

Leveraging technology as a competitive differentiator

Dr Roger Chandler - Managing Director - Keynetix

Dr Roger Chandler



- Started career in Geotechnical Finite Element Analysis
- In 1998 found a passion for Data Management
 - co-founded Keynetix to assist companies with their Geotechnical Data Management
 - UK based until 2011
- Current main areas of work and experience are USA, Canada, UK, Australia and NZ.
 - Currently employs 23 people

Questions for Today

- Is your organization about to be a disrupter or disruptee as a result of technology changes?
- Do you value your data, or kill it quickly?
- Will sharing your geotechnical data make you more competitive?
- How does innovation successfully happen within your organisation?

Its all about the Data

We live in a data driven world



Data

Analyse



Insights

Inform



Decisions

Technology

is Disrupting Our Business Life

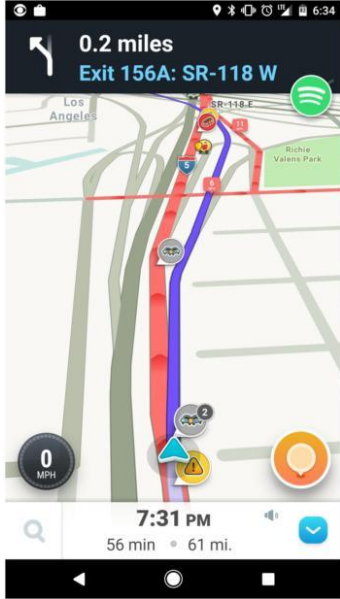


The Knowledge



- 2 years to complete
- Full exam at the end before becoming a registered London Taxi driver

The Disruption



- 1 – 7 days to wait
- Your phone has superior knowledge

UBER

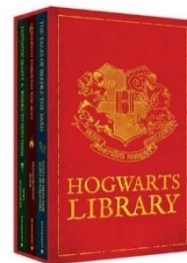


VS

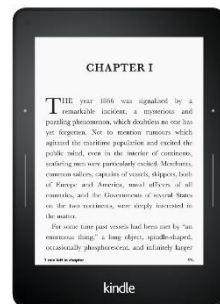
UBER



Not just UBER



VS



Speed of Delivery
is changing the way we live



Data

Analyse



Insights

Inform

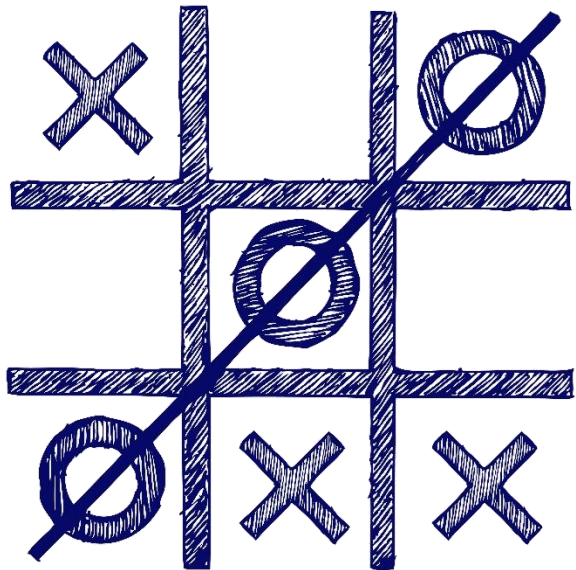


Decisions

Moore's Law

The number of transistors in a dense integrated circuit doubles approximately every two years.

Machine Learning



1952 – OXO wins at Tic Tac Toe

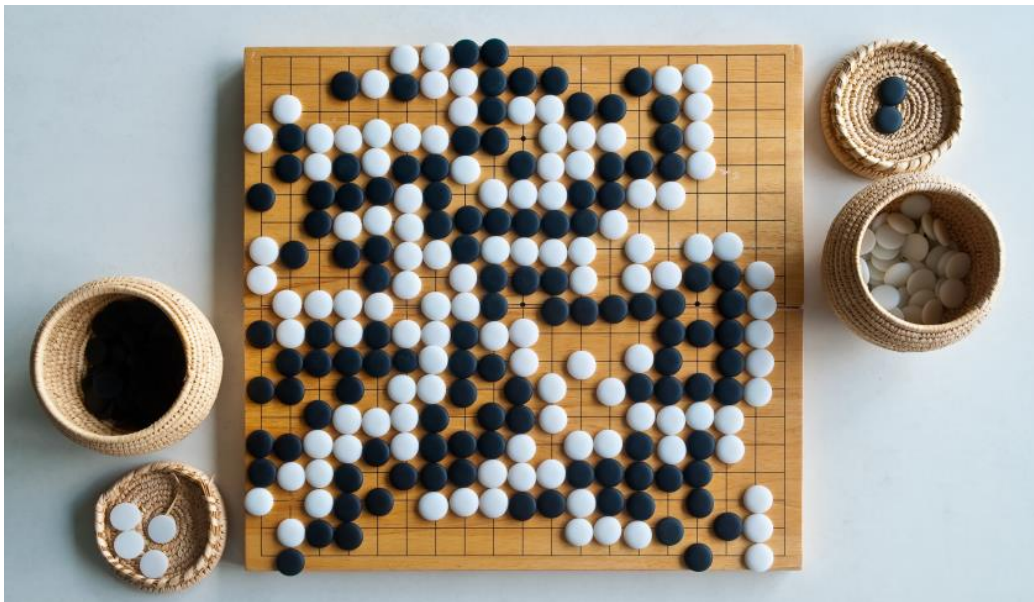


1996 – Deep Blue beats Garry Kasparov

Machine Learning



2011 – Watson (IBM) wins at Jeopardy



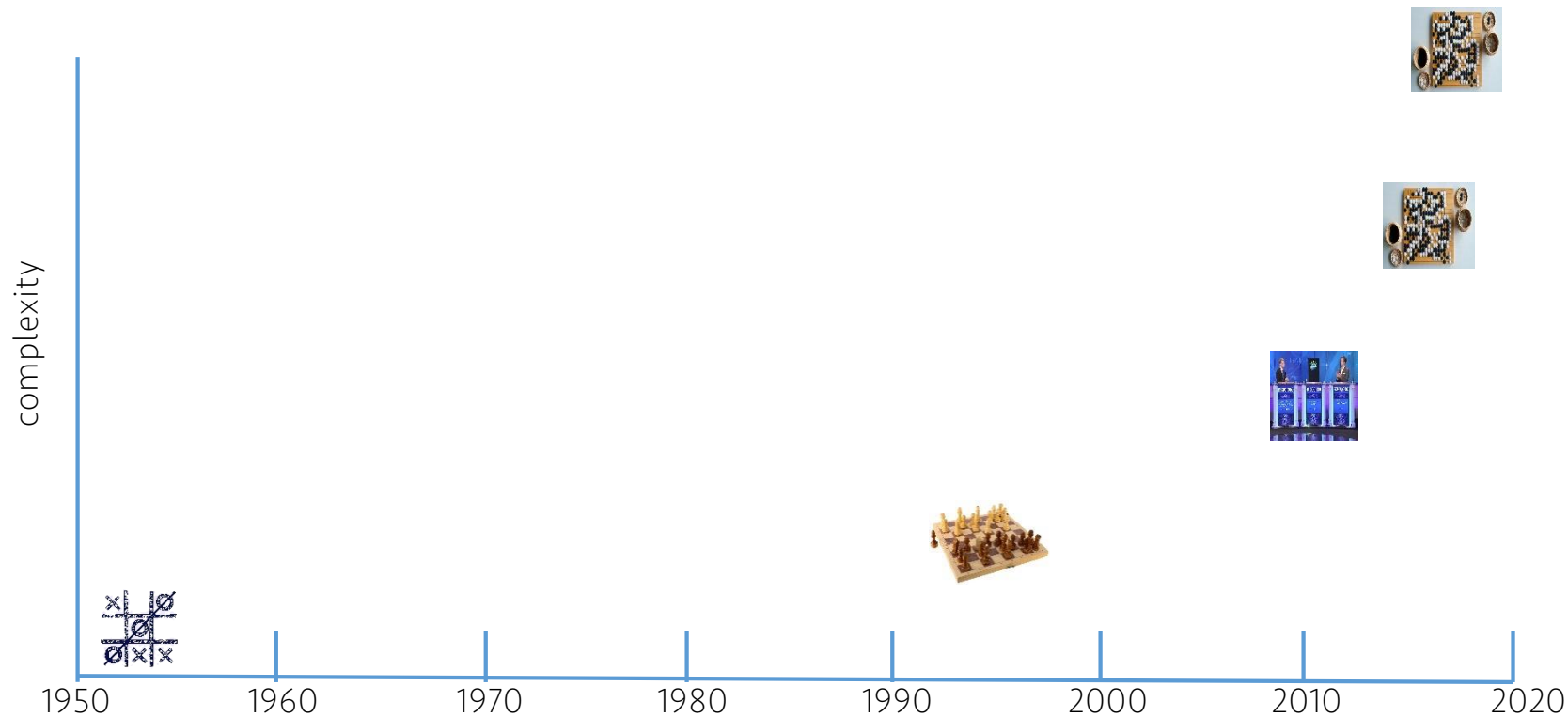
2015 – AlphaGo wins at GO

Machine Learning



2017 – AlphaGo Zero Learns Go and Wins in 3 Days

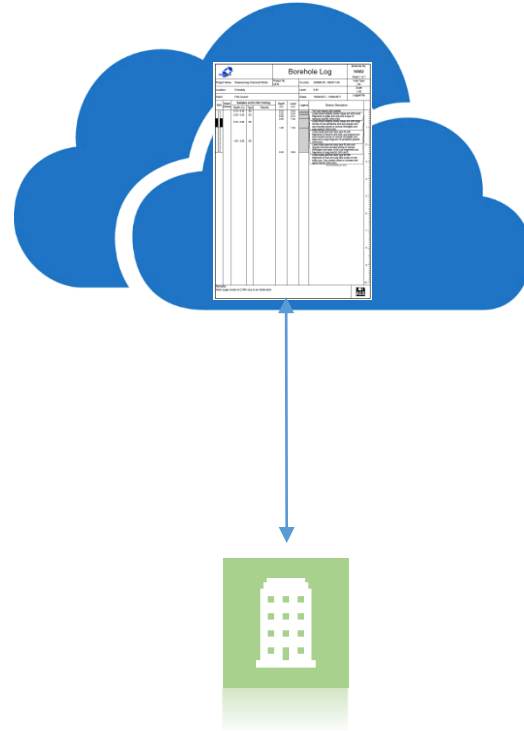
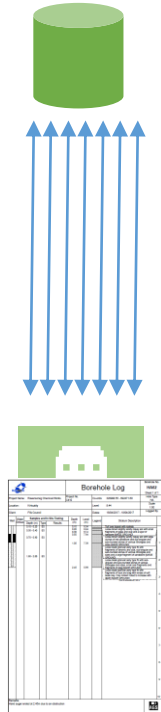
What will happen by 2020?



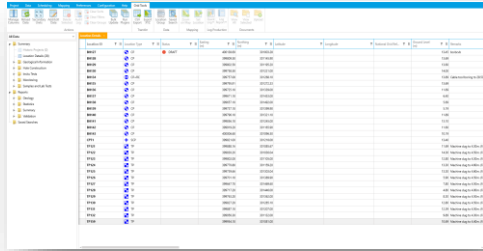
Cloud Computing

is changing how we work

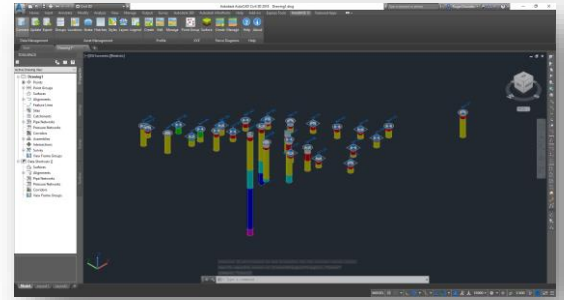
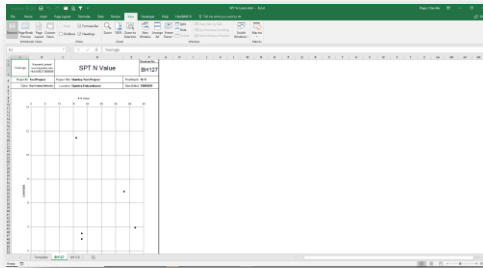
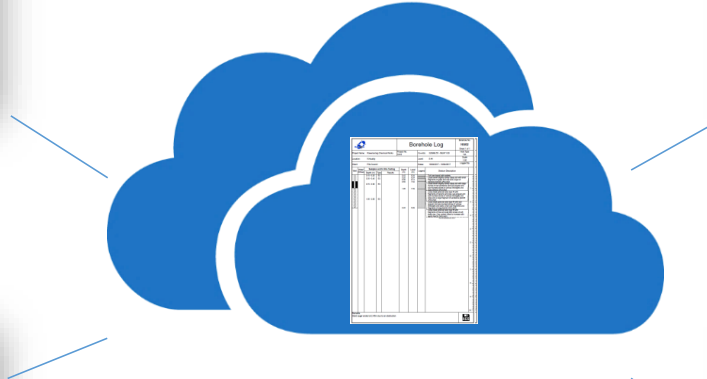
Inter Office Collaboration



Brains and Storage in the Cloud



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Data

We live in a data driven world

We are Data Producers

Two Golden Rules for Data Entry



Only do it once

Two Golden Rules for Data Entry

Get someone else
to do it

A large, light gray number 2 is positioned in the background, centered behind the text. It is a simple, bold outline of the digit 2.

Don't Kill Your Data

(Record data as close to source as possible and transfer it in a standardized electronic format)

Best Way to Kill Your Data





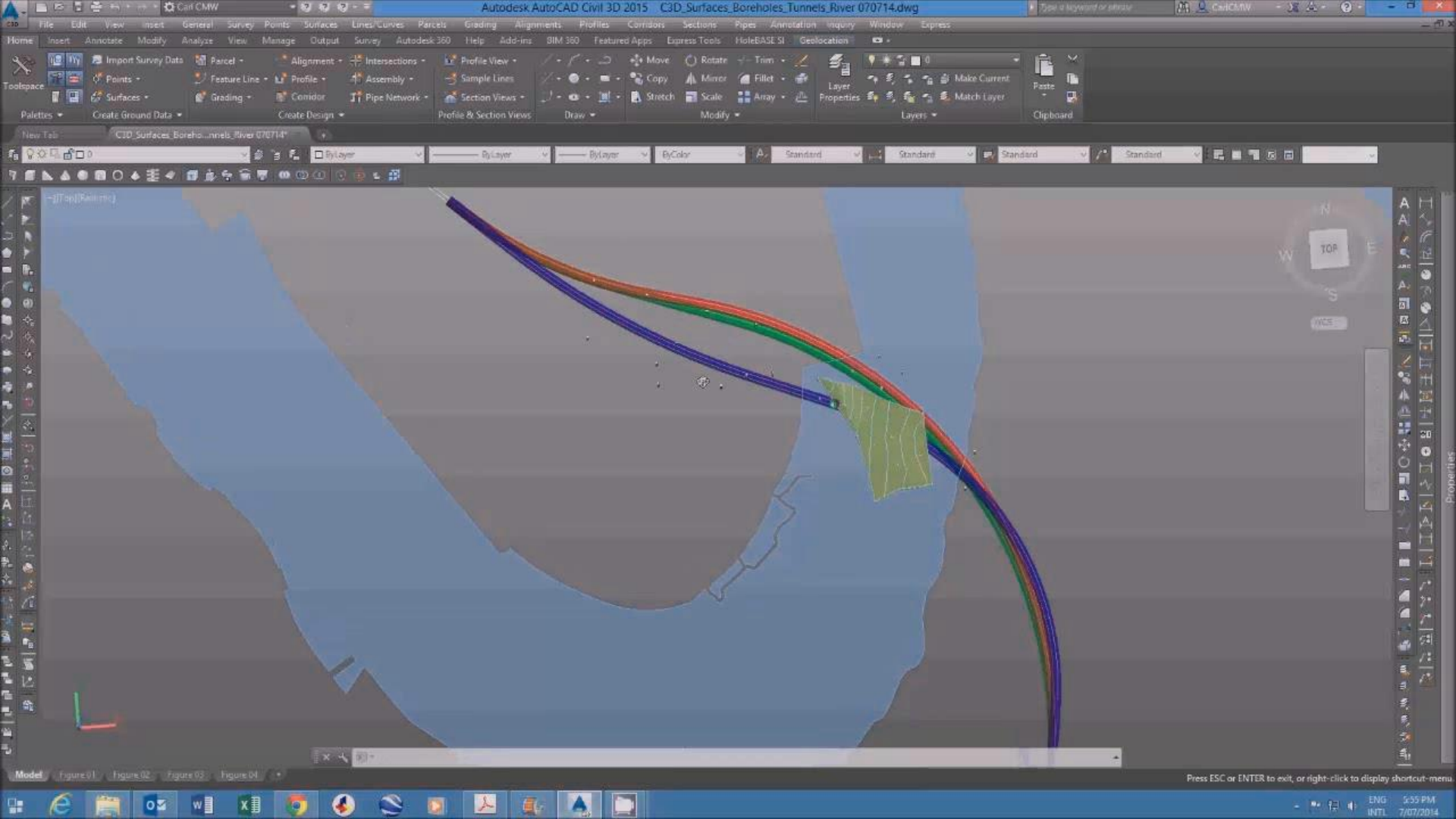
Your Library or Morgue?

**Your Data is a Valuable
Deliverable**

Deliver it!

(but no need to give it to everyone)

River Tunnel Alignment Australia



MTR Station

Hong Kong

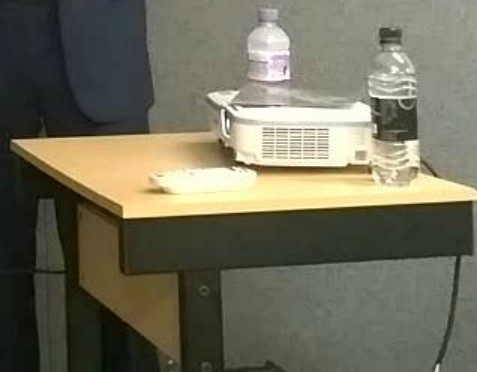


ARUP



2015 Excellence in Infrastructure Winner

Augmented Reality UK

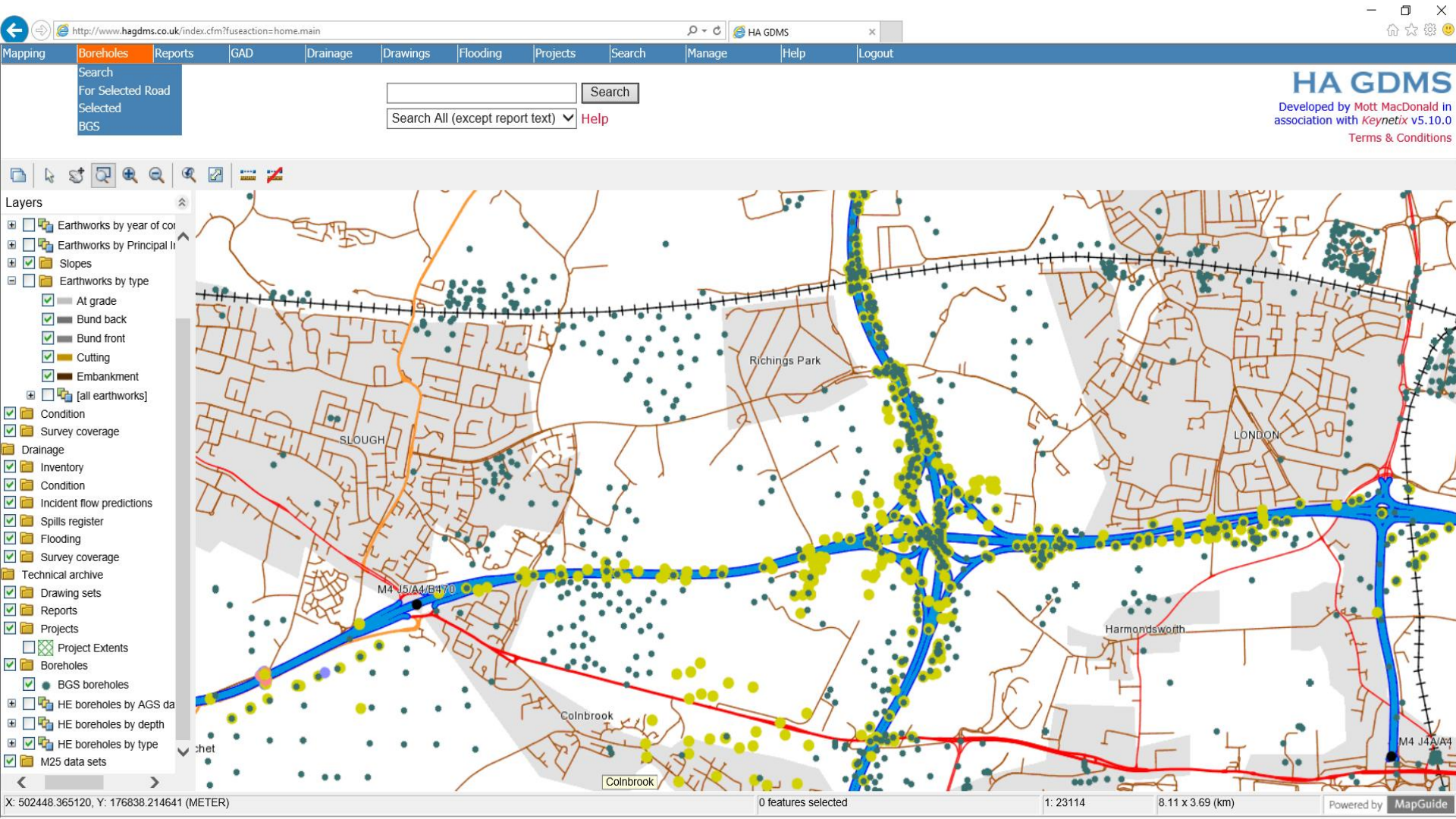


Data Storage

No PDFs Allowed

Highways Agency Geotechnical Data Management Systems (HAGDMS)

England



Canterbury Data Centre

New Zealand



Legend

- Cone Penetration Test
- Scala Penetration Test
- Hand Augered Scala
- Hand Augered Borehole
- Machine Borehole
- ECan Borehole
- Swedish Weight Test
- Active MASW Image
- Active MASW Line
- Geotechnical Section
- Atterburg
- Fines Content
- Water Content
- Particle Size Distribution (PSD)
- Piezometer

gINfo

Hong Kong

Your Data is Valuable

**deliver your data to your team will give you a
competitive edge**

Who Starts Innovation?

**60% of respondents did nothing to
improve their Geotechnical Data
Management process in 2017**

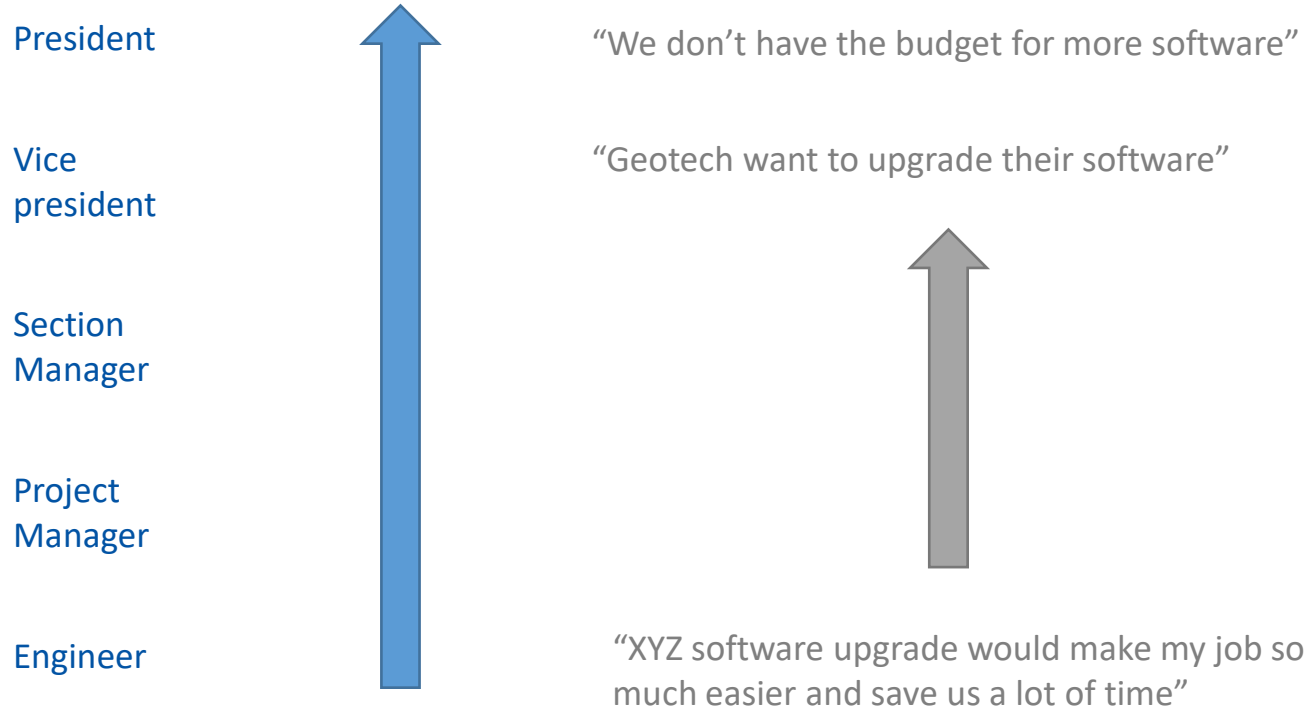
LinkedIn Survey Feb – Mar 2018

Knowing What you Don't Know



- 23 Image Changes - How long would this take?
- Option 1
 - 3 hrs in Photoshop – Experienced User
- Option 2
 - 10 mins - Art homework done in the back of the car while listening to music and talking to me.
 - 15 years old
 - Done with Snapchat and video sent via WhatsApp

How does Innovation Start?



How does Innovation Start?

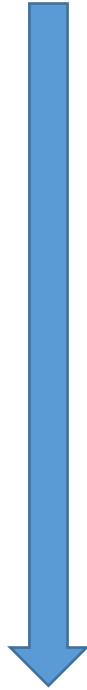
President

Vice
president

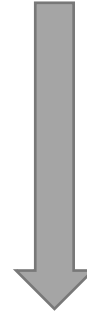
Section
Manager

Laboratory
Manager

Technician



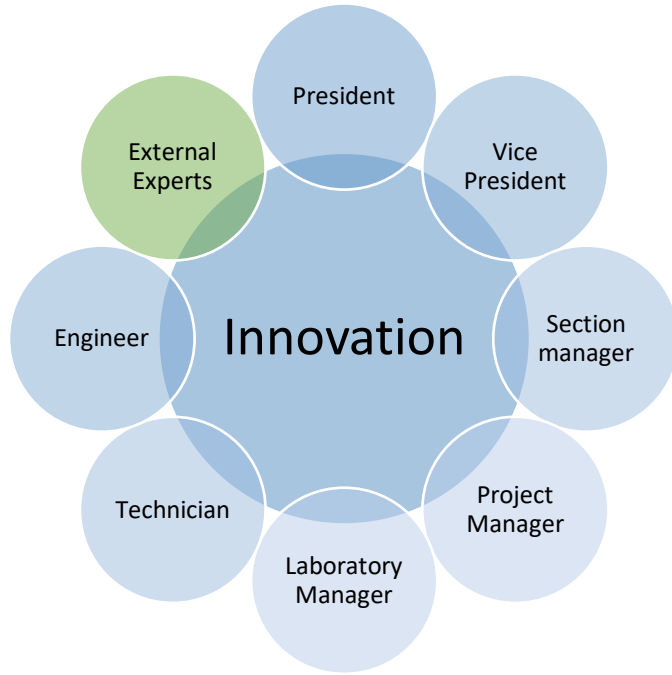
“We need to transform the way our laboratory works as they can never tell me their metrics”



“We only use this software so management can keep an eye on us.”

“It is a complete waste of time.”

Innovation is a Collaborative Process



- Email
- Online Forums / Sharepoint site
- Face to face internal conference or workshop

Eager to “Lead from the Heart” & share my passion and knowledge at face to face innovation events for your team

I’ll even pay my own airfare and travel time

Inspired to Innovate?

- Cloud computing may disrupt/improve your team
- Killing your data could kill a competitive advantage
- The way you present to your clients will change
- Innovation is a collaborative process

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Geotechnical Data
Software Transformed