

# *Liberate Your Data* with Visualisation and Conversation!



<https://www.meetup.com/Citizen/events/267949651/>

Rolf Tesmer

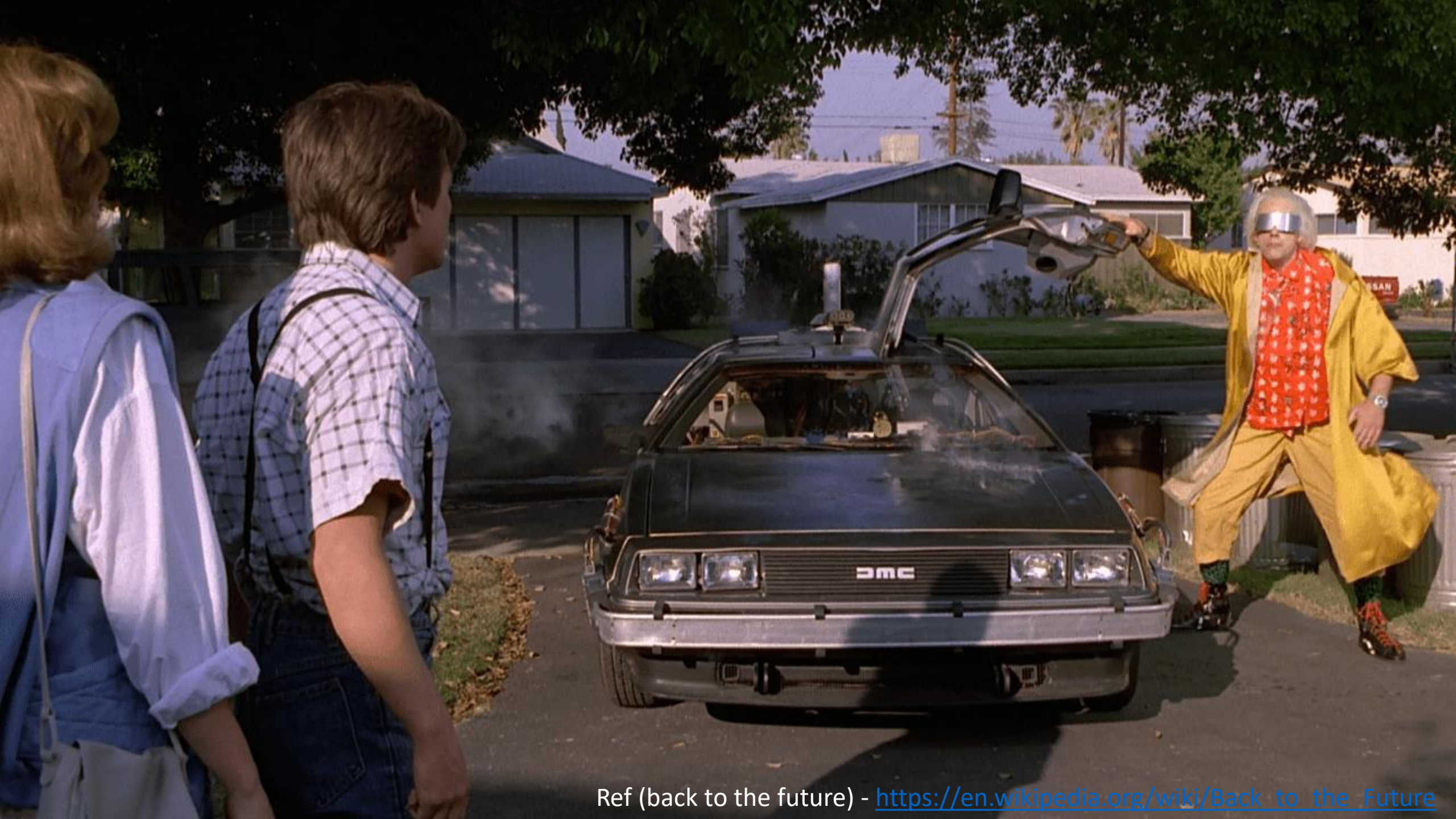
Azure Cloud Architect | Analytics | Data | AI | Other Stuff

Microsoft Australia

<https://www.linkedin.com/in/rolftesmer/>

<https://mrfoxsql.wordpress.com/>





Ref (back to the future) - [https://en.wikipedia.org/wiki/Back\\_to\\_the\\_Future](https://en.wikipedia.org/wiki/Back_to_the_Future)



*So let's go back in time... about 165 years...*

It's the year 1854

Soho District,  
London, England.

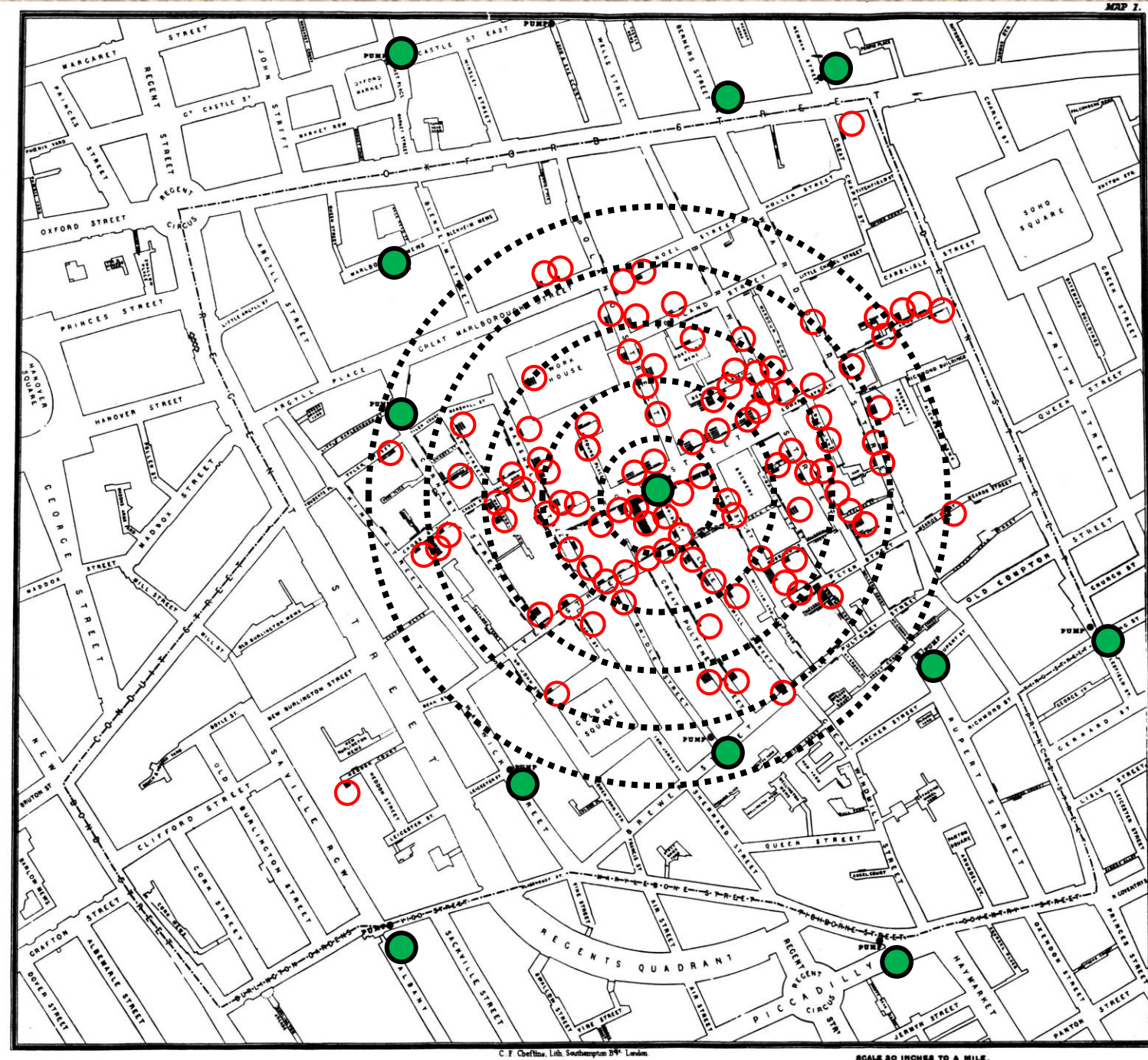
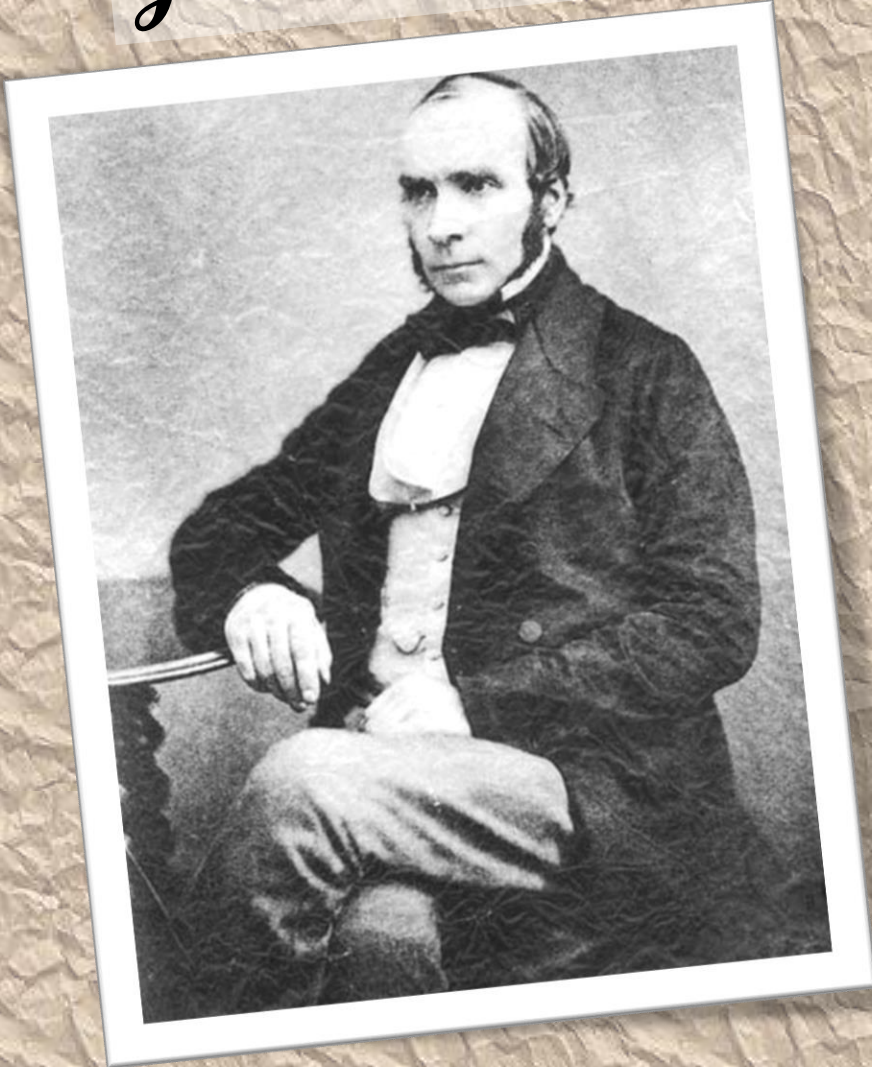


**1846–1860 worldwide cholera pandemic**

**1854 Broad Street Cholera Outbreak**



# John Snow



[https://en.wikipedia.org/wiki/Blinded\\_experiment](https://en.wikipedia.org/wiki/Blinded_experiment)  
[https://en.wikipedia.org/wiki/John\\_Snow](https://en.wikipedia.org/wiki/John_Snow)  
[https://en.wikipedia.org/wiki/1854\\_Broad\\_Street\\_cholera\\_outbreak](https://en.wikipedia.org/wiki/1854_Broad_Street_cholera_outbreak)



# **CHOLERA AND WATER.**

## **BOARD OF WORKS**

**FOR THE LIMEHOUSE DISTRICT,**  
Comprising Limehouse, Ratcliff, Shadwell,  
and Wapping.

The INHABITANTS of the District within  
which CHOLERA IS PREVAILING, are  
earnestly advised

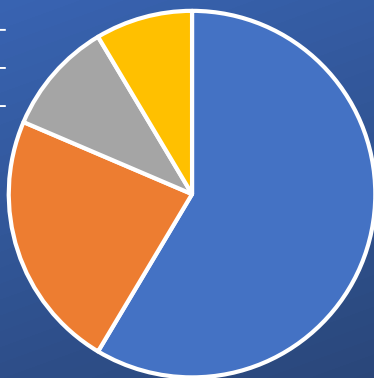
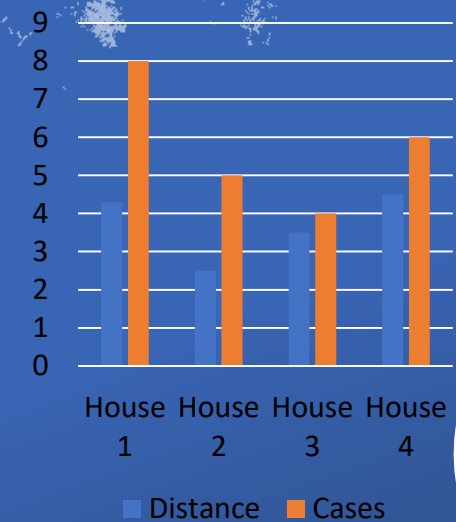
**NOT TO DRINK ANY WATER  
WHICH HAS NOT  
PREVIOUSLY BEEN BOILED.**

Fresh Water ought to be Boiled every  
Morning for the day's use, and what  
remains of it ought to be thrown away  
at night. The Water ought not to stand  
where any kind of dirt can get into it,  
and great care ought to be given to see  
that Water Butts and Cisterns are free  
from dirt.

BY ORDER,

**THOS. W. RATCLIFF,**  
CLERK OF THE BOARD.





1st Qtr 2nd Qtr  
3rd Qtr 4th Qtr

*“People will forget what you said,  
They will forget what you did,  
but they will never forget  
how you made them feel.”*

Maya Angelou



## 5 Ways to Craft Impactful Data Stories

1. Know your **Data**
2. Know your **Audience**
3. Highlight the **Message**, dull the **Noise**
4. Select the **Right Medium** for the Data & Audience & Message
5. **Practice** ^ 3, *don't leave it to chance*





# What is Azure?

Build, manage and deploy applications on a massive global network

<https://azure.microsoft.com/en-au/global-infrastructure/>

90+

Compliance  
Certifications





# Quincy, WA

[https://en.wikipedia.org/wiki/Columbia\\_Data\\_Center](https://en.wikipedia.org/wiki/Columbia_Data_Center)  
74,000m<sup>2</sup> of floor space  
(~50% the size of Westfield Shopping Centre, Sydney)  
Employees = 50





Boydton, VA  
102,000m<sup>2</sup>









# Amsterdam

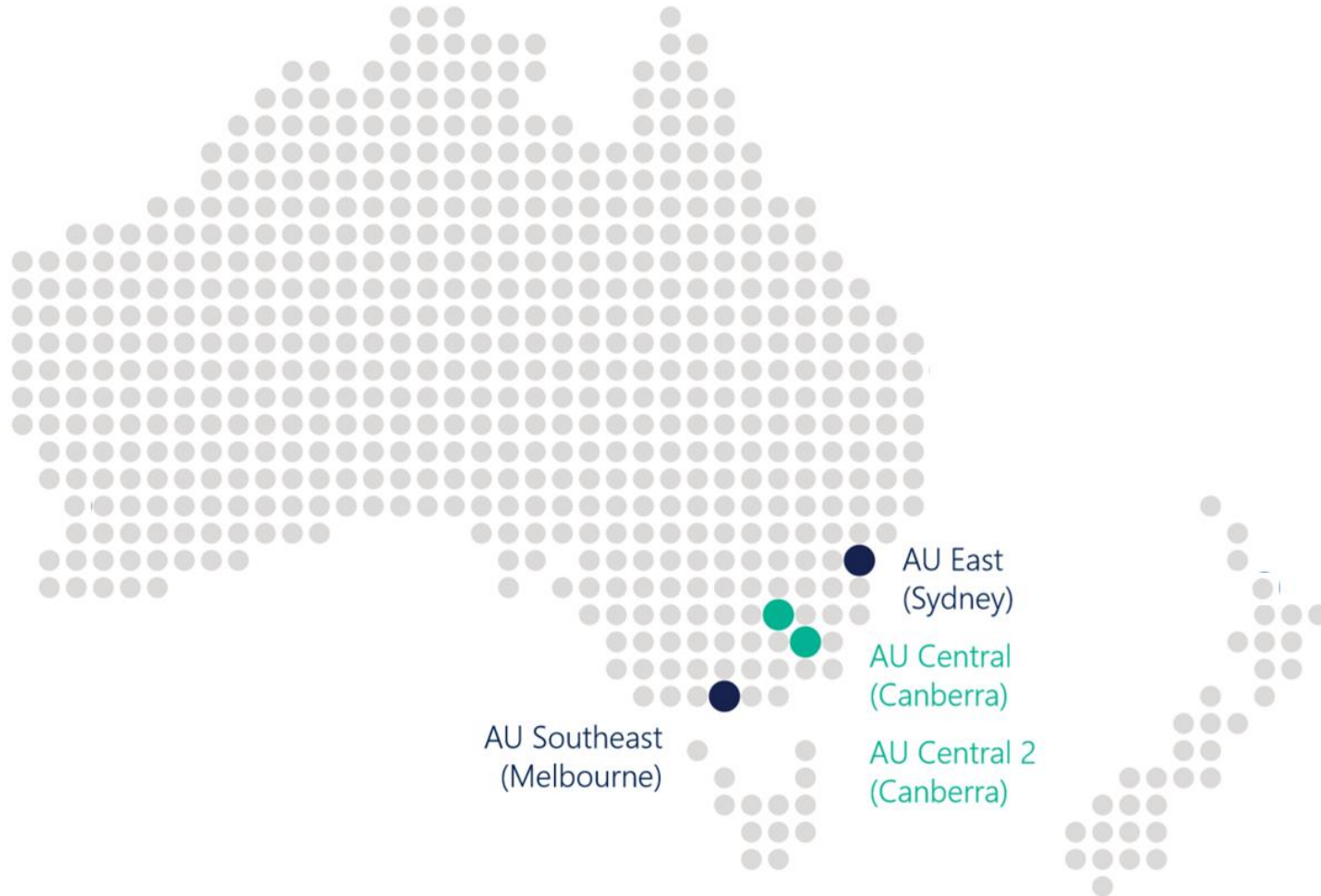
*...and what else are we doing in sustainability?*

<https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/>





# Microsoft Azure in Australia



First Launched October 27<sup>th</sup> 2014 (Sydney & Melbourne)

AU Central regions launched April 2018 (CDC Partnership)

- SCEC Zone 3 & 4 Accredited
- Government Critical Infrastructure
- Classified Data Certification



# Business intelligence like never before

Go from data to insights in minutes.  
Any data, any way, anywhere. And all in one view.

START FREE >

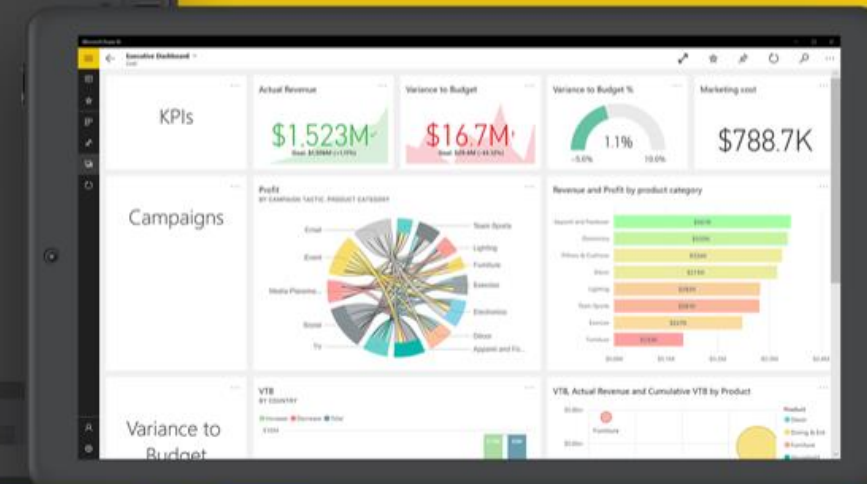
Data  
Storytelling!

## What is Power BI?

Power BI is a business analytics service that delivers insights to enable fast, informed decisions.

- Transform data into stunning visuals and share them with colleagues on any device.
- Visually explore and analyze data—on-premises and in the cloud—all in one view.
- Collaborate on and share customized dashboards and interactive reports.
- Scale across your organization with built-in governance and security.

### WATCH OVERVIEW





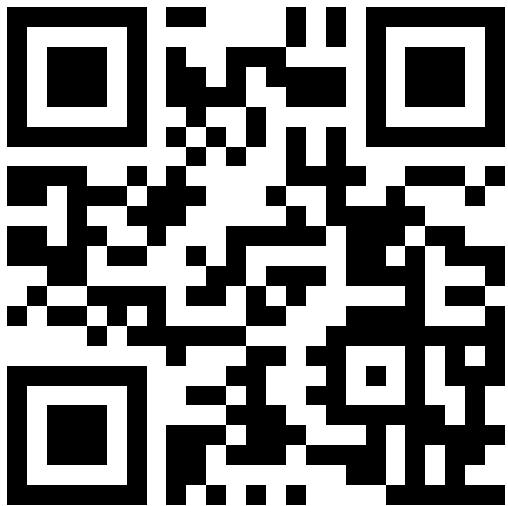
# Business intelligence like never before

Go from data to insights in minutes.  
Any data, any way, anywhere. And all in one view.

START FREE >

*Try me  
here!*

<https://aka.ms/mupbi>





# So, what exactly is a "Bot"?

Also known as Intelligent Agent/Assistant.

An application that performs one or more **automated** tasks.

Bots can use forms of **conversation** as one of the interfaces/channels.

Bots are often **infused with AI** to make these conversations more fluent and engaging for humans.

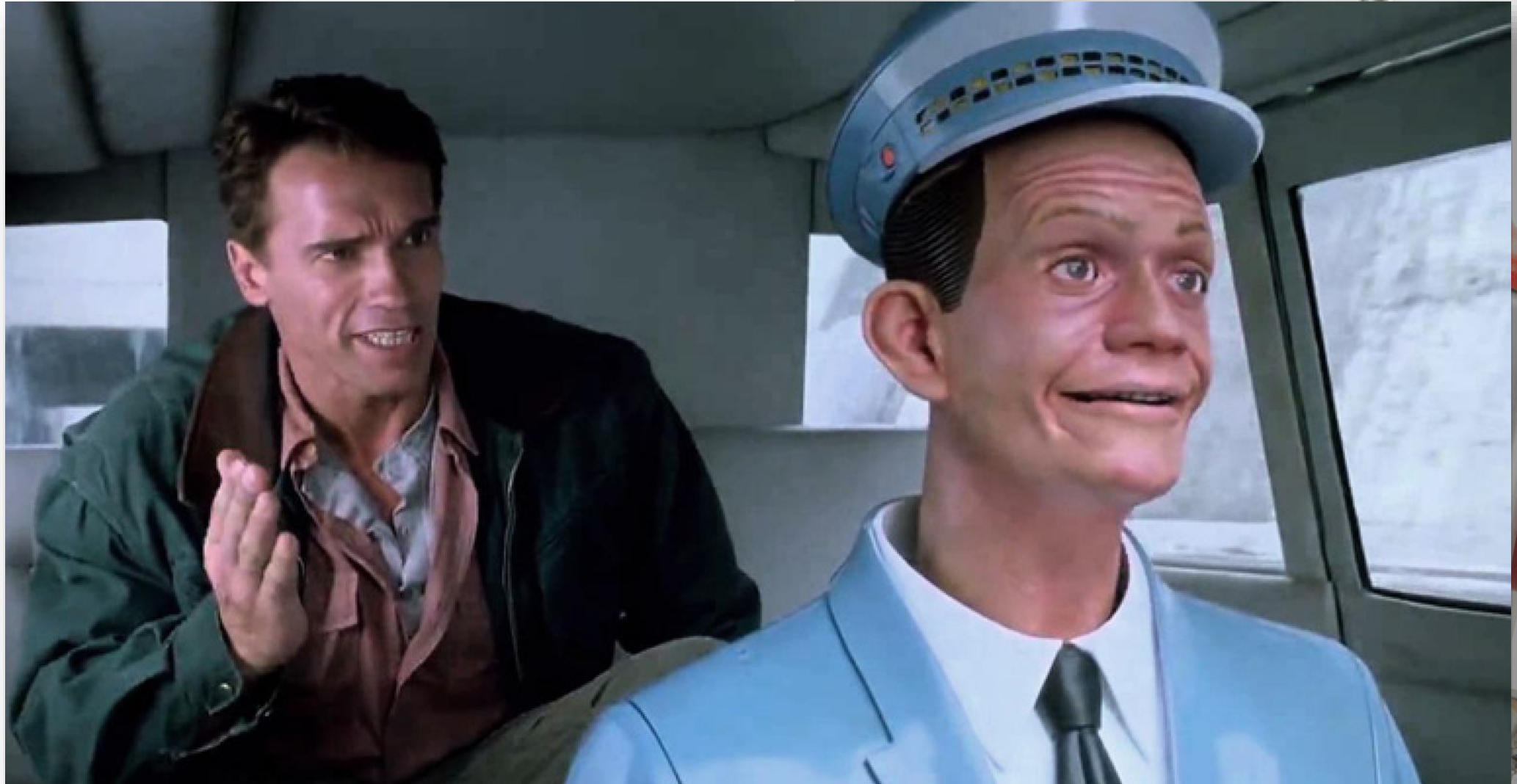
They help solve problems, and they can do it **asynchronously**.

"Hola"  
Humans!





**THEN:** Bots have come a long way...

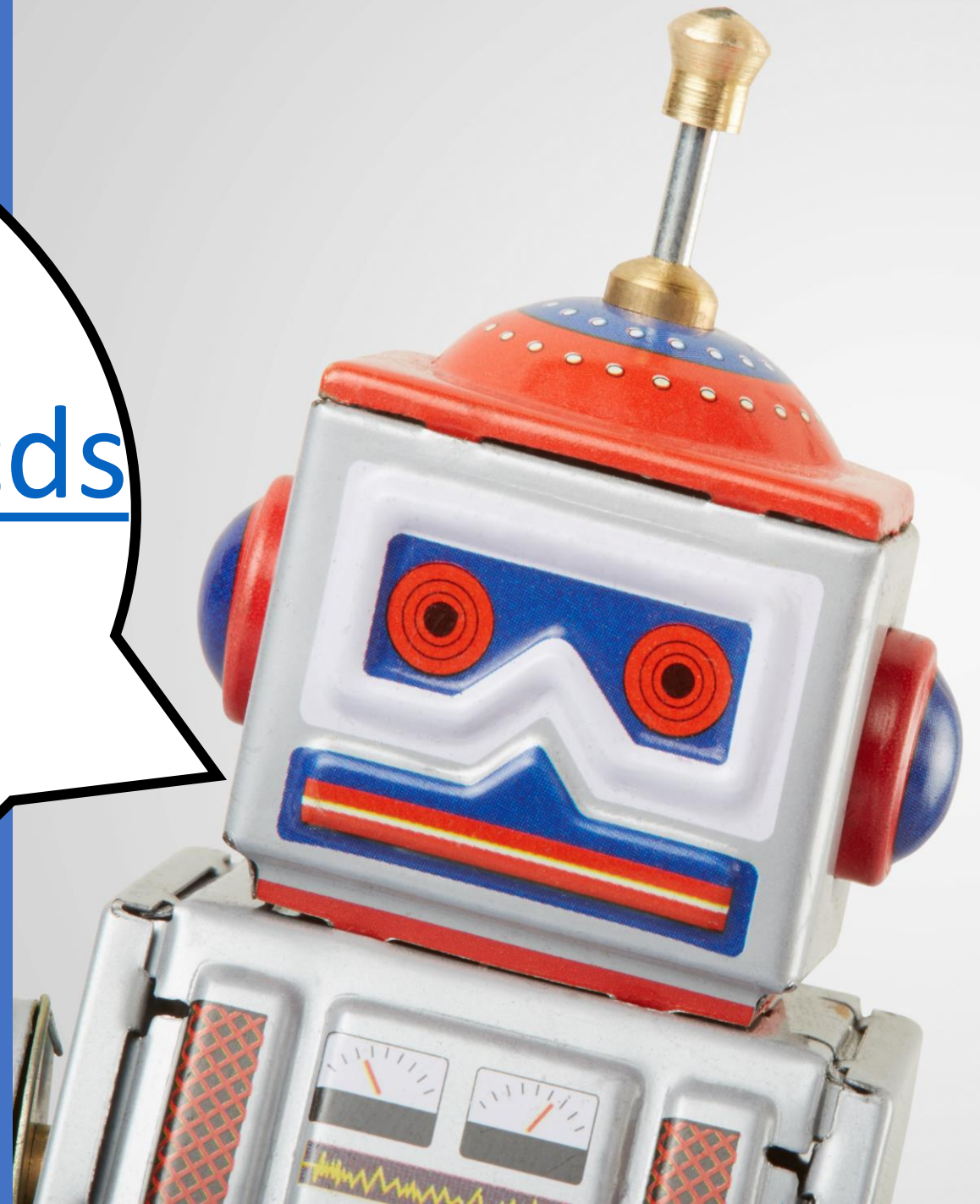


Ref (Total Recall, Johnny Cab)



**Q&A Bot**  
**Try me here!**

<https://aka.ms/mucds>





# Azure Cognitive Services

## They say it got Smart: *Adding Intelligence*

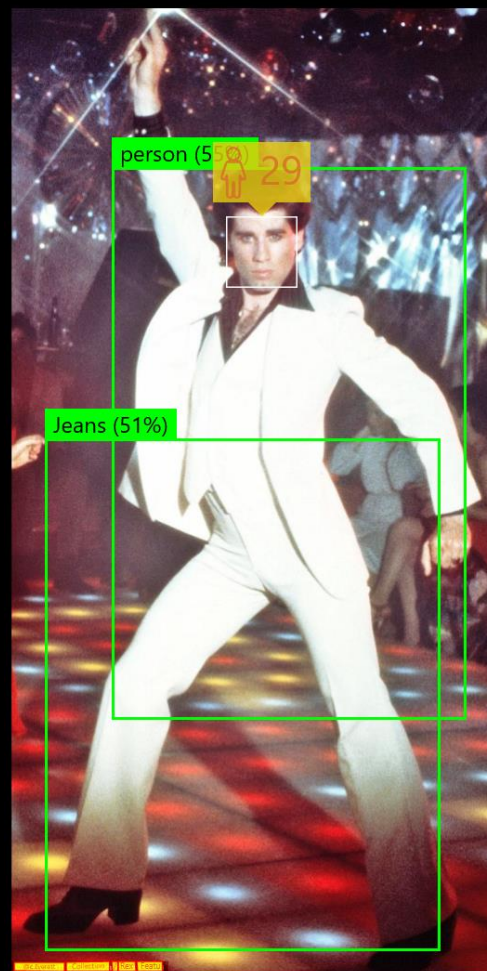




# SATURDAY NIGHT FEVER



## Microsoft Intelligent Kiosk – Vision API



Summary Faces Objects Text

Description

a statue of a person (37%)

Colors

Background

Foreground

Dominant

Accent

Tags

clothing (96%)

indoor (93%)

person (89%)

dance (87%)

human face (84%)

man (81%)

Faces

1 face

Objects

2 objects

Text

5 words

Landmarks

None



## Microsoft AI advancements

# Where are we *TODAY* Where are we going *TOMORROW*

100K human  
generated  
Q&A pairs

**96%**

RESNET vision test  
152 layers

**5.1%**

Switchboard speech  
recognition test

**88.493%**

SQuAD reading  
comprehension test

(exact match test)

**69.9%**

MT  
research system

Object recognition  
Human parity  
**2016**



Speech recognition  
Human parity  
**2017**

Machine reading  
comprehension  
Human parity  
**Jan 2018**  
(inference)

Machine translation  
Human parity  
**March 2018**





# Where next? Deep learning text understanding...

<https://www.youtube.com/watch?v=HXIfwL2-4Ek>

The Maluuba logo is displayed in white on a black background. It features the word "Maluuba" in a stylized, italicized sans-serif font, with a light blue swoosh underline that starts under the 'a' and extends to the right.

Maluuba and Microsoft Research

<https://labs.cognitive.microsoft.com/>

## Microsoft acquires deep learning startup Maluuba; AI pioneer Yoshua Bengio to have advisory role

Jan 13, 2017 | [Harry Shum](#) - Executive Vice President, Microsoft AI and Research Group



Today is an exciting day for the advancement of AI at Microsoft. We have agreed to acquire [Maluuba](#), a Montreal-based company with one of the world's most impressive deep learning research labs for natural language understanding. Maluuba's expertise in [deep learning](#) and [reinforcement learning](#) for question-answering and decision-making systems will help us advance our strategy to [democratize AI](#) and to make it accessible and valuable to everyone — consumers, businesses and developers.

We've recently set new milestones for [speech](#) and [image recognition](#) using deep learning techniques, and with this acquisition we are, as Wayne Gretzky would say, skating to where the puck will be next — machine reading and writing.



Maluuba's vision is to advance toward a more general artificial intelligence by creating literate machines that can think, reason and communicate like humans — a vision exactly in line with ours. Maluuba's impressive team is addressing some of the fundamental problems in language understanding by modeling some of the innate capabilities

of the human brain, from memory and common sense reasoning to curiosity and decision making. I've been in the AI research and development field for more than 20 years now, and I'm incredibly excited about the scenarios that this acquisition could make possible in conversational AI.

Imagine a future where, instead of frantically searching through your organization's directory, documents or emails to find the top tax-law experts in your company, for example, you could communicate with an AI agent that would leverage Maluuba's machine comprehension capabilities to immediately respond to your request. The agent would be able to answer your question in a company security-compliant manner by having a deeper understanding of the contents of your organization's documents and emails, instead of simply retrieving a document by keyword matching, which happens today. This is just one of hundreds of scenarios we could imagine as Maluuba pushes the state-of-the-art technology of machine literacy.



# *Liberate Your Data* with Visualisation and Conversation!



## *So, What's Next?*

- Get Power BI Desktop *for Free* here - <https://powerbi.microsoft.com/en-us/desktop/>
- Try out *Azure Services for Free* here - <https://azure.microsoft.com/en-au/free/>
- Study and sit your **Azure Certifications** here - <https://www.microsoft.com/en-us/learning/azure-exams.aspx>
- *Free* online courseware to **Learn Azure, Analytics and AI** – <https://docs.microsoft.com/en-us/learn/>
- Intelligent Kiosk (Azure Cognitive Services / AI ) -  
github code <https://github.com/Microsoft/Cognitive-Samples-IntelligentKiosk>



# References



- <https://powerbi.microsoft.com/en-us/blog/the-art-and-science-of-action-driven-visual-analytics/>
- <https://www.microsoft.com/en-us/research/project/data-driven-storytelling/>
- <https://powerbi.microsoft.com/en-us/datajournalism/>
- <https://news.microsoft.com/transform/can-data-storytelling-help-save-local-journalism/>
- <https://powerbi.microsoft.com/en-us/blog/webinar-wednesday-data-storytelling/>