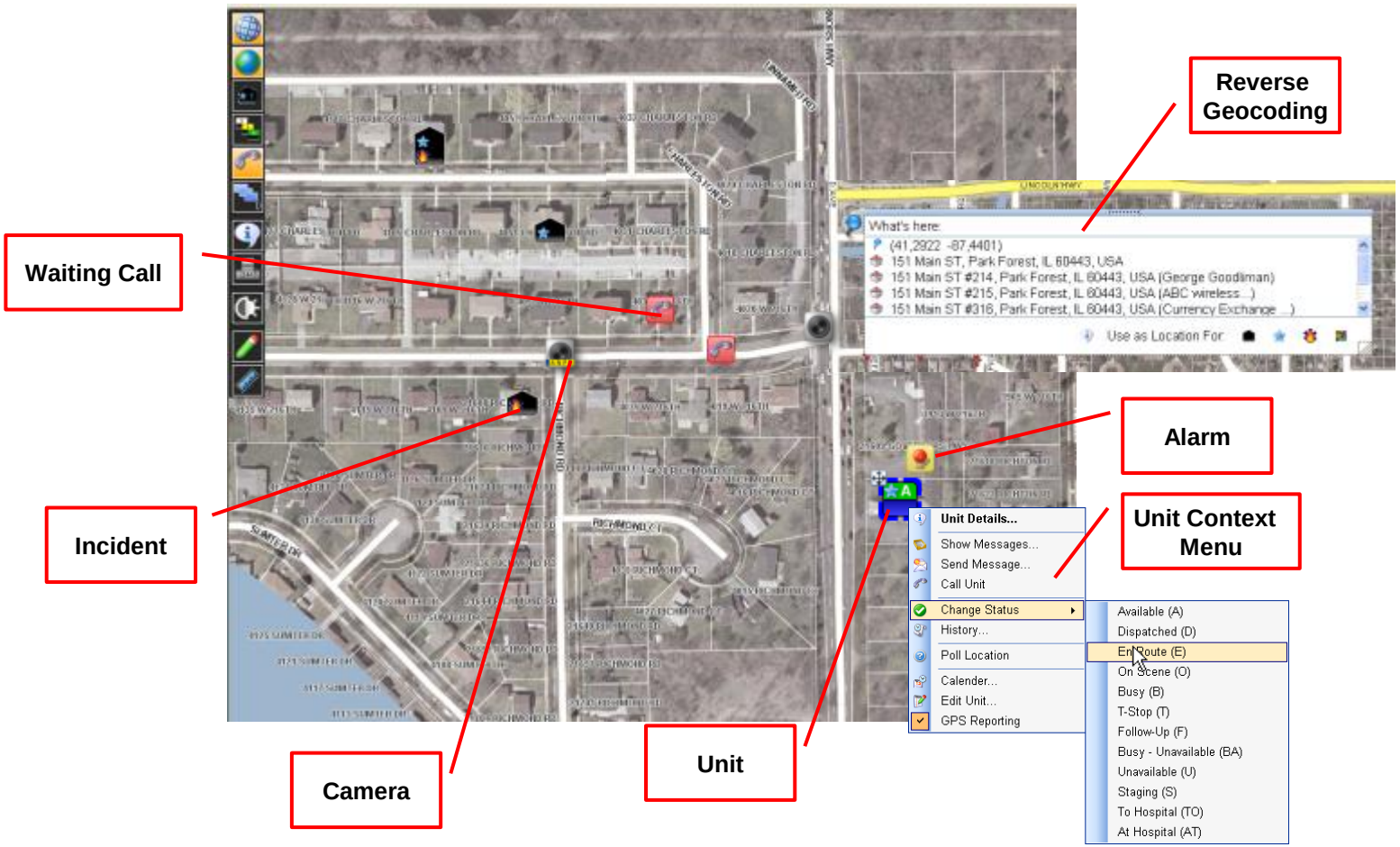
Airborne Camera Integration

- Select point on Map -> See live feed of that point after aquisition by plane
- Area scanning and showing as ‚Satelite Picture‘ with <30 min latency.

More intelligent Video Analysis

- Current Issues:
  - Too much video to be recorded,
  - not enough people to analyse,
  - often poor quality pictures
- Facial recognition not possible due to low resolution, bad lighting, no clear frontal ‘mug shot’ etc.
- Use different techniques:
  - Index recordings according to faces (not persons) recognised
  - Person recognition based on movements patterns
- Bottleneck: Work required on how these new real-time analysis events can be integrated into existing or new operational processes

Integration into C&C: e.g. work from the map



FREQUENTIS Safety Framework

Service Oriented Architecture based

Core Services

Integration Services

Analysis Services

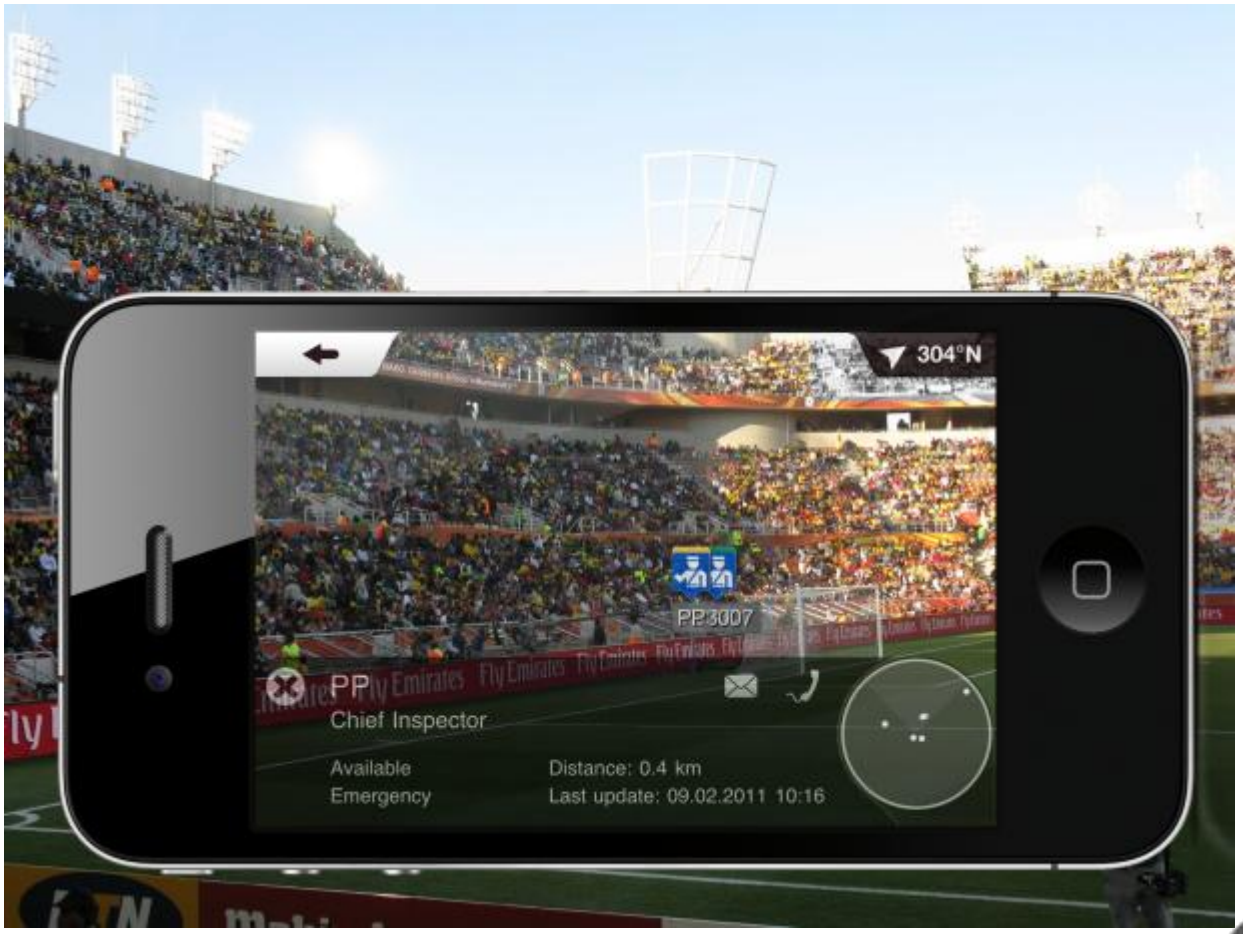
Data Cloud

Converter Gazetteer						Converter Mobiles
Converter GIS	Converter Secure IT Link (Other Agencies)	Converter Secure IT Link (DVLA)	Converter Secure IT Link (PNC)	Converter CCTV	Converter Alias Service	Converter Audio Recording
Converter ANPR	Converter CAD	Converter Duty management	Converter MIS	Converter PABX	Converter Legacy Radio	Converter IESEC/ ALSEC
Converter Workforce Management	Converter ICCS	Converter AVLS	Converter APLS	Converter Video Recording	Converter Airwave Data	Converter Airwave Voice

Modern Architecture…

- → Makes it *Easier* to integrate hitherto individual systems/data
- → Makes it *Easier* to provide Purpose built clients…
- → Makes it *Easier* to focus on operational process

For instance…



Innovation for Collaboration and Control Environments

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