



Department
for Transport

Transport: From Physical to Digital

Transforming transport through adoption of technology

Dr. Annette Pass

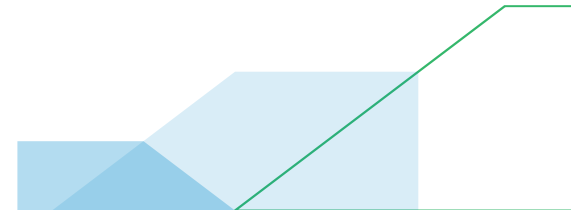
Deputy Chief Scientific Adviser

OFFICIAL

Science and Technology in Transport



**Transport is
changing.....**



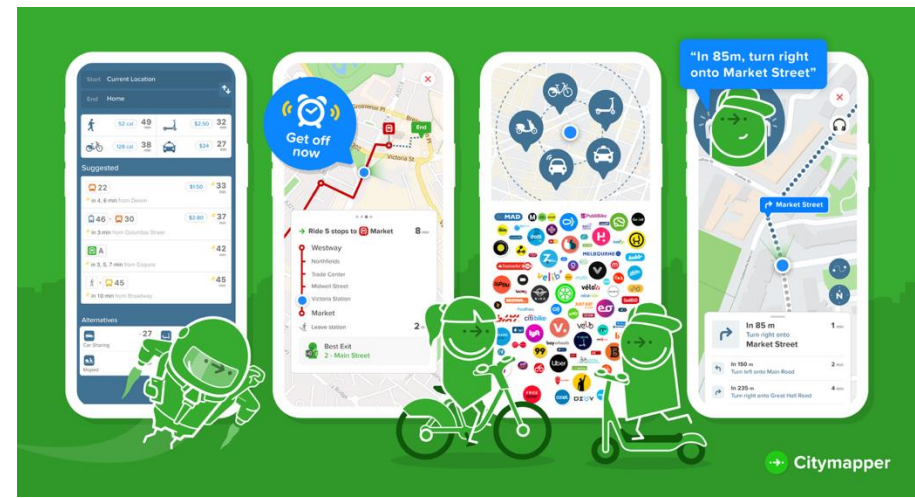
Transport in 2050?



Transport IS technology

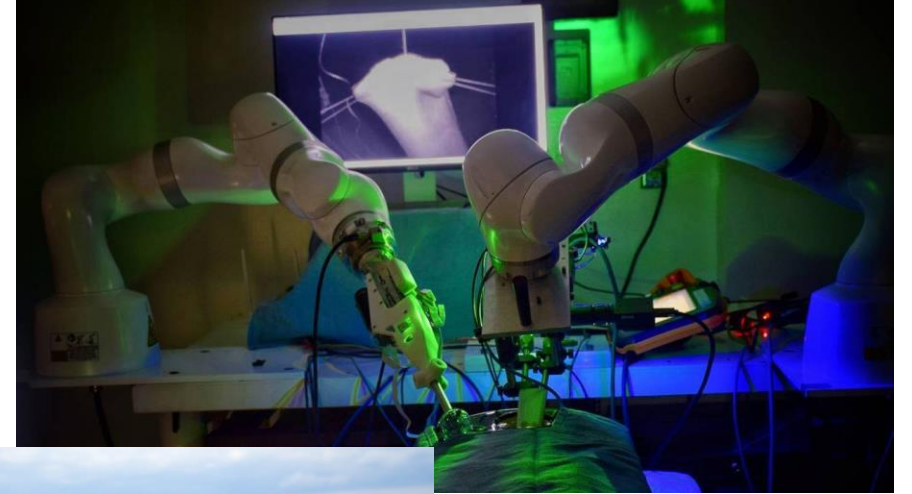


Open Data launched in 2007
600 Apps
Used by over 42% of Londoners
Annual benefits of up to £130m

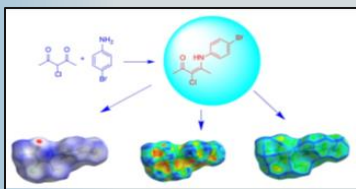


...but is transport 'digital-led'?

Transport and Future communications



Optimising the future

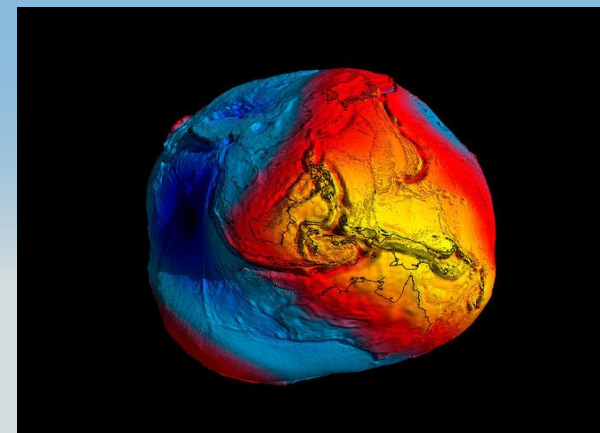


Funding quantum in Transport

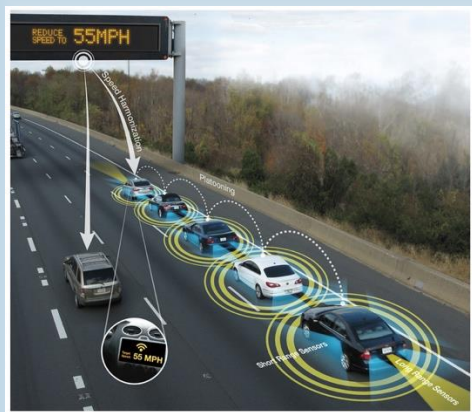
- ψ Quantum Catalyst Fund
- ψ Multiple industry sectors involved
- ψ 6 developers win funding
- ψ 3 are delivering transport solutions
- ψ £6m total for transport
- ψ Accelerometers, Gravimetry, Optimisation, Magnetometry



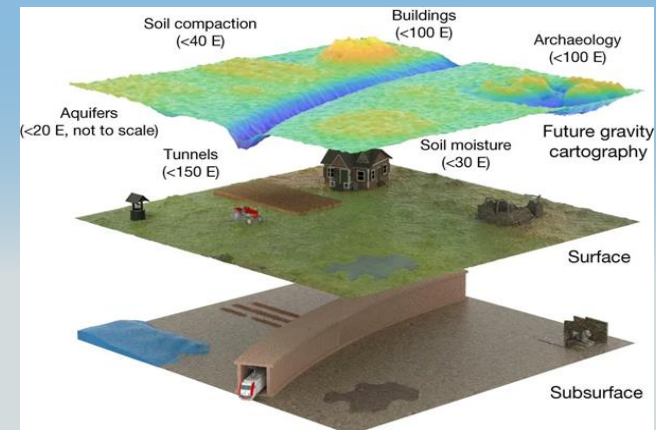
Navigating without GPS



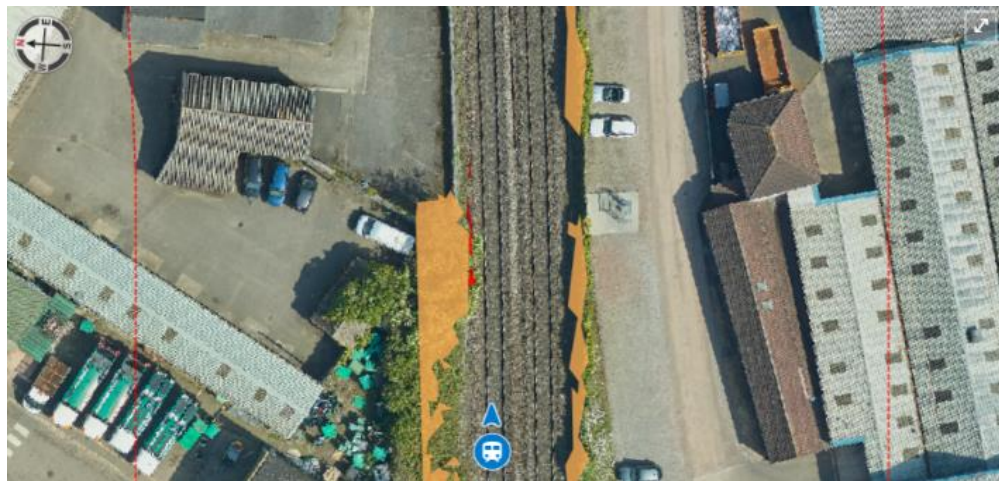
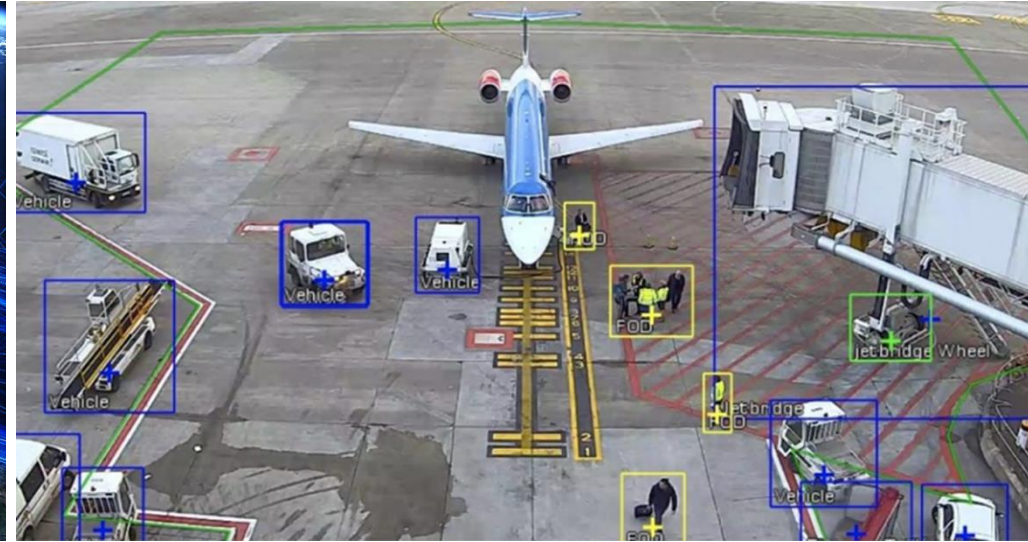
Securing transport networks



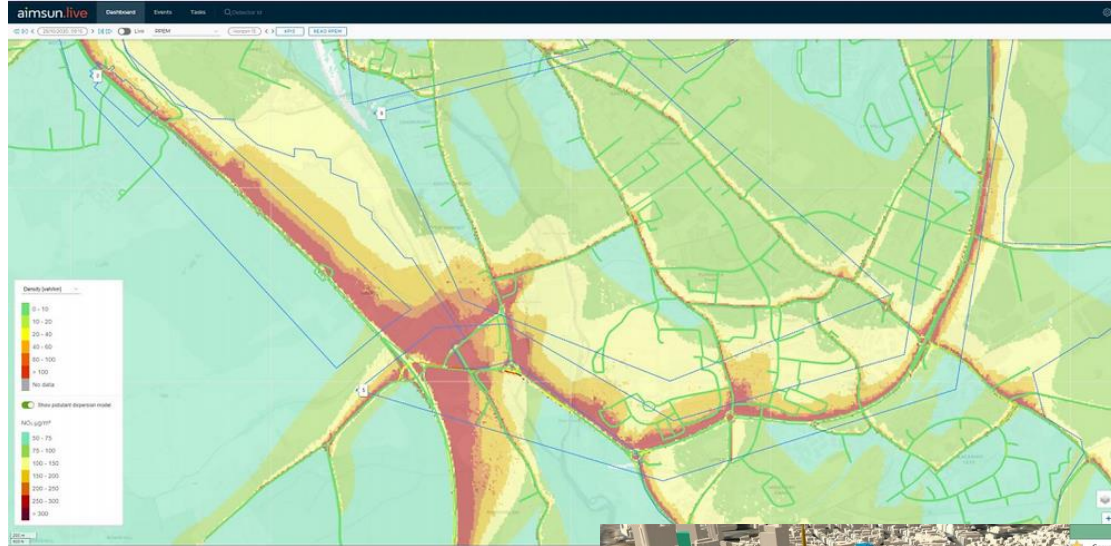
Seeing the subsurface



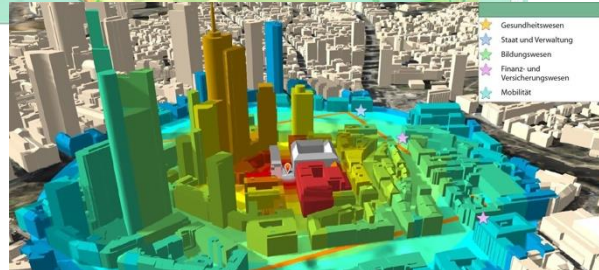
Transport and Artificial Intelligence



Transport and Digital Twins

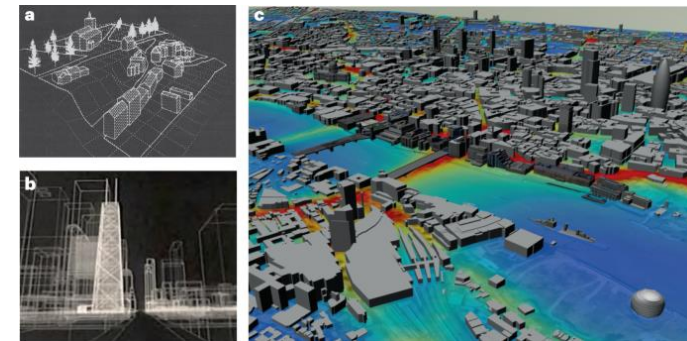
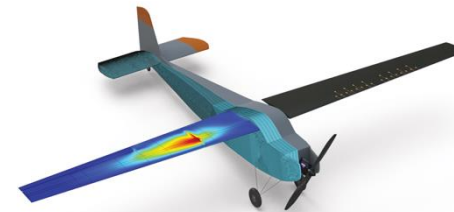
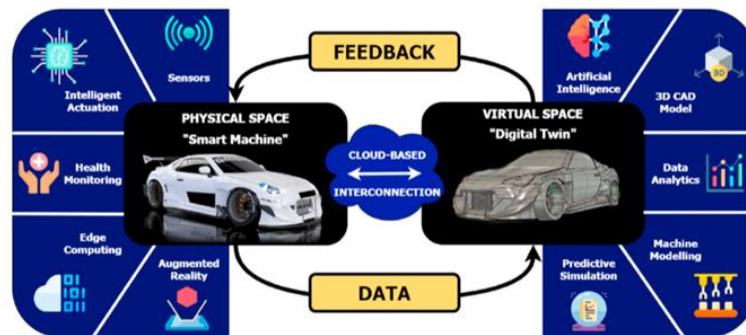


- Better network Management and Crisis Response



- Asset Management and System Resilience

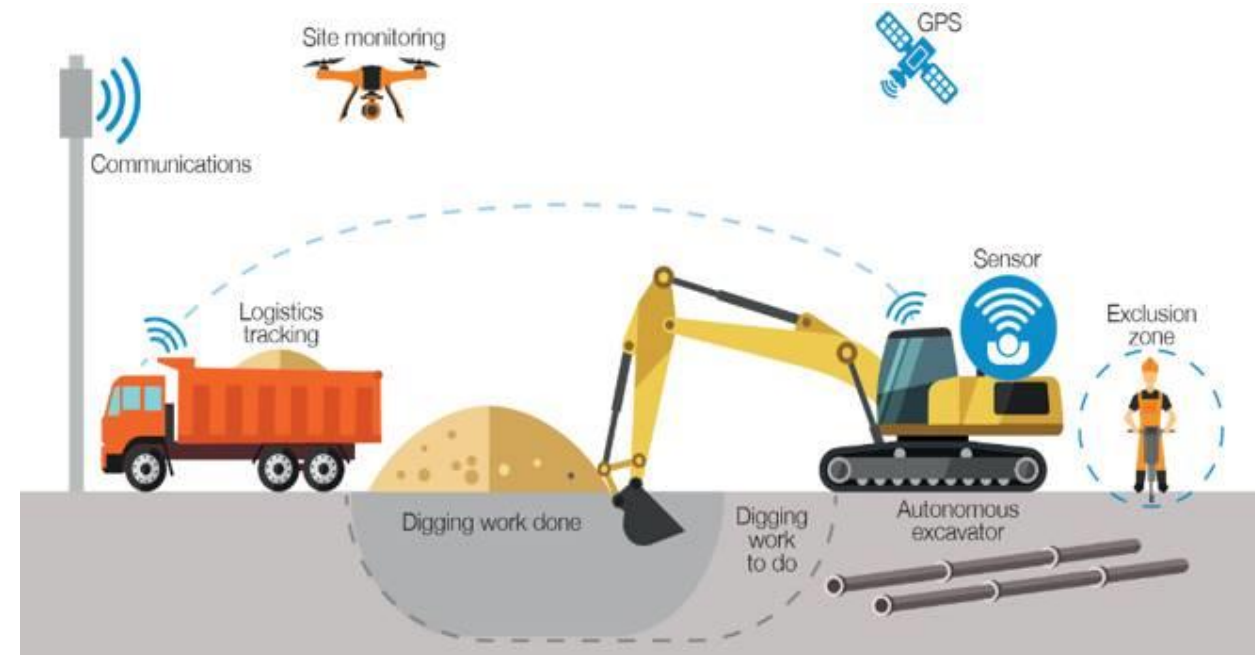
- Testing and deploying new technologies



Transport and Automation



Merat, M., Louw, T., Madigan, R., Wilbrink, M. & Schieben, A. (2018) What externally presented information do VRUs require when interacting with fully Automated Road Transport Systems in shared space? Accident Analysis & Prevention, 118, 244-252



National Highways - <https://nationalhighways.co.uk/our-work/innovation-and-research/connected-and-autonomous-plant-to-2035/>

Conclusion

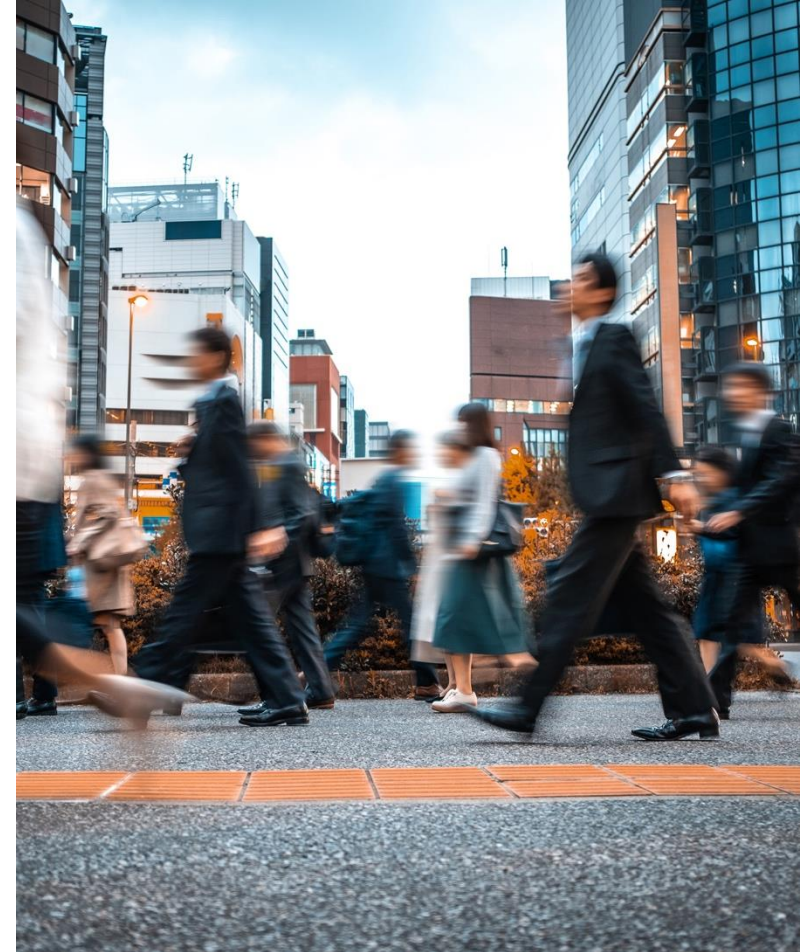
Think big, start small



Data, data, data



People, skills and learning



Thank you

