From Data to Wisdom

Reimagining Built Environment Intelligence

Burgert Gildenhuys

29 July 2025

Data and BIM in the Built Environment

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“We drown in data, but starve for wisdom” E O Wilson

- Considerations when we deal with data
- The South African data landscape
- What does the future holds?

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Data at scale

Observable Universe	Entire known cosmos, galaxies, dark matter
Galaxy Clusters	Virgo Supercluster, Laniakea
Galaxy	Milky Way
Solar System	Sun to Pluto (~100 AU)
Planetary Scale	Earth's diameter (~12,742 km)
Continent	Africa, Asia
Country	South Africa (~1,600 km north to south)
City / Metro Region	Cape Town, Johannesburg
Urban District	City blocks, town centres
Building / Campus	Hospitals, schools, office parks
Room / Structure	Living room, boardroom, classroom
Human Body	Adult person
Organ	Heart, brain
Cell	Red blood cell (~10 microns)
Organelle / DNA Helix	Mitochondria, DNA strands
Atom	Hydrogen atom radius
Atomic Nucleus	Proton/neutron scale
Quarks / Subatomic	Fundamental particles

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Each data user looks at the same thing but from its own perspective

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Cross Cutting Skills & Roles

- Geographic Information Systems (GIS)
- Building Information Modelling (BIM)
- Spatial Data Analysis
- Asset Management and Facilities Management
- Academic & Research

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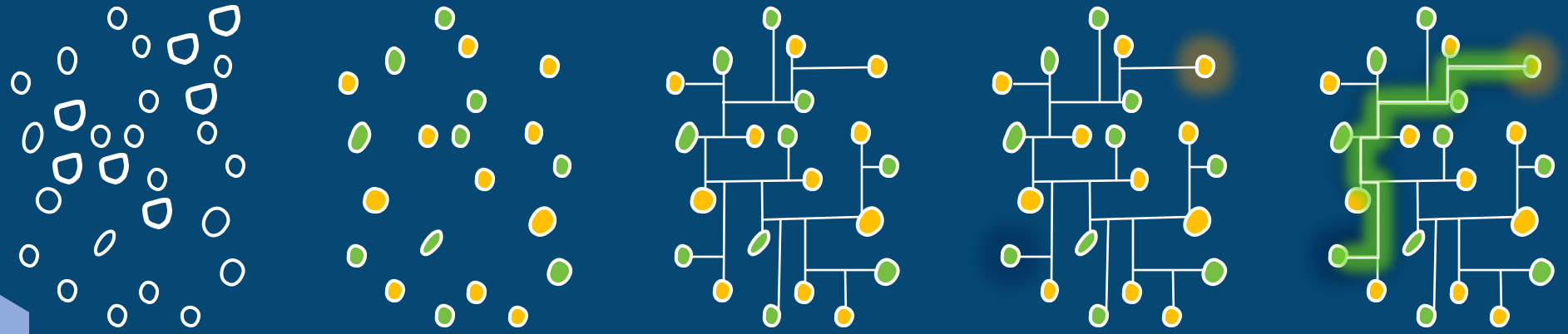
The Data Value Chain



Data Information Knowledge Insight Wisdom

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The South African data landscape

- Data lives in silos – is it so bad in itself?
- Data exist in fragments and ad hoc - no alignment – is it so bad in itself?
- Quality has collapsed: outdated, inconsistent formats
- Data not viewed as an asset (GRAP 31)
- Data hoarding is power – open access is feared

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The Opportunity – We don’t live in the dark ages anymore

- Open source and open data
- Technology cause fragmentation but is also the vehicle for integration
- The power of AI covers the total value chain
- Data has value and there for data come at a cost

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Tools have evolved, but have we?

- Skilled users don’t understand context
- Understand context but not skilled
- Technology out of reach
- Technology & data overloads
- Data not usable or accessible

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From data custodians to knowledge activators

Our cities are only as smart as the questions we ask of our data – and how willing we are to share the answers.

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How do we achieve our data objectives

- Legislative and Regulatory Compliance
- Data Inventory and Classification
- Data Sharing and Integration
- Data Governance and Custodianship
- Technological Infrastructure and Security
- Financial and Resource Planning

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Data as an asset?

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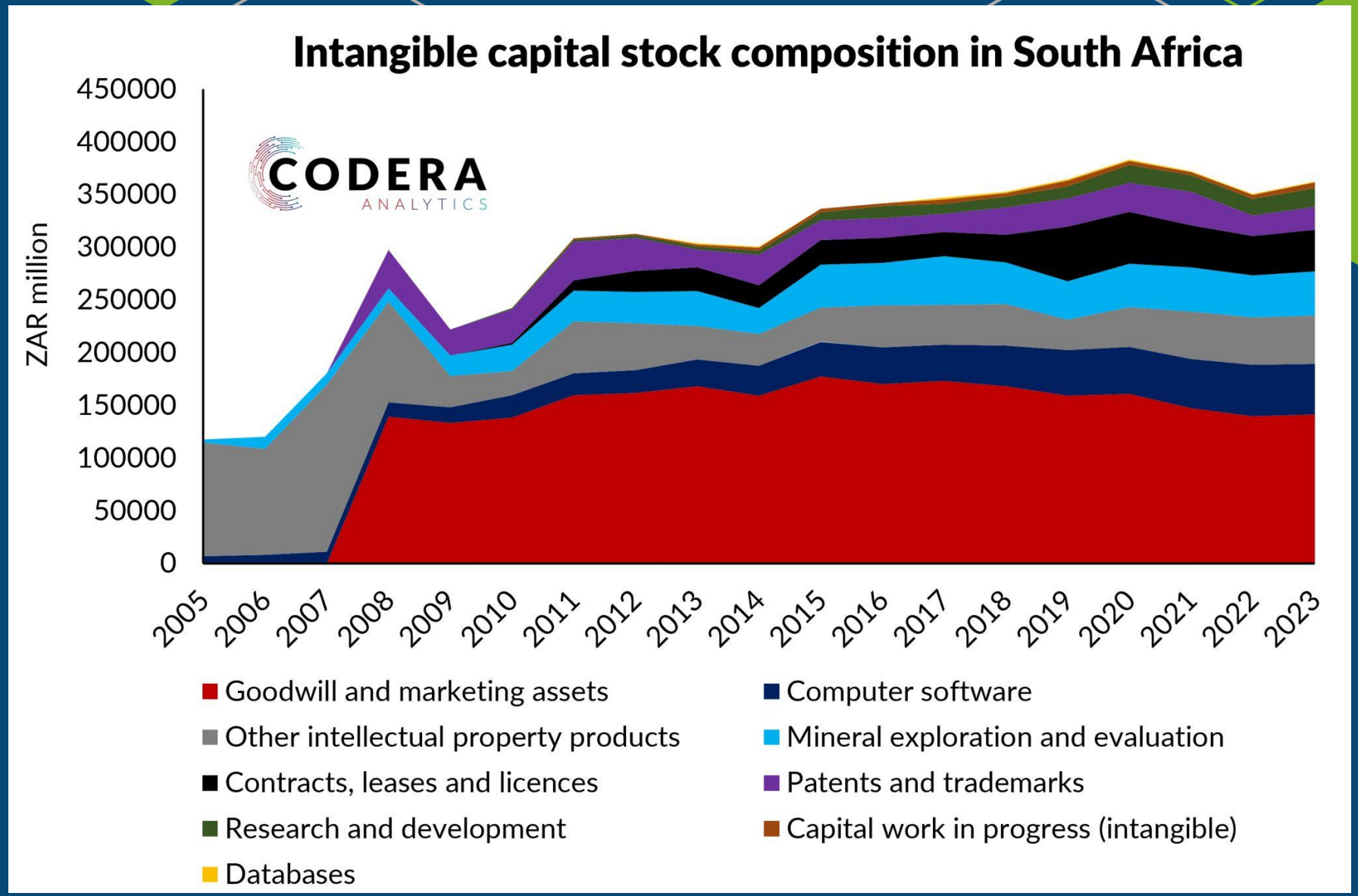

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Thank you

Burgert Gildenhuys Director

Pr. Pln, MIAM (London), ILGM, B(TRP), BAdmin (Municipal Administration)

Phone: +27 (0)12 141 2094
Mobile: +27 (0)83 450 0077

Email: burgert@sdsafrica.net
Web: www.sdsafrica.net

5th Floor, Bloukrans Building,
Lynnwood Bridge,
Pretoria, 0081 South Africa

Email: burgert@bcga.co.za
Web: www.bcga.co.za

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