

Urban Traffic Management and the UTMC Open Standard

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Part I – about the initiative

The UK's transport needs



- **Sustained increase in cars**
 - commuting
 - business journeys
 - shopping and schools
 - leisure and tourism
- **Steps towards modal shift**
 - more and better buses
 - more LRTs/metros
 - more cycling/walking
 - improved interchanges
- **Improved urban planning**
 - 'live and work' communities
 - shopping
 - redevelopment of brownfield sites
 - heritage protection
- **Changes in work patterns**
 - teleworking
 - company travel plans
 - flexible hours

Systems and tools



- **Signs and signals**
 - fixed signage
 - traffic lights
 - VMS
- **Enforcement**
 - cameras
 - road user charging
- **Other mandatory systems**
 - variable speed limits
 - tidal flow systems
- **Traveller information**
 - trip planning/replanning
 - car parking information
 - congestion, fog, closures etc
- **In-vehicle systems**
 - lane-keeping
 - direct speed control
 - traffic advice

Historical challenges



- ❑ **Supplier lock in**
- ❑ **Lack of focus for innovation**
- ❑ **Continual “reinventing of wheels”**
- ❑ **Systems connection hard, risky, time consuming and expensive**
- ❑ **Limited ability to take holistic view to traffic management**

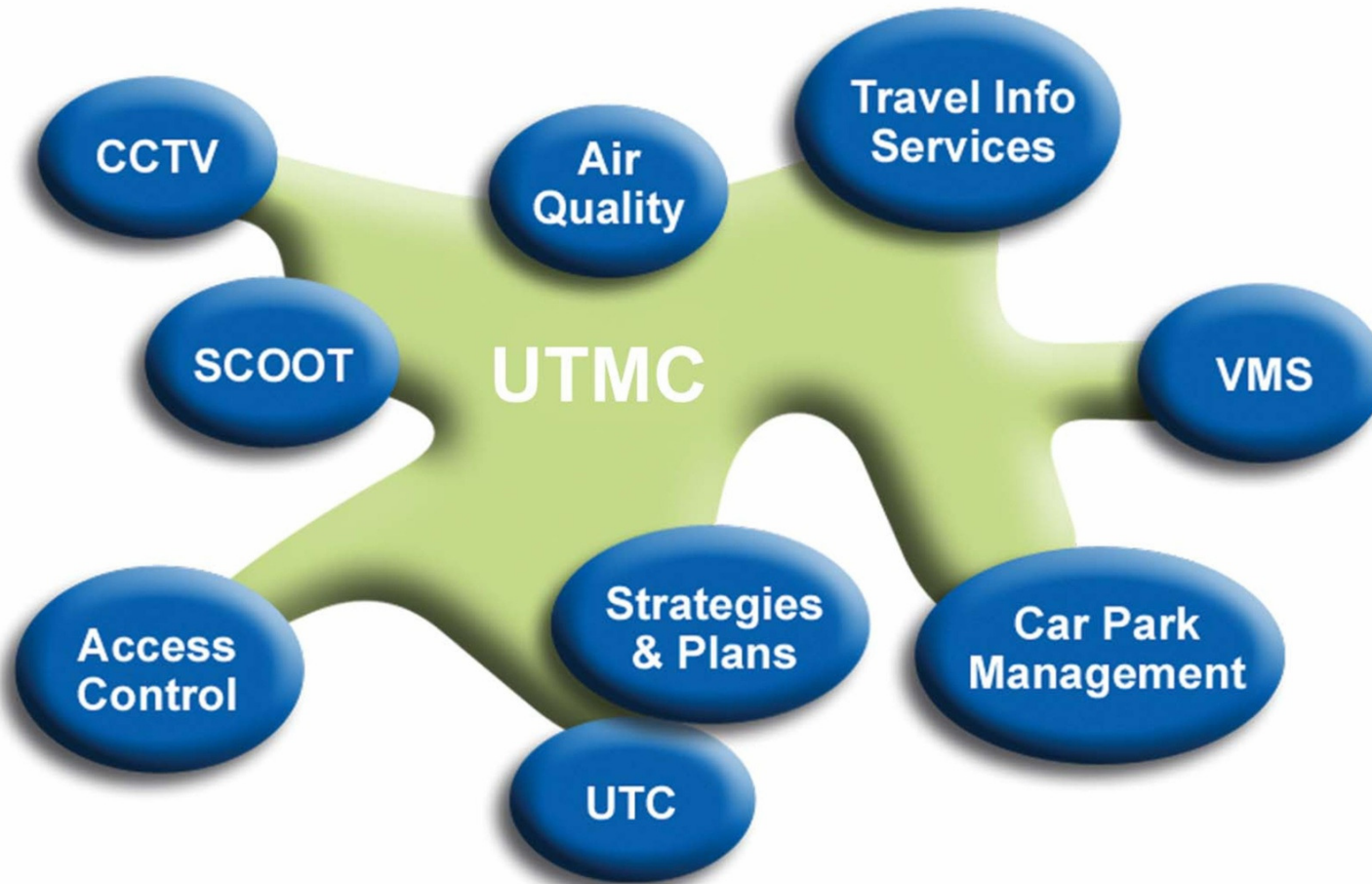
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The concept



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The DfT's UTMC programme



- **Early 90s**
 - Basic review of research in traffic control systems etc
- **1994 - 1996**
 - Forward looking research, draft Technical Specification
- **1997 - 2000**
 - Research projects
- **2001 - 2003**
 - Demonstrations and followers
- **2004 -**
 - In the marketplace

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Policy context at completion



- **Traffic Management Act (2004)**
- **Policy Framework (2005) – identified “seven ITS policy themes”**
 - Improving road network management
 - Improving road safety
 - Better travel and traveller information
 - Better public transport on the roads
 - Support the efficiency of the road freight industry
 - Reducing negative environmental impacts
 - Supporting security, crime reduction and emergency planning measures

Source: ITS Policy Framework for the Roads Sector, DfT Nov 2005

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The UTMC Development Group



- ❑ **Set up in 2003 to provide a steering group for UTMC**
- ❑ **Elected representation from public and private sectors**
- ❑ **Professional support arm, UTMC Ltd**
- ❑ **Links with central Government continued strong and uninterrupted**

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Then...



- ❑ **Global financial crisis (2008)**
- ❑ **Oil price shocks**
- ❑ **General Election bringing in new Coalition Government (2010)**

Current policy context



- **European ITS Directive (2010)**
- **Local Transport White Paper (2011)**

“Urban Traffic Management Control (UTMC) is increasingly the preferred Intelligent Transport System platform for towns and cities in the United Kingdom to help traffic flow more smoothly. It allows a number of traffic management technologies to be integrated at relatively low cost... The Department for Transport will continue to promote the wider adoption of Urban Traffic Management Control both in the United Kingdom and in Europe as part of the implementation of the Intelligent Transport System European Directive.”

Source: White Paper “Creating Growth, Cutting Carbon”, DfT Feb 2011

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Part II – the specification

The UTMC approach



- **Make use of mainstream technology**
 - eg IP in communications

- **No standardisation where not appropriate**
 - eg IP prescribed but can use any bearer (subject to availability, performance and cost effectiveness)

- **Consensus**
 - not imposed, allowing reasonable evolution

- **Open and readily available**
 - website holds or references relevant specifications

The UTMC platform



- **Aims primarily to enable innovative market solutions**
 - focus on standardising interfaces
 - comms largely based on IP over any bearer, information standards specified to facilitate data exchange
- ***De facto* solution has evolved a centralised architecture**
 - “Common Database” ↔ application hosts ↔ controlled devices
 - increasing use of broadband/mobile comms
 - publication (eg to journey planners) somewhat ad hoc
- **Cost remains a large determinant in uptake**

Key UTMC 'standards' documents



- **Technical Specification**
 - TS003.003:2010 Framework Technical Specification
 - TS004.006:2010 Objects Registry

- **Technical Reports**
 - Members only

...all available at www.utmc.uk.com

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Current UTMC components



- Access Control
- Accident
- Air Quality
- ANPR
- Car Park
- CCTV
- Detector
- Event
- Incident
- Meteorological
- Prediction
- Profile
- Roadworks
- Traffic Signal
- Transport Link
- Transport Route
- VMS

...plus a Framework
of “Support Objects”

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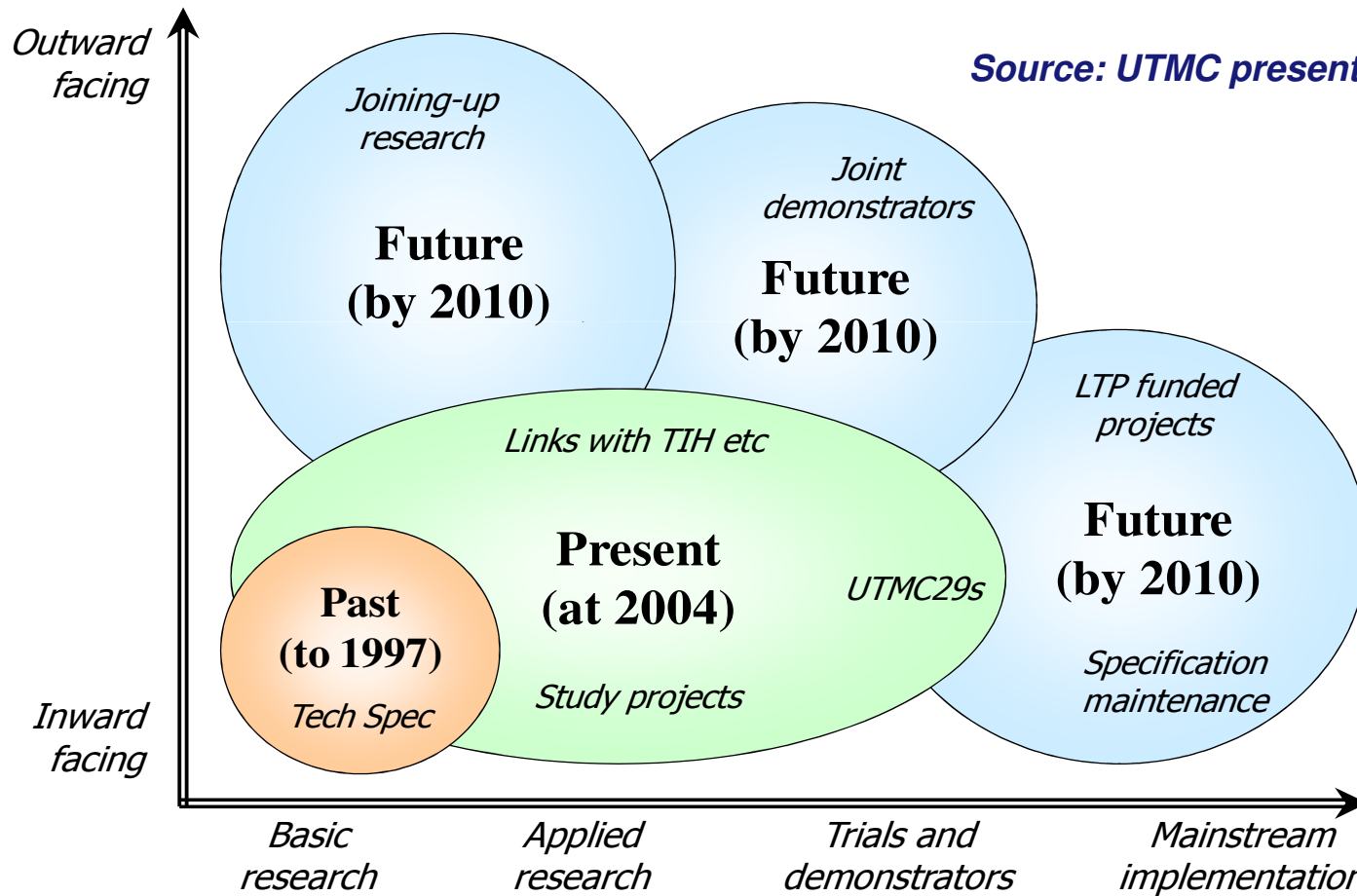


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Part III – where we're heading

Where we aimed



Source: UTMC presentation, 2004

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UTMC work in progress



- **New UTMC spec components**
 - Ramp metering
 - Tunnels and bridges
 - Public transport
 - Environment

- **More guidance notes and informative materials**
 - Case studies
 - Events

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UTMC and the Highways Agency



- **HA now deeply involved in UTMC**
- **Several areas directly relevant to Agency operations**
 - Ramp metering
 - Urban-interurban integration
- **Other areas necessary for alignment of UTMC with HA strategy/operations**
 - DATEX
 - Enterprise Architecture, SOA approach etc

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UTMC and the National Framework



- **We have always supported the concept of a wider National ITS framework**

- **We are working on a number of areas within the Joint Chairs Group**
 - **Communications networks**
 - **XML framework**
 - **Location referencing**
 - **Network model**
 - **Privacy and data protection**
 - **Incident management**

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UTMC and Europe



- **DATEX II**
 - Project (EASYWAY) and standard (CEN)

- **ITS Directive**
 - Support to UK implementation (via Govt)

- **Other European/international standards**
 - TISA/TPEG, NTCIP, ad hoc

- **Bilateral links**
 - In particular OCA/OTS (Germany)
 - Through POLIS, possibly to many European cities

Future of UTMC



- ❑ **Marketplace is active, home and overseas**
- ❑ **Current framework will continue to evolve**
- ❑ **Time for a root-and-branch review of architecture, scope, services etc**
- ❑ **Perennial challenge to sustain the central coordination, esp in current fiscal climate**
- ❑ **Still many opportunities for both seasoned and novice authorities**

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