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# Mobile Technology On Prison Wings

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**Not Protectively Marked**

# Overview

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## Context

- The Landing PO
- Innovation

## Opportunities

- Line of Business
- Access to information
- New developments

## Challenges

- Security
- Technology
- Architecture

## The Way Ahead

- Pilot Programme
- Wireless Networks

# Context – The Prison Officer on the Landing

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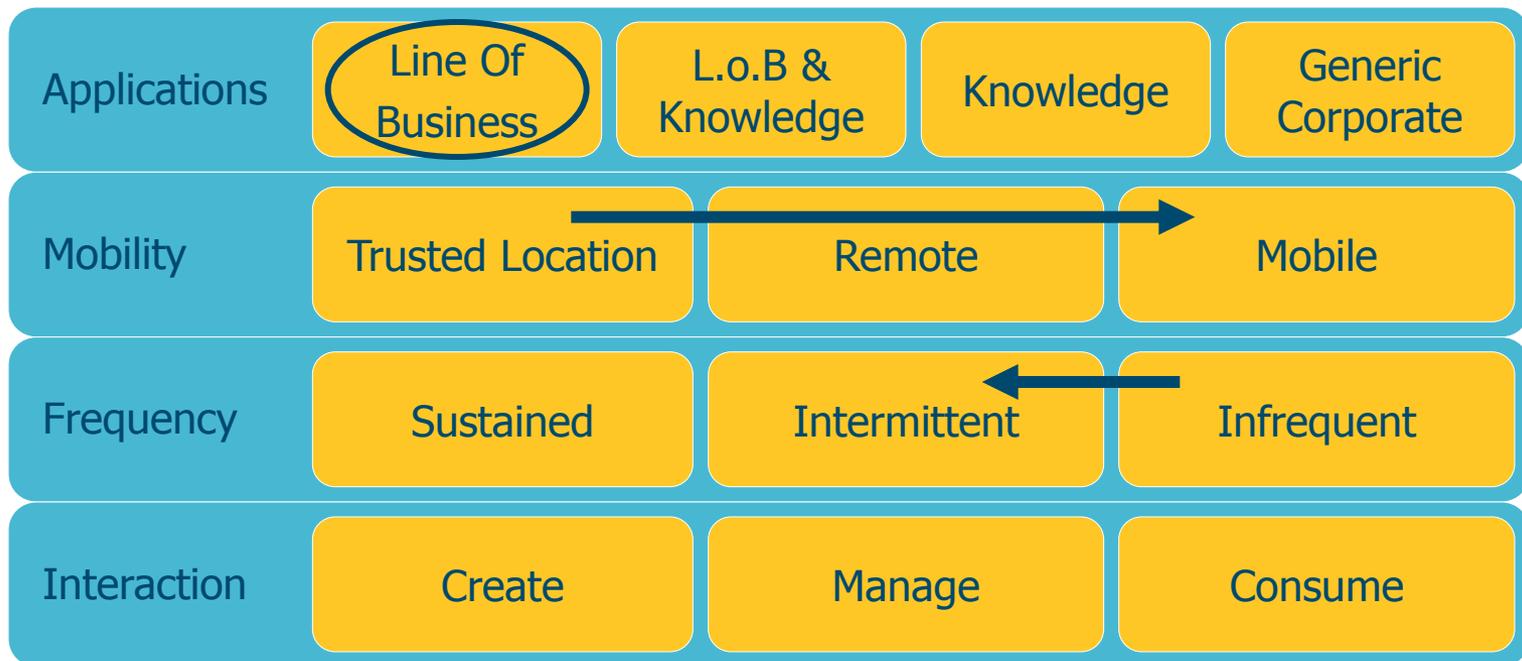
## HMG Model for IT service usage



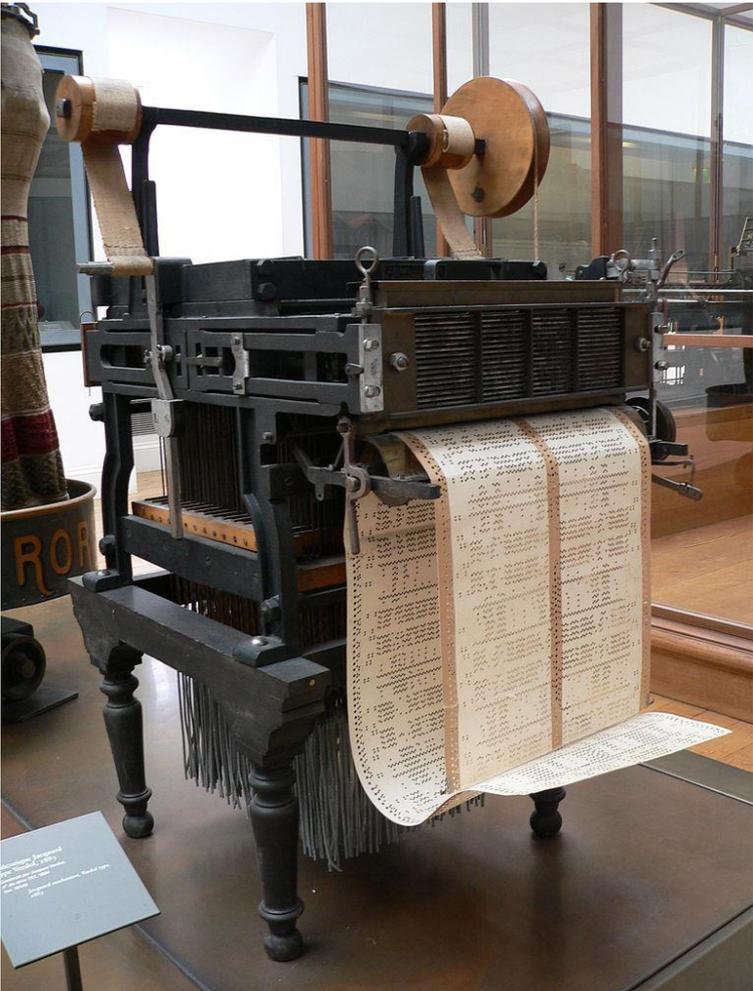
# Context – The Prison Officer on the Landing

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## HMG Model for IT service usage



# Context – Innovation versus Shiny Toys



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## Opportunities - Use cases currently being examined

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- **Access to Line-of-Business applications on the wing**

- Offender requests and interaction
- Offender information
- Risk reporting and management

- **Offender Location and Tracking**

- Linked to the use of tagging within establishments

- **Access to ipCCTV**

- Awareness
- Incident response

# Challenges – How Technology Can be Misused

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## •Physical Threat

- The device itself is a potential weapon
- Material for homemade weapons
- Potentially used as a 'shield' against physical attack

## •Transport of Contraband

- Voids within the device can conceal small items
- Images, information, evidence inappropriate to a prison environment

## •Theft

- Unauthorised use and access to data
- Re-engineering to attack MoJ network or control fabric and control mechanisms
- Communication to support acts of indiscipline
- Communication with outside world

# Challenges – The Network Environment

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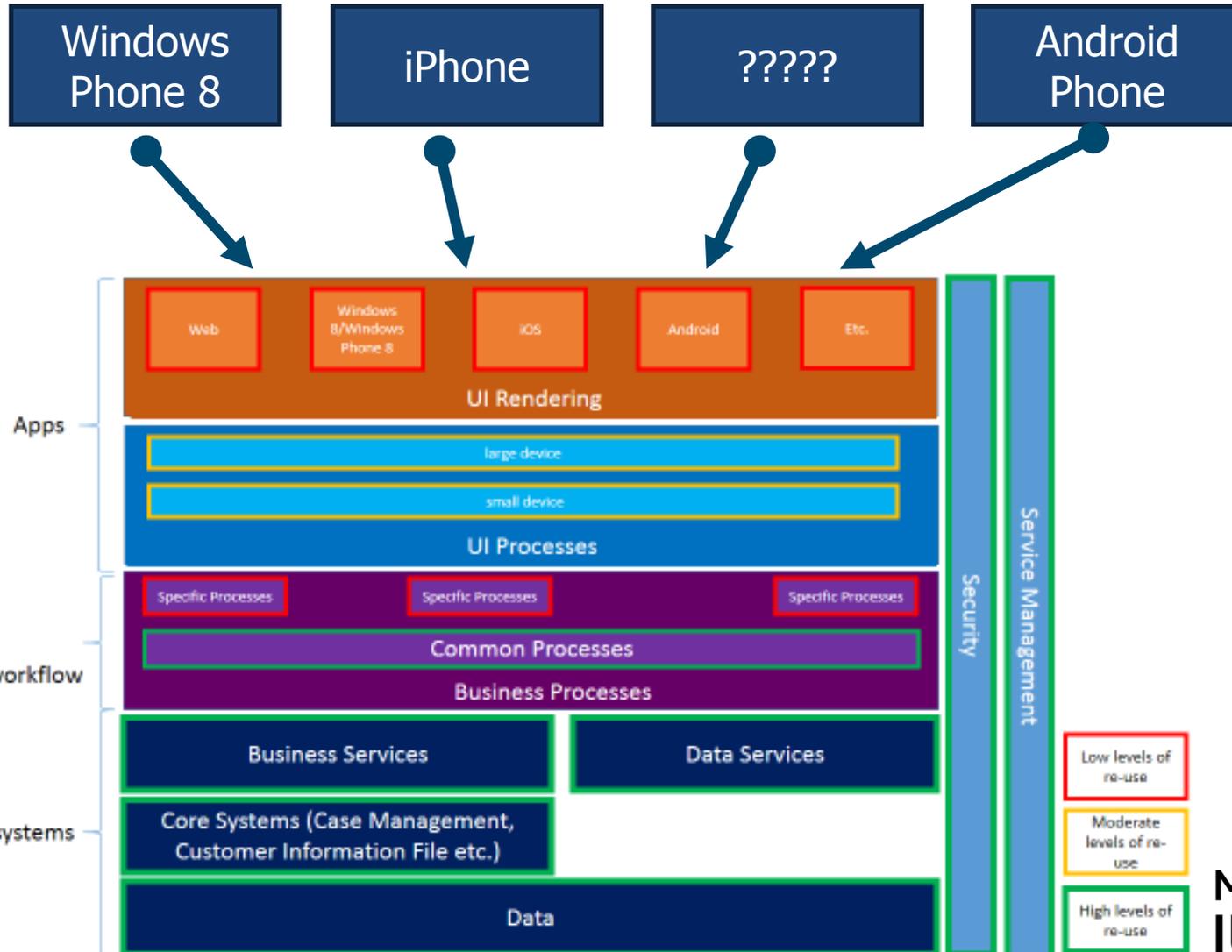
## WiFi issues inside prisons:

- Low powered - hand held devices maximum output is normally 0.4 Watt
- Signal can suffer interference from other devices such as two way radios used by staff
- Best when there is line of sight between transponders
- Does not penetrate solid mass – concrete, brick, metal - the less porous the material the shorter the range and the slower the speed. Prison construction is high density blocks and cell doors are often clad in metal with metal surrounds
- Tinted / reflective glass contains metal fragments resulting in drop in signal strength
- Security fencing can act as a Faraday cage and ground the signal



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# Challenges – It's All Down To Applications



# The Way Ahead – Solving the RF Challenge

Where would you stand in a poorly served building to get the best signal for your cell phone ?

Near the window

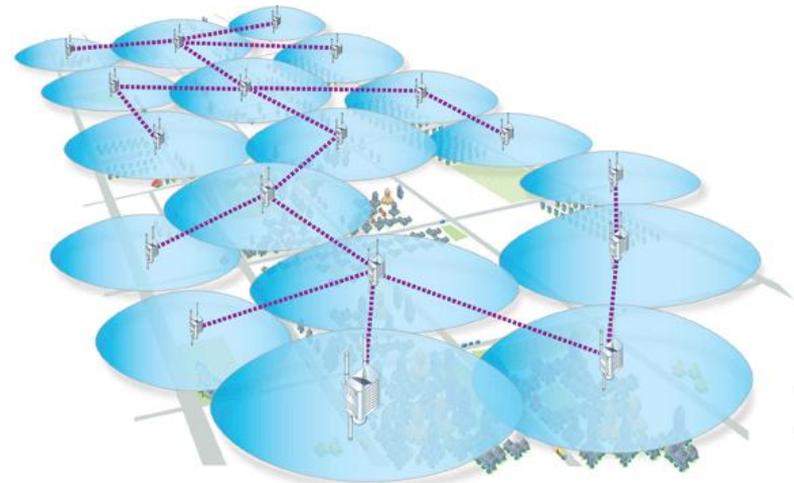
The most porous substance in a cell is the glass or perspex outer window



We are researching the installation of an exterior mesh network or use of inward facing directional wifi devices to allow through the cell window penetration of signal for in possession devices. The service will provide access to authorised content through the secure Prisoner Services Network.



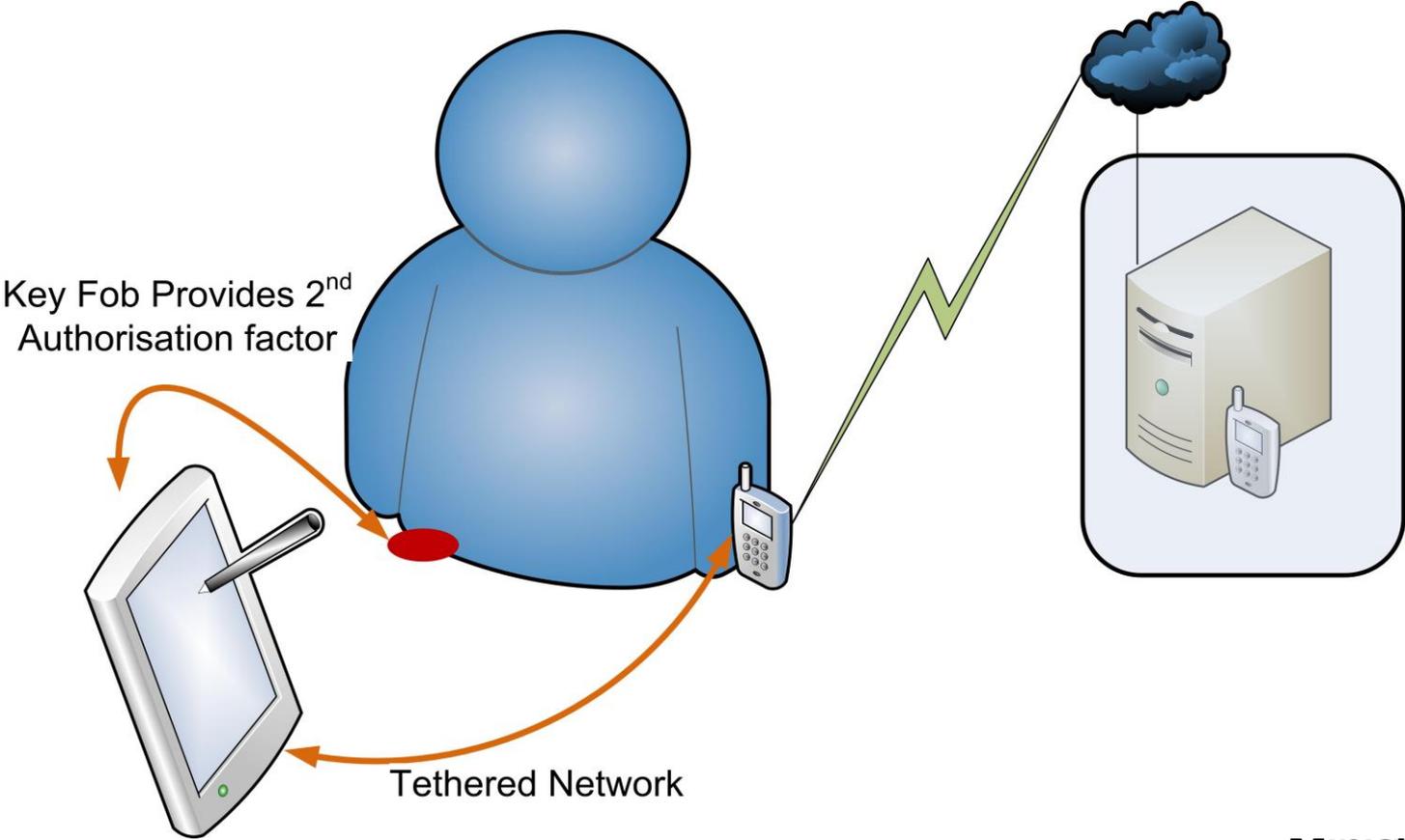
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# The Way Ahead – Data Enabled Radio Sets

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# The Way Ahead – Digital Prisoner Property Management

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In the current system, 2 staff are tasked with clearing cells. They have to go to reception to find the required card, photo copy it and return to the wing to conduct the search. Obtaining the card, photo copying and returning to the wing can be up to 750 meters there and back to the farthest wing. The paper document deteriorates significantly during an offenders sentence.

## The PoC requires that:

- Centrally held data be downloaded to an App
- The App be used to:
  - » Add items,
  - » amend the status of items
  - » accept signatures
  - » take photographs of items
- Return data to a central store and download to a different device.
- Participants are required to provide a short overview of their methodology and assessment of how their App might be enabled to work on the HMPS Estate.

# Questions and Discussion

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