BACKGROUND

The availability of transport-related data from multiple sources across different modes and geographic boundaries has the potential to enable a multitude of innovative applications and services for travellers and transport planners. However, supporting such data feeds may be financially challenging for local authorities and the lack of standardized interfaces has led to data silos and many disparate applications.

The development of an open data platform and marketplace provides an economically attractive solution for local authorities (data providers), and easy and standardised access mechanism to data for applications providers (data consumers).

FIRST USE

oneTRANSPORT is believed to be the world’s first multi-region open marketplace for live, multi-modal and multi-system transport data, built around the open ‘oneM2M’ international standard for Internet of Things (IoT) systems.

Conceived in 2014, the oneTRANSPORT initiative has been progressively and collaboratively developed by a consortium of 11 organisations: InterDigital Europe (platform provider), Arup (transport expertise and market intelligence), Buckinghamshire County Council, Hertfordshire County Council, Oxfordshire County Council, Northamptonshire County Council and Highways England (data publishers and use case owners), Clearview Intelligence and Worldsensing (sensor providers), Traak and Imperial College London (data analytics) and with strong support and sponsorship from Innovate UK.

Recently, Birmingham City Council joined oneTRANSPORT through the Smart Routing project, which will deliver the world’s first commercial-grade mobile app based on oneM2M.

APPLICATION

Through the oneM2M standard, the oneTRANSPORT platform enables efficient, secure and dynamic access to data from existing transport infrastructure, legacy systems, new transport sensors (e.g. Bluetooth traffic sensors) as well as future IoT devices.

oneTRANSPORT was successfully demonstrated during the F1 Grand Prix and MotoGP events at Silverstone in 2016. Integrated data included live traffic flow, roadworks, and Variable Message Signs. Furthermore, IoT data feeds from newly installed parking devices and Bluetooth traffic sensors were integrated. A dashboard was developed to provide a consolidated view of live data for event organisers allowing them to actively manage the transport and parking needs.

BENEFITS

oneTRANSPORT benefits multiple stakeholders including road users, public transport users, data providers, data users (app developers and analytics), data platform operators and the community as a whole. Such benefits include:

- improved travel experience
- reduced impact of congestion due to accidents and roadworks
- reduced time to find parking for road users
- decreased road transport emissions due to modal shift
- better information about transport users for local authorities

Benefit analysis has been performed in accordance with DfT’s Transport Analysis Guide (TAG). The quantitative assessment has identified an average annual benefit of approximately £3-4 per capita based on the five local authorities (i.e. an average annual benefit of approximately £12m-16m for all the five local authorities). It is important to note that the value of the quantified benefits has associated uncertainties and depends on a number of assumptions with regards to a set of parameters including, among others, the target population and penetration rate.

Through compliance with oneM2M, oneTRANSPORT offers open interfaces and a cloud-based federated architecture that can scale up to support multiple business models at national and international scale whilst avoiding vendor-lock-in.

Further information:

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