

Thoughts on Digital Water

20th African Water Association International Congress

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KALA VAIRAVAMOORTHY, Executive Director, IWA

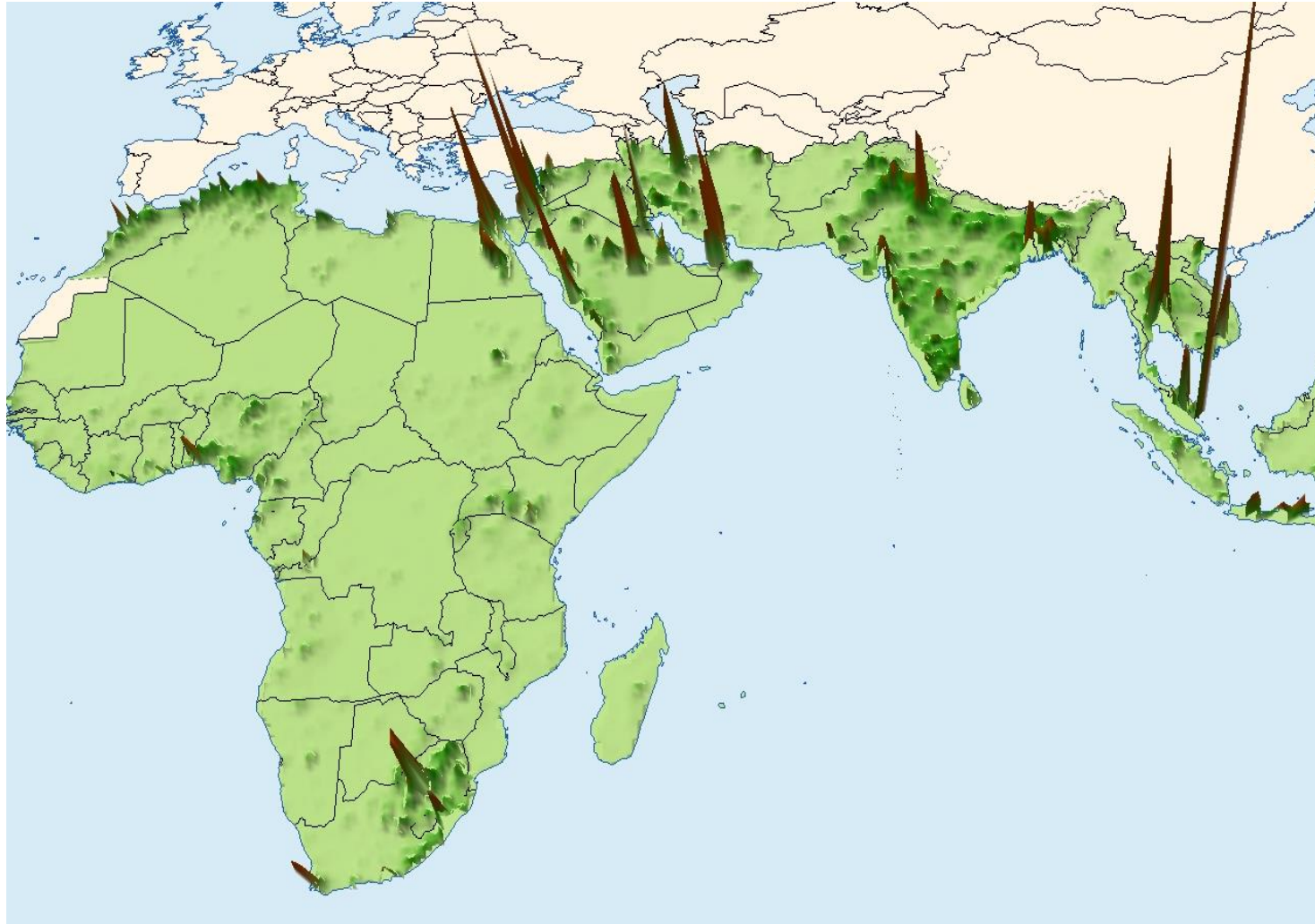


Our 19th century approaches have not worked well in many countries



Linear, single quality, use once and throw away
'All or nothing' - unaffordable for 2/3 of planet

Opportunity to do things differently



Source: World Bank (2010)

Water sector needs to get Smarter

Smart by design - adaptive, distributed, advanced

Smart use - doing more with less, RRR (R3)

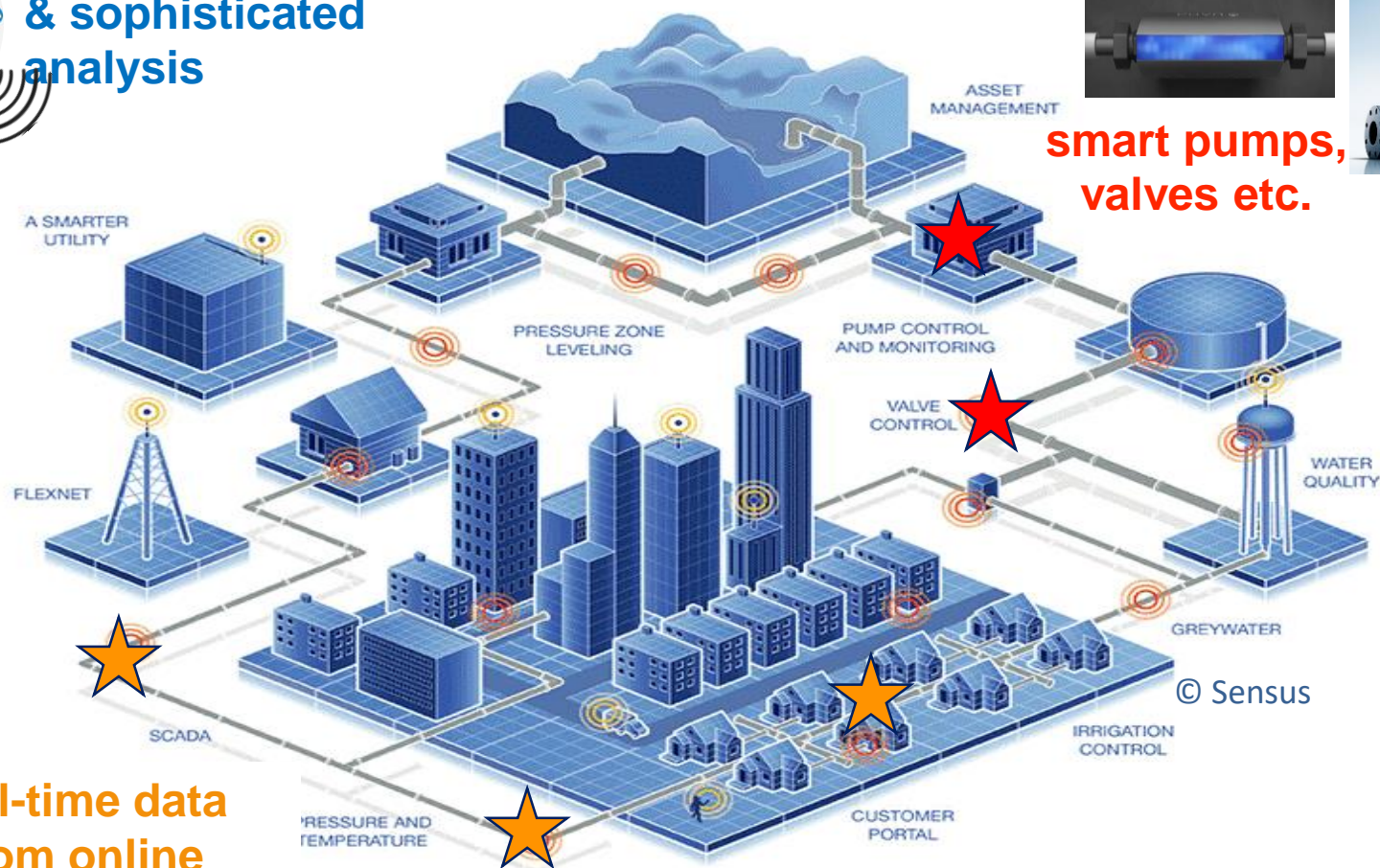
Smart control - sensors, analytics, OT-IT
integration

Digital is really an enabler

Digital ecosystem - connected assets



integration of data & sophisticated analysis



smart pumps, valves etc.

real-time data from online sensors
4 V's

3.6 billion camera phones in use

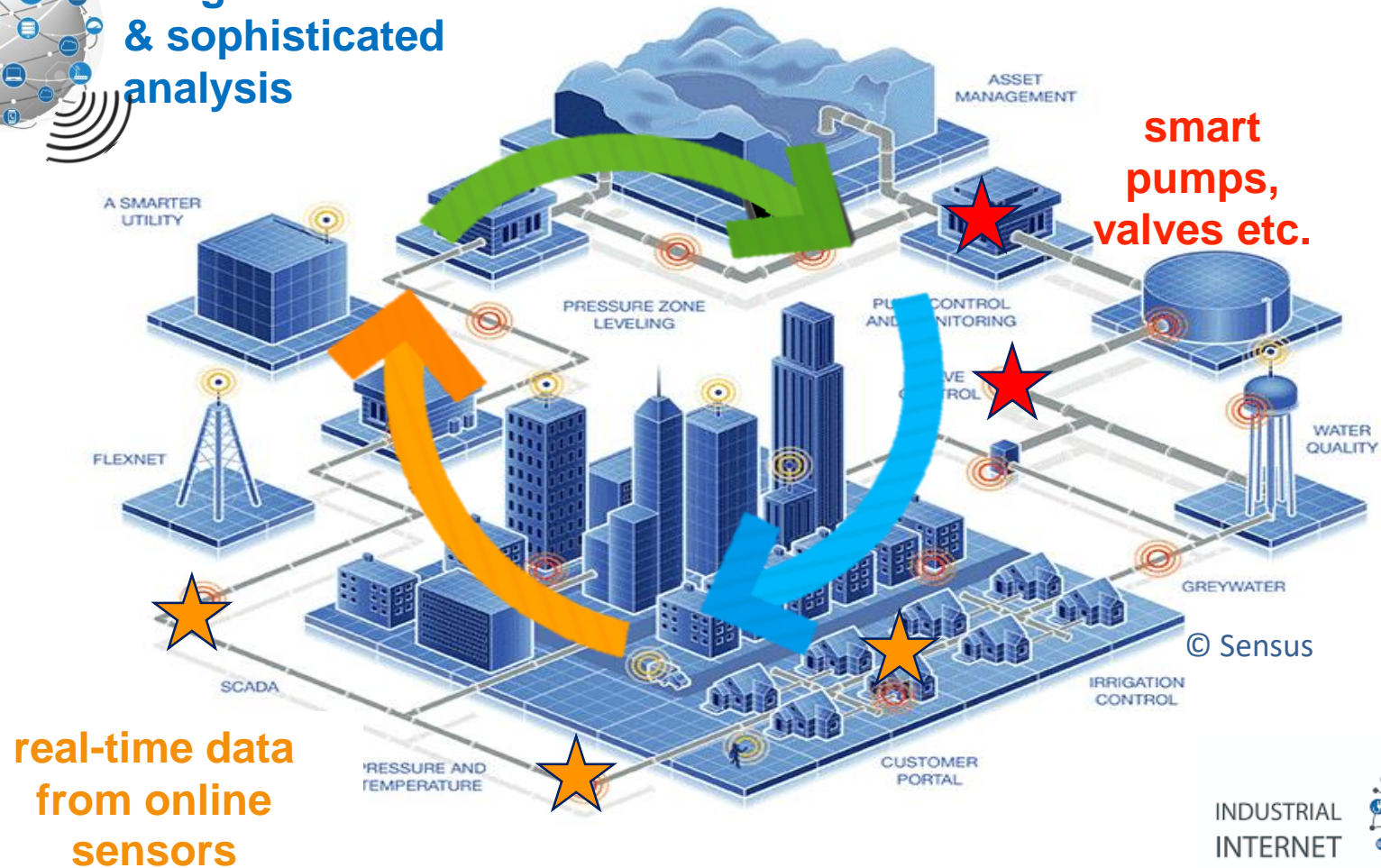
30 billion RFID tags embedded into our global ecosystem

250 million smart meters in Europe by the end of 2020

Digital ecosystem – silent running



integration of data
& sophisticated
analysis



real-time data
from online
sensors

© Sensus

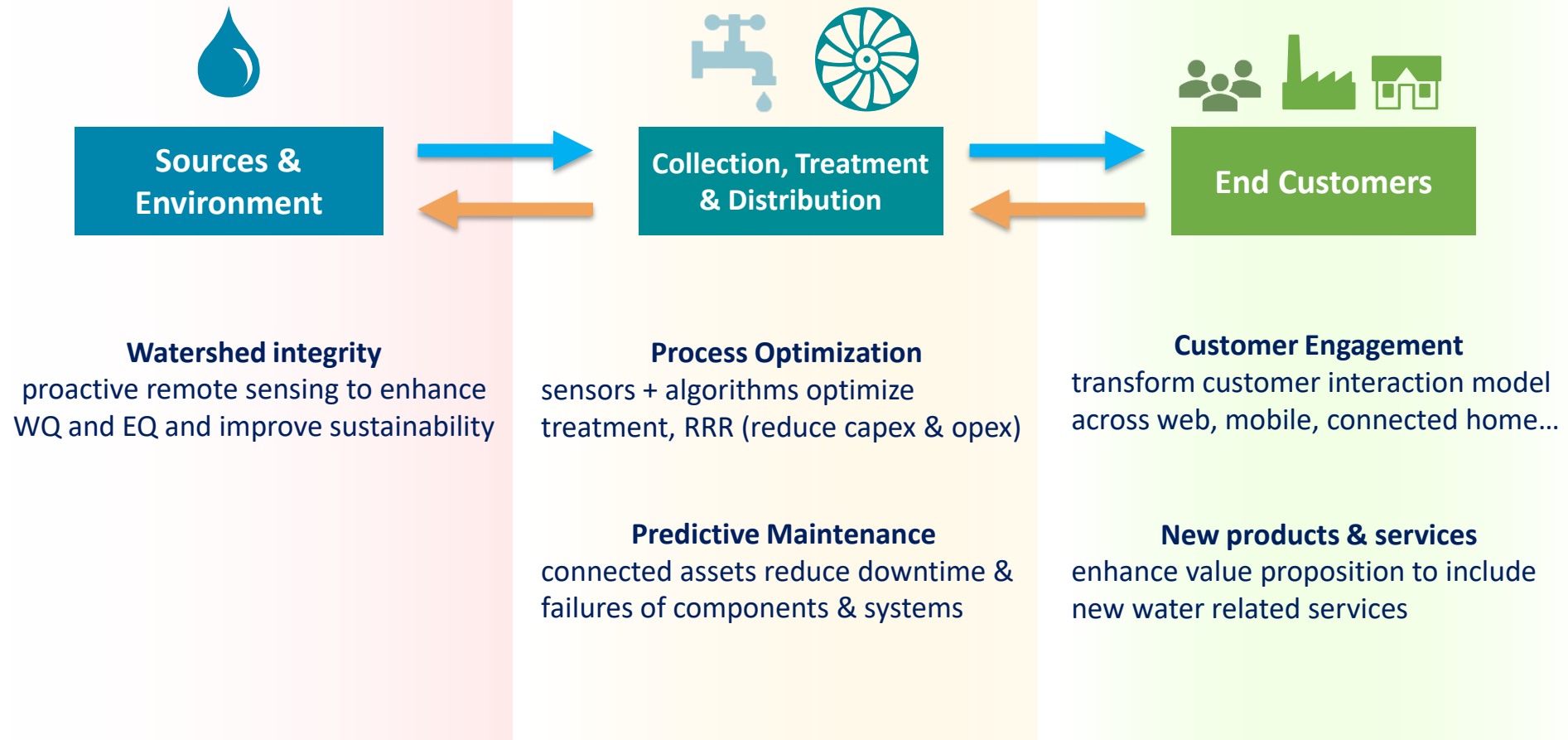
INDUSTRIAL
INTERNET
OF THINGS



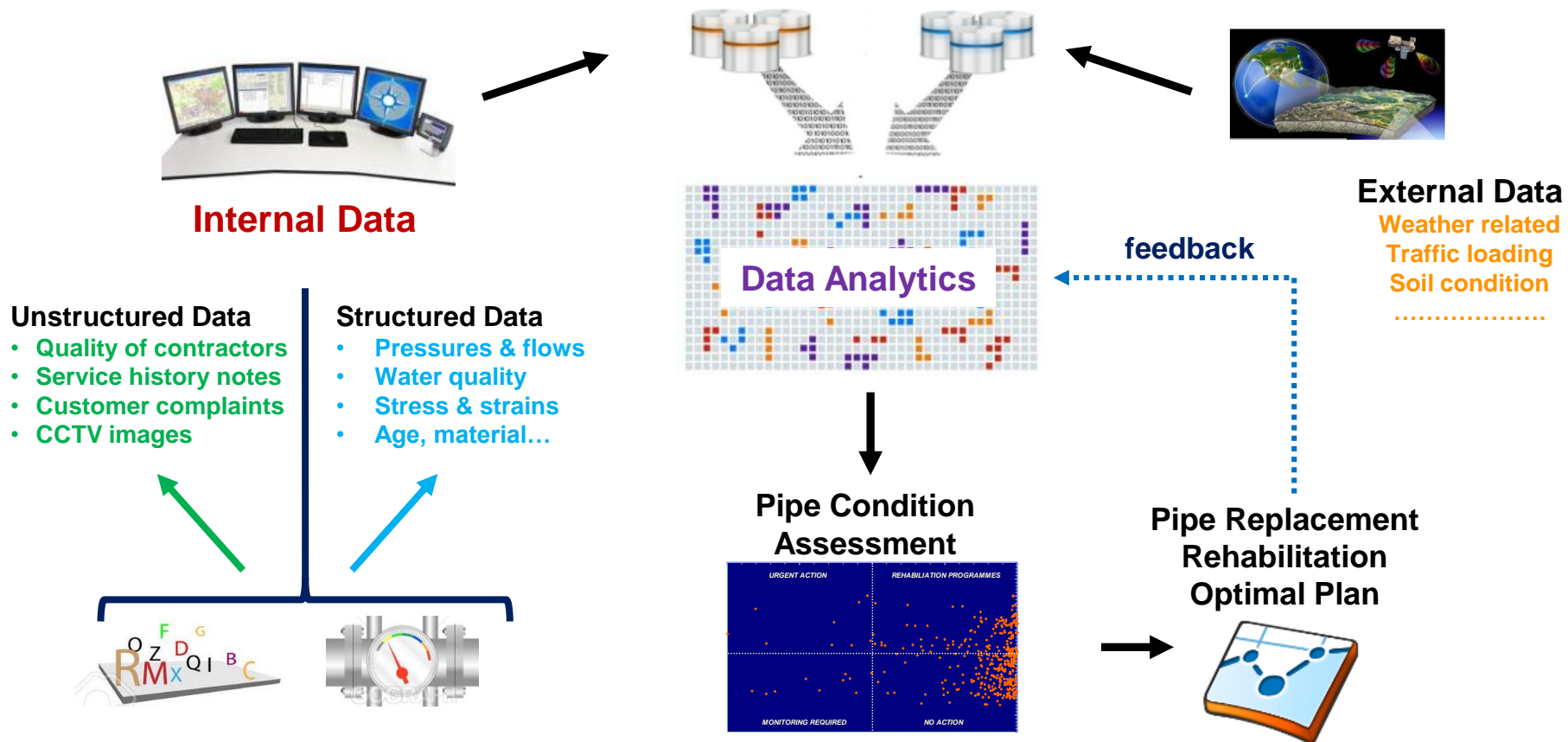
Savings from: monitoring, automation & control are approx. \$320B from 2016-2020

GWI Water's Digital Future, 2016

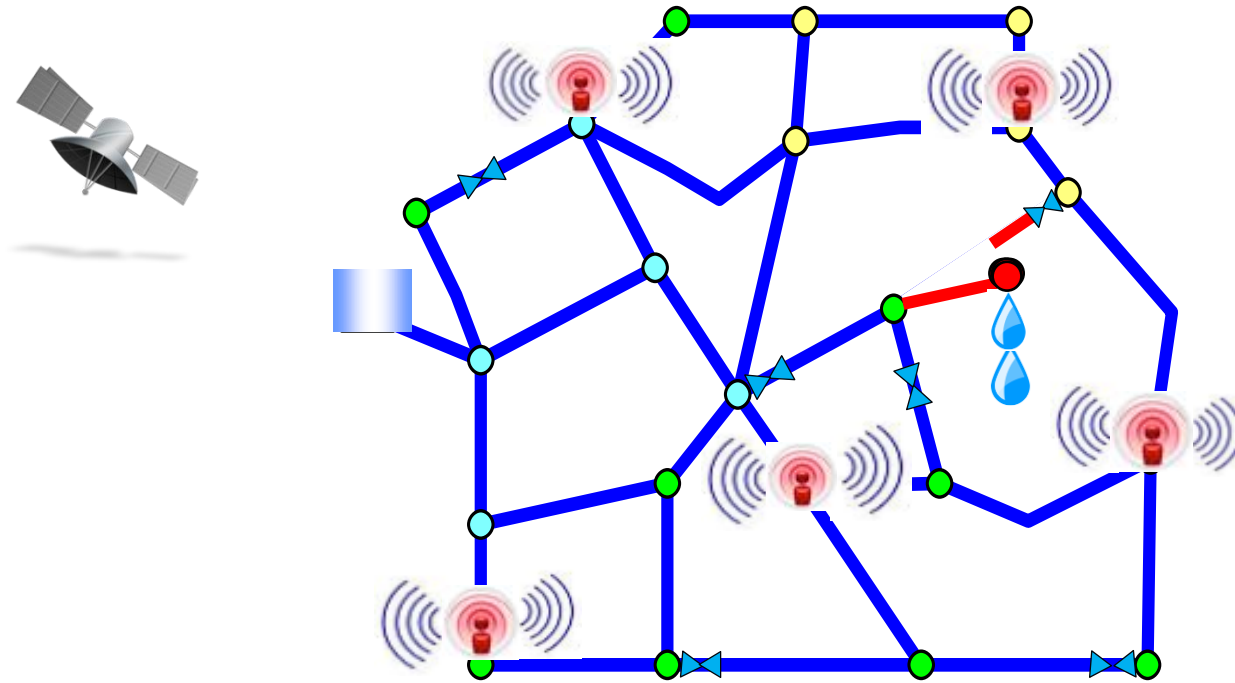
And it benefits the entire value chain



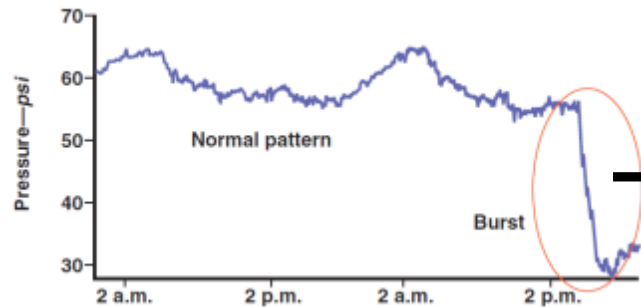
Predictive maintenance watching assets age in real-time



silent running - machine-to-machine coms



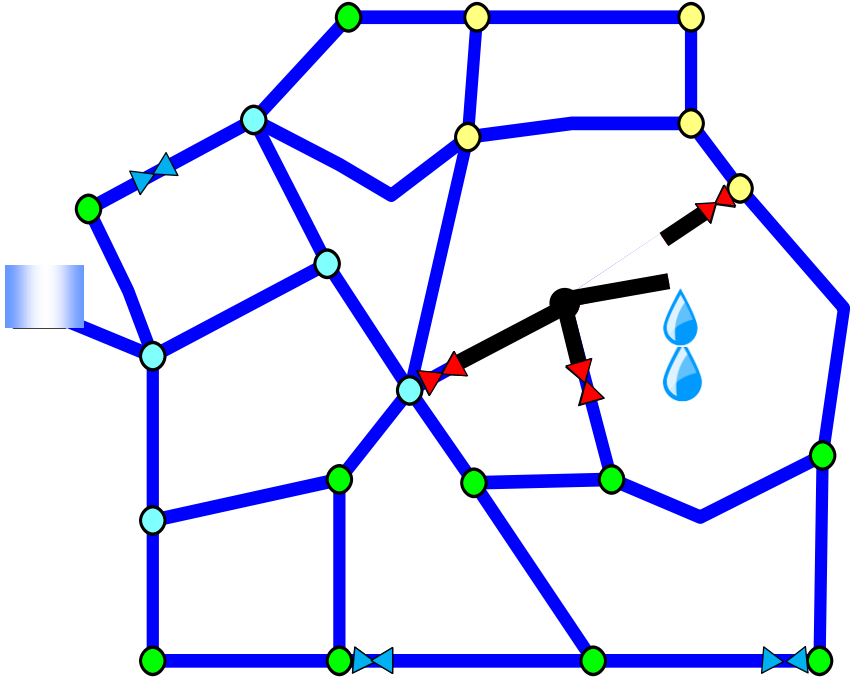
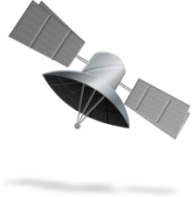
Calculate Location of Burst



Optimal Valve Isolation

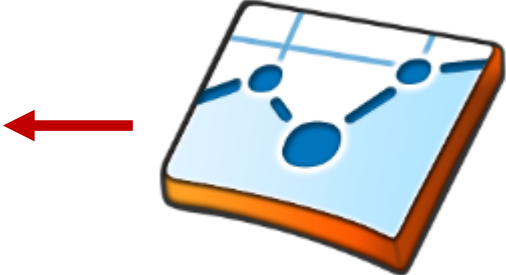


silent running - machine-to-machine coms

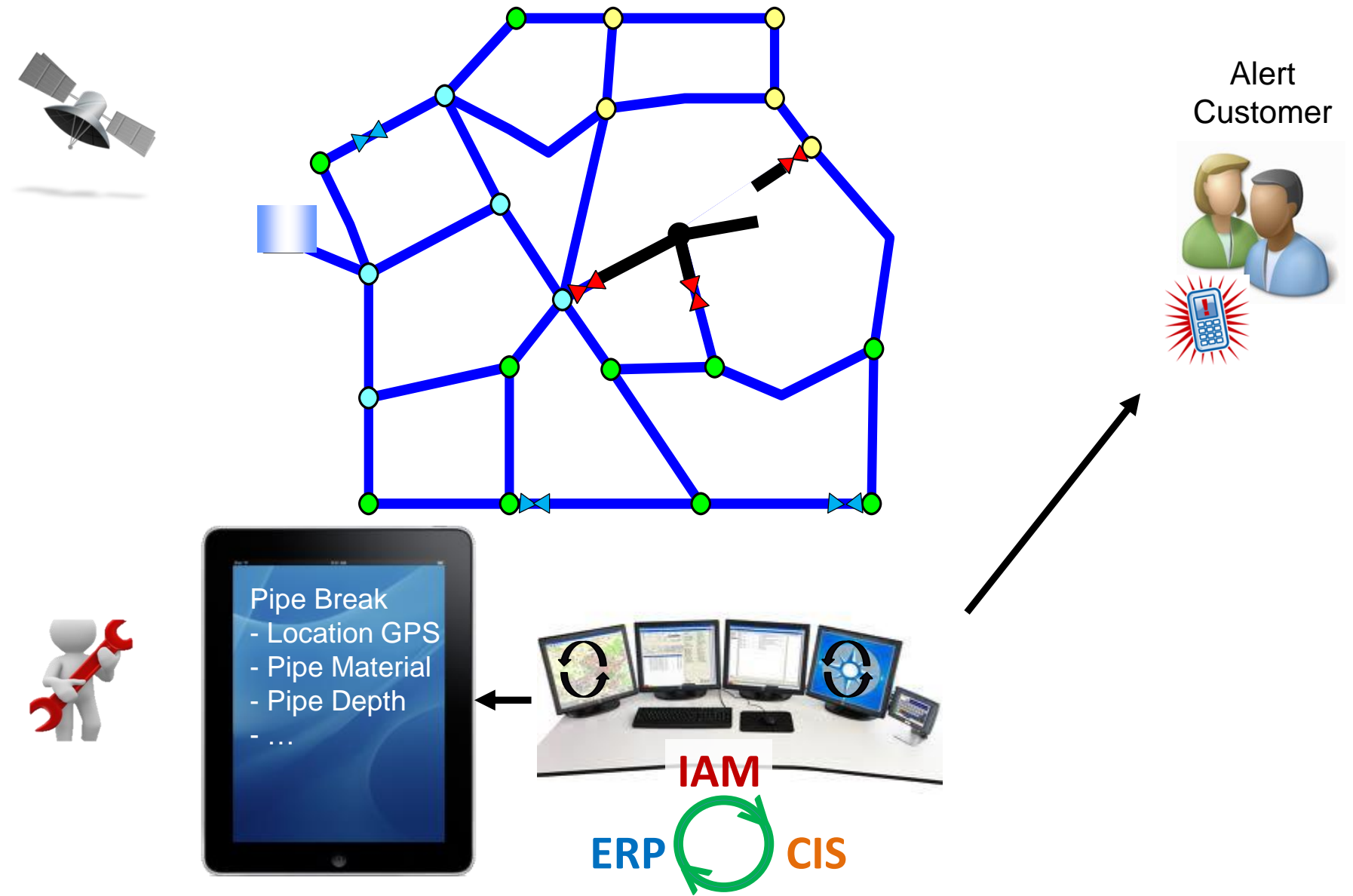


Isolate Leak

Optimal Valve Isolation



silent running - machine-to-machine coms



we're dealing with systems of systems

Need to consider entire value chain

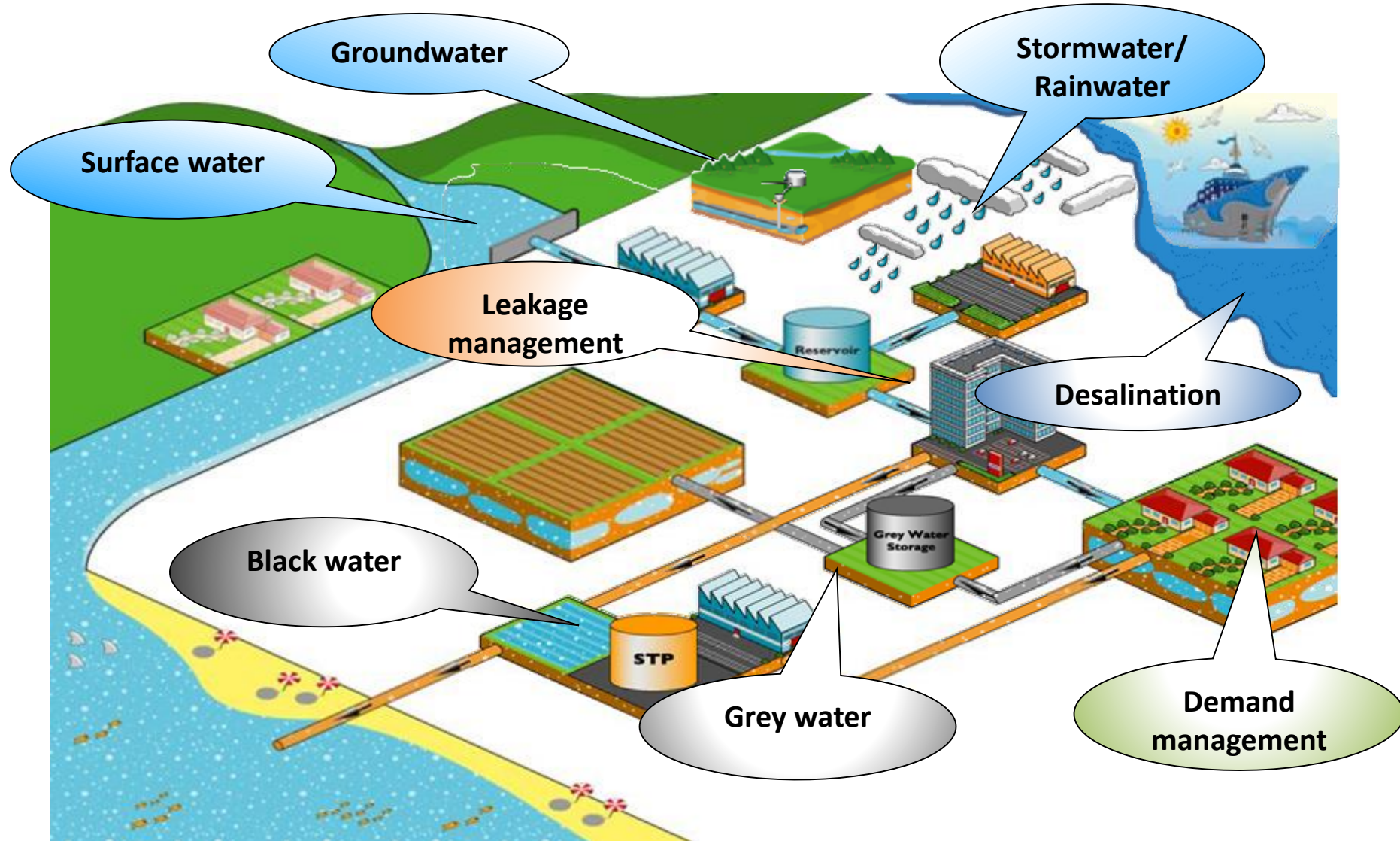


Integrated Water Cycle Perspective

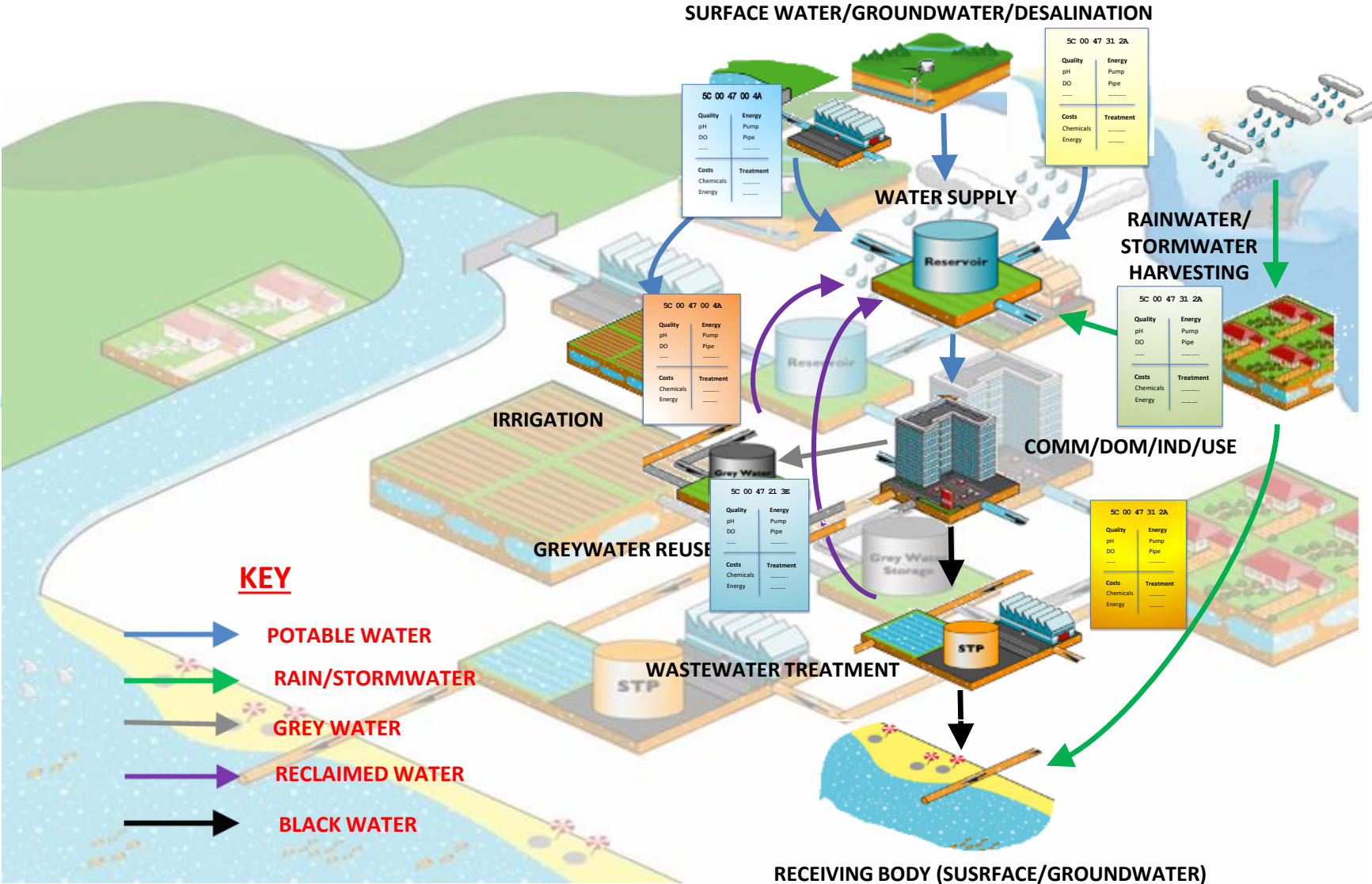
Data integration, analytics and visualization allow utility to manage an integrated system in a holistic and intelligent way



Productive use - we need to have a systems perspective of the water cycle

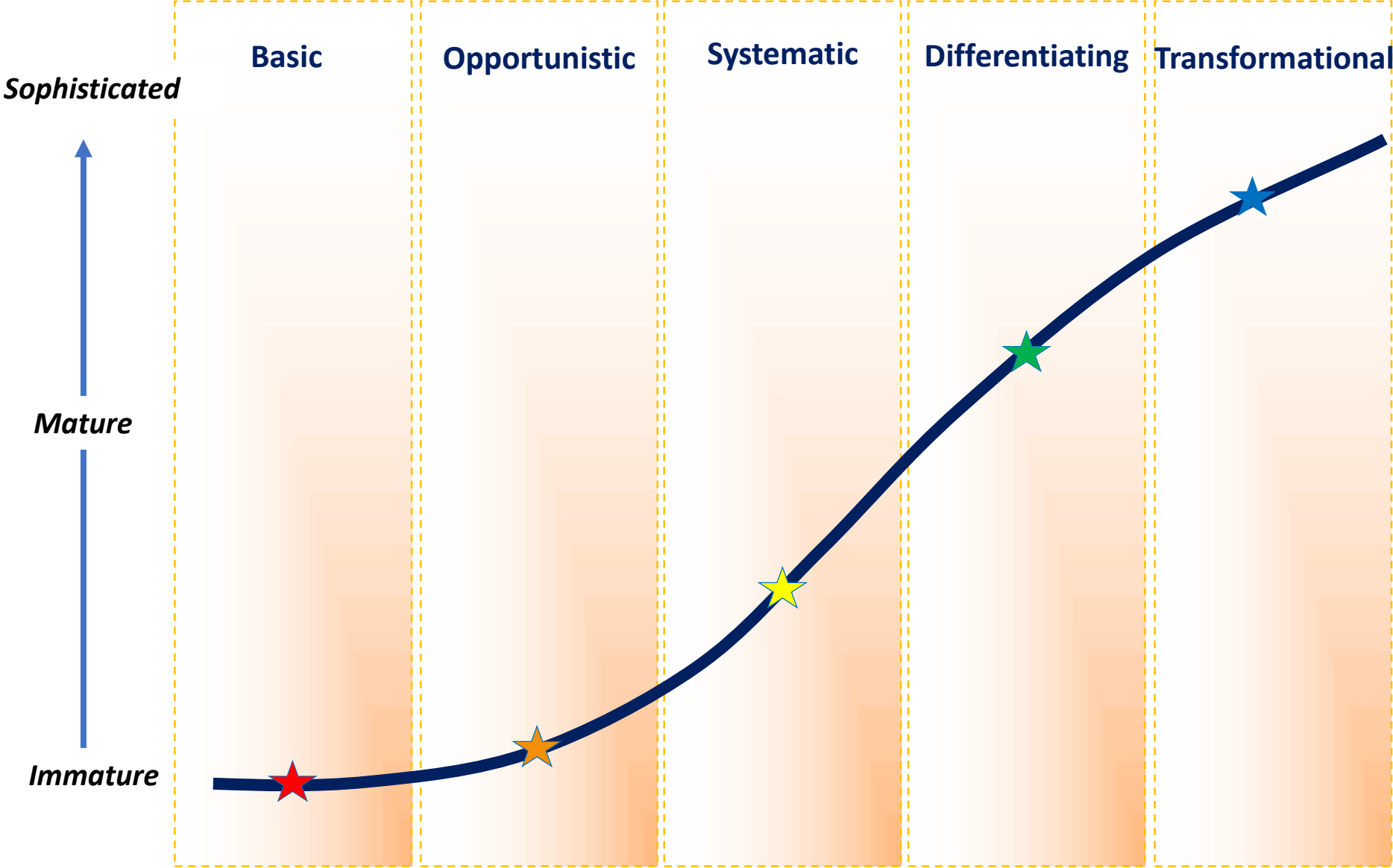


Modelling allows us to connect all flows for productive uses – digital ledgers help

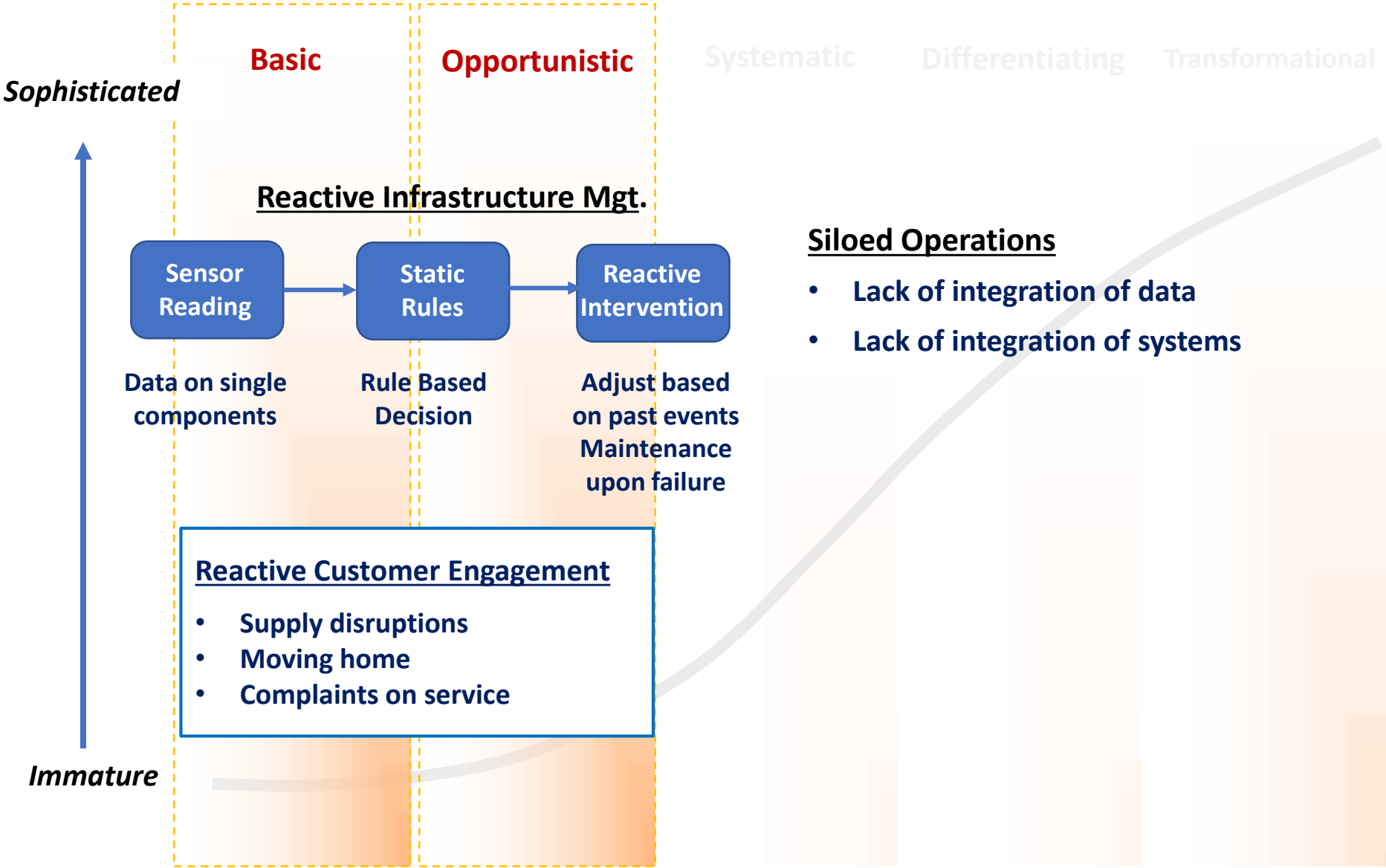


how digitally mature are you?

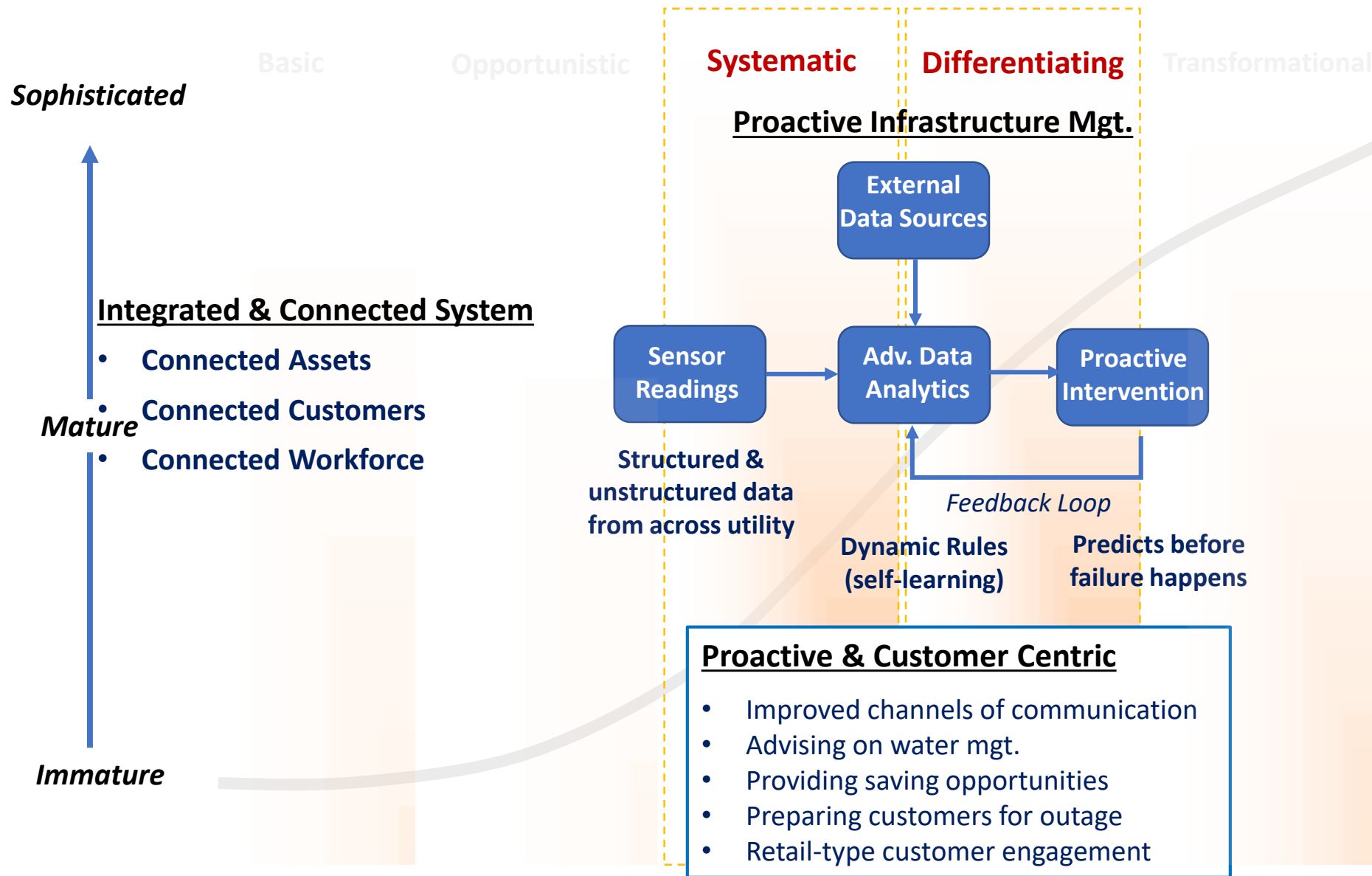
Where are you on the Digital Maturity Curve?



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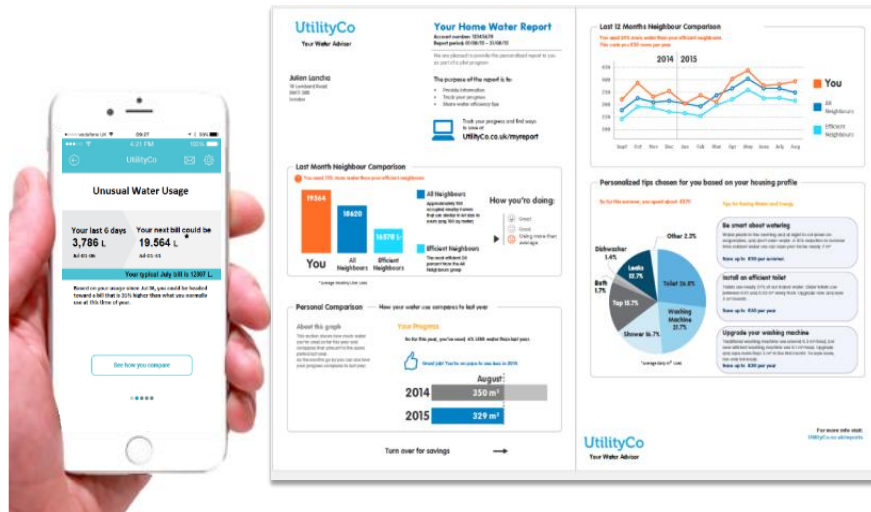
Where are you on the Digital Maturity Curve?



It's all about connectedness

Connected Customer

Home Display Unit, Web + Apps, Social Media, Gamification; Dynamic Pricing



Connected Workforce

Integrated picture of utility, smart wear, AR, flight simulator controls



Where are you on the Digital Maturity Curve?

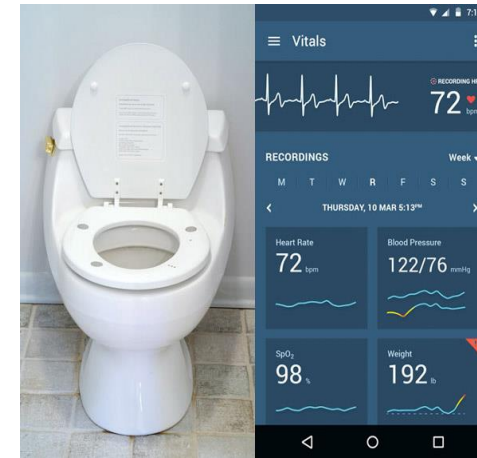


Monetizing your data - external

Smart 'health tracking' toilets - continuous monitoring of personal health data.

- Data on stool + urine (consistency, colour, freq.)
- Capture data on blood pressure, body fat, wgt.
- Allows consumer to take better control of their own health and well-being, including their diet
- 9/10 willing to share health data with doctor

Attractive model as both B2B & B2C





IWA's digital programme

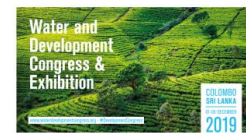
IWA - DWP Moving forward



IWA Learn



IWA Learn



Choices Before Us



Stay in Lane

Business as Usual

Try Harder

Spend More for Traditional Sys

Paradigm Shift

Truly Different Approach

Thank you!

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IWA-Connect Group: Cities of the Future

www.iwa-network.org