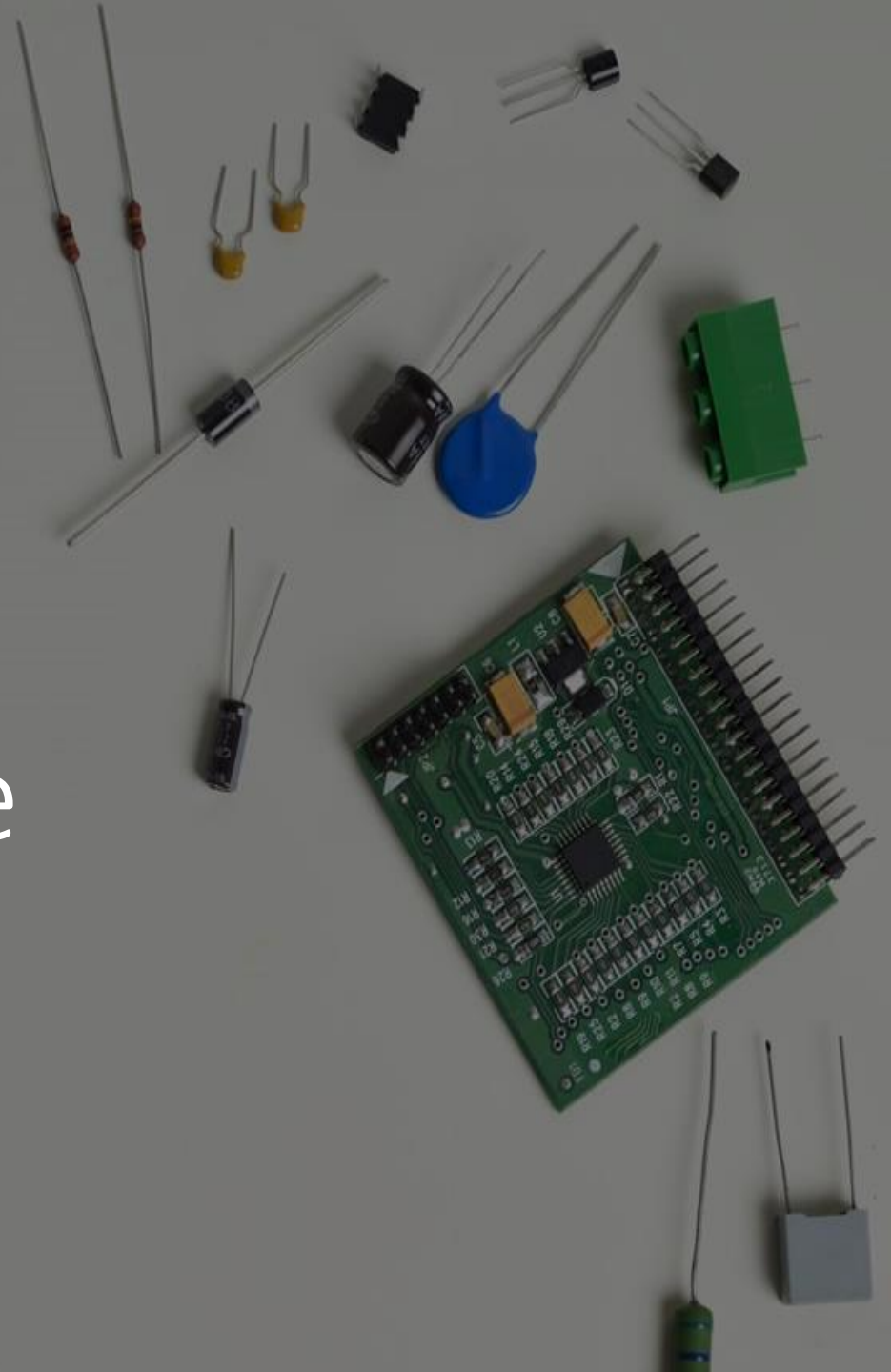
Think like Engineers

Prof Rachel Dunscombe

@ukpenguin

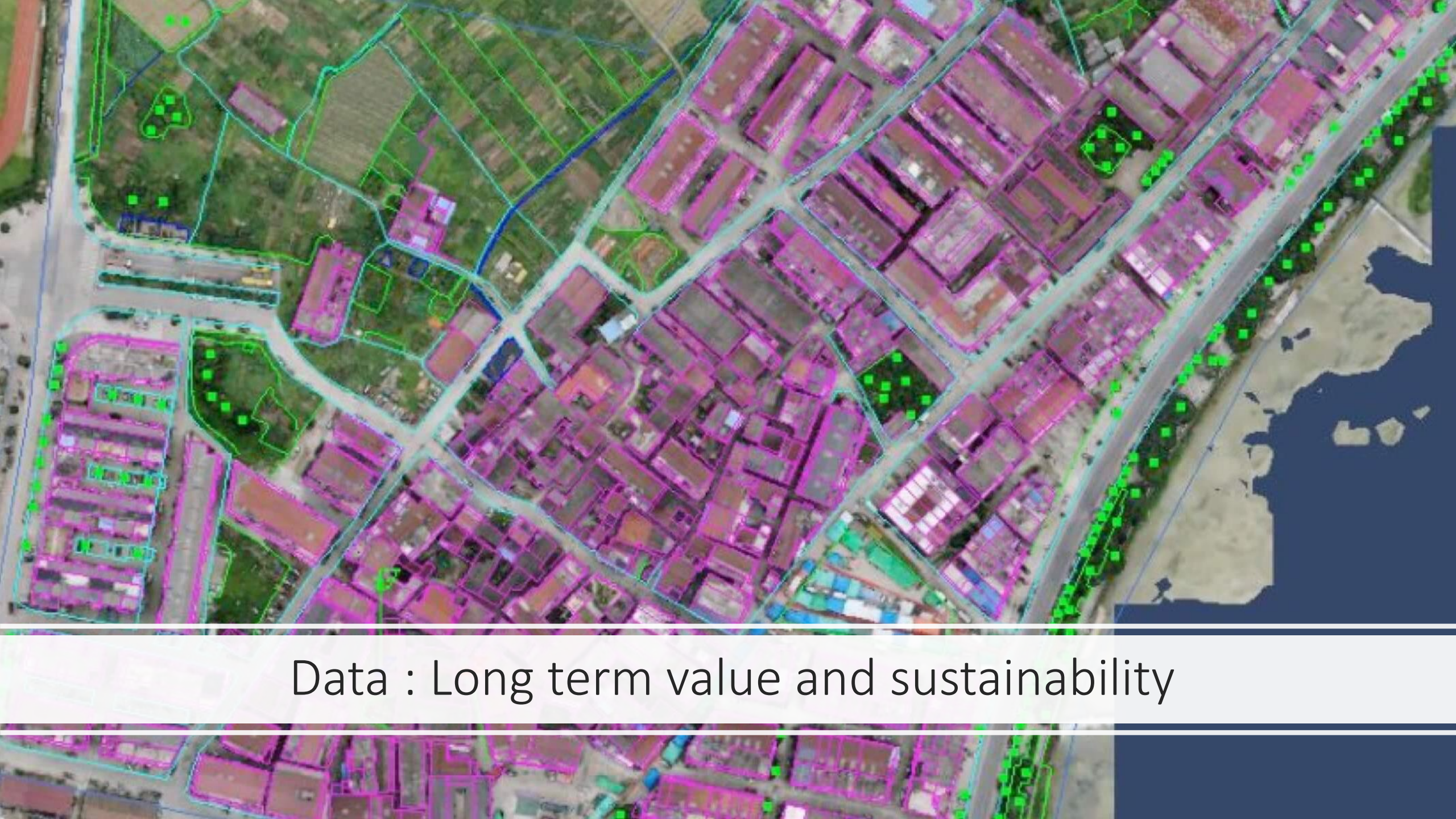


The Tower of Babel

- Professor Robin Williams of the Usher Institute at Edinburgh University likens our system architectures to the Tower of Babel
- Robin says todays finished solution is tomorrow's legacy issue
- His conclusion is we need a longer-term vision of how information architecture and practices evolve

Pieter Bruegel the Elder, *The Tower of Babel* (1563). Courtesy of Kunsthistorisches Museum Vienna, Picture Gallery ©KHM-Museumsverband.

Data : An urban planning metaphor



Data : Long term value and sustainability

Clinical Data : A Capital Asset

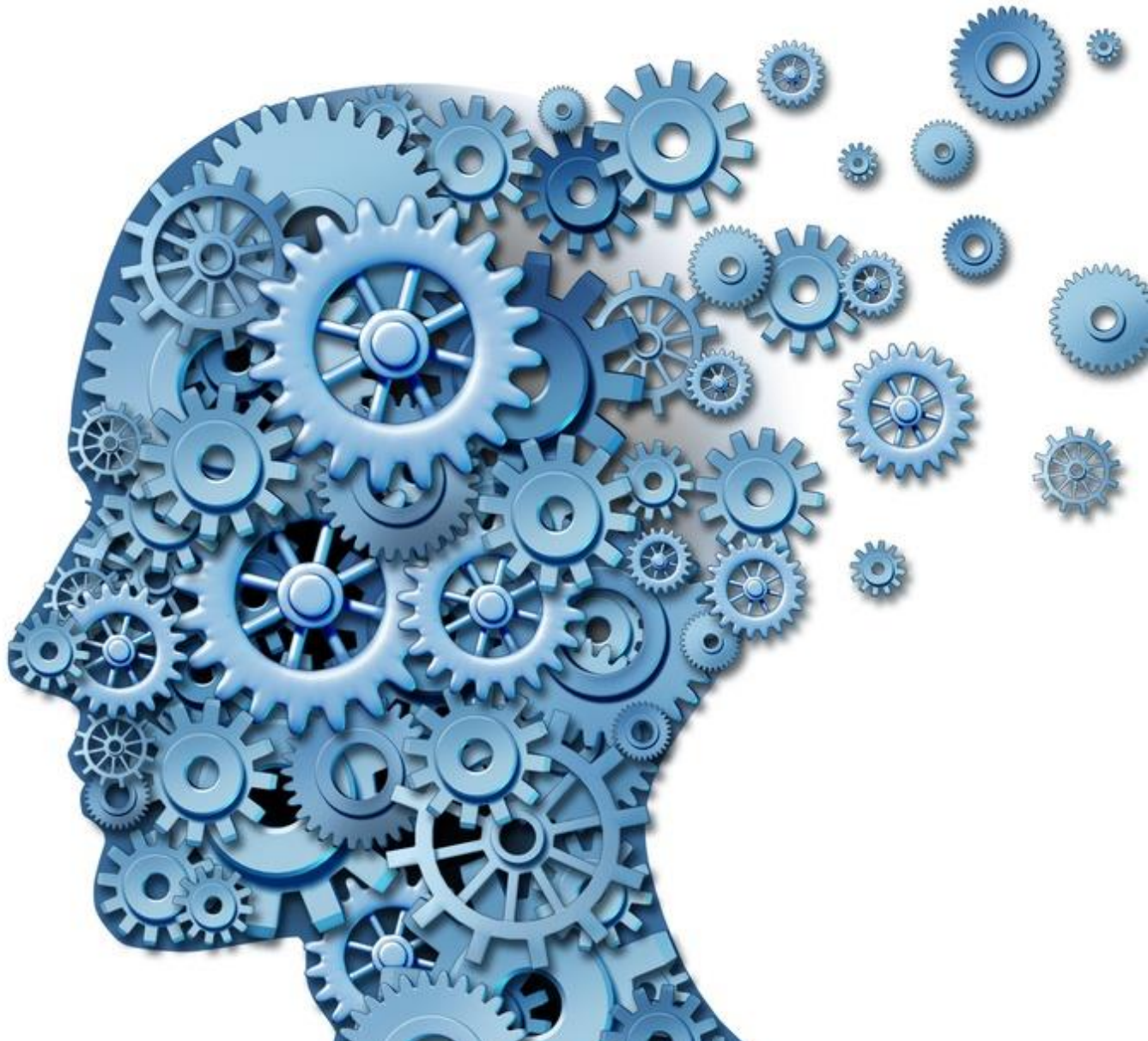
- Most clinical data now has a lifespan of decades
- It has its own value and adds value to other assets
- Data is being used far more often and this will increase with automation, AI, risk stratification and personalization
- Data will outlast the current input systems
- Data is not the new oil – it’s the new renewable it doesn’t degrade

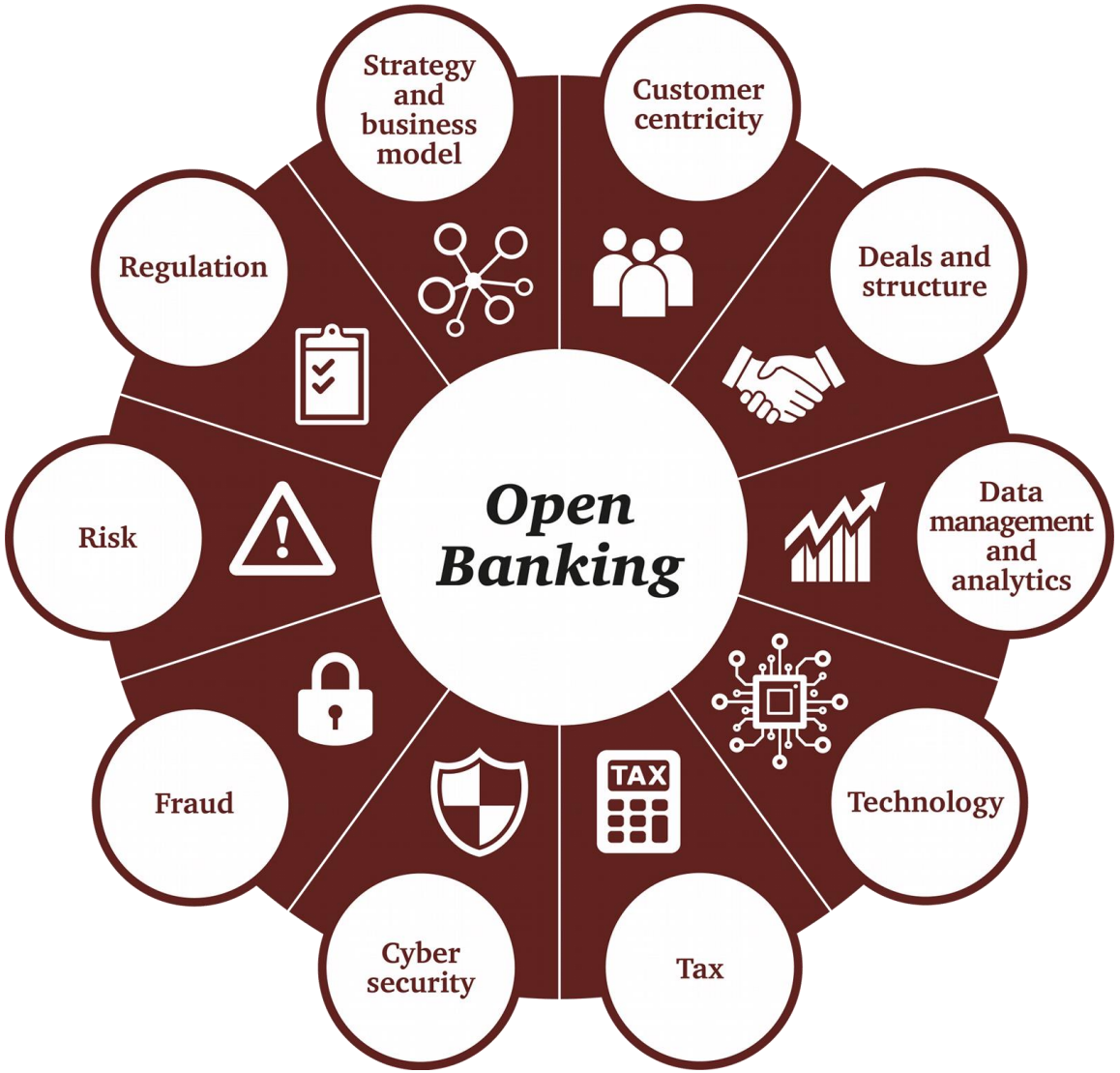
Think like an Engineer

A Data Mesh

1) Domain-oriented decentralized data architecture
2) Data as a product
3) Self-serve data infrastructure as a platform
4) Federated computational governance

Data mesh is an architectural paradigm that **unlocks data at scale**; rapidly unlocking access to an ever-growing number of distributed domain data sets, for a proliferation of consumption scenarios such as machine learning, analytics or data intensive applications.





Open Banking – Transforming an industry

- Open, agile, and integrated
- Agile data architecture
- Start with strategy

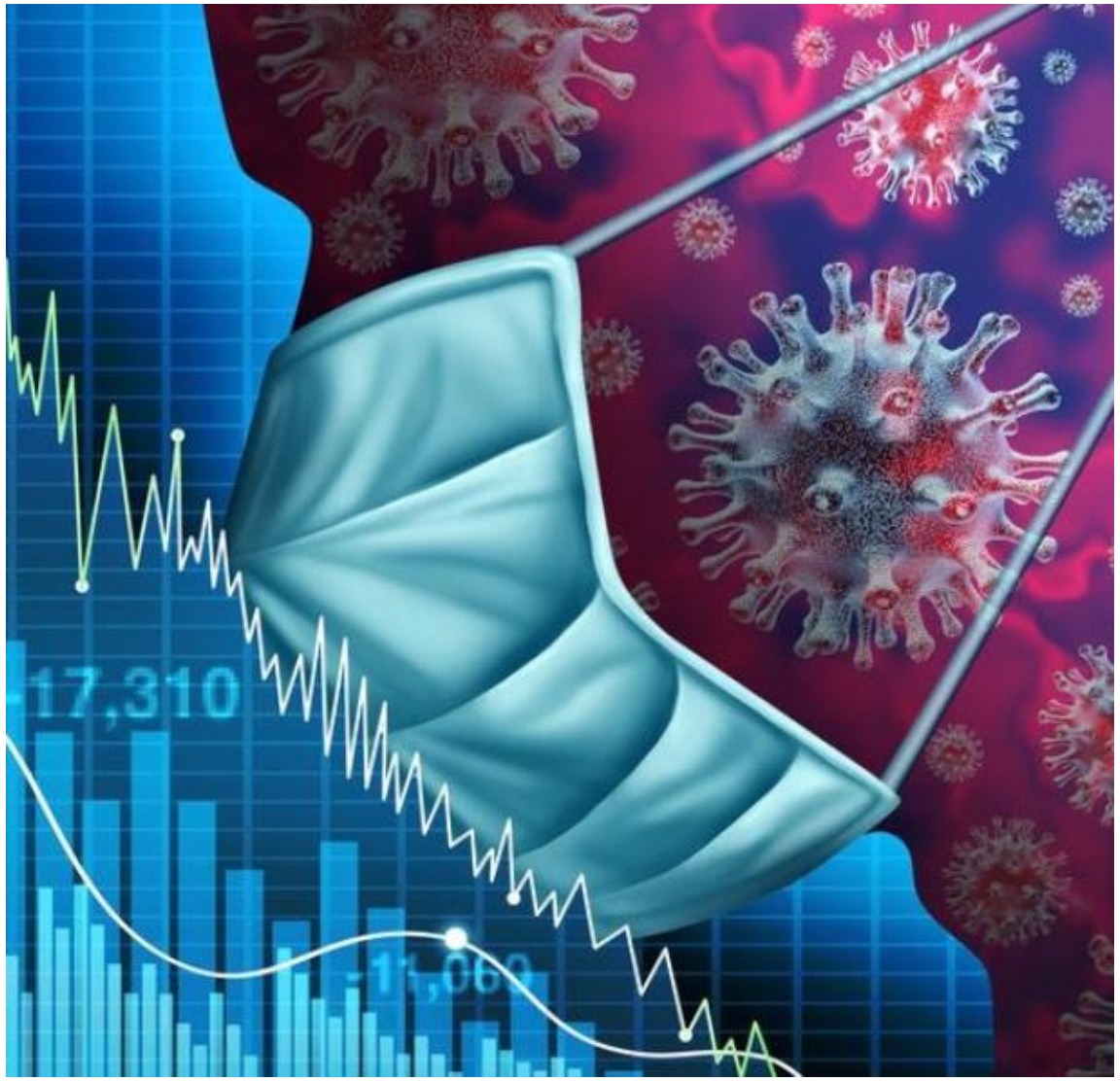
What does this change in Health and Care ?

How we design systems – we design them in line with our “urban planning” principals – for long term value of data and data sustainability

How we procure systems – we procure them to create a lasting data asset which is engineered in systemic context

Business Cases – We create a case for the value of the data as well as the system

How we finance and categorise data assets - this may well mean depreciating an asset over decades



What does this have to do with OpenEHR and FHIR ?

01

Convergence on open standards is essential

02

Unwarranted variation in data must be engineered out

03

We need to engineer data systemically for long term use and value

04

OPENEHR and FHIR are part of the answer in terms of standards


So Imagine an “open banking” like world in health and care

Optimal Clinical Data

- Federated data Mesh
- Supporting todays, tomorrows and the far future's use cases
- Allowing innovation and democritisation
- Most importantly saving lives and improving lives

openEHR FHIR

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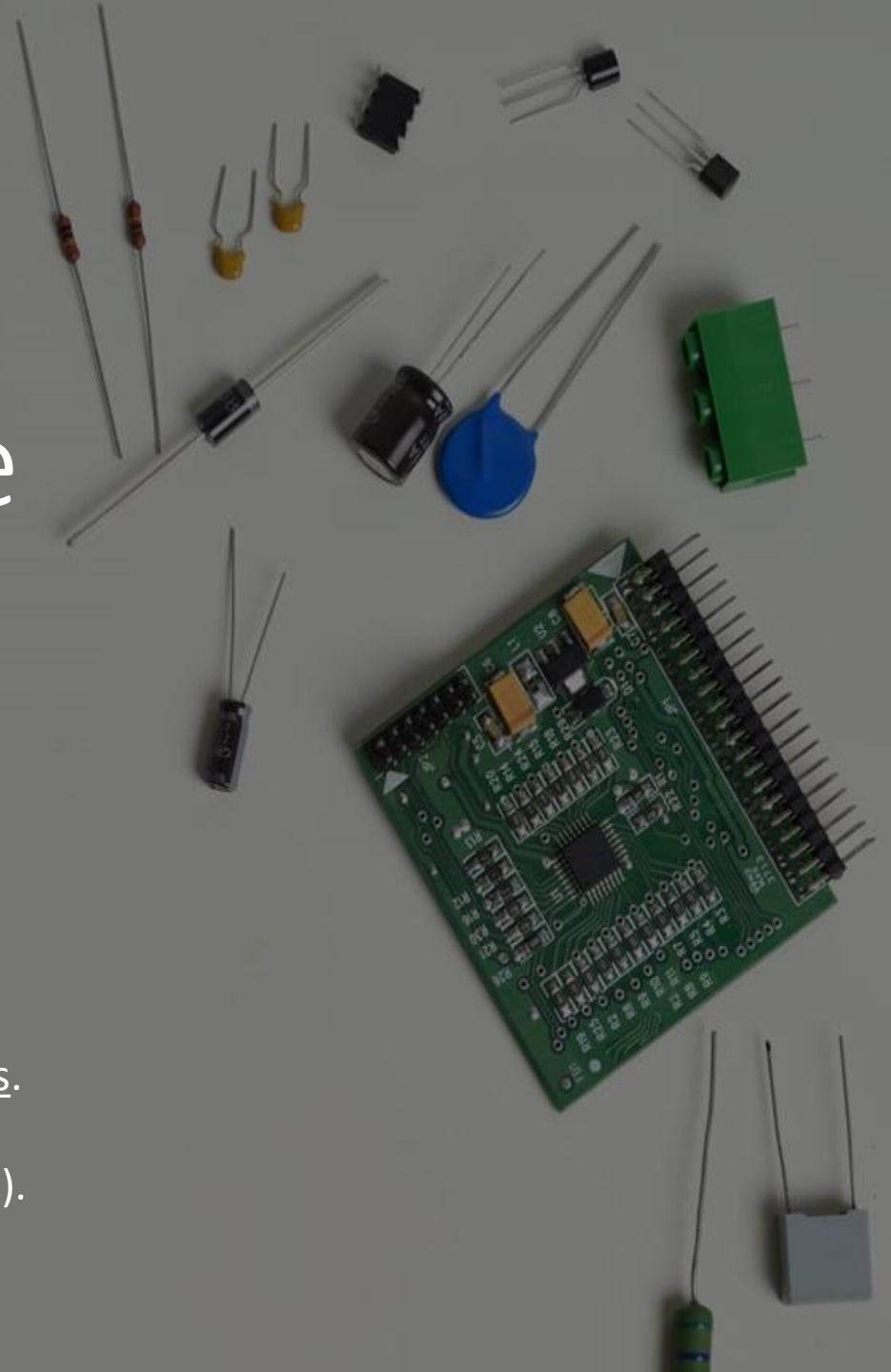

Think of Artificial Intelligence as the top of a pyramid of needs. Yes, self-actualization (AI) is great, but you first need food, water, and shelter (data literacy, collection, and infrastructure).
Robert Chang