Liberate Your Data
with **Visualisation**
and **Conversation!**

PASS SQLSATURDAY SYDNEY | 03 AUG 2019

Microsoft

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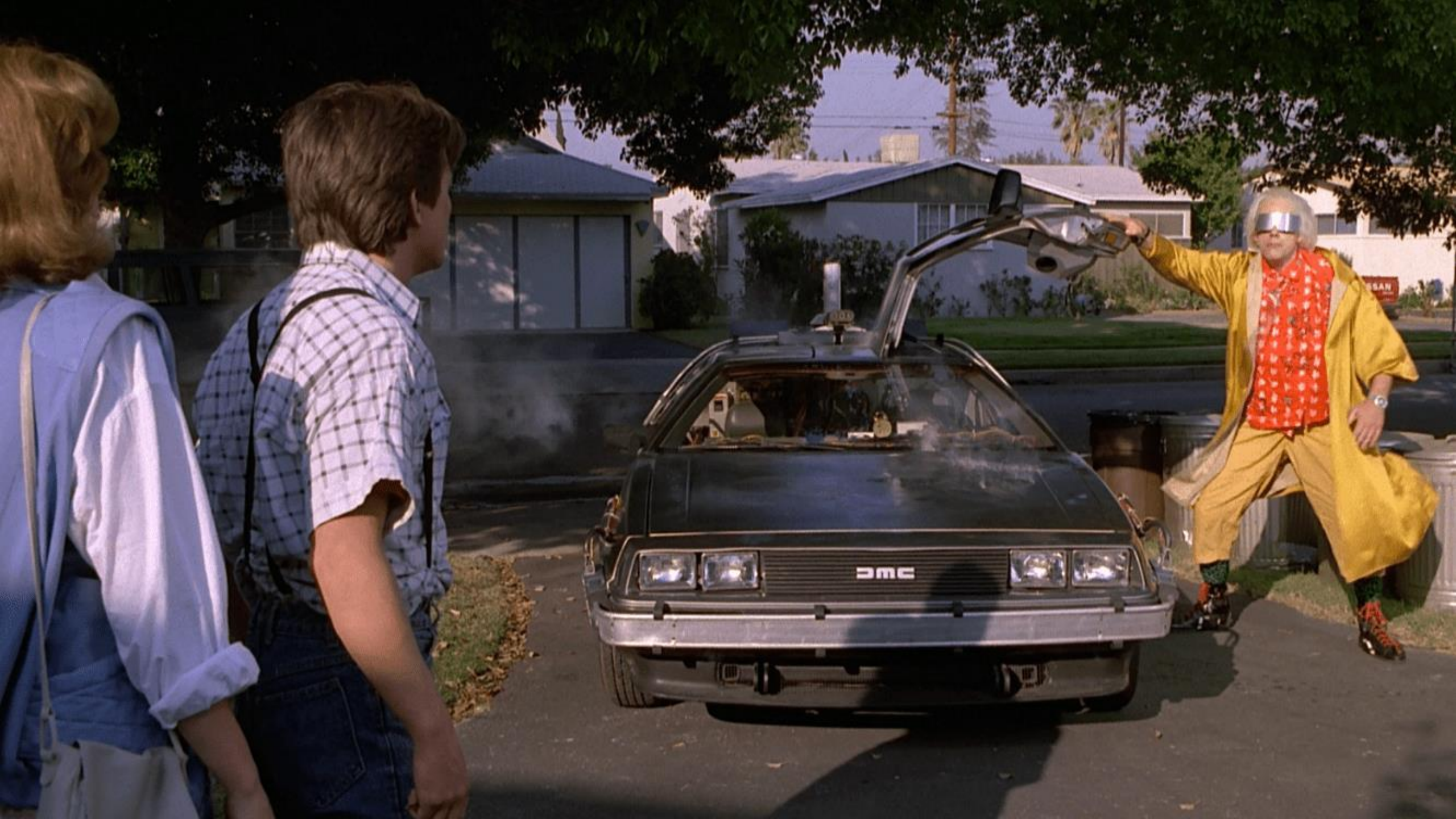
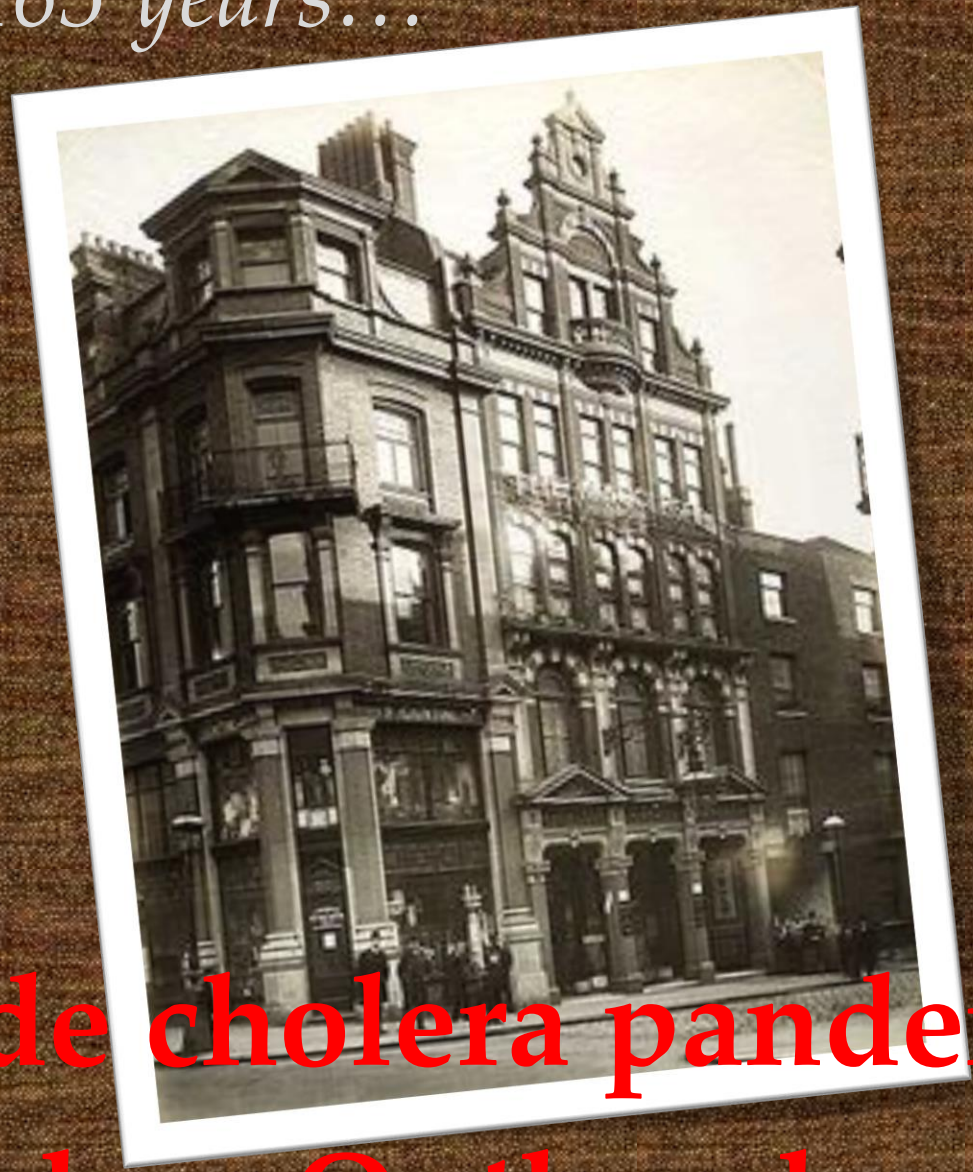

DMC

So let's go back in time… about 165 years…

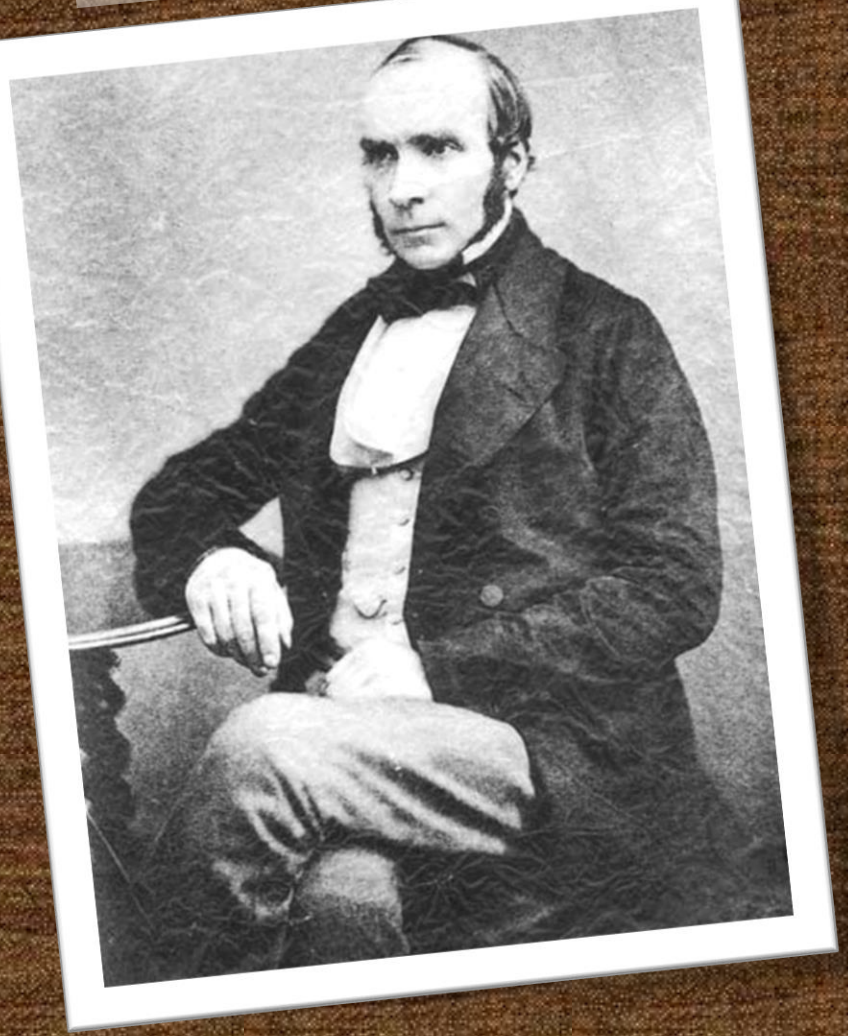
It's the year 1854
Soho District,
London, England.



1846–1860 worldwide cholera pandemic

1854 Broad Street Cholera Outbreak

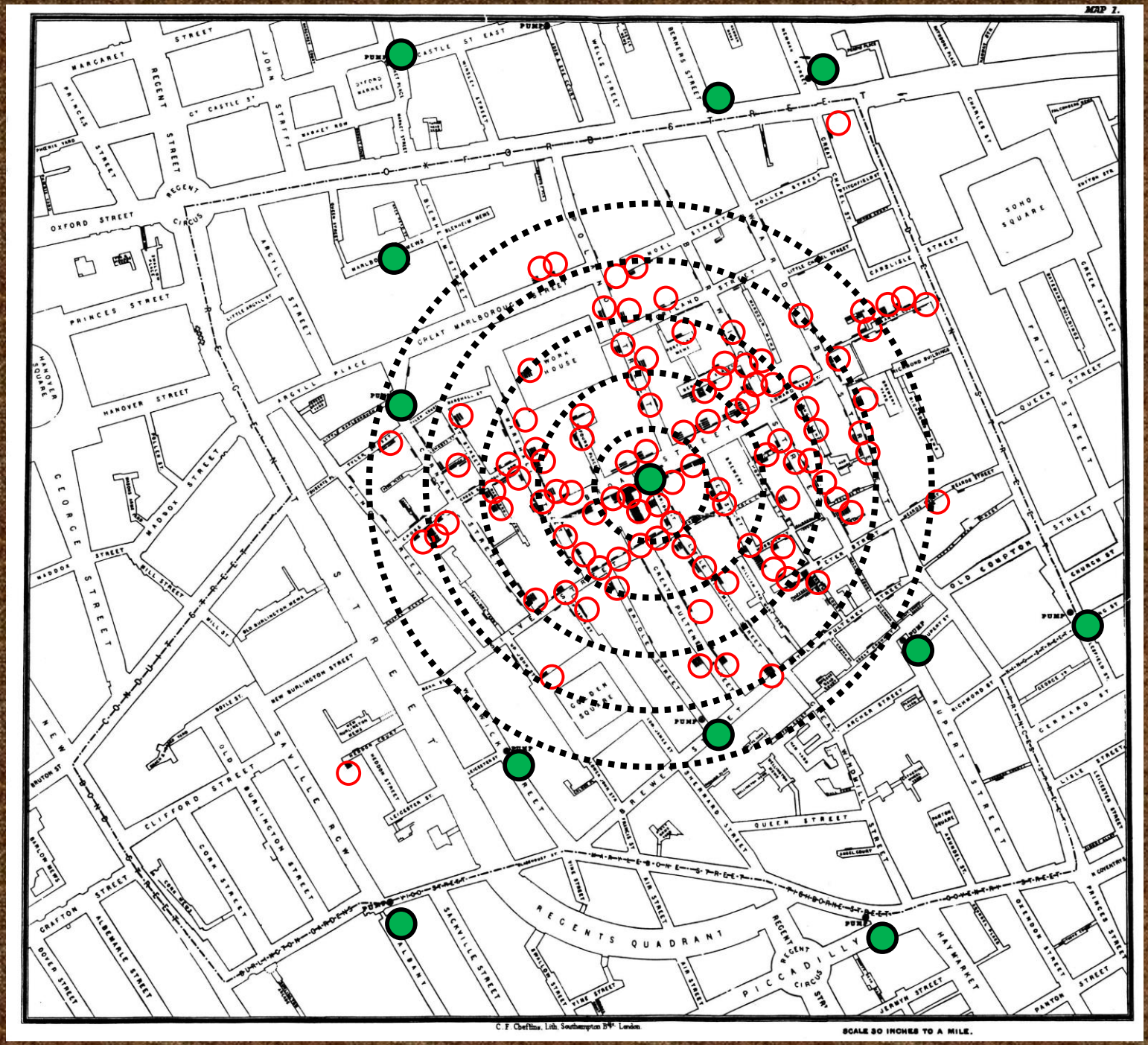
John Snow



https://en.wikipedia.org/wiki/Blinded_experiment

https://en.wikipedia.org/wiki/John_Snow

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.

5 Ways to Craft Impactful Data Stories

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

What is Azure?

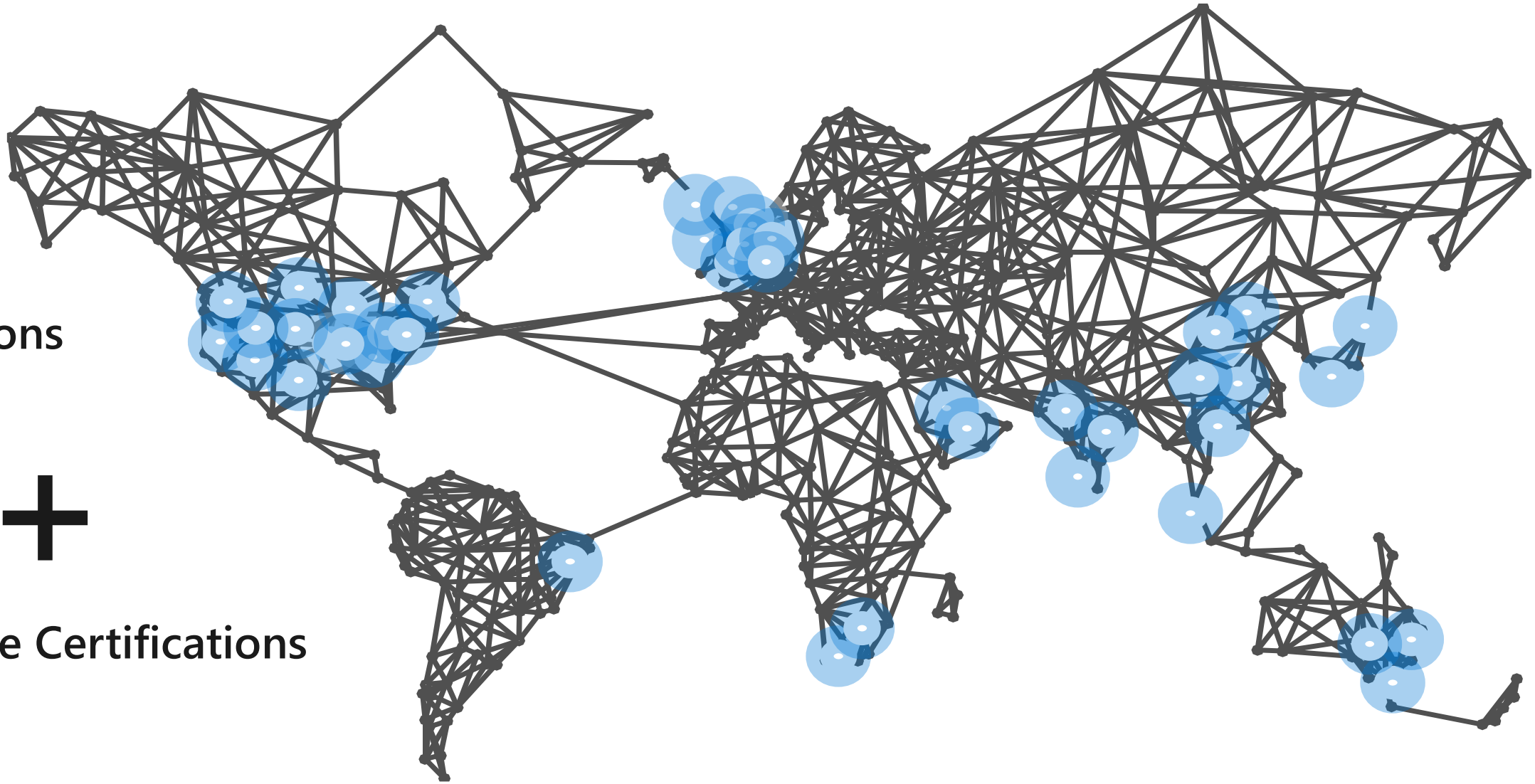
Build, manage and deploy applications on a massive global network

54

Azure regions

90+

Compliance Certifications



Works with popular tools and frameworks

Management

Databases & middleware

Applications

Infrastructure

App frameworks

Quincy, WA

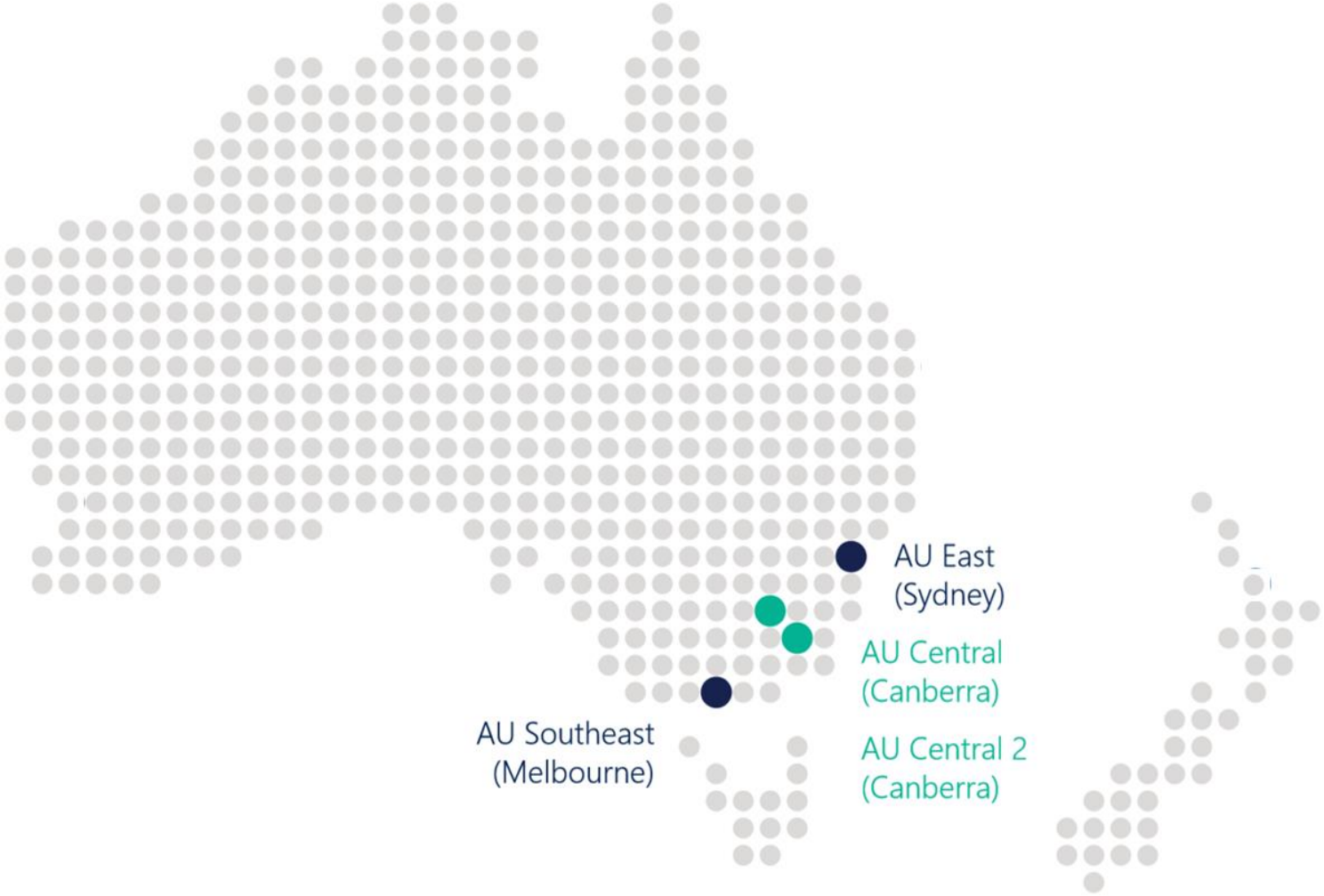
https://en.wikipedia.org/wiki/Columbia_Data_Center
74,000m2 of floor space
(~50% the size of Westfield Shopping Centre, Sydney)
Employees = 50

Amsterdam

Boydton, VA
102,000m2

Ridge Rd
Herbert Dr

Microsoft Azure in Australia



First Launched October 27th 2014 (Sydney & Melbourne)

AU Central regions launched April 2018 (CDC Partnership)

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

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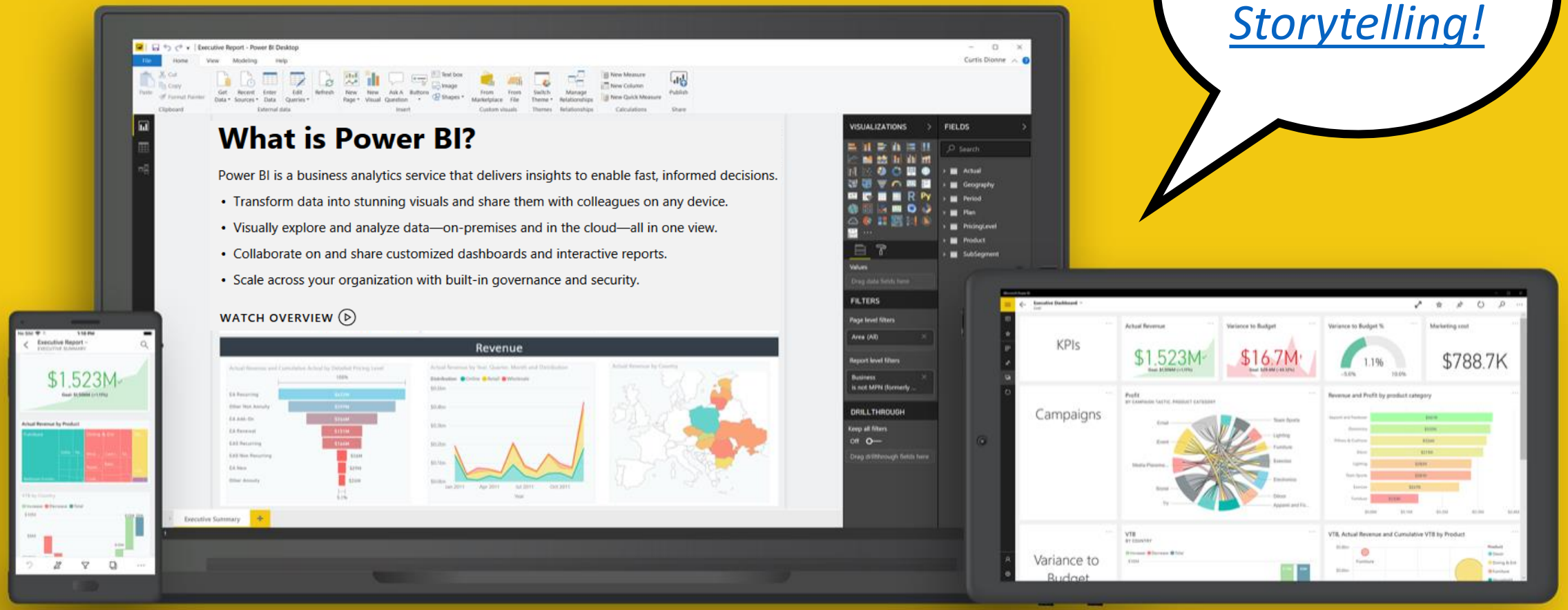
Data Storytelling!



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https://aka.ms/ss875pbi

So, what exactly is a "Bot"?

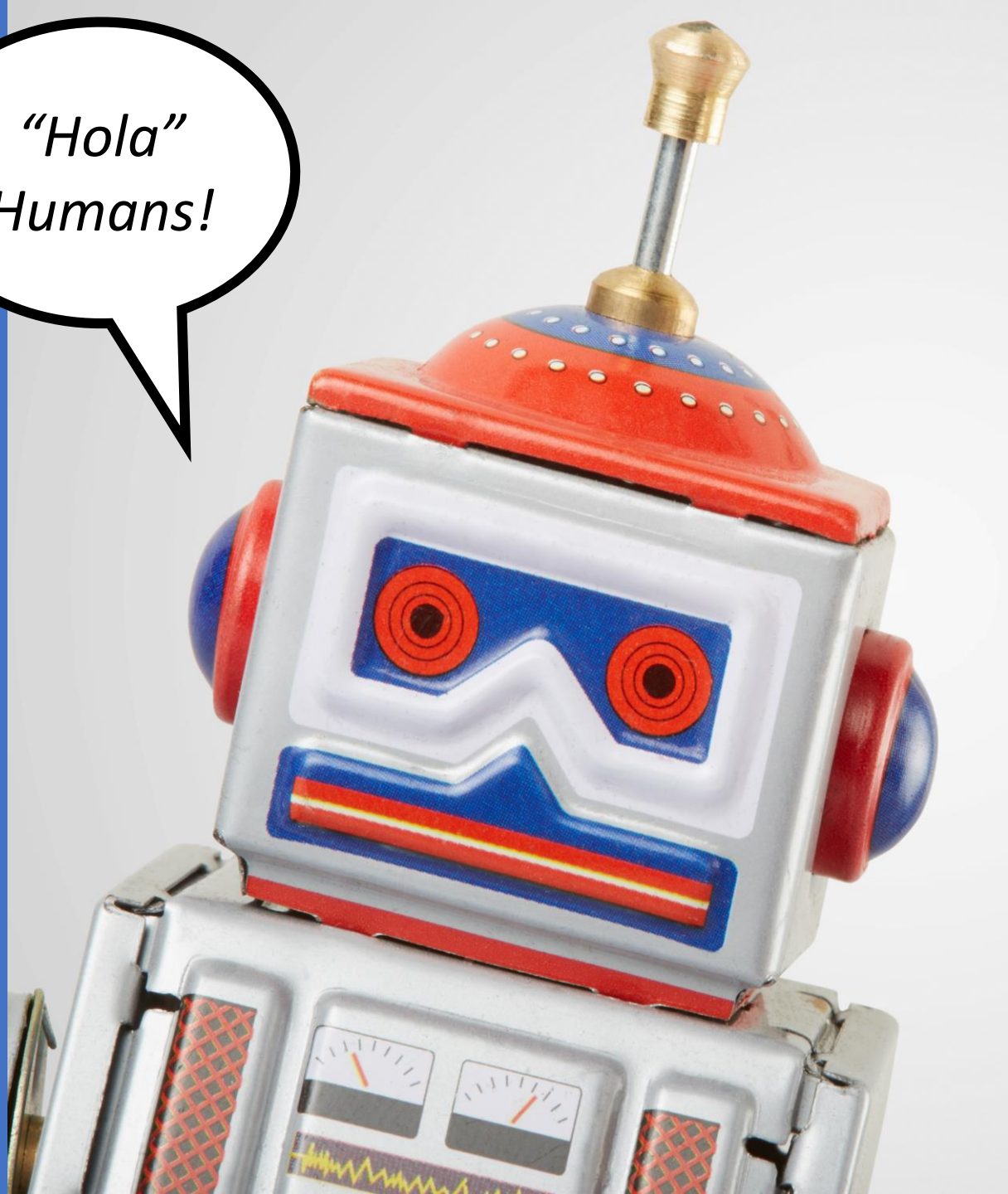
Also known as **Intelligent Agent/Assistant**.

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***.



https://channel9.msdn.com/Shows/AI-Show/Build-a-Bot-in-Minutes-with-QnA-Maker

Try me here!

https://aka.ms/ss875bot

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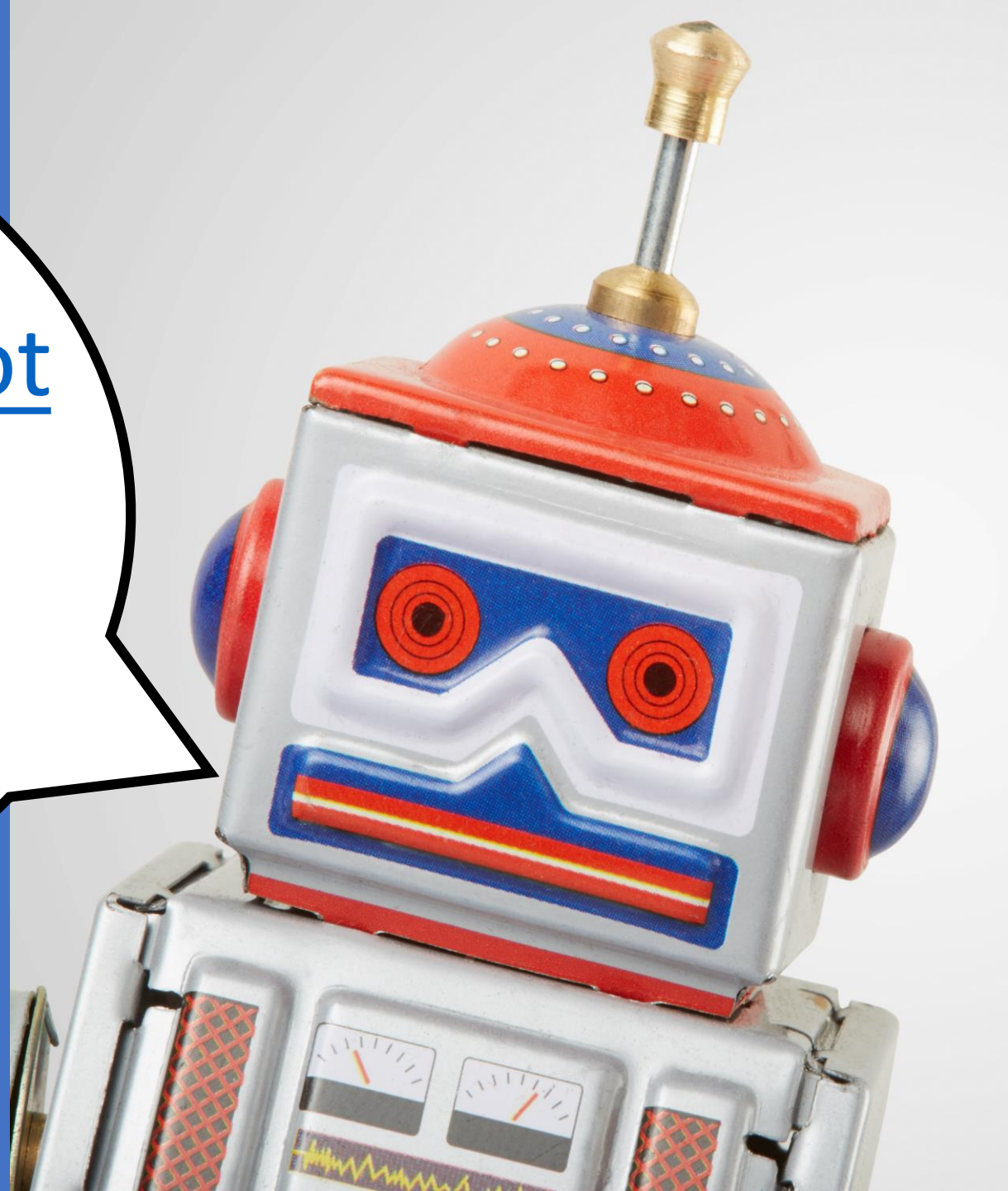


https://channel9.msdn.com/Shows/AI-Show/Build-a-Bot-in-Minutes-with-QnA-Maker
https://azure.microsoft.com/en-au/free/

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

Language Understanding Intelligent Service
Teach your apps to understand commands from your users

Cognitive Search
Integrate search into a conversational experience

QnA Maker
Distill information into conversational, easy-to-navigate answers

Your Own Machine/Deep Learning Model
Link data sources and model to suit your business processes

Bing Speech API
Convert speech to text and back again, and understand its intent

Speaker Recognition *Give your app the ability to know who's talking*

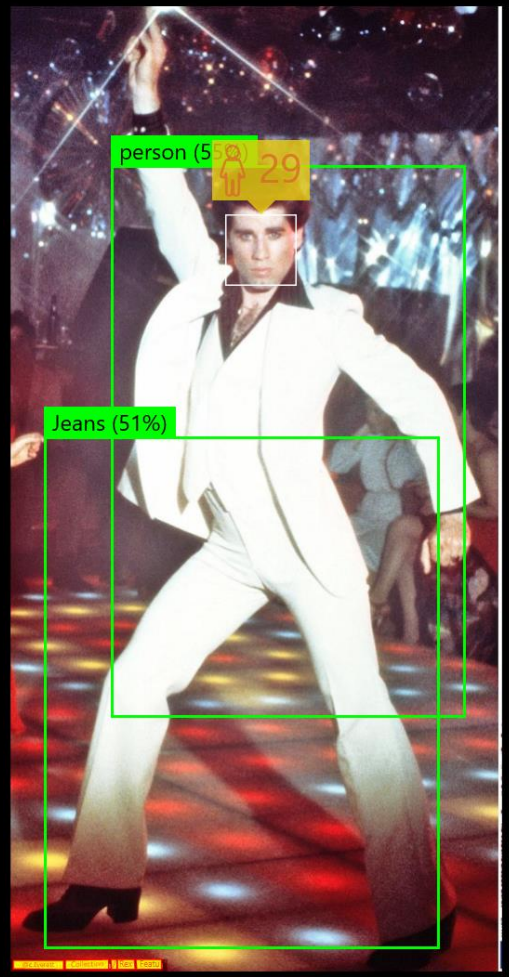
Translator
More easily perform speech and text translation

Custom Speech Service
Fine-tune speech recognition for anyone, nearly anywhere

++MORE HERE → https://azure.microsoft.com/en-us/services/cognitive-services/directory/

https://images6.alphacoders.com/469/469845.jpg

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*

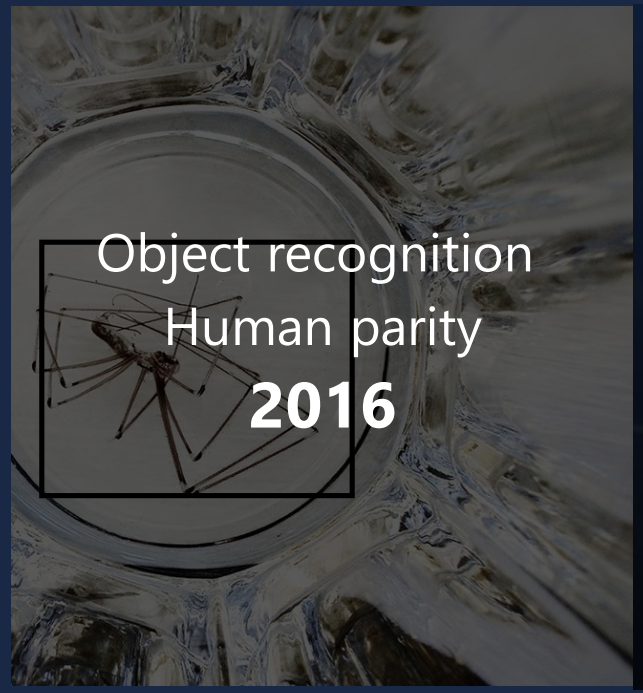
100K human generated Q&A pairs

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

Machine translation
Human parity
March 2018

Where next? Deep learning text understanding…

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

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

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

GOLD

Angry Koala

FTS

Wardy it solutions

Silver

IDERA

redgate

Bronze

Microsoft

PASS

References

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- https://www.microsoft.com/en-us/research/project/data-driven-storytelling/
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- https://powerbi.microsoft.com/en-us/blog/webinar-wednesday-data-storytelling/