Information Builders

Augmented Analytics

Key Trends in Next Generation Analytics

What we'll cover

- How did we get here?
- Artificial Intelligence: Why now?
- Hype vs. Reality
- Artificial Intelligence use cases
- Augmented Analytics

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How did we get here?

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Business Intelligence Changes Over Time

Past

Traditional BI

Present

Self-Service BI

Future

Augmented Analytics

1980/90s
IT-Generated
Traditional
BI

2000's
Business-
Generated
Self-Service
BI

Now…
Machine-
Generated
Augmented
BI & Analytics

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Why now?

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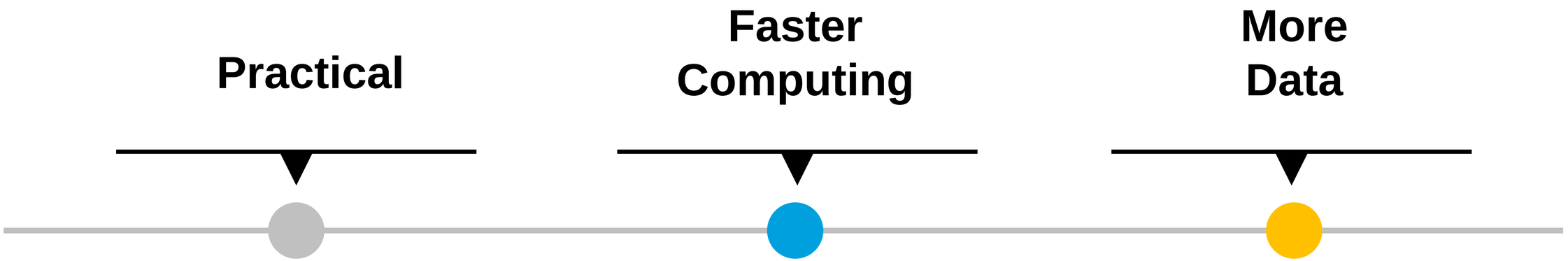
Why AI and ML in the spotlight now?



95%

C-level executives believe that data is an integral part of forming business strategy.

- **Experian, 2018**

90%

Reduced cost when applying ML for data cleansing, data transformation, and deduplication.

- **Stonebraker, Bruckner and Ilhyas, 2013**

Augmented Analytics Demystified

"**Augmented Analytics** is an approach that automates insights using machine learning and natural-language generation."

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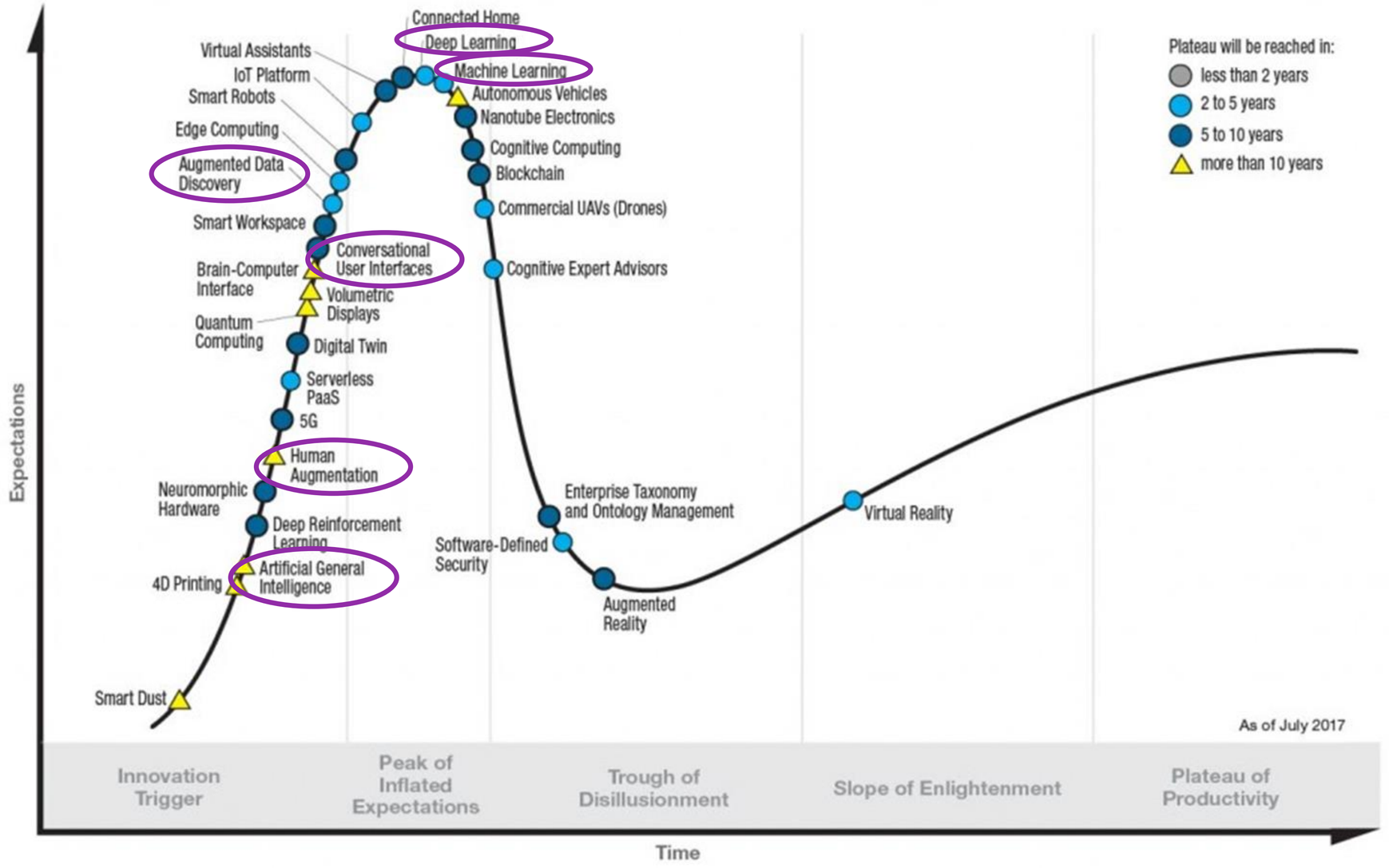
Gartner Hype Cycle for Emerging Technologies, 2017



gartner.com/SmarterWithGartner

Artificial Intelligence

Human Augmentation

Conversational UI

Augmented Data Discovery

Deep Learning

Machine Learning

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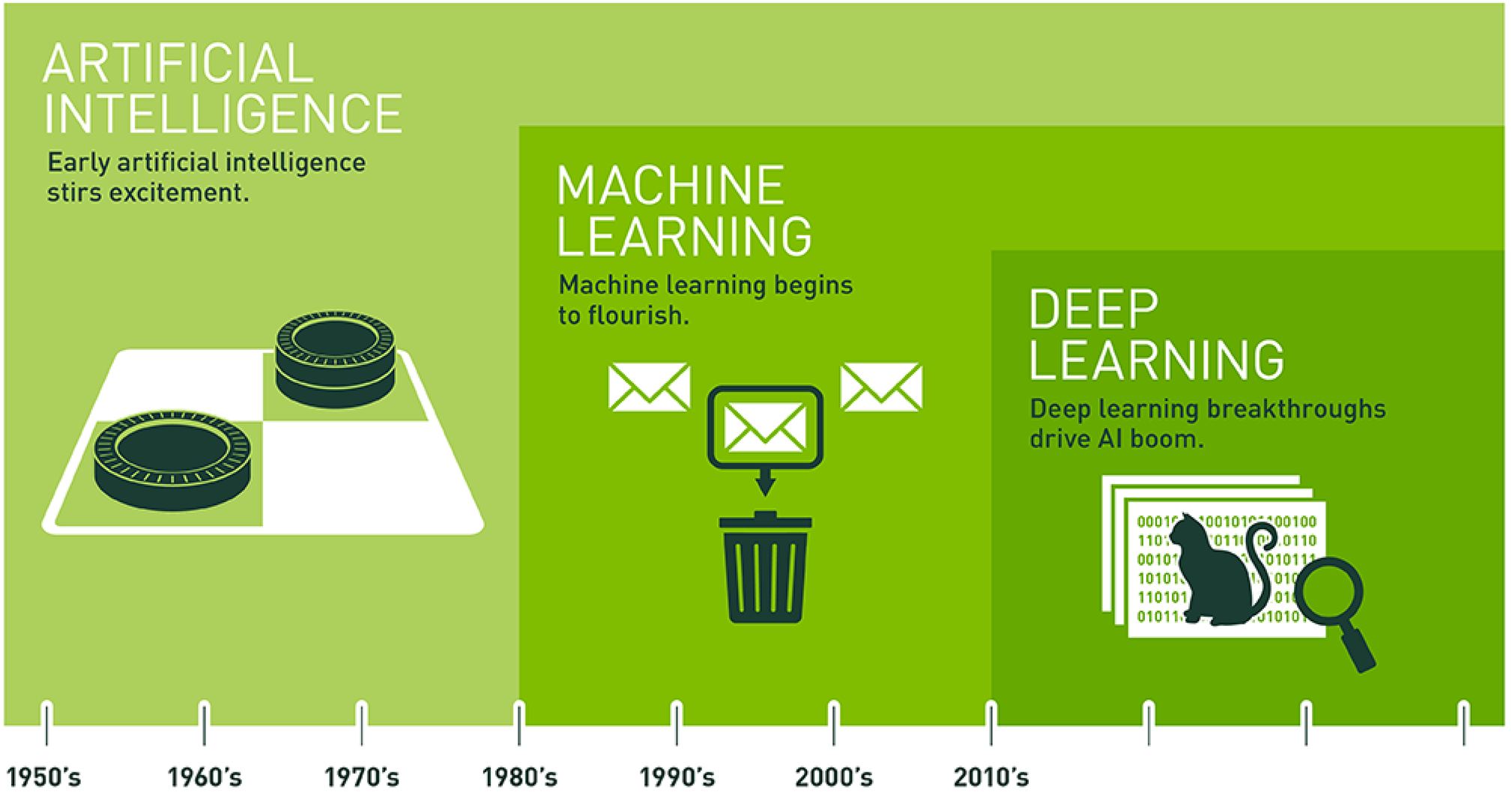
AI Nomenclature



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Hype vs Reality

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AI: The Claim

"Transform the nature of work and the structure of the workplace"

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AI: The Examples

- Recommendation engines
- Autonomous vehicles
- Facial recognition
- Chatbots

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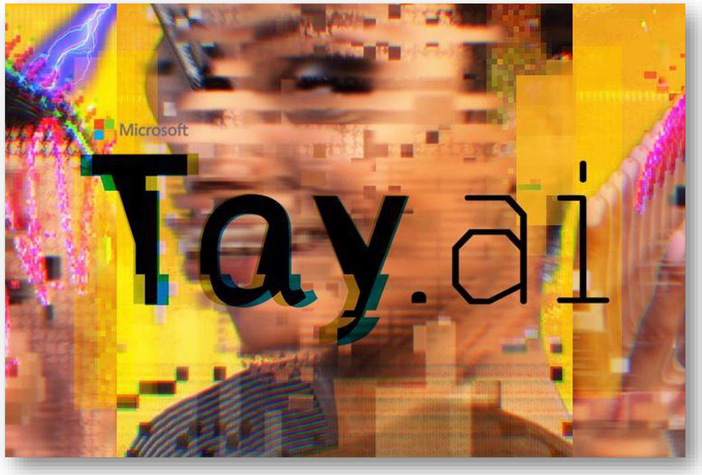
AI: The Reality

"Highly scoped machine-learning solutions that target a specific task"

"As you can see here, there were a few down-ticks, followed by a few upticks, finishing off with some antics."

Does Artificial Intelligence Always get it Right?



Microsoft's AI Chatbot "Tay"

Corrupted by Twitter Trolls in 24 hours!

Amazon's Face Recognition "Rekognition"

Falsely Matched 28 members of Congress with Mugshots

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Use Cases

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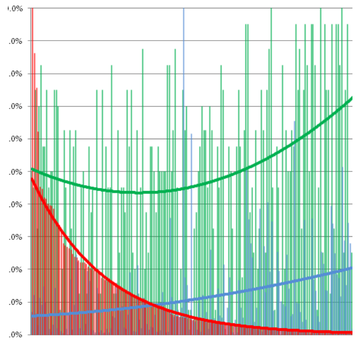
What kinds of specific tasks?



Finding the Signal

When you have large amounts of data, there are often signals that are barely detectable above the noise floor. AI can help humans see what's hard to see.

Pattern Matching

Finding what you want includes matching patterns across heterogeneous data sets, such as metadata, data, and analytical objects (reports, dashboards, InfoApps, etc.).

Enhancing UX

To optimise outcomes, your users need to be able to use information more easily. AI can surface new capabilities at the right time through voice commands, narrative, etc.

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Common Use-Cases

- Predictive maintenance
- Warranty reserve estimation
- Propensity to buy
- Demand forecasting
- Product usage analysis
- Process optimisation
- Waste management

Manufacturing

- Accident prediction
- Driver performance
- Vehicle theft tracking
- Fleet predictive maintenance

Automotive/Transportation

- Inventory management
- Reduce forecasting errors
- Optimised distribution
- Freight/container management
- Optimising routes

Logistics

- Predicted inventory planning
- Recommended engines
- Customer behavior and ROI
- Market segmentation
- Upsell and cross-channel marketing

Retail

- Chronic diagnosis
- Disease Identification
- Patient triage optimisation
- Sentiment analysis
- Proactive health management

Health Care

- Traffic control
- Congestion management
- Predictive crime analytics
- Geo-spatial crime prediction

Government

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Common Use-Cases

- Automated replies
- Ticket management
- Sentiment analysis
- Automate ordering process
- Part Ordering

Service/Support

- Aircraft scheduling
- Dynamic pricing
- Customer feedback/sentiment analysis
- Traffic patterns and congestion management

Travel and Hospitality

- Risk analytics
- Profit/Revenue growth
- Customer segmentation
- Cross-selling and upselling
- Sales and marketing campaign management
- Credit worthiness evaluation

Financial Services

- Power usage analytics
- Seismic data processing
- Carbon emissions and trading
- Smart-grid management
- Energy demand and supply optimisation

Energy and Utilities

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A Future with Augmented Analytics

More efficient processes

Increase value of human expertise

Empowering human intelligence

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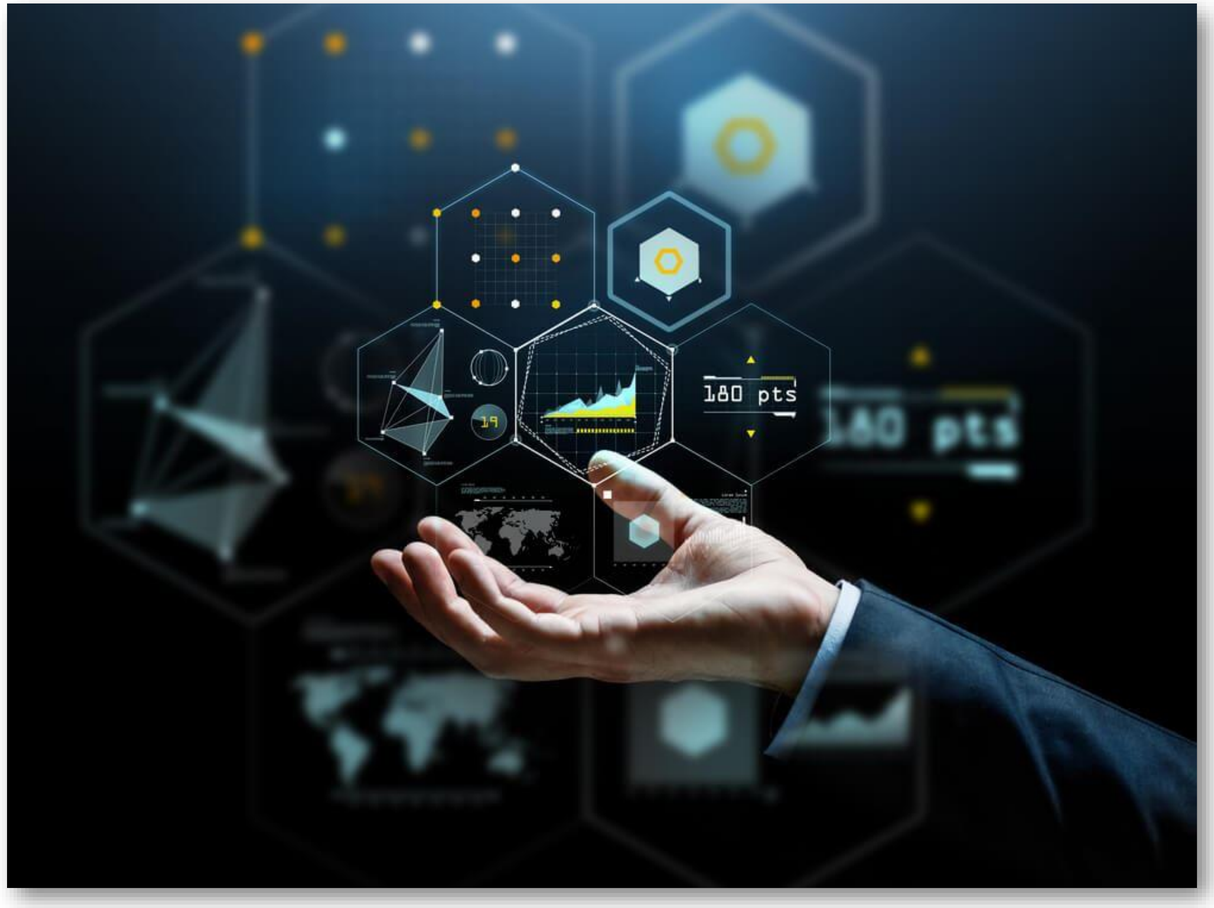
What's there to be excited about?



Augmented Analytics

Smart Data Discovery

Fusing BI and BI gives CI?

- finding data
- preparing data
- generating insights

The Problem...

- Cherry-picking
- Research Question
- Build a Model
- Actionable Insights

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The classical data value chain of BI and Analytics

2 Connect to data

3 Data preparation

4 Perform analysis

5 Discover insights

7 Present & distribute insights

1 Get data

6 Visualise insights

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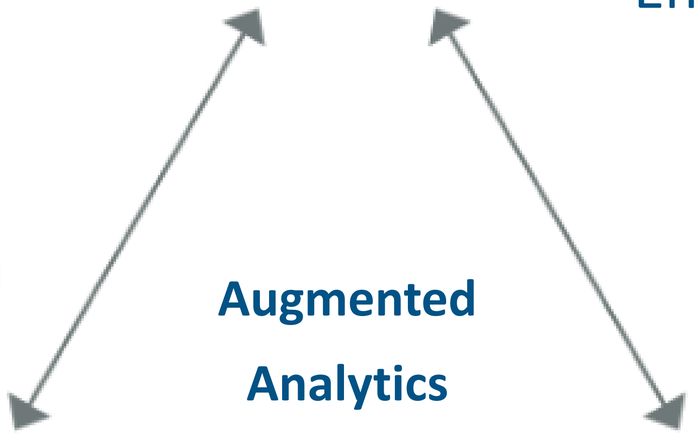
Augmented Data Preparation

Prepare Data

Detect schemas
Profile and catalogue
Data lineage and metadata
Enrichment



Natural Language Generation
Visualisations
Important and Actionable
Embedded in Apps
Conversational UI

Share and Operationalise Findings

Natural Language Query
Find relevant patterns
Features autoselected
Models autoselected
Code autogenerated

Find Patterns in Data and Build Models

Augmented Analytics in Analytics and BI Platforms
Augmented Data Science and ML

Source: Gartner
ID: 433836

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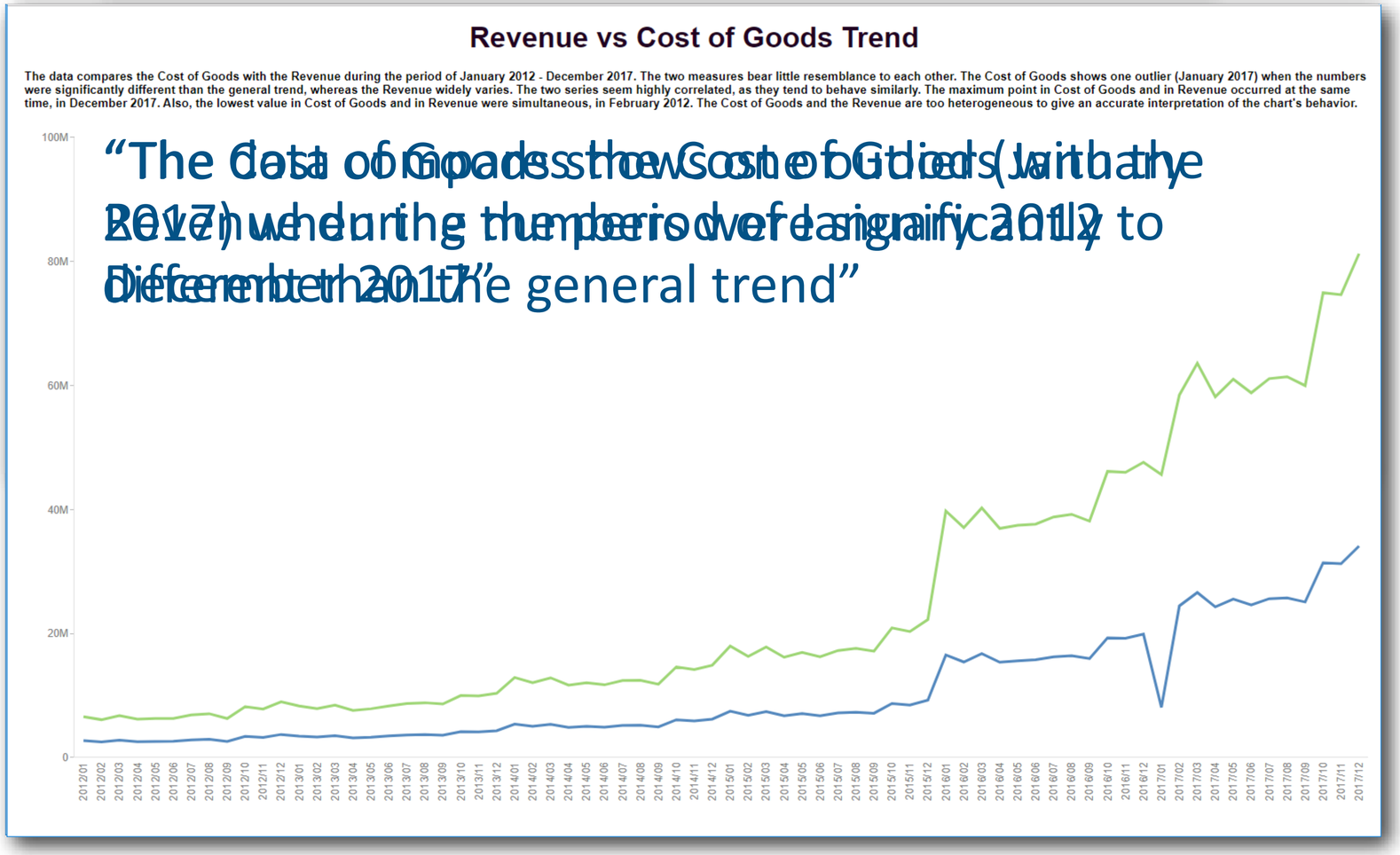
Augmented Analytics makes life easier



"The data compares the Cost of Goods with the Revenue during the period of January 2012 - December 2017. The two measures bear little resemblance to each other. The Cost of Goods shows one outlier (January 2017) when the numbers were significantly different than the general trend"

Automating:

- Analysing data
- Generating insights

Natural Language Generation

Eliminate Human Bias

- Not bound
- Freedom to uncover
- Free to Focus

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The beauty of Augmented Analytics

Support

Business decisions

Leverage human expertise

Combine expertise + initiative

Being Data Driven

Focus on being human

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Humans are still in the picture

“Artificial Intelligence” or “Augmented Analytics” doesn’t replace people. It does things that are hard for people on their own, making it easy for them to focus on the things they’re good at. It often links together different technologies.

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What can you tell me about sony

What can you tell me about sony

What can you tell me about sony **and**

Library ✔

YTD Daily Sales Trend

Top Ten Stores

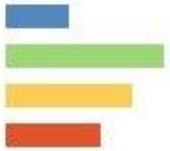
30 Day Sales Detail
Worldwide data secured by region.

90 Day Sales Trend for Model
Worldwide data secured by region.

Links:

- Product Name: Sony Xperia P Black
- Product Name: Sony Xperia ZL Black
- Product Name: Sony Xperia ZL Silver
- Product Name: Sony Xperia ZL White
- Product Name: Sony Xperia P White
- Product Name: Sony KDL-27HX800 26 Trinitron
- Product Name: SONY CD Radio Portable Boom Box
- Product Name: Sony DCR-DVD650 Hybrid DVD Handycam Camcorder
- Product Name: Sony KDL-19EX400 19 Trinitron CRT
- Product Name: Sony KDL-32EX500-CRT 32 Trinitron
- Product Name: Sony MDR-V900HD Pro Style Headphones
- Product Name: Sony Xperia 16 GB 9.4-Inch Tablet S
- Product Name: Sony Xperia 32 GB 9.4-Inch Tablet S

Demographic Revenue Breakd...
Data from MCAPS market segment study.



Historical Profit Comparison
Excludes product data from acquisitions prior to 2014.

Product Sales Detail
Worldwide data secured by region.

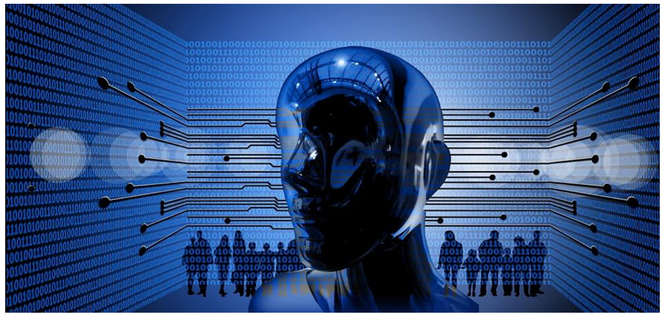
Get more from AI

Futuristic Queries
Use a selfie, your face, or someone's photograph as a parameter in a chart or report.

Conversational Questions
Recognise action words to help people receive reports or search for content.

Conversational Answers
Eliminate confusion by using a sentence that describes data. Use with or without a chart.

Inescapable Search
Search on ambiguous data in metadata, analytical results, etc. Even use sound-alikes.



What's Your Task?
The AI might not do it, but there are probably ways it can help.

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An Ideal
Data Science Offering

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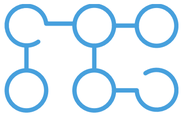
Data Science Overview

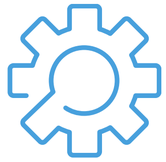
Monetise your investment in data

BUSINESS OBJECTIVES/USE CASES
DATA-DRIVEN DECISION



PLATFORM APPROACH

OPERATIONALISE DATA BY BUILDING THE RIGHT FOUNDATIONS FOR ACTIONABLE OUTCOMES



BUSINESS INTELLIGENCE +
ARTIFICIAL INTELLIGENCE +
MACHINE LEARNING

Machine Learning uses algorithm-based pattern recognition to analyse current and historical data to make predictions about future events

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Augmented analytics tell the story of your business. Let us help you…

…tell the complete story.

…tell it accurately.

…get everyone on the same page.

…break away!

Augment today!

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Thank You!

Clinton Etheridge