FIG Working Week 2020

Fit-for-future Land Administration with sustainable transformation

Paper 10746

John Clutterbuck | Dave Stow | Jill Urban-Karr | Peter Shaw

April 2020

Ordnance Survey | Trimble

Imperative to change for the land authority

Megatrends

Urbanisation

Climate Change

Globalisation

User expectations

The Digital transformation

Simplicity, transparency, ease of transactions

Technology change

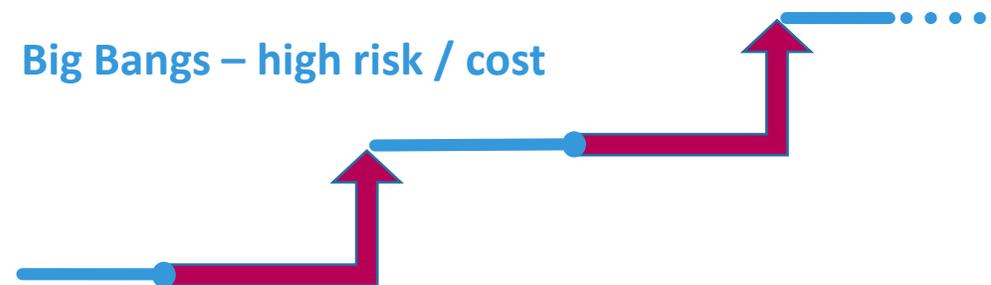## Demands on the Land Authority

New markets

Inclusivity

Agenda 2030

Problems with current platform refresh approach

- Major events trigger major change
  - High risk of failure
  - Long delivery cycle with minimal benefit until the end

- Obsolete at point of delivery

- From one fixed state to another
  - Future change is constrained

Big Bangs – high risk / cost

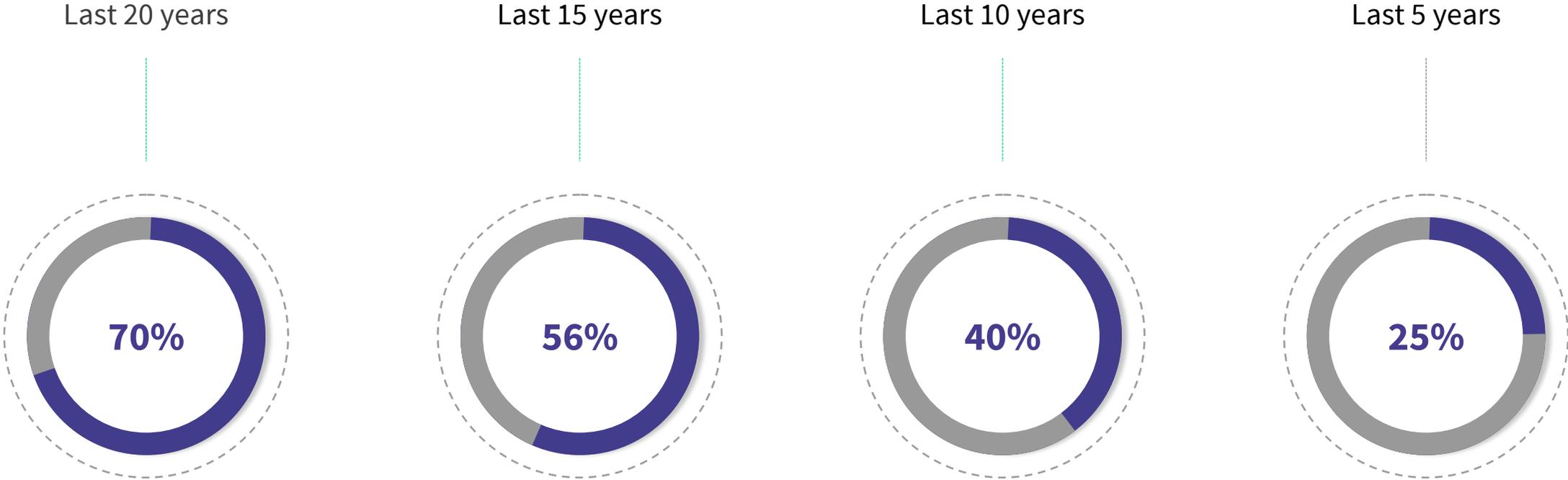# Need to fundamentally rethink the approach

Architect to enable change

Multiple versions of workflows need to co-exist

Multiple versions of the data models need to co-exist

Move from a "mass data transformation" model to "Transform when needed"

Transform as Needed

Mass transformation is undesirable: it delays delivery and constrains your ability to deliver change

Mass transformation should not be necessary: Transform as needed – record by record

Mass transformation is wasted effort: Records will be transformed that will not transact for years

Percentage of Titles actually transacted on

Last 20 years

Last 15 years

Last 10 years

Last 5 years

70%

56%

40%

25%

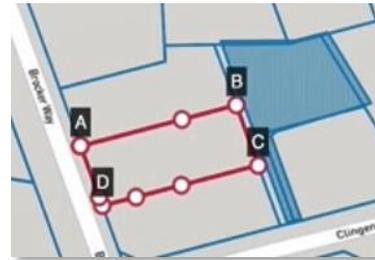**Trimble** | **Ordnance Survey**

Solution design needs

- *Scan paper record*
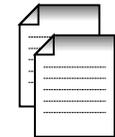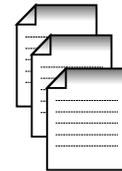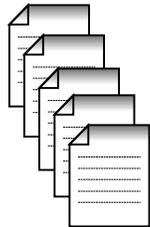- *Capture minimal data – e.g. an ID / address*
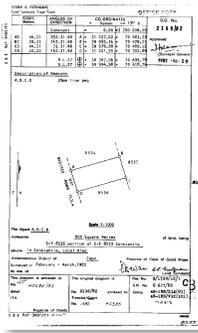
- *Survey and digitise geometry*
- *Codify and structure data*
- *For example: target LADM as a data model*

- *New requirements drive new data models*
- *3D / BIM etc*

Records using different data models co-exist and are accessible in the system

A "sliding window" of data schema versions
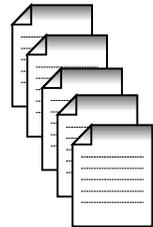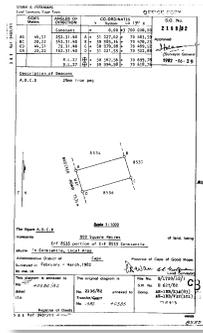
Solution design needs

Move away from fixed relational models

Consider Document based NoSQL databases

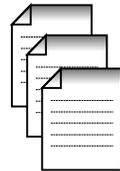Be aware: Generally poor spatial capability in NoSQL databases
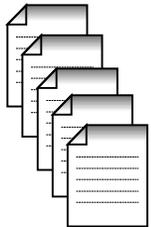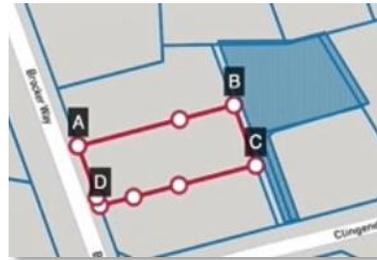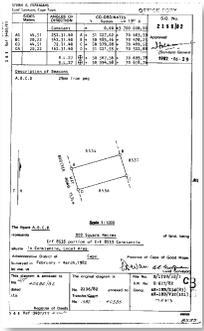
Visualisation needs to support all models; edit only for latest data model

Business value early, frequent change enabled

- Minimal data transformation delivers value early in the implementation process…

Business value early, frequent change enabled

- Minimal data transformation delivers value early in the implementation process…

- …then make the move to a structured model such as LADM

- Shift to a "Change as Usual" mindset
  - Enable new automation and citizen services with newer data models
  - …without mass data transformation

- Adopt "Transform as Needed" approach

- Focus background systematic transformation on records that are likely to transact.

ORDNANCE SURVEY | TRIMBLE

Thank you

John Clutterbuck

Principal Consultant - Land Administration

www.os.uk

John.clutterbuck@os.uk

+44 23 8005 4456

Ordnance Survey | Trimble