

The Role, Purpose & Vision of the Transport Systems Catapult

Briefing note to the Secretary of State

28th August 2013

The **Transport Systems Catapult (TSC)** is a specific response to explicit demands from government, industry and users. It is being launched at a time when there are already plans to upgrade UK infrastructure over the coming years, in rail (Crossrail, HS2 or alternative upgrade spending on trunk route rail capacity), in road (Motorway extra lane utilisation, smart traffic management), and aviation (new south-east capacity from existing airports, greater connectivity to other modes).

It is underpinned by market analysis which shows the **enormous potential of the emerging market for Intelligent Mobility** – which is defined as **‘the efficient and effective movement of people and goods’**. The global market for innovative, integrated solutions for transport systems will be worth approximately £900bn annually by 2025. UK businesses will have the opportunity to sell intelligent solutions around the world, as other nations begin to face the challenge of undertaking the intelligent re-engineering of existing infrastructure and delivering better connectivity between modes.

For the UK to exploit this market and generate substantial growth, a well-positioned, unifying organisation is required which can provide a focus for innovation in mobility and act as a showcase to the rest of the world. The TSC is uniquely positioned to be this organisation, with **recognised independence and objectivity**.

“Our vision is to be the centre from which the UK leads the world in Intelligent Mobility, promoting sustained UK economic growth and wellbeing.”

To achieve this vision we are carrying out a programme which promotes disruptive ideas and solutions, addresses challenges at transport interfaces, demonstrates innovation and accelerates the movement of concepts through to commercialisation.

There are four primary mechanisms to achieve our vision;

1. *Leading Thought*: There is currently much advanced thinking in the UK on Intelligent Mobility however more work needs to be done to unify, synthesise, disseminate, and evangelise to a wider community.
2. *Innovation Centre*: A world-class innovation centre, located in Milton Keynes for people, systems and ideas where economic growth is stimulated via advancements in Intelligent Mobility.
3. *Innovation Portfolio*: An ambitious range of research, development and demonstration activities. Working relationships are already being developed with commercial organisations within the transport industries, e.g. Honda, Jaguar Land Rover, Network Rail, and including SMEs such as Open City Labs and other Catapults (see below). Some early projects example are;

- **Autonomous Transport Demonstrator:** A £50m, 5 year programme built around three major themes; autonomous vehicles, cloud enabled mobility and directed research. It is proposed that over 100 autonomous pods will be introduced into the Milton Keynes city centre in a number of stages culminating with fully autonomous pods operating along existing broad cycle ways.
 - **End-to-end journeys:** TSC vision is for the UK to be developing and delivering Integrated Systems that deliver end-to-end journeys. This is also a theme in the Rail Technical Strategy (“Customer Experience and Whole System Approach”). The rail industry has identified the Transport Systems Catapult as a key partner for delivering much of the required work and, as such, is expected to fund approximately £5m of project work which will be matched by £5m of TSC core funding.
 - **Airport Integration:** This project enables the integration of real-time data from UK airports into the national Air Traffic Management System, and will be delivered in collaboration with the DfT and the Future Airspace Strategy Industry Implementation Group.
 - **H2020:** The TSC will be bidding for funding from Horizon 2020, for challenges in intelligent transport systems (ITS) such as ‘cooperative ITS for safe, congestion-free and sustainable mobility’ and ‘optimal use of transport data as a basis for smart mobility services’.
 - **Instant Weather:** In conjunction with Connected Digital Economy Catapult and the Met Office, this ‘nowcasting’ programme will allow the development of applications and services using real-time transport and environmental data. We are engaging a group of SMEs to work on this through the Sunderland Software City, who are also match-funding the project with ERDF funding.
4. **Platforms and Infrastructure:** Core commercial products and services provision, including:
- The **National Transport Systems Modelling** facility will evolve over the next 5 years to become a leading internationally recognised facility and environment for users to develop and test integrated solutions to the issues that face transport systems.
 - The **Integrated Testing Environment** Bringing together the world-class testing facilities and capabilities in the UK

Milestones: The Technology Strategy Board Governing Board are being presented the Five Year Delivery Plan mid-October 2013.

Financials: Initial funding for the TSC is £46m over five years, with the objective of generating a further £100m in collaborative R&D and commercial revenue. The TSC forecasts GVA of £420 million across its innovation portfolio.

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