
Digital Water – How technology will facilitate change in the water sector



John Kingdon

4th April 2017



Meeting national needs through people and innovation

Change - Complexity and Pace

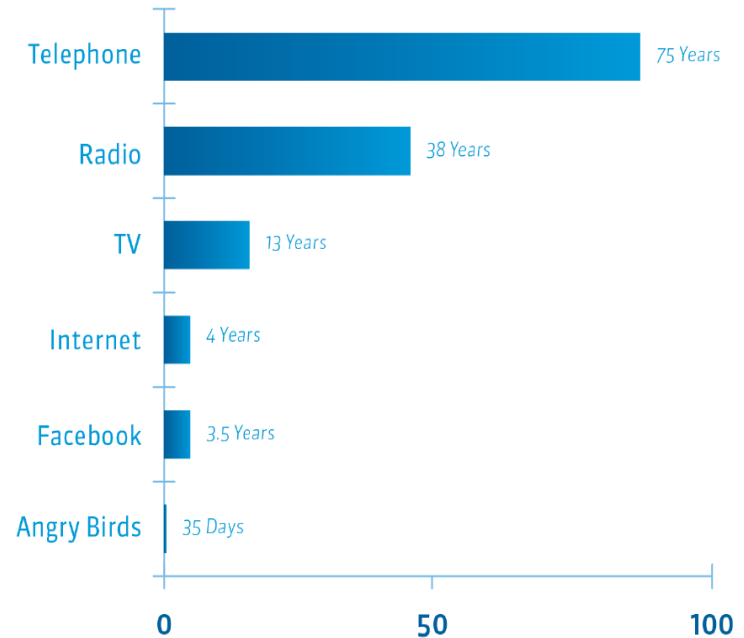
UK population is projected to increase by 9.7 million to 74.3 million by mid-2039. With more than 1 in 12 of the population projected to be aged 80 or over ¹

Warmer and wetter winters, hotter and drier summers, sea level rise, and more severe weather - average summer temperature increases in the South East of England, of 3.9°C and a 22% decrease in average summer rainfall in the South East. An increase of 16% in average winter rainfall in the North West ²

Data volume is expanding tenfold every five years. Much of this new data is driven by devices from the more than 1.2 billion people who are connected to the Internet worldwide, with an average of 4.3 connected devices per person. Devices including smartphone also provide support for remote monitoring sensors, RFID, location-based data, transactions and more ³

The focus on outcomes, so that our price control focusses on, what companies deliver, rather than how they deliver it was one of the key innovations of the 2014 price review (PR14). It was the first time we, and the sector, had applied **outcomes reflecting customers' priorities.**⁴

Time to reach 50 million users



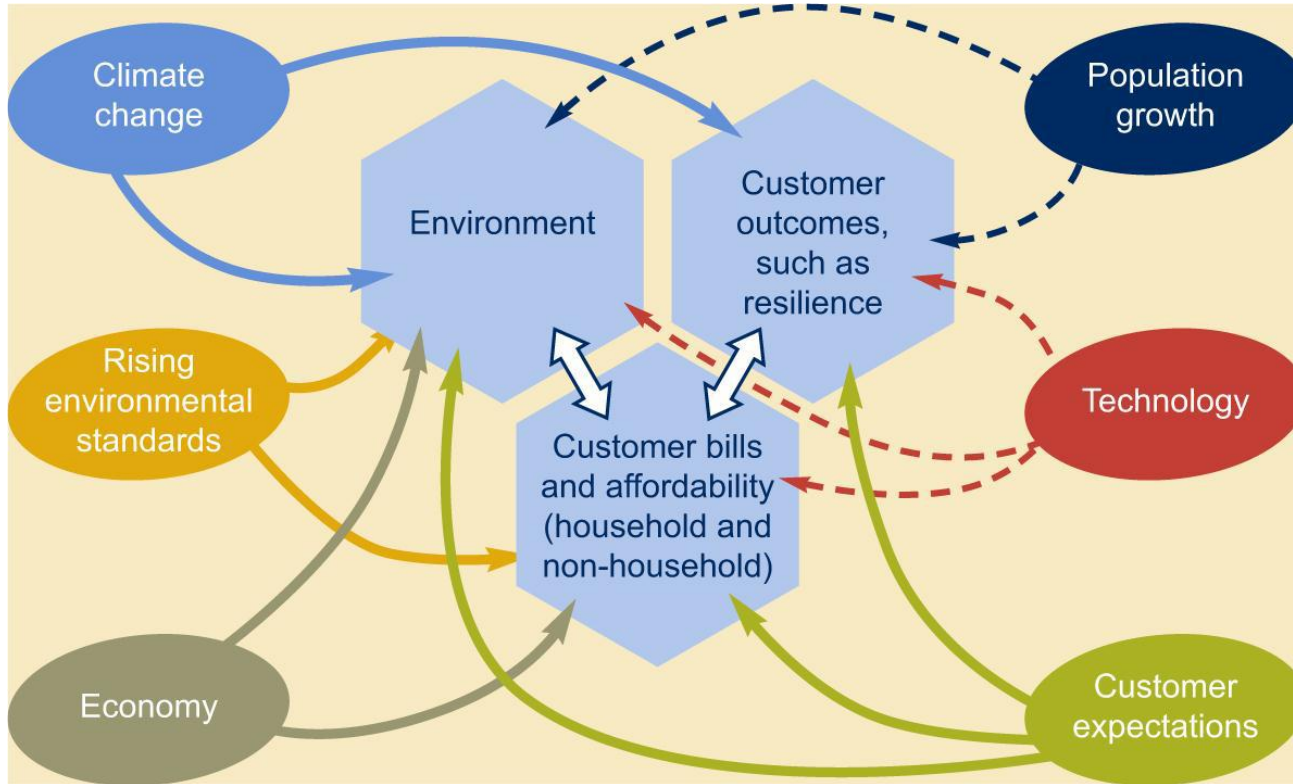
1 - National Population Projections: 2014-based Statistical Bulletin, Office for National Statistics

2 - Adapting to climate change, June 2009, DEFRA

3 - The Microsoft Modern Data Warehouse, 2013 Microsoft Corporation

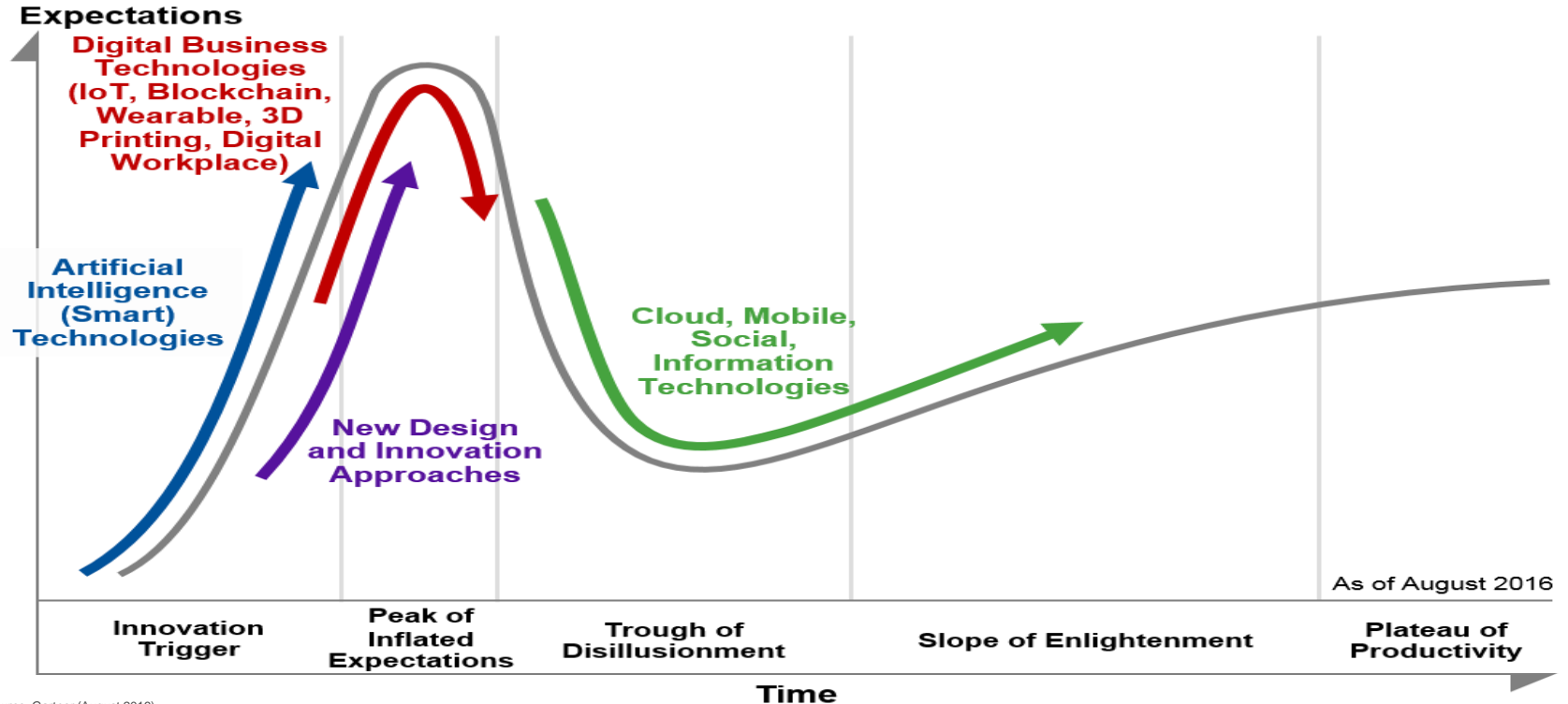
4 - Towards Water 2020 – policy issues: customer engagement and outcomes, 29th July, 2015, OFWAT

OFWAT external drivers for change

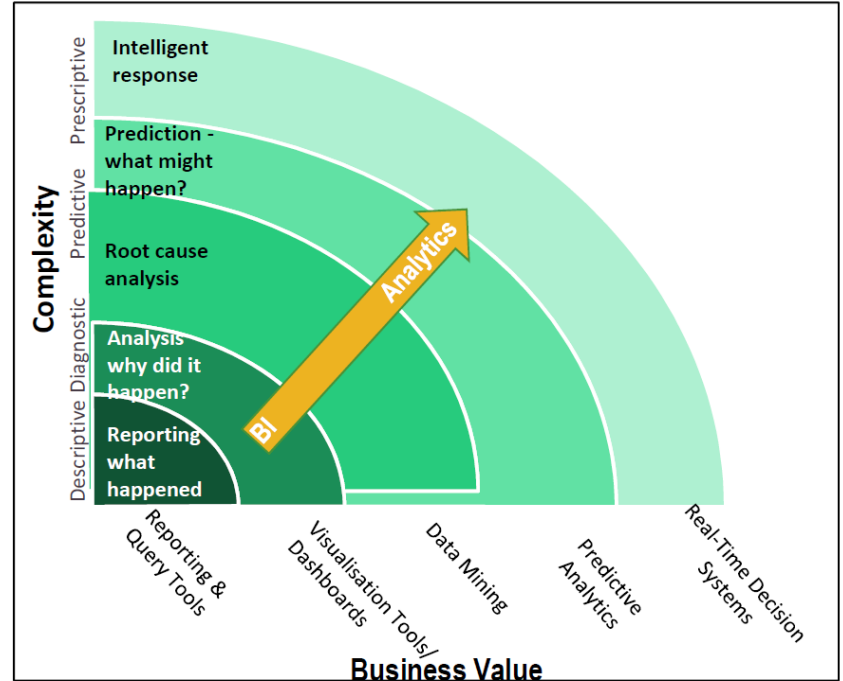
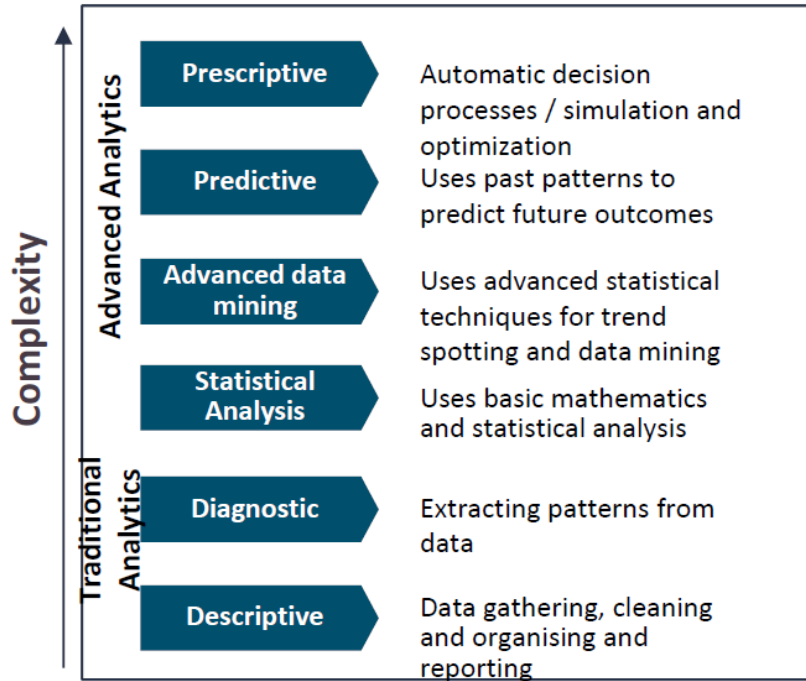


Megatrends Across Gartner 2016 Hype Cycles

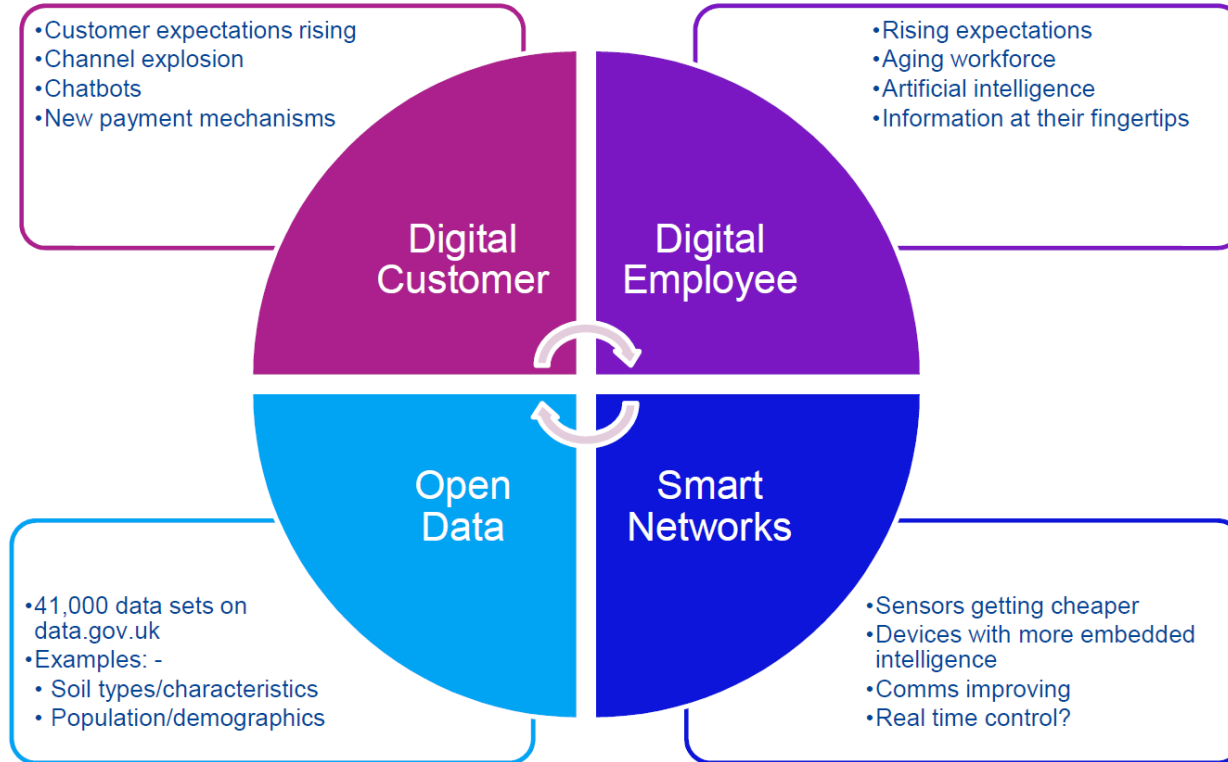
COSTAIN



Data utilisation



How digital are we?



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OK

A STEVEN SPIELBERG FILM

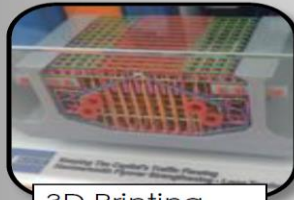
MINORITY REPORT

TOM CRUISE COLIN FARRELL SAMANTHA MONTON and MAX VON SYDOW *D JOHN WILLIAMS
*D19 INDUSTRIAL LIGHT & MAGIC *D20 DEBORAH L. SCOTT *D21 MICHAEL KAHN, A.C.E.
*D22 ALEX WOODWELL *D23 JANNICE KAMINSKY, A.C.E. *D24 CARY GOLDMAN RONALD CRISSETT
*D25 GERALD R. MILLEN BONNIE CURTIS WALTER F. PARKES JAN DE BONT
*D26 PHILIP K. DICK *D27 SCOTT FRANK and JON COHEN *D28 STEVEN SPIELBERG

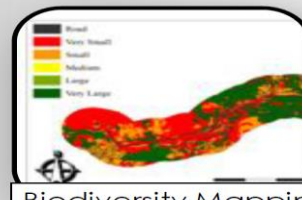
Technology enabled asset management



Laser scan



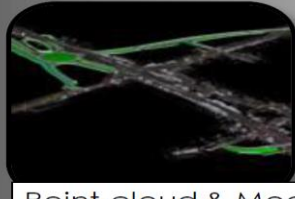
3D Printing



Biodiversity Mapping



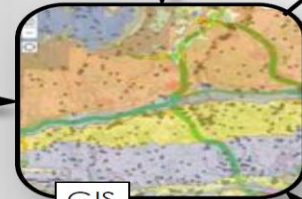
Mobile Apps



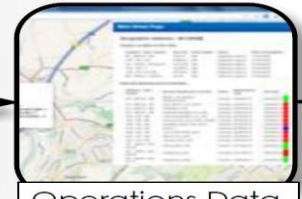
Point-cloud & Model



BIM



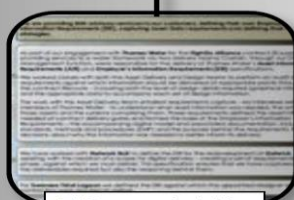
GIS



Operations Data



Augmented Reality



EIRs and AIRs



Aerial Surveys



Time-lapse & 360

Front End Platform

Range of
Sensors

Type of Drone

Back End Platform

Upload, Secure,
Organise

Analytics &
Workbench

Inspection
Portal

Centrally
Published

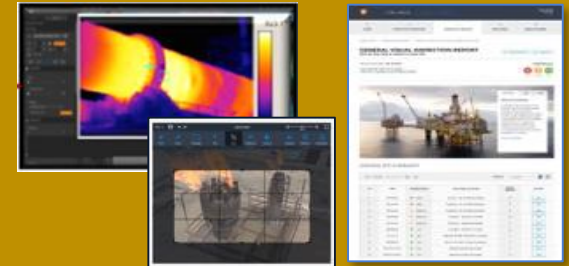
Airborne Inspection Platform



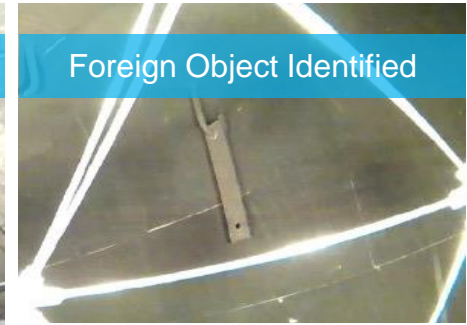
O&G Specific data processing & Analysis tools



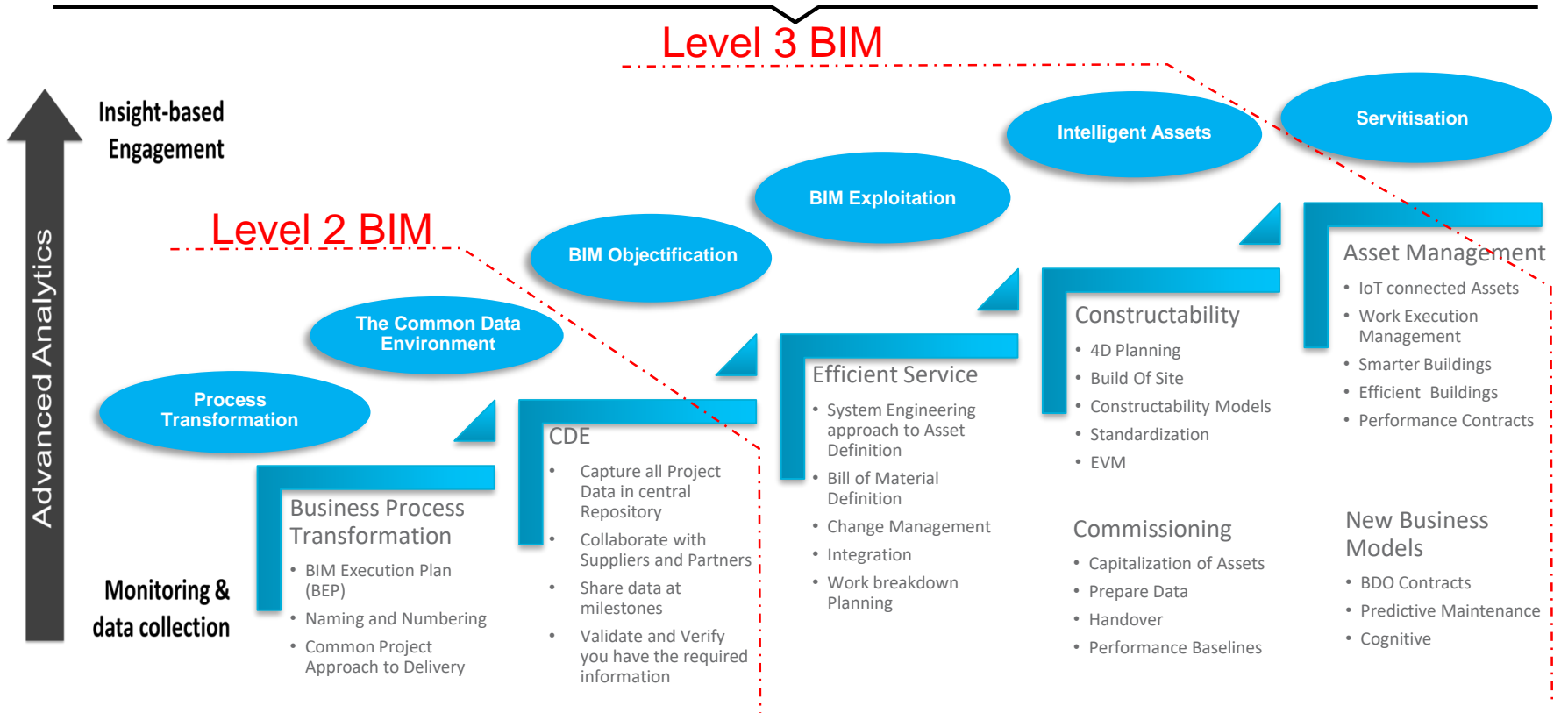
Inspection Portal & Dashboard



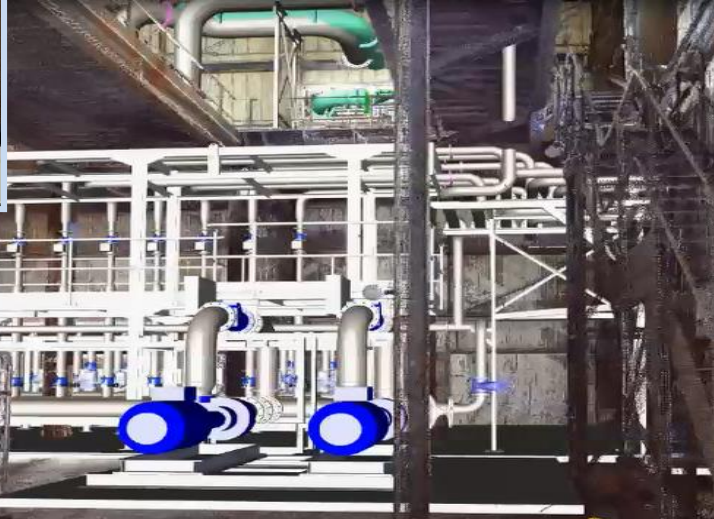
Removing the human/hazard interface



Overview of the BIM Ladder



New ways of working



Conclusion

- The pace of change in the water industry is increasing
- Customers and employees are expecting a digital interaction
- Our world is becoming more complex
- Collaboration across the supply chain is a necessity
- Expect to be disrupted

“It’s not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.” *Charles Darwin*

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John.Kingdon@costain.com

