

# Gartner Opening Keynote: Scale the Value of Data and Analytics

Cindi Howson

Donald Feinberg

Peter Kreinsky

**Gartner®**  
**DATA & ANALYTICS**  
**SUMMIT 2018**





# Gartner® DATA & ANALYTICS SUMMIT 2018

# RITA SALLAM

Vice President & Conference Chair  
Gartner Research & Advisory



# Gartner® DATA & ANALYTICS SUMMIT 2018

# INFO-SAVVY BEHAVIOR

CDOs  
&  
Enterprise Data  
Governance Programs  
&  
Data Scientists



Market-to-book value  
nearly 2x greater than  
the market average

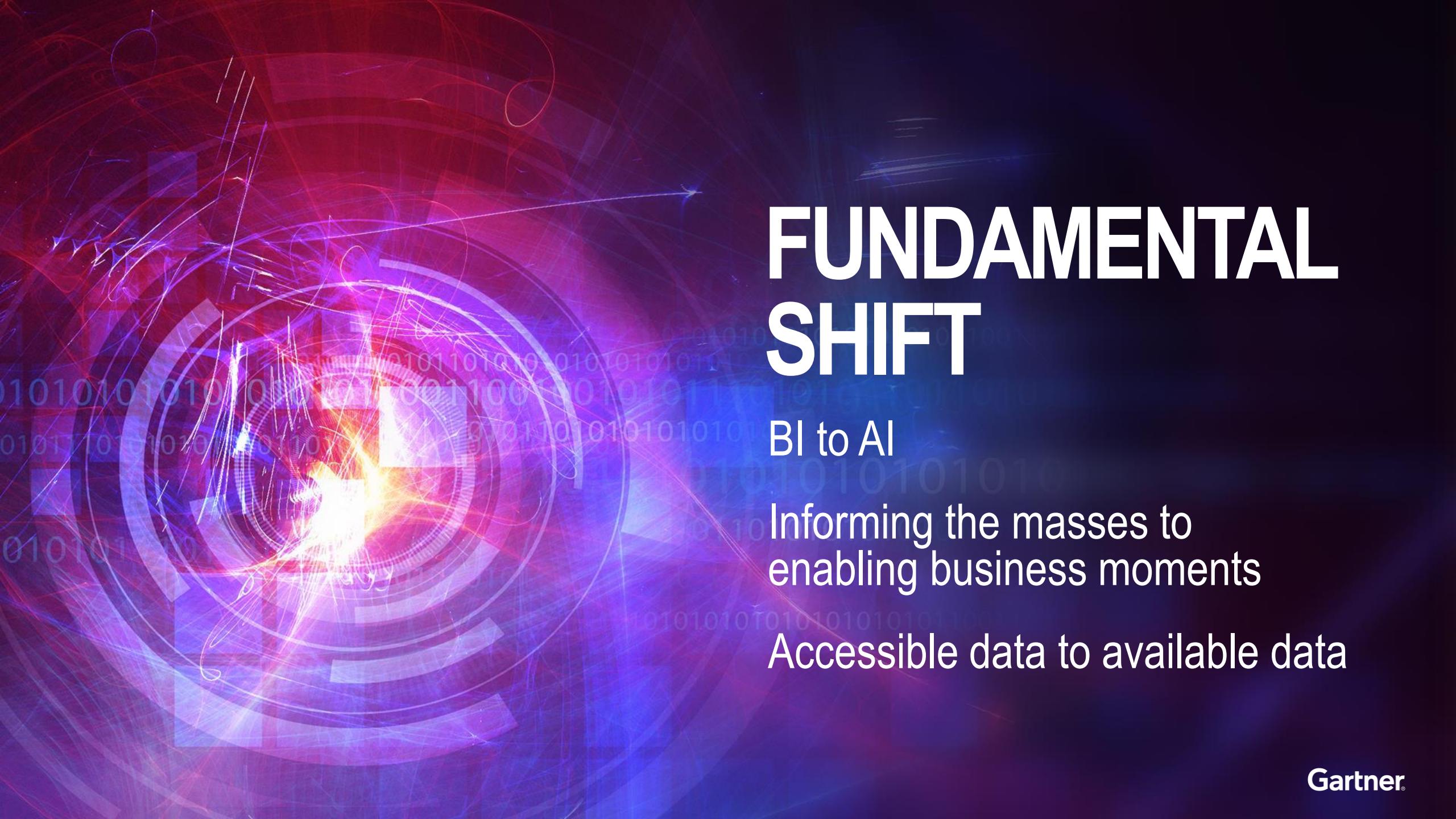
**22%**  
DOING BETTER

# SCALE THE VALUE OF DATA & ANALYTICS





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# FUNDAMENTAL SHIFT

BI to AI

Informing the masses to  
enabling business moments

Accessible data to available data

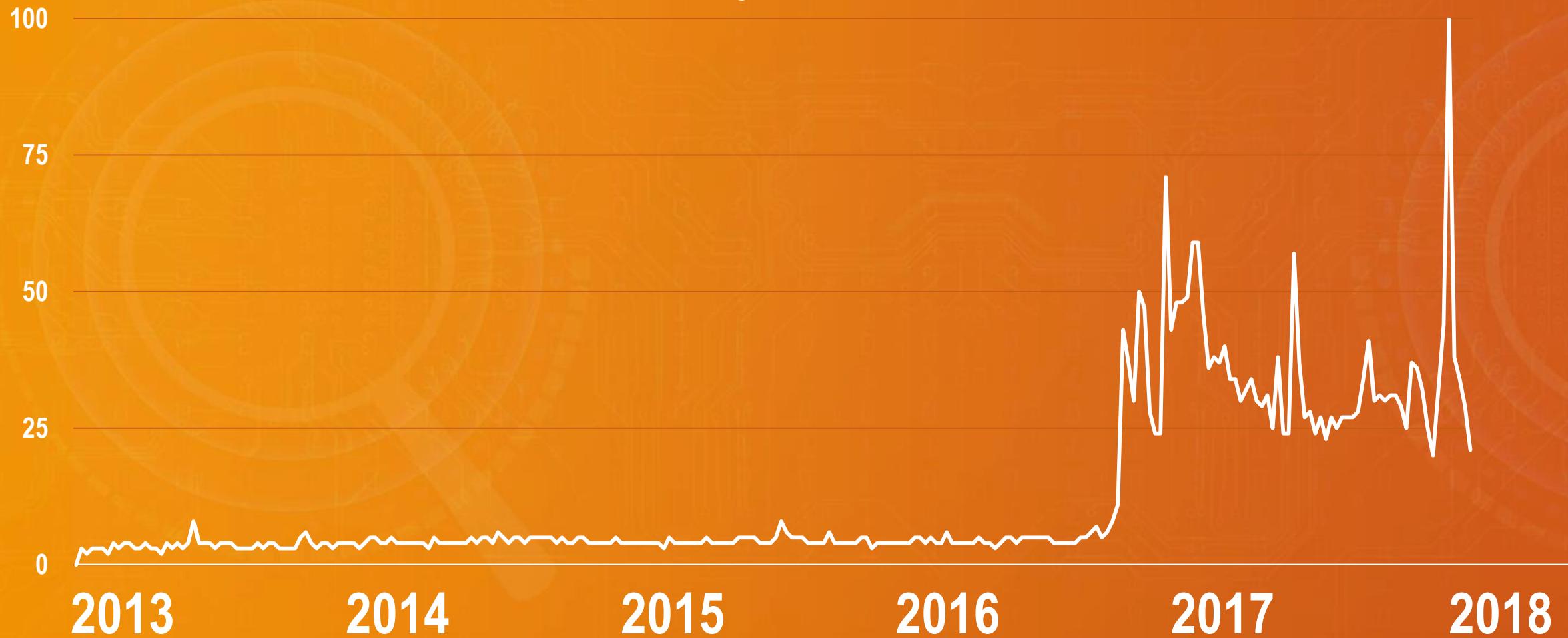
# UNPRECEDENTED OPPORTUNITY



# TRUST

# FAKE NEWS

Google Trends



# DIVERSITY

# DIVERSITY OF PEOPLE, DATA & ALGORITHMS



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# COMPLEXITY

# EMPOWERING PEOPLE TO CREATE ANALYTICS CONTENT



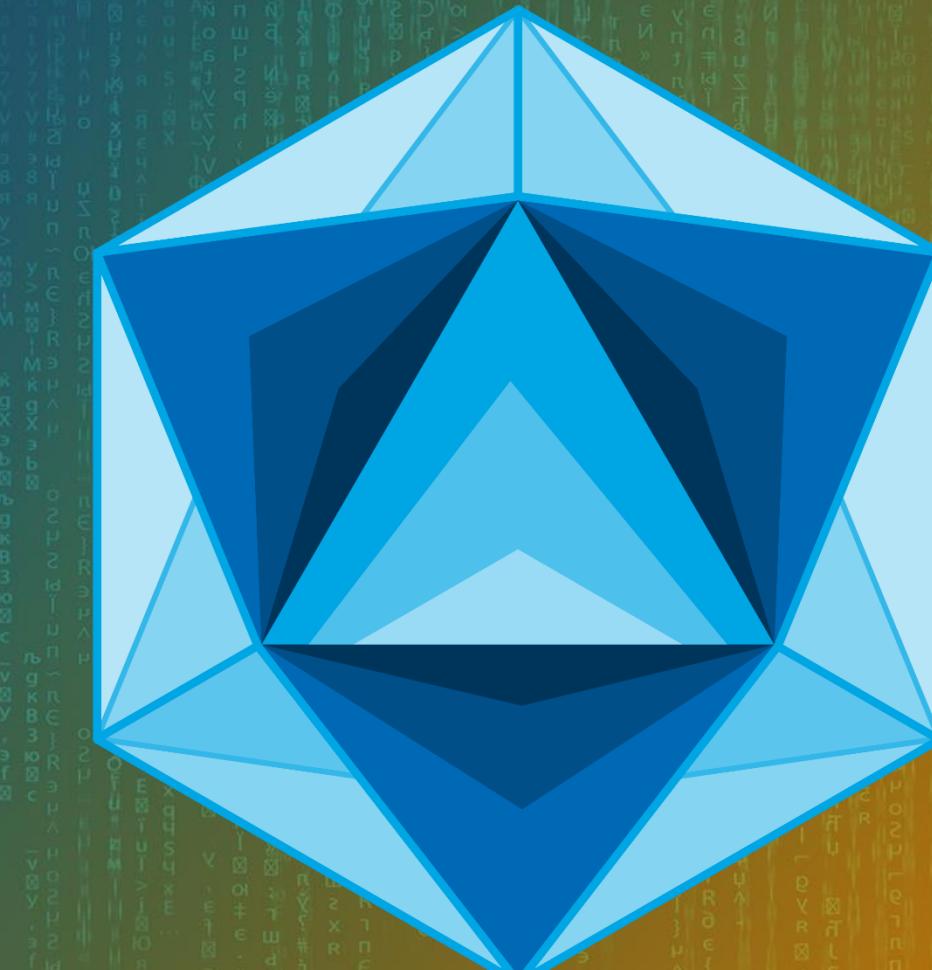


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# PRIVACY

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# DATA LITERACY & SCALE



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# TRUST



# COMPLEXITY



# DIVERSITY



# LITERACY

# SHIFT

from manual processes done by the few to  
automated processes done by the many

**AUTOMATE** their manual processes

**CROWDSOURCE** their problems to a  
more empowered workforce





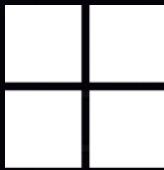
Tencent 腾讯

IBM

Baidu 百度

SAP®

Google



Microsoft

ORACLE®



Alibaba.com™

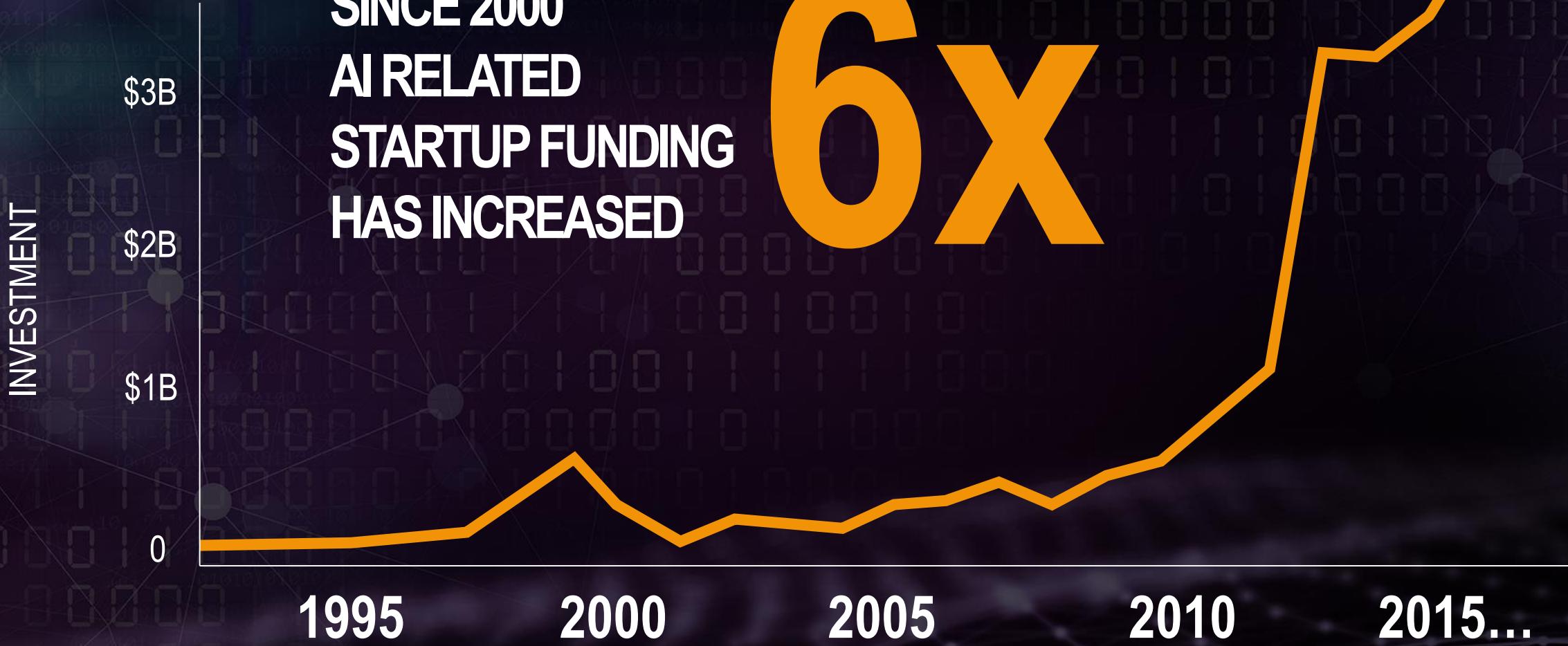
amazon

APPLE

Gartner

# TOP 10 AVERAGE AI SALARIES (USD)

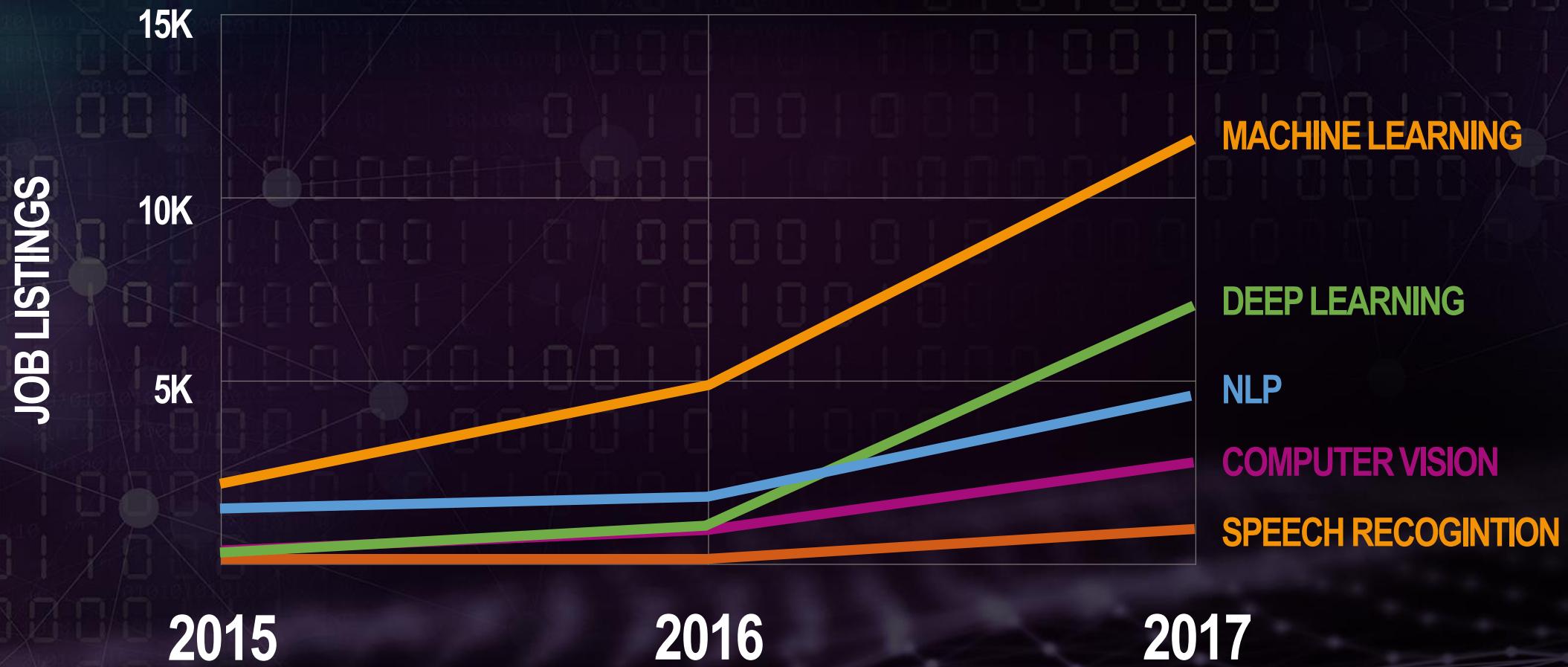
1. Uber	\$314,746	6. Google	\$236,388
2. Walmart Labs	\$265,698	7. Coupang	\$234,348
3. Netflix	\$264,799	8. Twitter	\$230,639
4. Facebook	\$257,846	9. Splunk	\$227,202
5. Salesforce	\$248,281	10. Apple	\$227,094



Source: Stanford University AI Index, November 2017

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# JOB OPENINGS, SKILLS BREAKDOWN



# AI – GAINING TRACTION

Percentage of Respondents

14%

No interest

35%

On the radar,  
no action  
planned

25%

In medium or  
long-term  
planning

21%

In short term  
planning/actively  
experimenting

4%

Have already  
invested and  
deployed

Q: What are your organization's plans in terms of artificial intelligence?  
Base: All Answering, n = 3,138  
Source: Gartner 2018 CIO Survey

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# Value of Data and Analytics

- Establishing **TRUST** in the data foundation
- Promoting a culture of **DIVERSITY**
- Building the data **LITERACY** of your workforce
- Mastering the **COMPLEXITY** of running a digital business



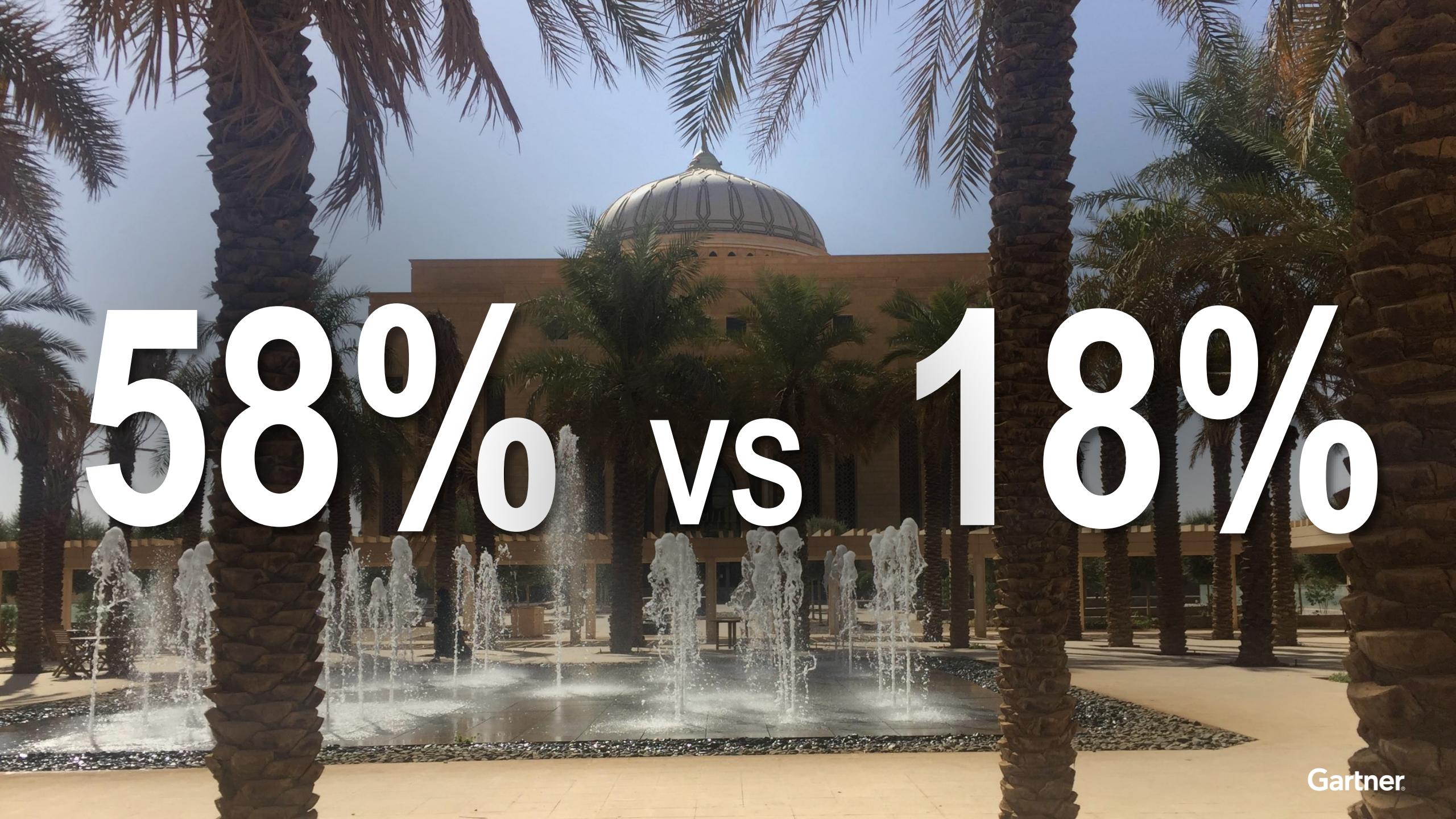




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58%



58% vs 18%





# TRUST



# COMPLEXITY



# DIVERSITY



# LITERACY

# TRUST



In the movie Casablanca,  
Humphrey Bogart never said:  
"Play it Again, Sam"

In the TV series Star Trek,  
Captain Kirk never said  
"Beam me up, Scotty!"

And in the classic stories -  
Sherlock Homes never said  
"Elementary, my Dear Watson"

# REPETITION





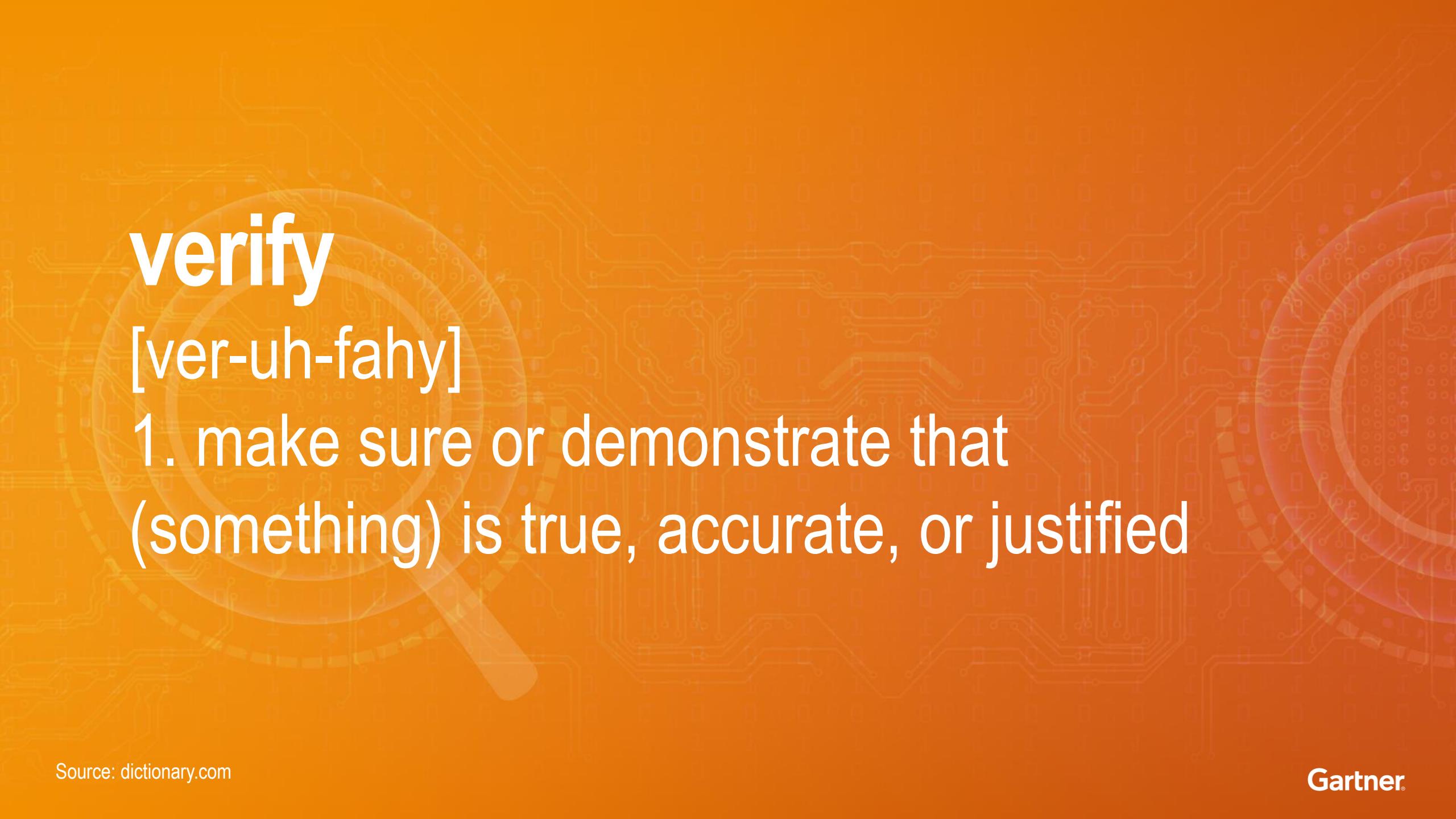
**Gartner**  
PREDICTS

BY 2022, THE MAJORITY OF INDIVIDUALS IN MATURE ECONOMIES WILL CONSUME MORE FALSE INFORMATION THAN TRUE INFORMATION



**Gartner**  
PREDICTS

THROUGH 2021, AI-DRIVEN CREATION OF "COUNTERFEIT REALITY," OR FAKE CONTENT WILL OUTPACE AI'S ABILITY TO DETECT IT, FOMENTING DIGITAL DISTRUST



# verify

[ver-uh-fahy]

1. make sure or demonstrate that (something) is true, accurate, or justified

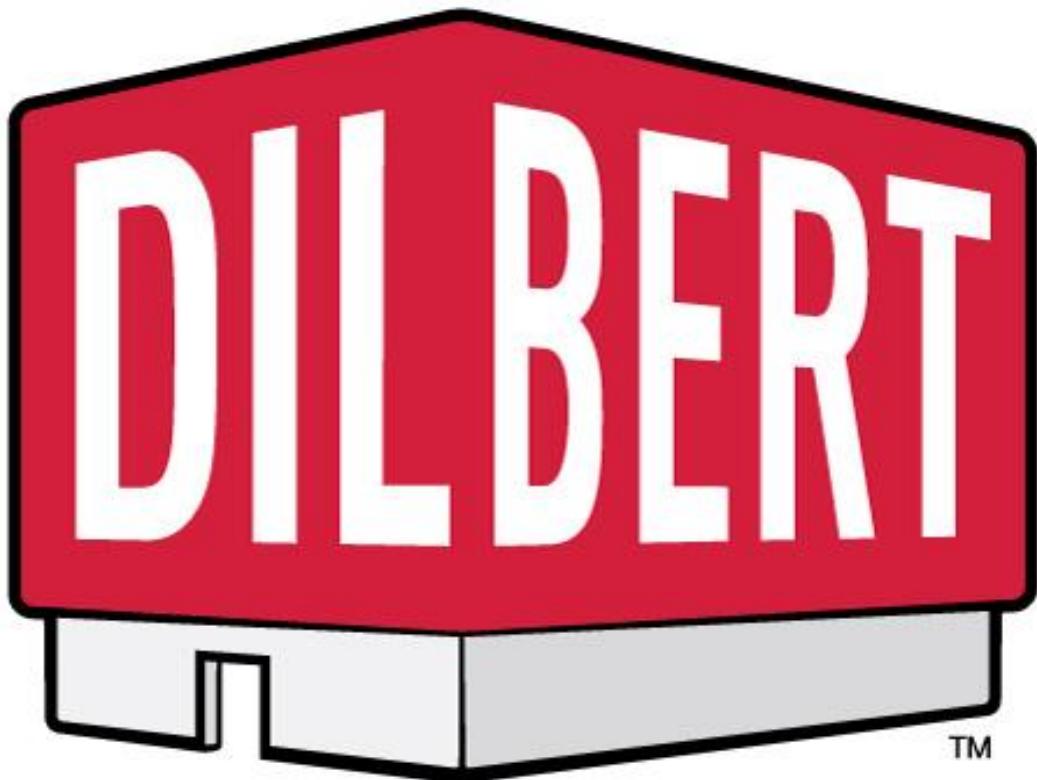


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# TRUST

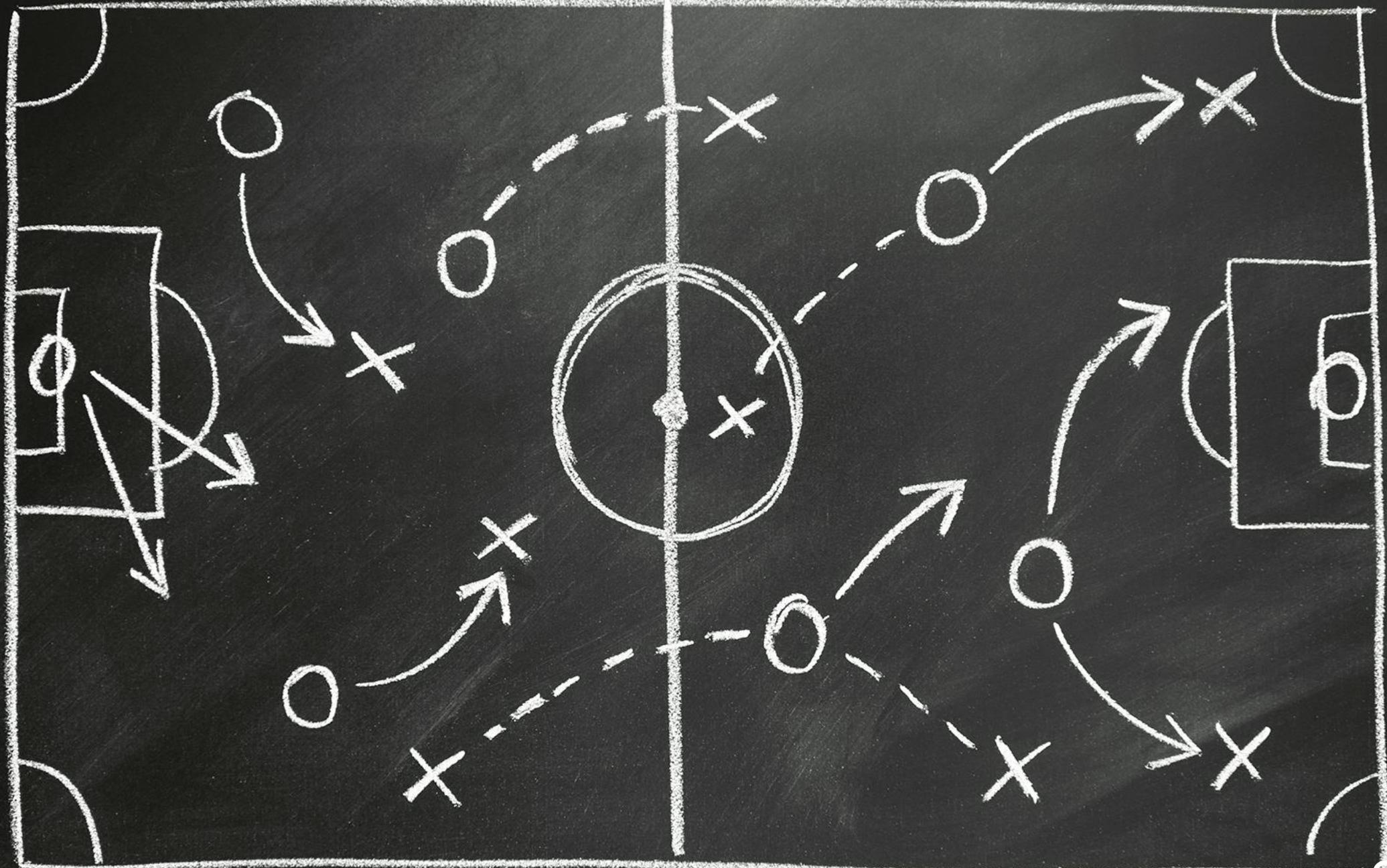
# METADATA





# WIKIPEDIA

A word cloud visualization centered around the theme of Wikipedia. The words are arranged in a grid pattern, with larger words indicating higher frequency or importance. The words include: content, reliable, responsibility, neutrality, plagiarism, reputation, sources, access, demonstrate, clarity, and verifiability.





# NEW PLAYBOOK CROWDSOURCING & AUTOMATION

# CROWDSOURCING



# AUTOMATION



MooD  
INTERNATIONAL

WATTIV/O®  
The Data Dexterity Company™

Alex

Waterline Data



LINQ SEE.  
SOLVE.  
SHARE.

ORACLE



Microsoft Azure

IBM



Informatica™

[DATUM]

adaptive

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A black and white photograph of a man from the chest up. He is wearing a dark tuxedo jacket over a white dress shirt with a bow tie. His hands are visible at the bottom, buttoning the jacket. The background is solid black.

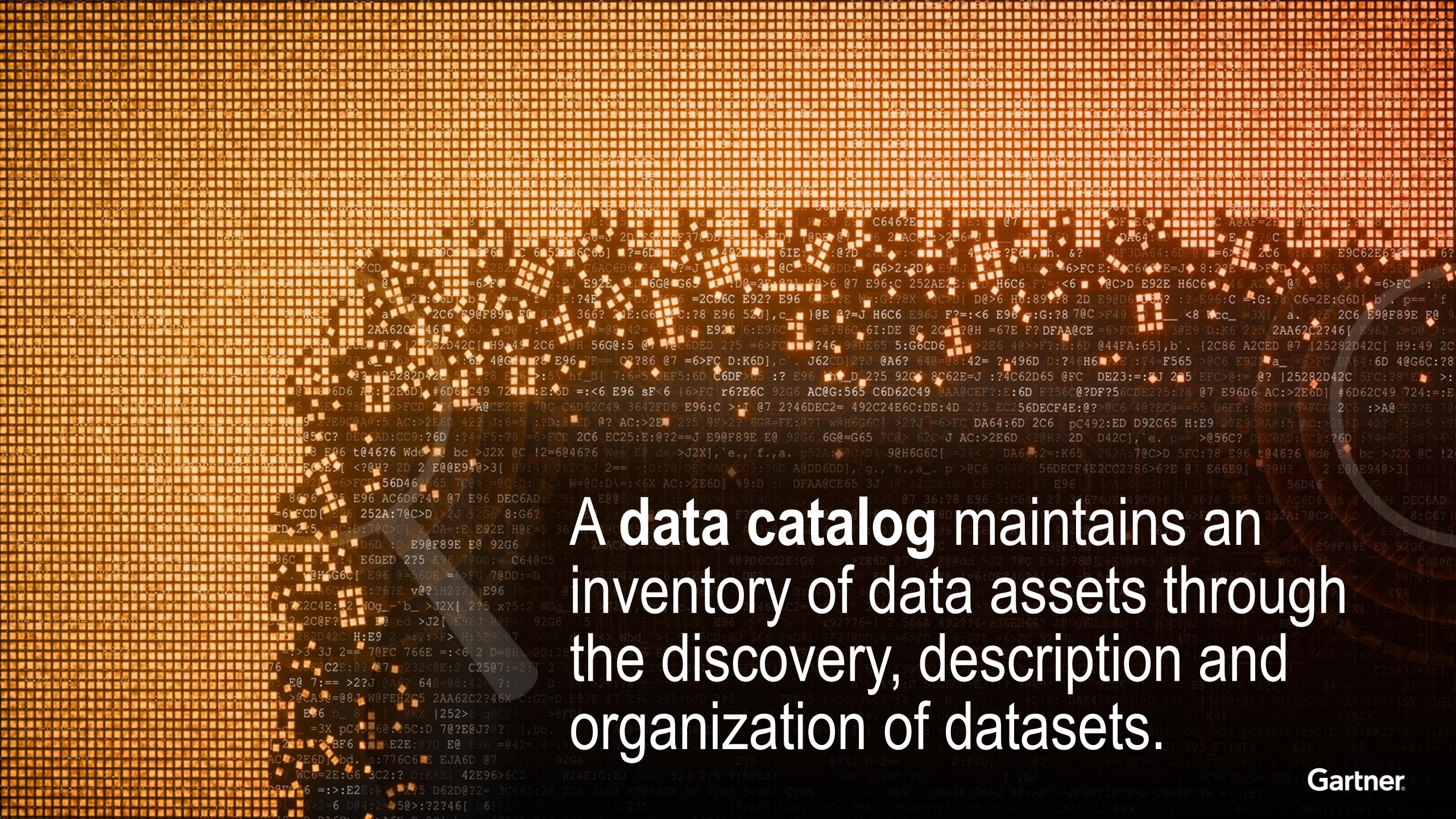
# DATA CATALOGS

are the new black

# ORGANIZE

## the disorganized

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A data catalog maintains an inventory of data assets through the discovery, description and organization of datasets.

# CAPABILITIES OF A DATA CATALOG SOLUTION



Curate inventory of  
information assets



Collaborate for  
accountability and governance



Communicate shared  
semantic meaning



# GDPR

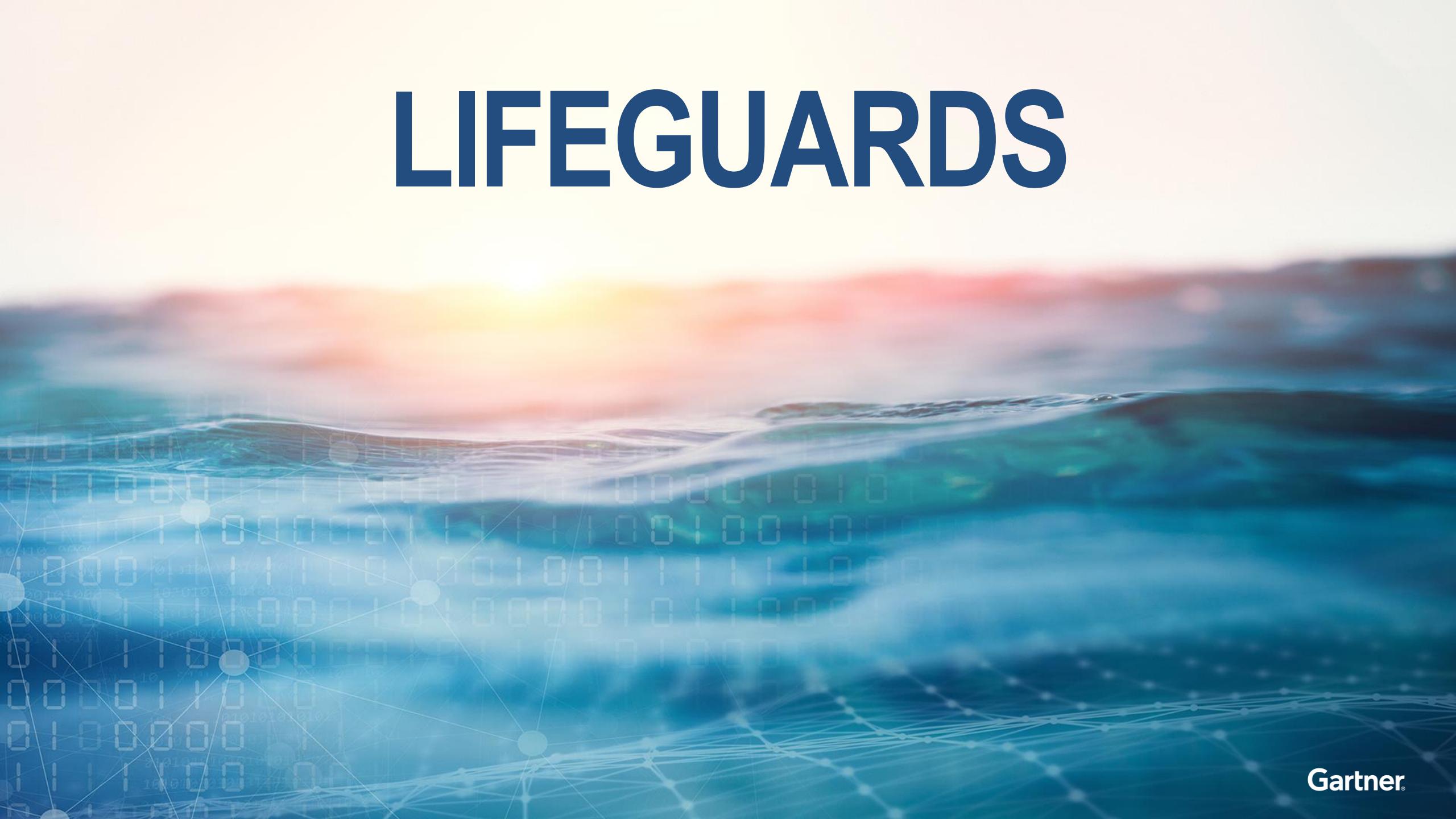
May 25, 2018



# TRUST



# LIFEGUARDS

The background of the slide features a photograph of ocean waves at sunset, with the sky transitioning from blue to orange and red. Overlaid on this image is a digital graphic. In the lower-left foreground, there is a network graph with several nodes represented by small circles and lines connecting them. To the left of the graph, there is a grid of binary digits (0s and 1s). The overall composition suggests a connection between traditional lifeguards and modern digital monitoring or data analysis.

# MARINE BIOLOGISTS





# AGILE TO SCALE



# data lake

1. provides an architecture that can scale to handle the volume and variety that a digital business requires.

# **data lake**

1. provides an architecture that can scale to handle the volume and variety that a digital business requires.

# **data warehouse**

1. provides the consensus we need to run the business.



# TRUST

Call to action: drive trust through verification

- a. Crowdsource metadata creation
- b. Automate metadata creation with data catalogs
- c. Balance data lakes and data warehouses

# DIVERSITY

# COMPLEXITY

# LITERACY

# TRUST

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# COMPLEXITY

# DIVERSITY

# LITERACY

# DIVERSITY



\$616, 833,692



\$504,014,165



\$412,563,408

ONLY  
**13%** of CIOs  
are women



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+33%

financial returns above industry mean  
when in top quartile for diversity

Sources:

1+2 V. Hunt, D. Layton and S. Prince. ["Why Diversity Matters."](#) McKinsey Survey of 366 Public Companies. 2018.

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**GENDER**      **RACE**      **CULTURAL**  
**BEHAVIORAL**      **WORK STYLES**

# DIVERSITY

DATA  
ENGINEERS

DATA  
SCIENTISTS

DOMAIN  
EXPERTS



"Diversity makes our business stronger and more innovative and, most important, it makes the world a better place."

Pierre Nanterme, Chairman and CEO, Accenture



**40%**  
**WOMEN**



"At Barclays we want to leverage technology to enable and empower all people to work, bank and reach their full potential."

Paul Smyth, Head of Digital Accessibility

# AI BECOMES THE NEW UI





"It pains me to think of individuals who have those kind of coding skills but who aren't using those skills because they don't fit a standard interview process or because maybe a phone call was awkward."

Zach Johnson, principal software engineering lead for Xbox



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Zach Johnson, principal software engineering lead for Xbox



120 PEOPLE  
IN 10 COUNTRIES

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A photograph of a diverse group of four people (two men and two women) working together on a wall covered in sticky notes and charts. One woman in the foreground is writing on a sticky note. The background shows a large screen displaying various data visualizations like line graphs and bar charts.

# CREATE DIVERSE TEAMS



# Harvard Business Review

"Algorithms are, in part, our opinions embedded in code. They reflect human biases and prejudices that lead to machine learning mistakes and misinterpretations."

# The New York Times

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# WEAPONS OF MATH DESTRUCTION



HOW BIG DATA INCREASES INEQUALITY  
AND THREATENS DEMOCRACY

CATHY O'NEIL

CATHY O'NEIL

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# DIVERSITY OF DATA

External  
Data

Telemetry

Text

Images

IoT

Sensor  
Data

# OCTO



# OCTO



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# DIVERSITY

Call to action: make diversity a core principle of your data and analytics program

- a. Promote diversity that you can't see
- b. Reduce bias in algorithms by adding diversity
- c. Leverage diverse data sources

# LITERACY

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# WHAT MAKES COMPLEXITY SO CHALLENGING?

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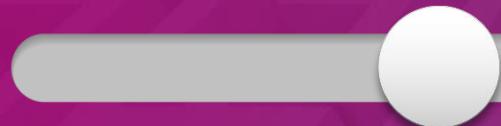
Understanding of complexity

# WHAT MAKES COMPLEXITY SO CHALLENGING?

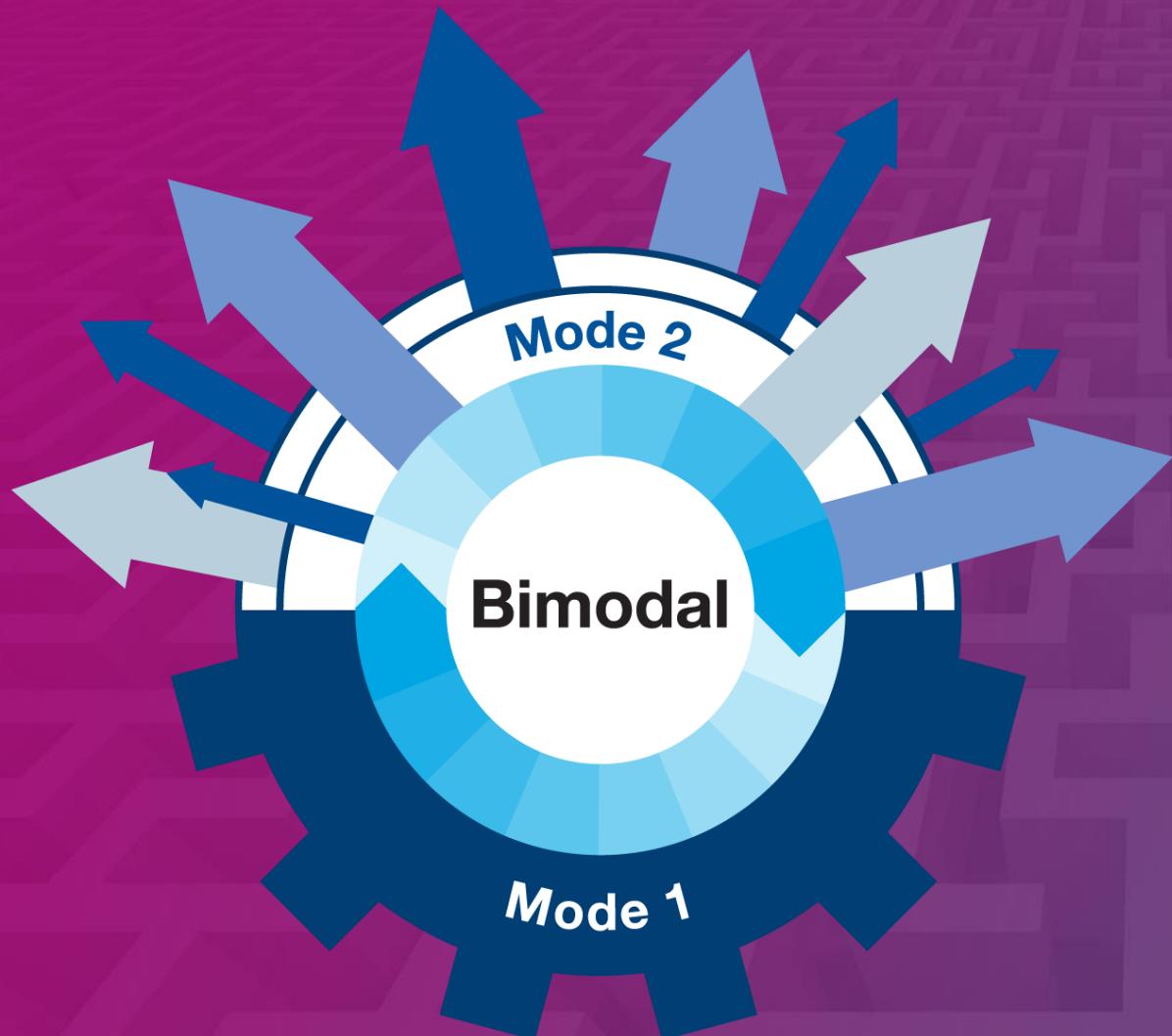
Understanding of complexity

More timely response

**CREATIVITY**

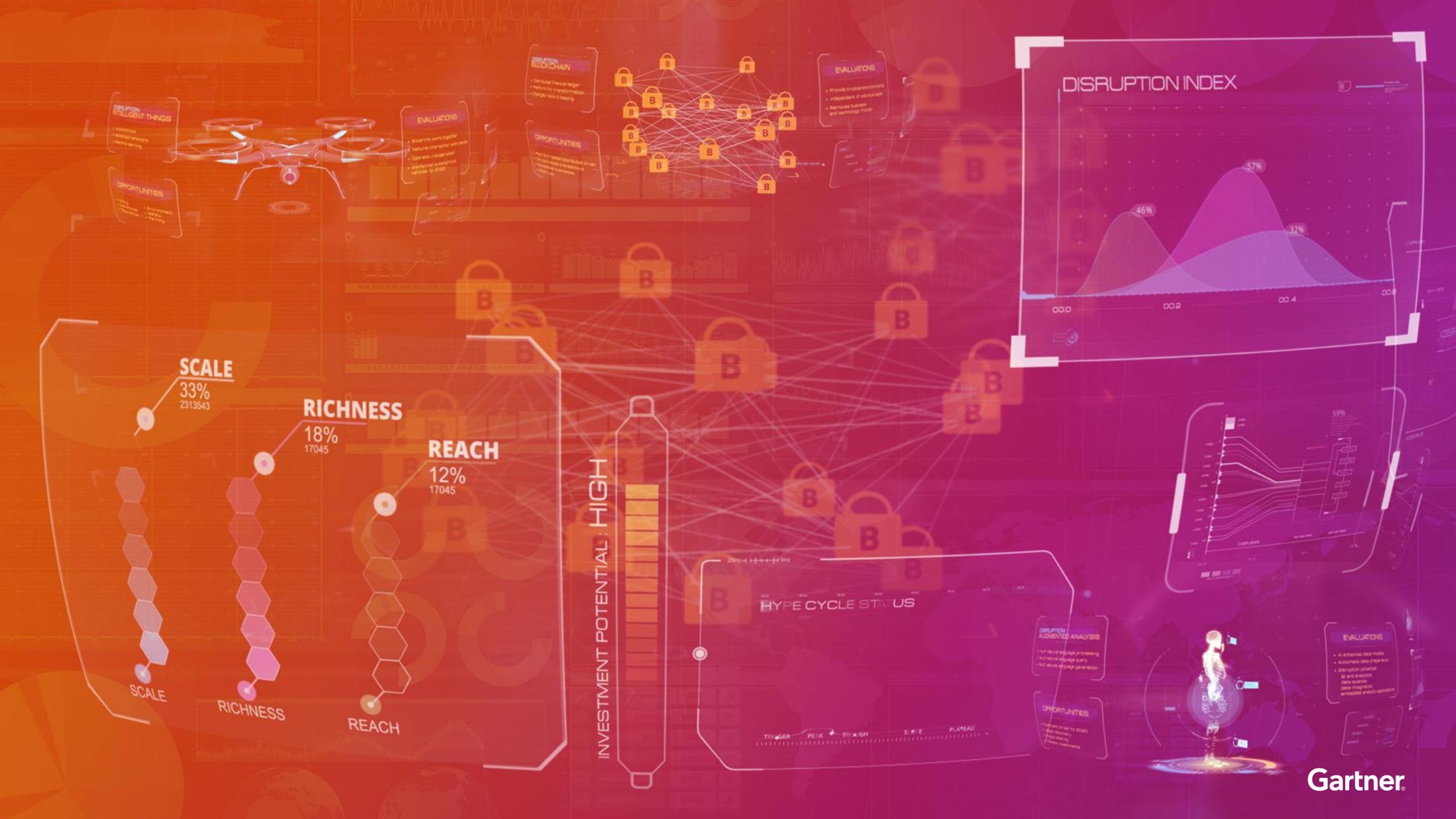


**SCALABILITY**



Agile,  
innovative content

Well-established,  
production content





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Crowdsourcing Focus Groups

Logo Contest

Ideation

Crowdsourcing Contest

Prize Money

Innovation

People Working Together

# CROWDSOURCED COMPETITION

kaggle™ XPRIZE®

N. E. W. V. O. R. R. F. I. M. A. N. H. R. S. T. S. H. A. L. D. R. H.

"**A**S MUCH A TALE OF INTRIGUE AS IT IS OF SCIENCE...A book full of gems for anyone interested in history, geography, astronomy, navigation, clock making, and—not the least—plain old human ambition and greed."

—*Philadelphia Inquirer*

# Longitude



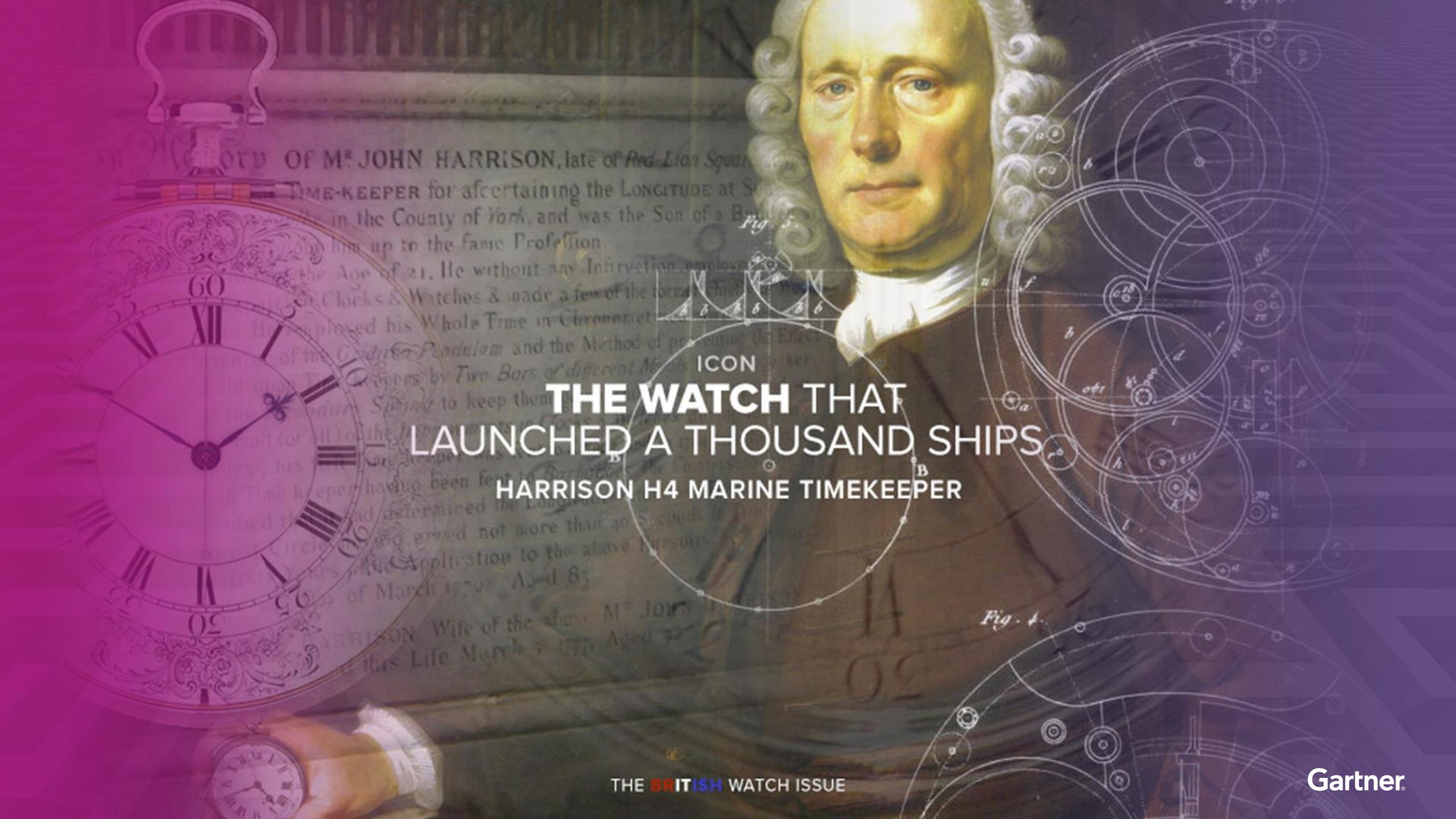
DAVA SOBEL

FOREWORD BY NEIL ARMSTRONG

БОКСМОД ВЪ ЗЕЛР УИЧЕЛНО

DAVA SOBEL

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ICON

# THE WATCH THAT LAUNCHED A THOUSAND SHIPS

HARRISON H4 MARINE TIMEKEEPER

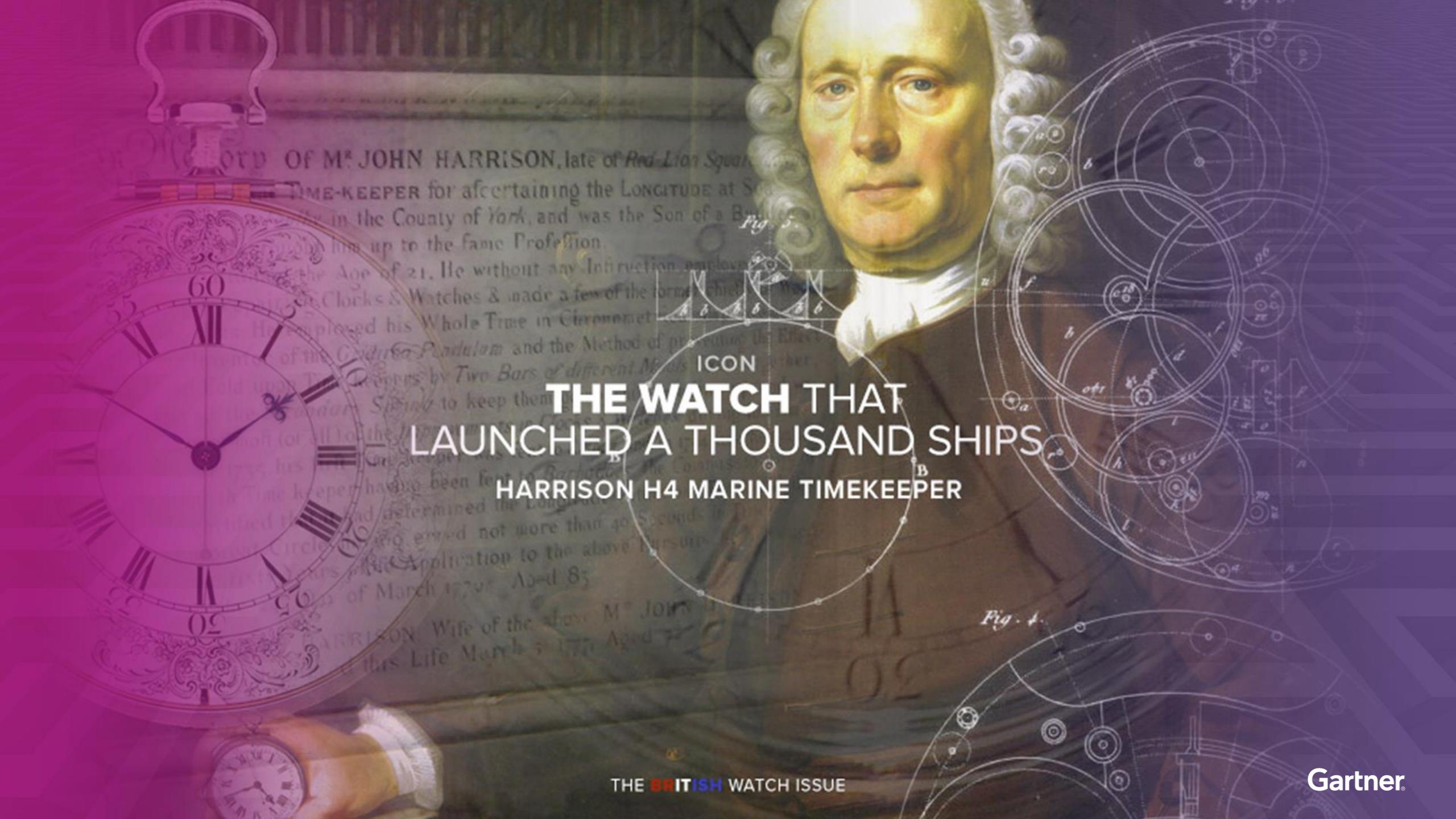
**L ocal T ime – G M T = T ime D ifference**

**T imedifference**

**= T imefactor**

**24 Hours**

**T imefactor  $\times$  360° = Longitude**



ICON

# THE WATCH THAT LAUNCHED A THOUSAND SHIPS

HARRISON H4 MARINE TIMEKEEPER



SCALE THE VALUE OF  
DATA & ANALYTICS

# SMALL TEAMS WORKING ON COMPLEX PROBLEMS



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# SCALING VALUE



# SCALING VALUE

More context

More understanding

More timely response

# NEW PLATFORM ATTRIBUTES

Comprehensive data collection with context

Precise system of measurement and classification

Low latency systems; more time to respond





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# COMPLEXITY

Call to action: empower many small teams and leverage more precise data and analytic platforms that provide

- a. More context
- b. More understanding
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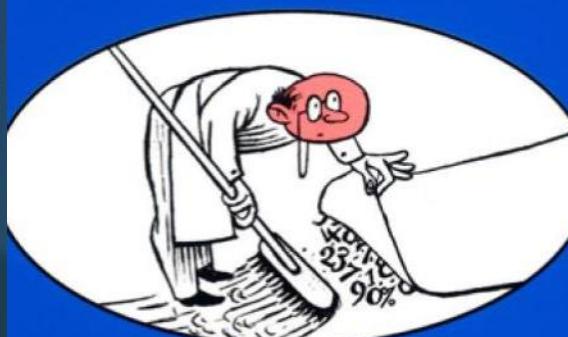
# LITERACY

# ITERACY

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# HOW TO LIE WITH STATISTICS

Darrell Huff  
Illustrated by Irving Geis



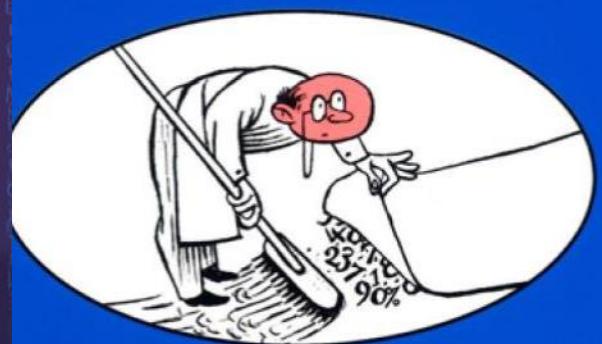
Over Half a Million Copies Sold -  
An Honest-to-Goodness Bestseller

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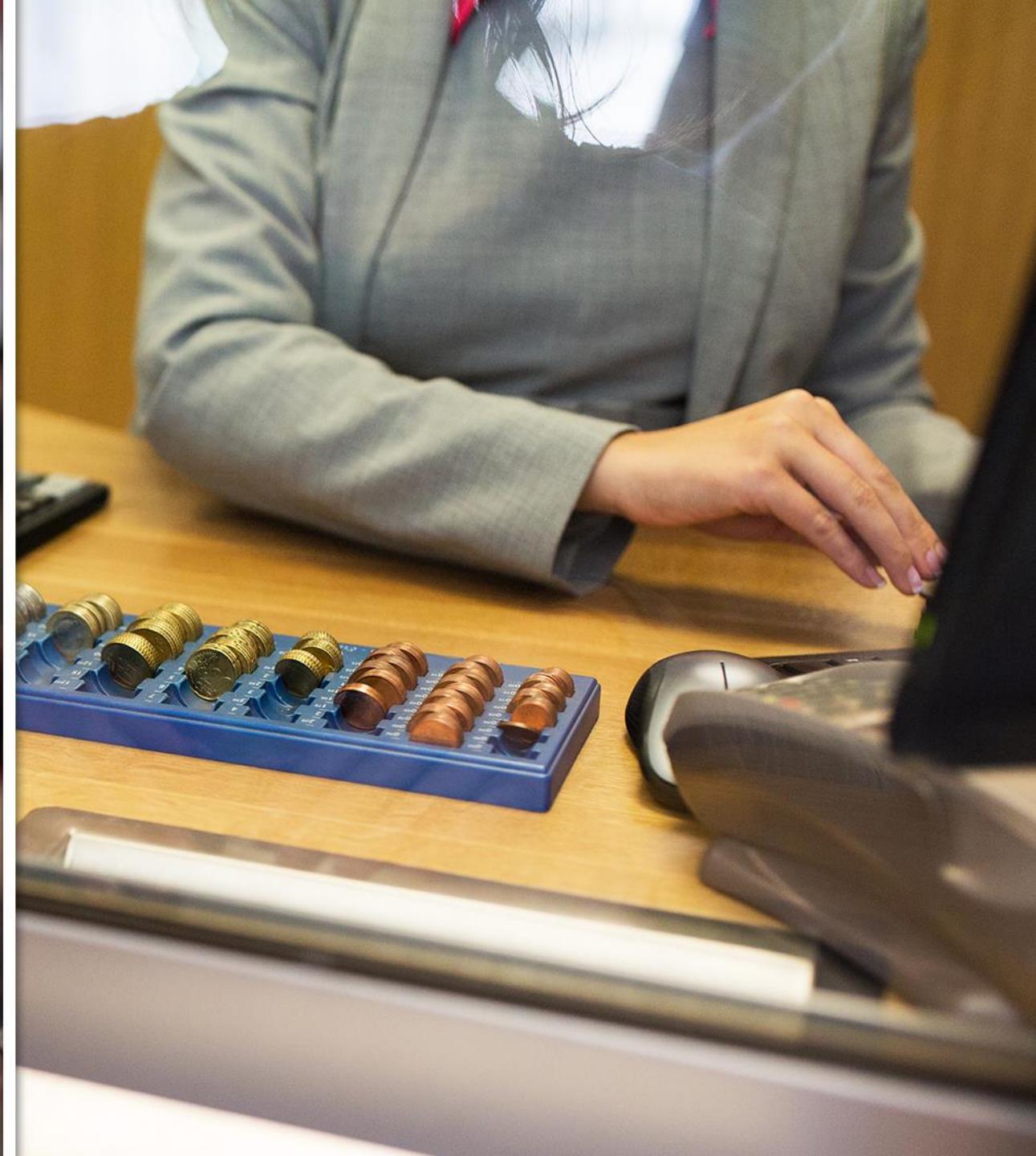
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# OVERCOMING SAMPLING BIAS CONFUSING CORRELATION WITH CAUSALITY OVER-EMPHASIZING AVERAGES

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# "The ability to read, write and communicate data in context."

Gartner Research and Advisory

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# Gartner Chief Data Officer Survey

## To progress with data and analytics programs is poor data literacy, rooted in ineffective communication across a wide range of diverse stakeholders

Gartner Research and Advisory

Gartner



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PREDICTS

GARTNER PREDICTS THAT BY 2020, 80% OF  
ORGANIZATIONS WILL INITIATE DELIBERATE  
COMPETENCY DEVELOPMENT IN THE FIELD  
OF DATA LITERACY, ACKNOWLEDGING THEIR  
EXTREME DEFICIENCY

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# VOCABULARY OF DATA, ANALYTIC AND BUSINESS OUTCOMES



NOT EVERYONE  
NEEDS TO SPEAK  
THIS LANGUAGE  
AT THE SAME  
FLUENCY LEVEL

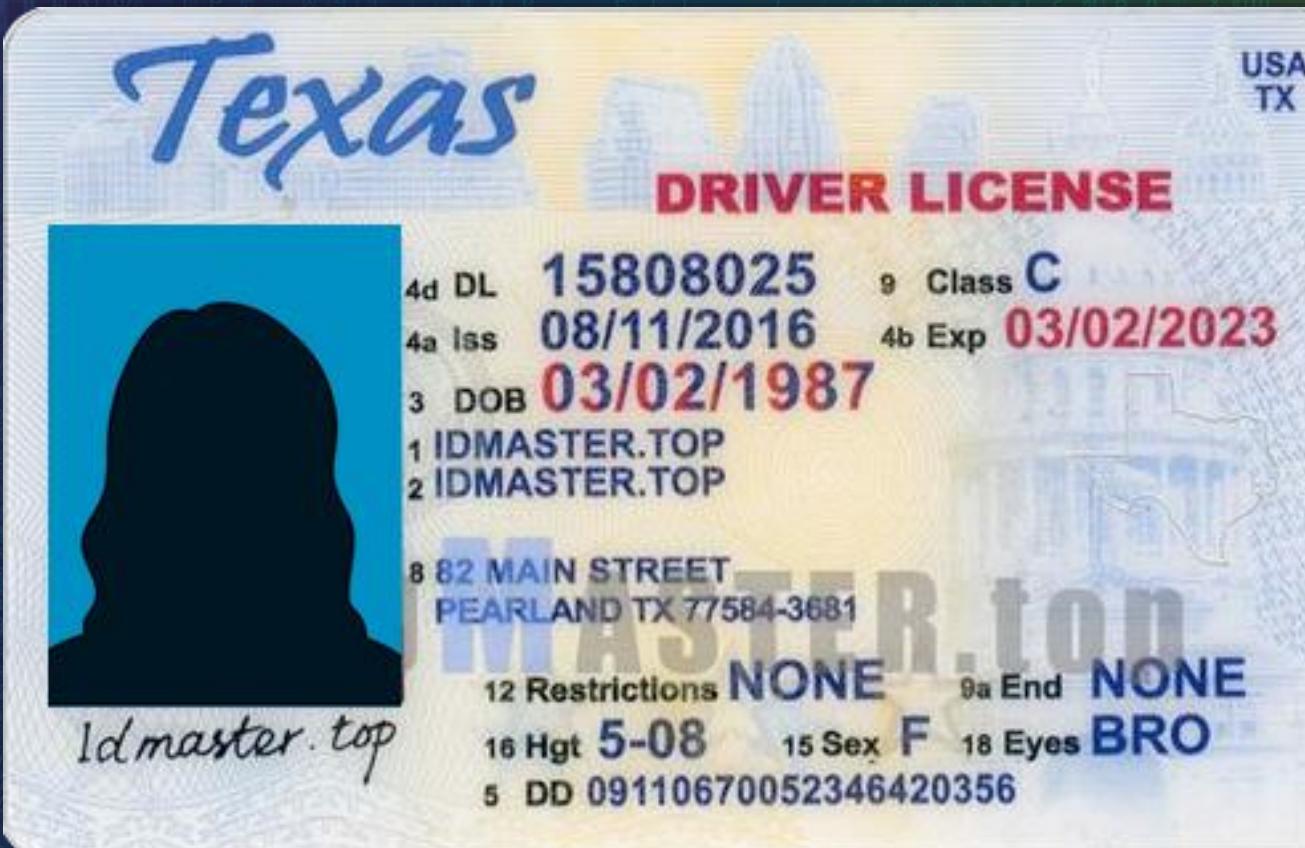
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# ACCELERATE LEARNING AND MAKE KNOWLEDGE MORE PERMANENT



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# HOW DO WE CREATE A NEW BASELINE?



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# CERTIFICATION



# LITERACY

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# DATA LITERACY MOVEMENT WILL ALSO REQUIRE A TECHNOLOGY CATALYST

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# DATA LITERACY MOVEMENT WILL ALSO REQUIRE A TECHNOLOGY CATALYST

## Augmented Analytics



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# LITERACY

Call to action: create a common language and culture around data

- a. Provide training in context
- b. Create a certification system (e.g. driver's license for analytics)
- c. Leverage augmented analytics

# GARTNER CIO SURVEY

Technologies expected to help businesses differentiate from their competitors

PERCENTAGE OF RESPONDANTS	TOTAL (n = 2834)
BI/Analytics	26%
Digitalization/Digital Marketing	14%
Cloud Services	10%
Mobility/Mobile Applications	6%
Internet of Things	6%
Customer Relationship Management	5%
Artificial Intelligence	5%
Enterprise Resource Planning	5%
Infrastructure/Data Center	5%
Automation	4%

# CHIEF DATA OFFICER



# TRUST

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# Gartner® DATA & ANALYTICS SUMMIT 2018

# TRACK SESSIONS

## TRACK A:

**Leadership & Organization: Scale the People, Culture & Skills**

## TRACK B:

**Business outcomes and Strategy: Make Value Pervasive**

## TRACK C:

**Governance and Master Data: Build A Foundation of Trust**

## TRACK D:

**Analytics: Drive Insight into Every Action**

## TRACK E:

**Architecture and Technology: Renovate for Digital Transformation**

## TRACK F:

**Architecture and Technology: Renovate for Digital Transformation**

## TRACK G:

**Advanced Capabilities: Power Everything You Do with AI, Machine Learning and IoT**

## TRACK H:

**Innovation: Be the Next Disruptor**

# GUEST KEYNOTES



**JOE INZERILLO**  
Executive Vice President,  
Chief Technology Officer,  
BAMTECH Media



**DANIEL PINK**  
Author



**ERIC HORVITZ**  
Technical Fellow & Director,  
Microsoft



**JOHN O'LEARY**  
Author

# CASE STUDIES



**Ashish Bayas**  
Chief Technology Officer  
at Navistar



**Brian Lewis**  
Lead Architect for Medicines  
Development IT,  
Eli Lilly and Company



**Charlie Haddad**  
Senior Advisor of IT Strategy and  
Architecture in Medicines  
Development IT at Eli Lilly



**Mary Williams**  
Enterprise Information  
Management Senior Specialist for  
American Family Insurance



**Joe Beydoun**



**Jenifer Cartland, PhD**  
VP, Data & Analytics at  
Children's Hospital of Chicago



**Matthew Rawlings**



# Gartner® DATA & ANALYTICS SUMMIT 2018

# Challenge.Share.Innovate.

Discuss with your peers  
Jot down your thoughts  
Unleash your creativity



# Challenge. Share. Innovate.

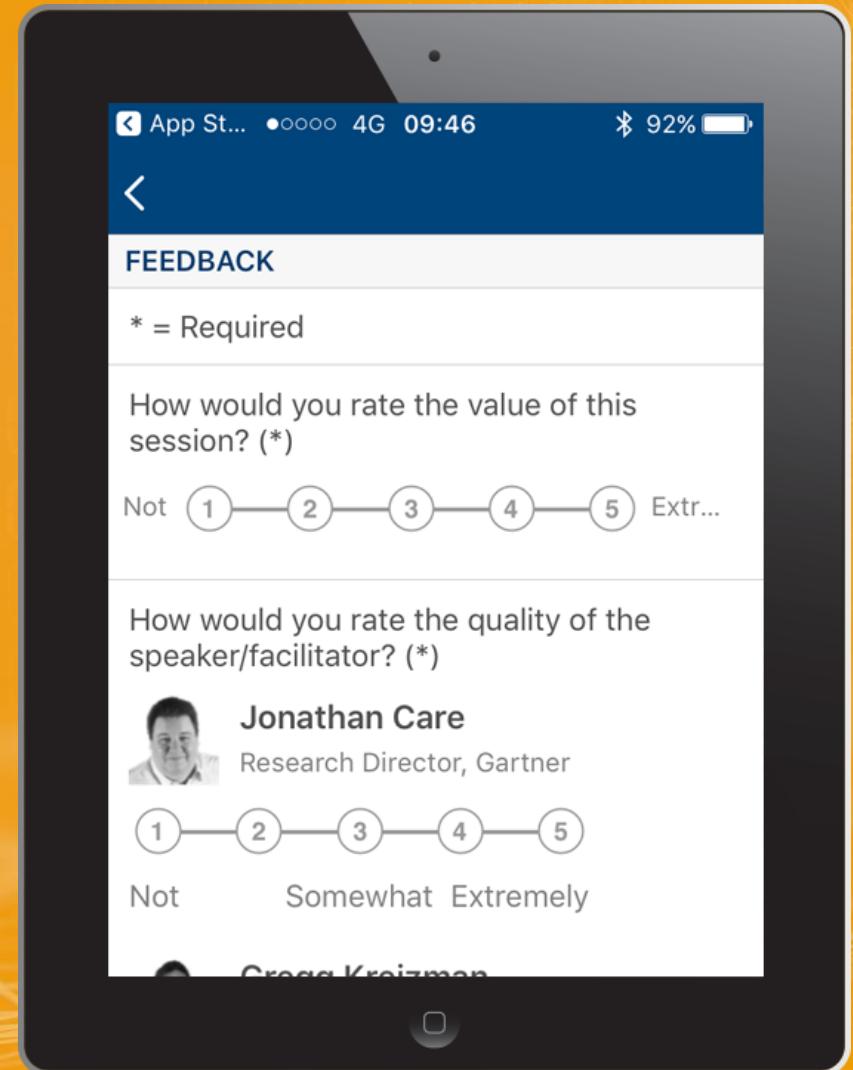
Discuss with your peers  
Jot down your thoughts  
Unleash your creativity



New for 2018!  
Innovation &  
Creativity Wall

# Your Feedback Makes an Impact!

Don't forget to share your feedback on the sessions you have attended via the Events Navigator App





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# Gartner® DATA & ANALYTICS SUMMIT 2018