

LOGO??

Digital Twins

18th September 2019

Preparation

Meet-up Notes:

What is a digital twin?

- Digital version of a conceptual entity
- Could be people but that's mainly 'digital self'
- More often a city or f1 car or something - that can be used to simulate
- Singapore - first completely digital city in the world. Each department creating simulations and combined because get import
- We should care about it
- Not possible with the data at the moment in the UK
- Lot's of urban benefits - bigger incentive in other countries and more funding than the UK
- What much of is doing is digital twins
- Anything that represents a

How many components required - when is it a digital twin?

Distinction - replicating and prediction

Need to not only replicate the thing correctly/accurately, but also the test that you put through it

2 things need to be present (Wikipedia) (1) (2) Real-time data using sensors

Newcastle urban observatory - real-time - simulating and modelling the

Aims for UK?

- Universities?
- "Digital Twin" more accessible term that real people can understand

Is it necessary?

- Is it just a funding buzzword?

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Limits

What scale?

- Newcastle want to do the whole city
- But too much data to handle

Visualisation?

Should have a specific goal?

Singapore - private sector company

Difference between model and twin

F1 - can change a behaviour

Infrastructure vs. non-physical systems

Early warning systems?

A digital twin is a virtual model - head off projects before they occur - (Natacha's definition)

Difference between simulation and twin

Is a digital twin when the data is sufficient to predict perfectly?

Is Google traffic directions a digital twin?

Knowledge of physical traffic in real-time then this is the digital twin - then the knowledge and advice is the model built on the twin

Twin - the pairing of virtual information built on physical phenomena.

Resources