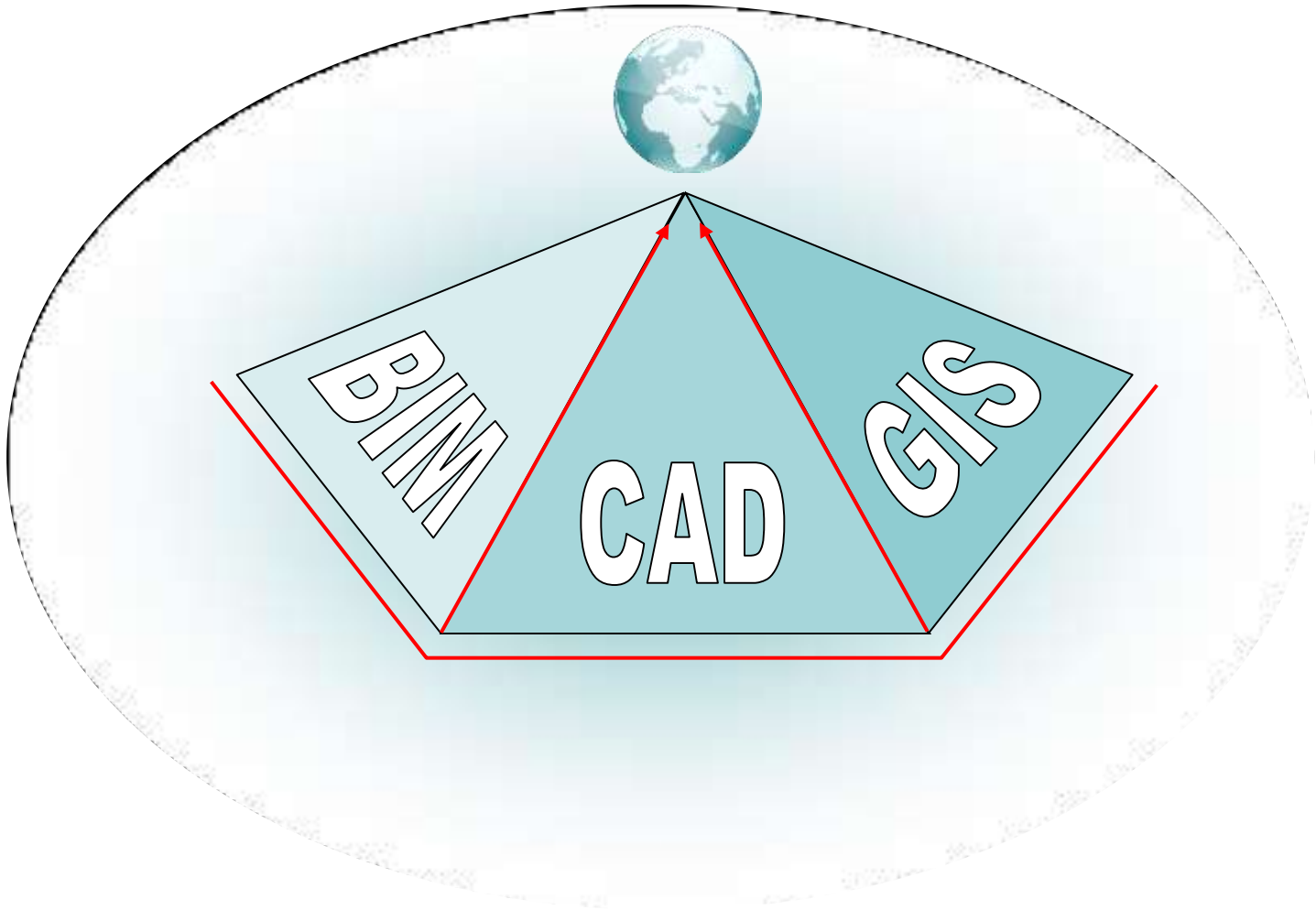
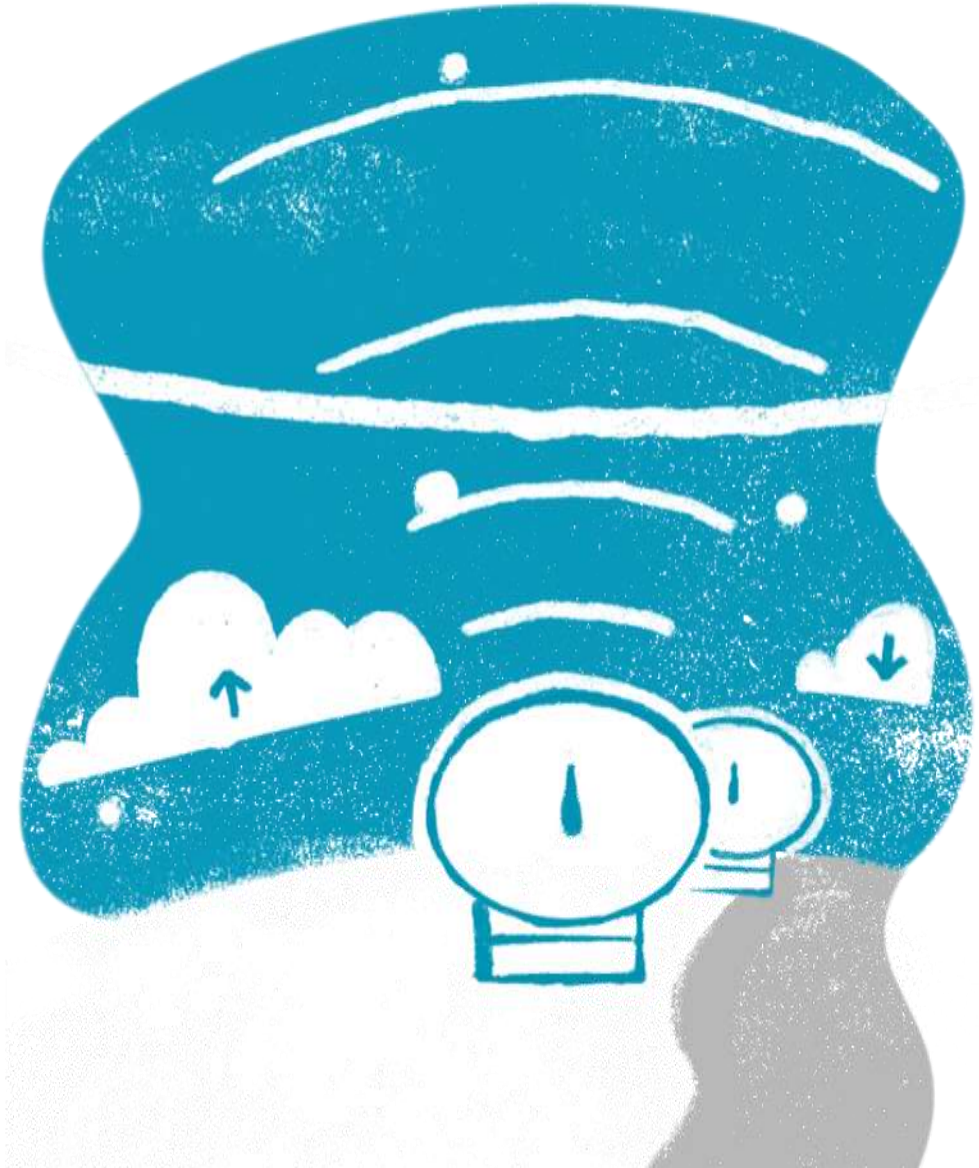
Integrated technologies

Aligned staff, software, data, standards, workflows



BIM, Asset Management and Smart Cities

One of the biggest latent and untapped opportunities for the geospatial industry: Not maps, not 3D – but recognising the latent possibilities of data and the value-add services that we can and should deliver from it.



UK BIMALLIANCE

ISO

cen

buildingSMART
International home of openBIM

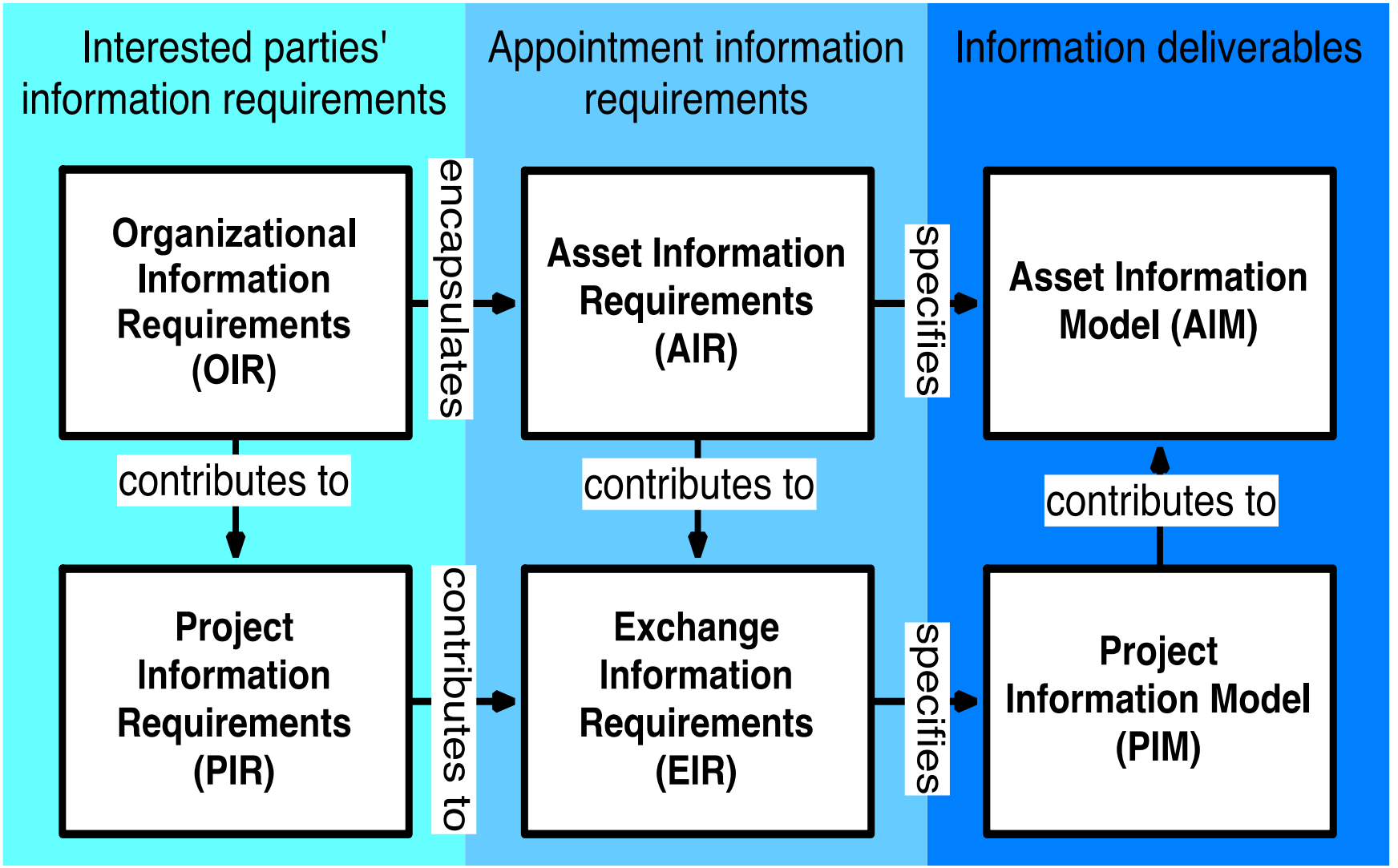
OGC
Making location count.

The generic project and asset information management life cycle:

The ISO19650 suite – Parts One and Two due for imminent publication

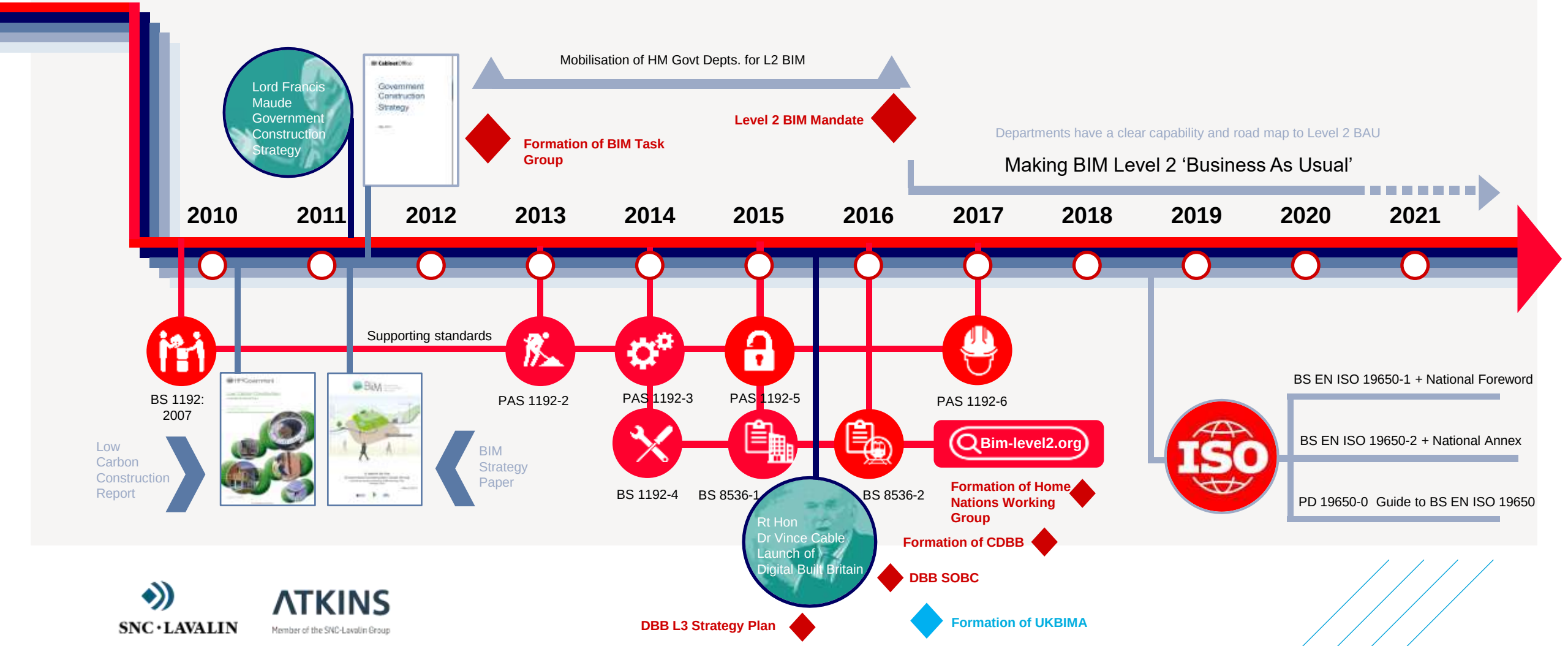
AIM	Asset Information Model
PIM	Project Information Model
A	Start of delivery phase – transfer of relevant information from AIM to PIM
B	Progressive development of the design intent model into the virtual construction model
C	End of delivery phase – transfer of relevant information from PIM to AIM

UK BIMALLIANCE



Hierarchy of information requirements

Timeline



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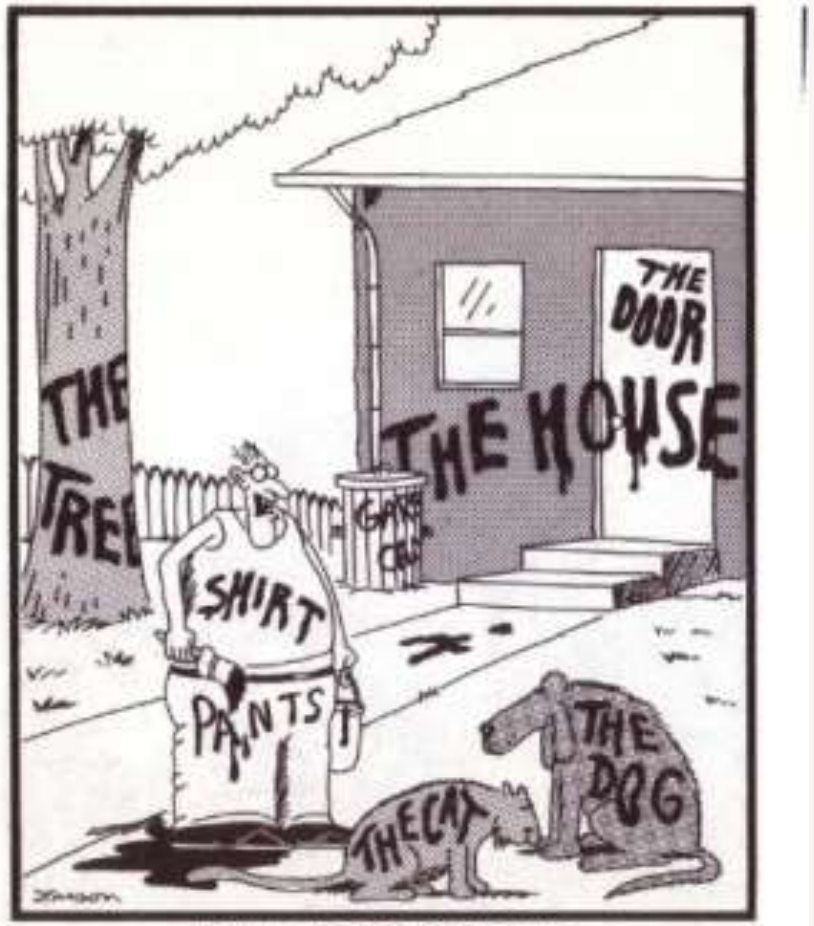
Without a common language…

“If our motives, ideas and information about the built environment do not fit together, our understanding is limited and much of our downstream effort is subsequently focused on attempting to retrofit information with widely differing meanings, or trying to deduce meaning from data”

Ian Bush and Tim Wood, 2013



"Now! ... *That* should clear up a few things around here!"

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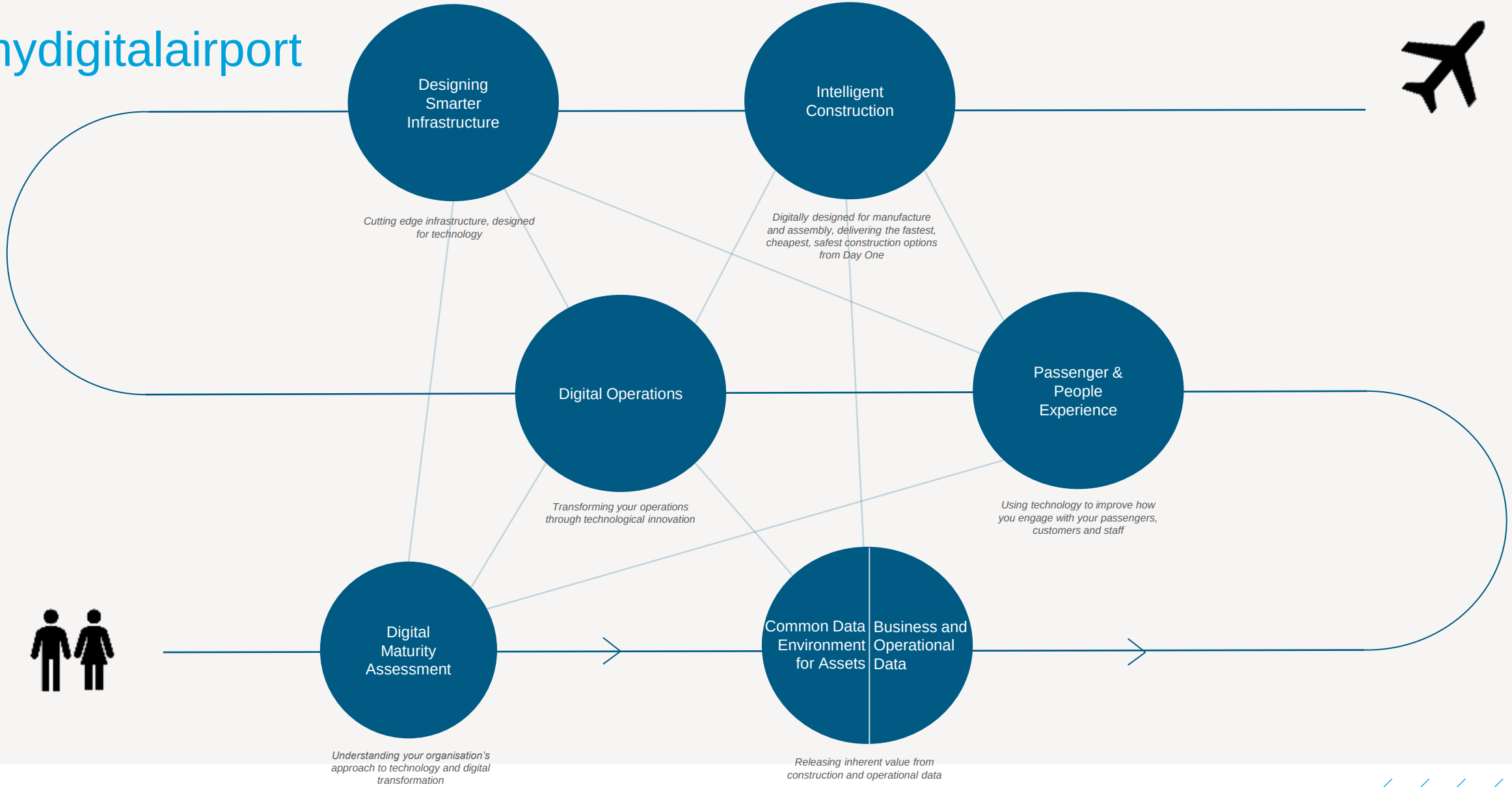
mydigitalairport



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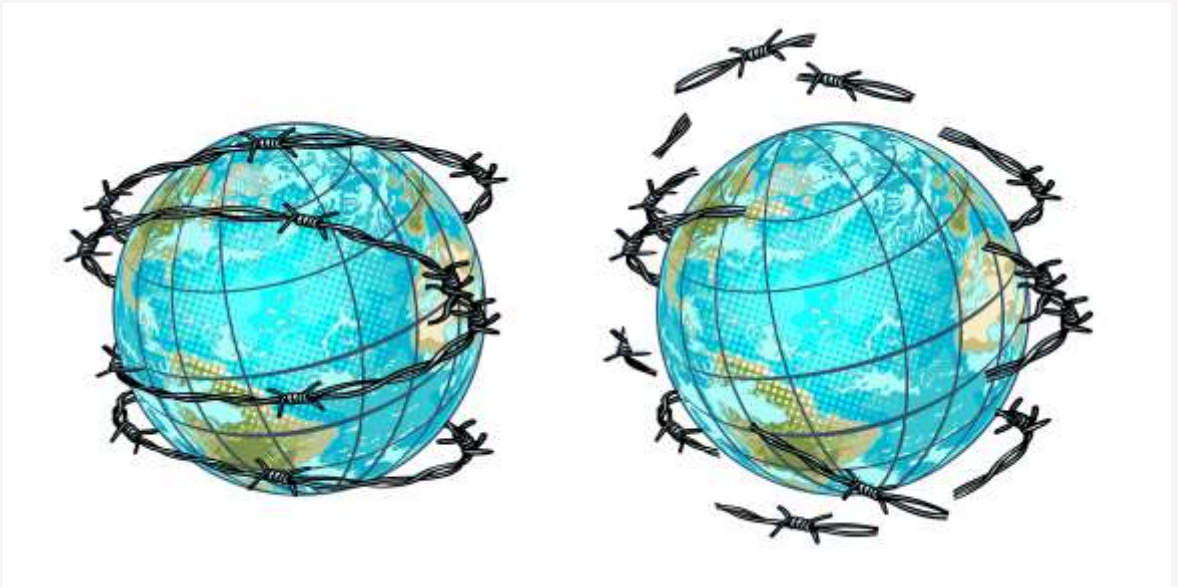
Ellie Cosgrave (December 2017):

“Currently the engineering community is pointing to the digital technologies and the ‘smart city’ as a deliverer of efficiency and resilience without fully acknowledging the intricate socio-political context in which it is situated.”

Challenges for the engineering community:

- Engage in critical debates that incorporate and value human experience.
- Challenge modes of thinking which are rooted in historic understanding of how engineering decisions should be made and of the society that they intend to serve.
- Use smart technologies to challenge modes of design.
- Create urban infrastructure systems that serve all urban dwellers, and all geographies.
- One size does not fit all.



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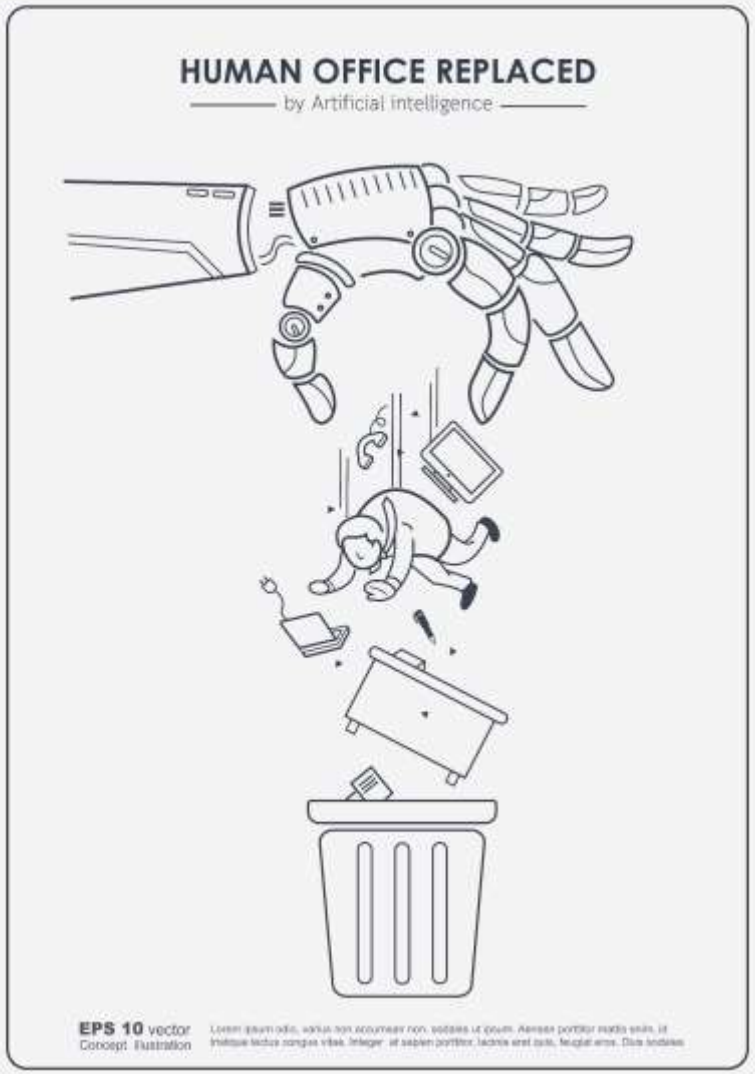

Imagine yourself some years from now, when we are fully settled in a technology-Based, Internet society in which non-thinking, high-performing systems are commonplace

For what tasks currently performed by the professions, will human beings continue to be needed in the long term? ….. If any?

Will future systems be able to undertake all tasks to a standard higher than the best human experts ?

Are there any tasks that we feel should always be undertaken by human beings, even if they could be carried out to a higher standard by autonomous machines?

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Susskind and Susskind, 2015 p277

Challenge preconception that urbanisation is inevitable.

- Think about why people are moving into cities. Think about the challenges. Are we addressing the right questions or have we gone into group think.
- Would cities with better connected hinterland be a better approach. If we examine the problems of cities e.g. stress of commute; well-being; transport; air quality; inequality; urban poverty – is there a different approach.
- What about if we used technology to enable home working – distributed team working;
- Look at what rural can offer – open space; clean air; well-being; animals; solitude.
- Prisoners of Geography: One size fits all – or determined by climate, socioeconomics, war ….

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Are we REALLY thinking of diversity of need – not everyone thrives in large groups.

- Connectivity e.g. dating apps.
- Virtual connections – whatsapp.

Smaller societies – equivalent to villages.

The source of wisdom, compassion and joy

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