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A Special Update on FinTech Solutions for BSA/AML and OFAC Compliance

**Tuesday, December 4, 2018
8:00 a.m. to 2:30 p.m.**

The California Club
538 South Flower Street, 2nd Floor Dining Room
Los Angeles, CA 90071

Fireside Chat: The Latest Trends in Financial Crimes

Moderator:

**Walter J. Mix III, IBAC Chairman, Managing Director and Financial Services
Practice Group Leader, Berkeley Research Group (BRG)**

with

**Matthew Probershteyn, Global Head of Correspondent Banking
FCC and Americas and Europe Head of CIB
Standard Chartered Bank**



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BANKERS
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- The consequences of non-compliance for correspondent Banking providers has been significant.
- Managing Financial Crime Risk takes a fine balance – What are some of the considerations Banks must take into account?
- What are some of the emerging risks keeping the international banks busy?
- What are some of the New Payment Classifications that Standard Chartered is considering? What is the difference between Money Service Businesses?
- What are some recommended Financial Crime Management Techniques? The difference between Money Service Businesses?
- Can we do better?



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What's Happening in BSA/AML

Beneficial Ownership and Transaction Monitoring

Moderator:

Walter J. Mix III, IBAC Chairman, Managing Director and Financial Services
Practice Group Leader, Berkeley Research Group (BRG)

Danny Gutiérrez, VP & Regulatory Risk Manager, Ocean Bank, Coral Gables, FL

Matthew Probershteyn, Global Head of Correspondent Banking, FCC and Americas/Europe Head of CIB
Standard Chartered Bank, Newark, NJ

Mina S. Rizkalla, First Vice President and Chief Risk Officer, CTBC Bank USA, Los Angeles, CA

Julie Yang, Deputy BSA Officer, East West Bank, Los Angeles, CA



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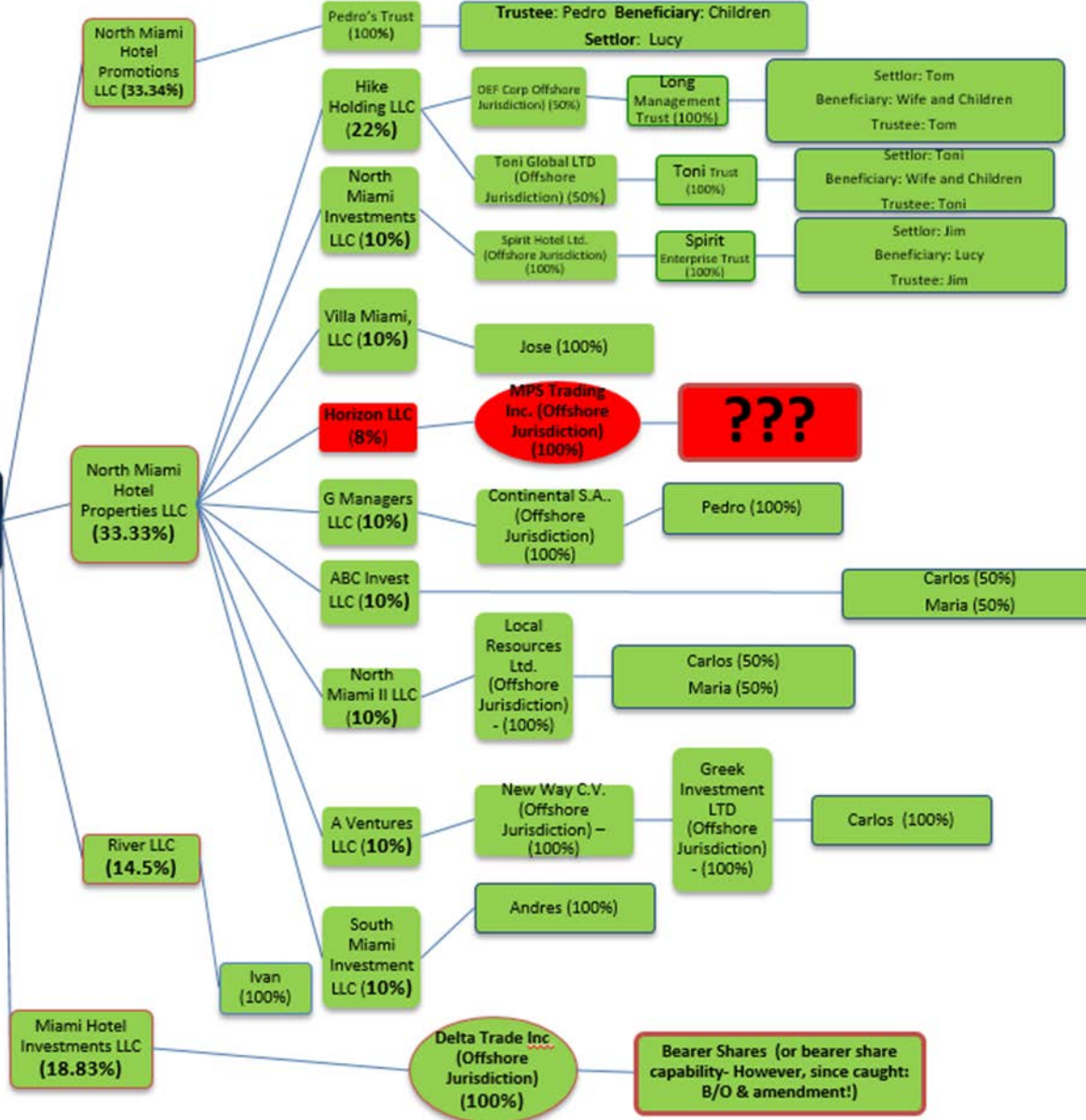
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Summary

- Overview
- Beneficial Ownership
 - Grey Areas – Lessons Learned – Risk based Approach
- Transaction Monitoring and Artificial Intelligence (AI)
- Correspondent Banking
 - New Accounts – Due Diligence - Lending
- Fincen FAQ's
 - Comment Letter by FIBA and IBAC

Prior to
FAQ # 3

North Miami Hotel, LLC



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As per
FAQ # 3

North Miami Hotel,
LLC



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Correspondent Banking / Emerging Risks Sanctions Update

Moderator:

David Schwartz, President & CEO, Florida International Bankers Association
(FIBA), Miami, Florida

Andy Fernandez, Esq., Partner, Holland & Knight LLP, Miami, FL
Marc Alain Galeazzi, Esq., Counsel, Morrison & Foerster LLP, New York, NY
Michael Mancusi, Esq., Partner, Arnold & Porter Kaye Scholer LLP, Washington, D.C.
Laurel Loomis Rimón, Esq., Sr. Counsel, O' Melveny & Myers LLP, Washington, D.C.

Sanctions Update

- Update on Sanctions
 - Cuba, Venezuela
 - Iran
- Secondary Reviews
- New Payments methods / Virtual Currencies
- Enforcement Issues
- Governmental Perspective



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Fireside Chat: Trends in Artificial Intelligence

with

Jeffrey W. Lin, CFA, Portfolio Manager
Global Artificial Intelligence Equity, TCW, Los Angeles, CA

Blockchain, AI, Crypto and Other Key Issues and Trends

Moderator:

David Abshier, Managing Director, Financial Services, Berkeley Research
Group (BRG), Los Angeles, CA

Ms. Anna Fridman, Co-Founder and General Counsel, Spring Labs, Los Angeles, CA

Mr. Shirish Netke, CEO, Amberoon, Los Angeles, CA

Mr. Paddy Ramanathan, Founder & Managing Director, iValley Corp, Silicon Valley, CA

Mr. Bob Taylor, Founder & Head of Business Development, Global Risk & Data Authority (GRADA)
Cayman Islands

|

Summary

- Key Issues / Trends in FinTech and Compliance
- Co-Creating platforms – Banks and digital
- Regtech
- Blockchain
 - Overview – SEC Issues - Custody
- Blockchain Use cases
- Artificial Intelligence (AI) and BSA / AML use cases
- Cryptocurrencies / digital currencies



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BSA/AML/OFAC Compliance and FinTech Solutions: Blockchain



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Cryptocurrency vs. Blockchain



Cryptocurrencies

- Applications built using blockchain technology
- “Tools” utilized on blockchain networks; not the actual network
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Blockchain

- Underlying set of infrastructure & technologies
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- Blockchain applications include cryptocurrencies, enterprise applications, Internet of Things



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Nefarious uses made headlines



Drug Trafficking and Other Illicit Activity

- Anonymous sending and receiving of digital currency
- "Silk Road"



Fraud

- Fraudulent Initial Coin Offerings ("ICOs")
- Phishing sites that illegally obtain wallet keys and other schemes



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Blockchain AML Opportunities

Exhibit 72: AML implementation procedures are highly manual
AML implementation phases

Onboarding

- Manual KYC checks
- Review account ownership structure
- Cross-check beneficial account owner with sanction lists
- Apply risk rating to client account

Identify verification

Customer due diligence

Watch-list screening



Monitoring

- Transaction monitoring is not fully automated
- Compliance personnel manually review suspicious transactions
- ~3% of transactions are manually reviewed

Transaction monitoring

Enhanced transaction review

Watch-list screening



Reporting

- Financial institutions must maintain all account transaction records
- Produce suspicious activity and currency reports for regulators
- Comply with ad-hoc requests

Suspicious activity reports

Currency transaction reporting

Case & alert management

Source: Goldman Sachs Global Investment Research.



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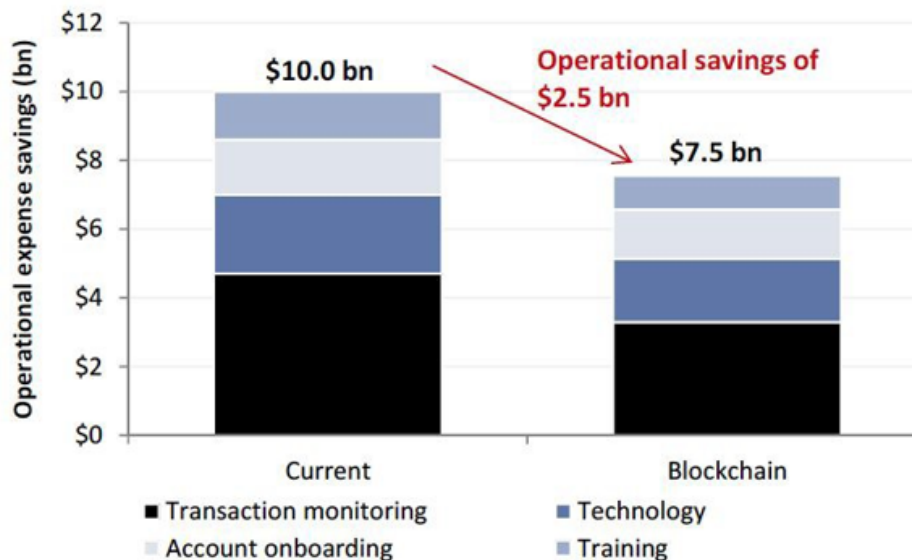


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Blockchain AML Opportunities

Exhibit 73: We estimate blockchain could drive \$2.5bn in operational cost savings

Estimated industry headcount operating expenses currently vs post-blockchain (\$bn)



Source: Celent, Goldman Sachs Global Investment Research.



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Solutions for tokenized transaction



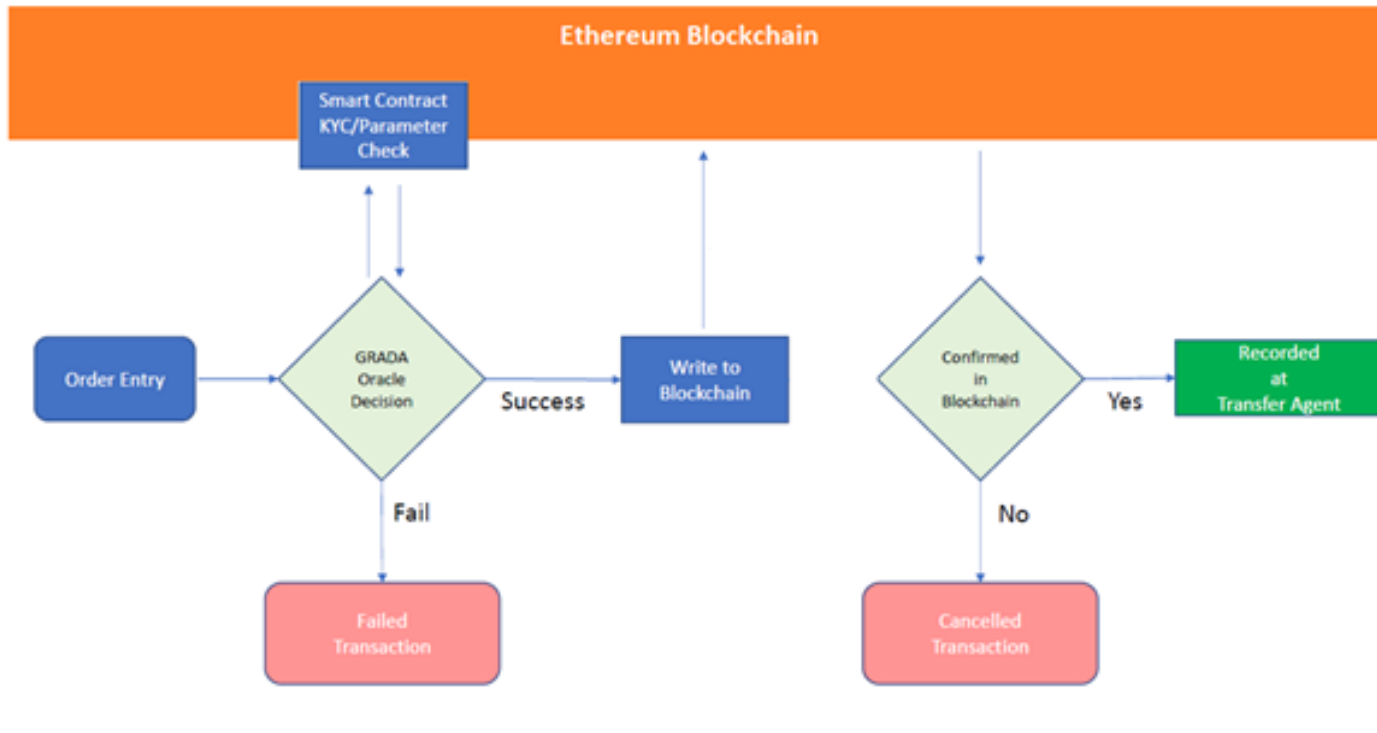
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GRADA Smart Contract Execution Workflow



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Conclusion

Thank you!

Questions?

Thank you to our sponsors!



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FOERSTER



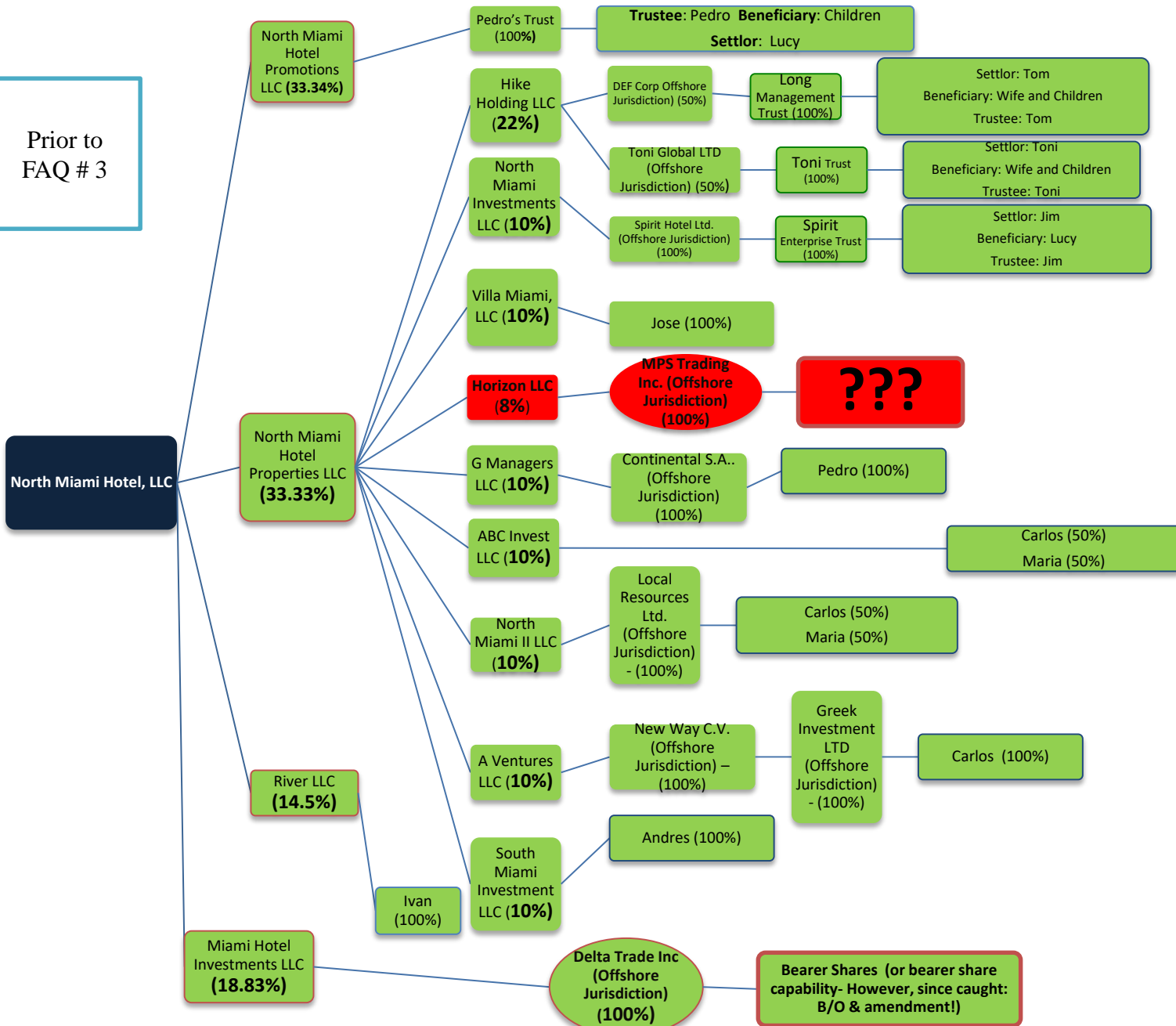


Complex Structure based on FAQs

Daniel Gutierrez

VP, Regulatory Risk Manager for Ocean Bank & Chair of FIBA's AML Committee

Prior to
FAQ # 3



As per
FAQ # 3

North Miami Hotel,
LLC



Any Questions?



TCW Global Artificial Intelligence Equity

ONE-ON-ONE STRATEGY PRESENTATION | THIRD QUARTER 2018

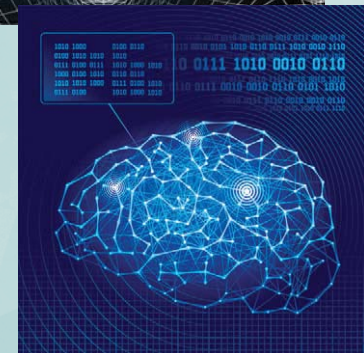
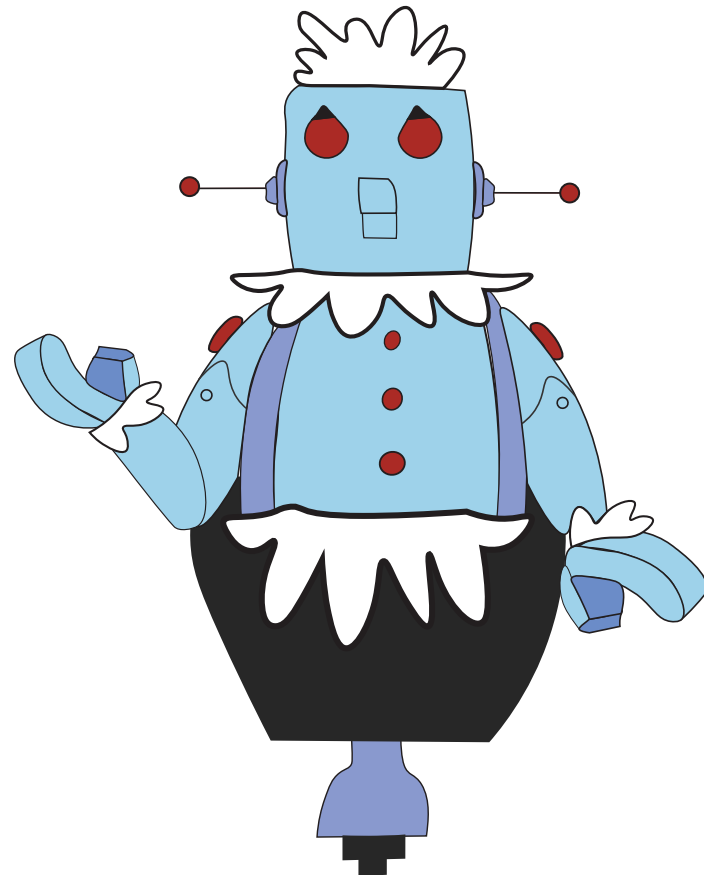


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- II. Timing is Everything
- III. Investment Process
- IV. Portfolio and Performance Overview
- V. TCW Overview



I. What We Are Seeing Today

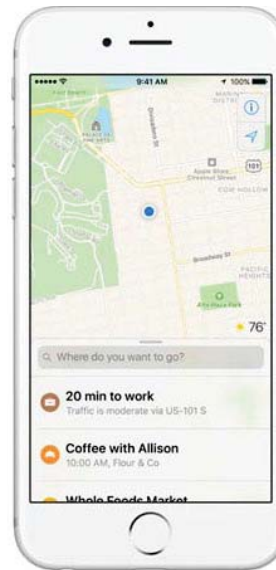
Maps & Navigation

Google Maps/Waze use AI to Suggest Faster Routes Given Vast Amounts of Data Fed From Users.

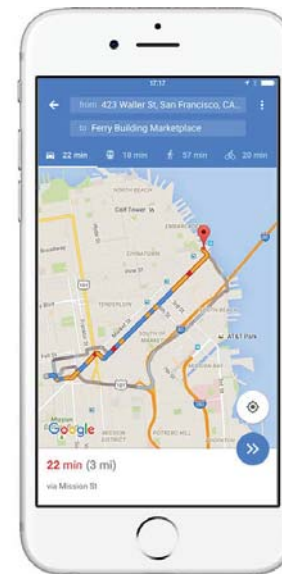
Based on Daily Habits, Maps Can:

- Predict a Driver's Work Commute
- Provide Expected Travel Times
- Provide Route Planning

Apple Maps



Google Maps



Waze Maps



Social Media

Facebook uses AI to personalize news feeds and deliver targeted ads.

Instagram uses Machine Learning to Identify Contextual Meaning of Emojis:

- Replacing “LOL” with an Emoji



What Facebook Knows

The social network gathers all sorts of data from its users, such as age, friends and interests, but it also collects information outside its website.

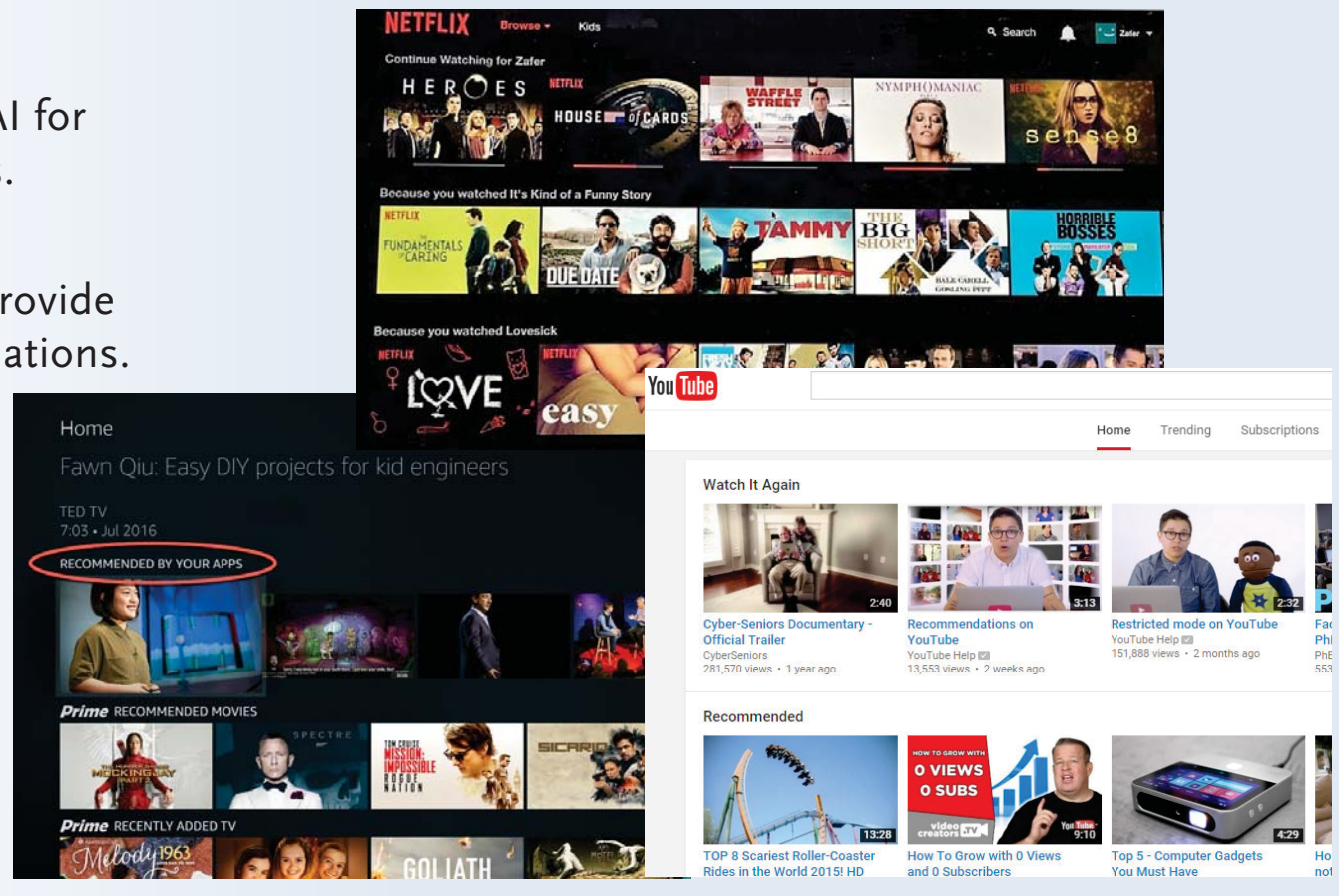


Source: Wall Street Journal and Google Images

Media Recommendations

Amazon and Netflix use AI for Media Recommendations.

Amazon Leverages Your E-Commerce History to Provide More Useful Recommendations.



Source: YouTube and Google Images; The opinions and statements expressed in the YouTube videos are solely the opinions and statements of the persons making them and do not represent the opinions of TCW.

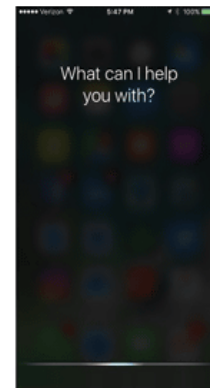
Personal Assistant Powered by AI to Accept Voice Commands



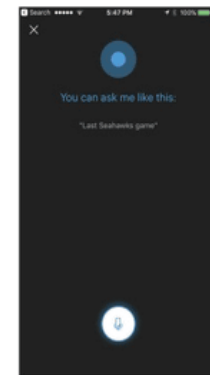
AMAZON ALEXA



GOOGLE HOME



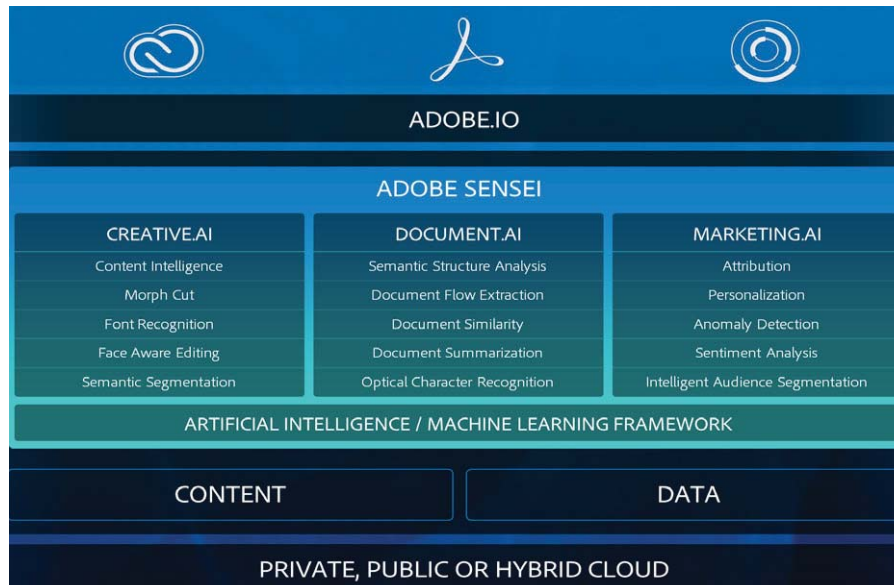
APPLE SIRI



MICROSOFT
CORTANA

Source: Google Images

Creative Editing



Adobe's Introductory Sensei Platform Looks to Combine Adobe's Knowledge of Working with Photos, Videos, Documents within an AI & Machine Learning Framework.

Source: Adobe

Healthcare

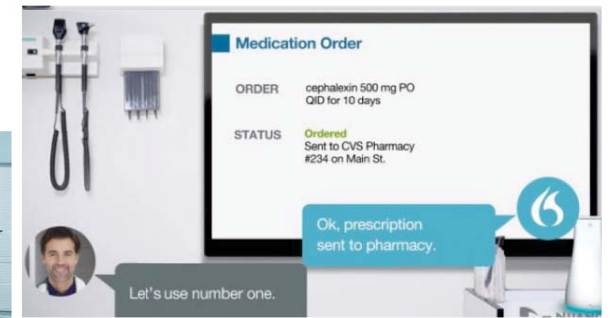
AI is being used by IBM's Watson, Microsoft's Healthcare NExT, and Celgene to:

- Improve Cancer Diagnosis
- Accelerate the Search for New Drugs Against Cancer

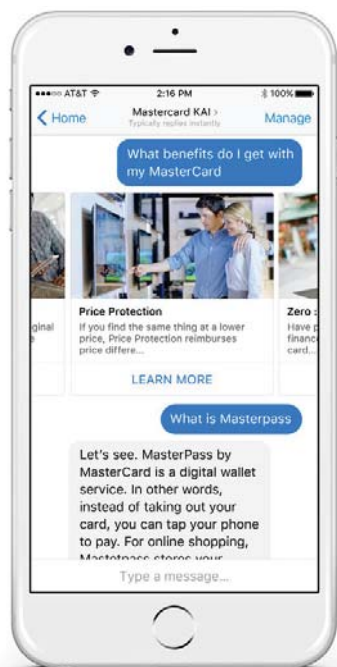
Intuitive Surgical is the Market Leader for Surgical Robots to get More Digitized.

AI is Being Adopted By Companies such as IDEXX in the Veterinarian Market.

Nuance has Unveiled an AI-Powered Virtual Assistant to Aid Medical Professionals.



Financial Services



Credit Card Companies use Machine Learning to Prevent Fraudulent Transactions.

FICO uses Neural Networks for Fraud Detection.

Goldman Sachs, Morgan Stanley, & JP Morgan are using AI for:

- Market Trend Prediction
- Virtual Advisors
- Algorithmic Trading

Source: Google Images, Kasisto

Autonomous Vehicles at the 2018 Consumer Electronics Show

Self-Driving Demo

Aptiv PLC & Lyft Inc. Offered Public Rides

- Fleet of 8 Autonomous Vehicles
- 20 Minute Automated Ride
- 20 Different Destinations Across the Las Vegas Strip
- Real-World Environment with Pedestrians, Aggressive Drivers & Rainy Weather Conditions



Insights

A third-party industry analyst who has experienced various demos noted that there were noticeable improvements in technology over the past year.

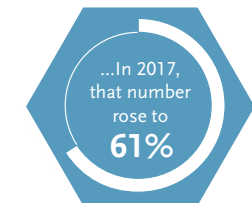
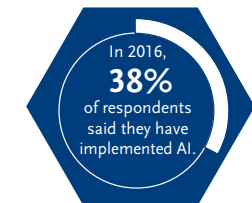
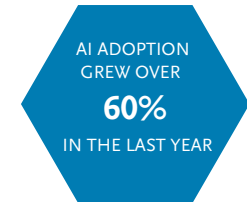
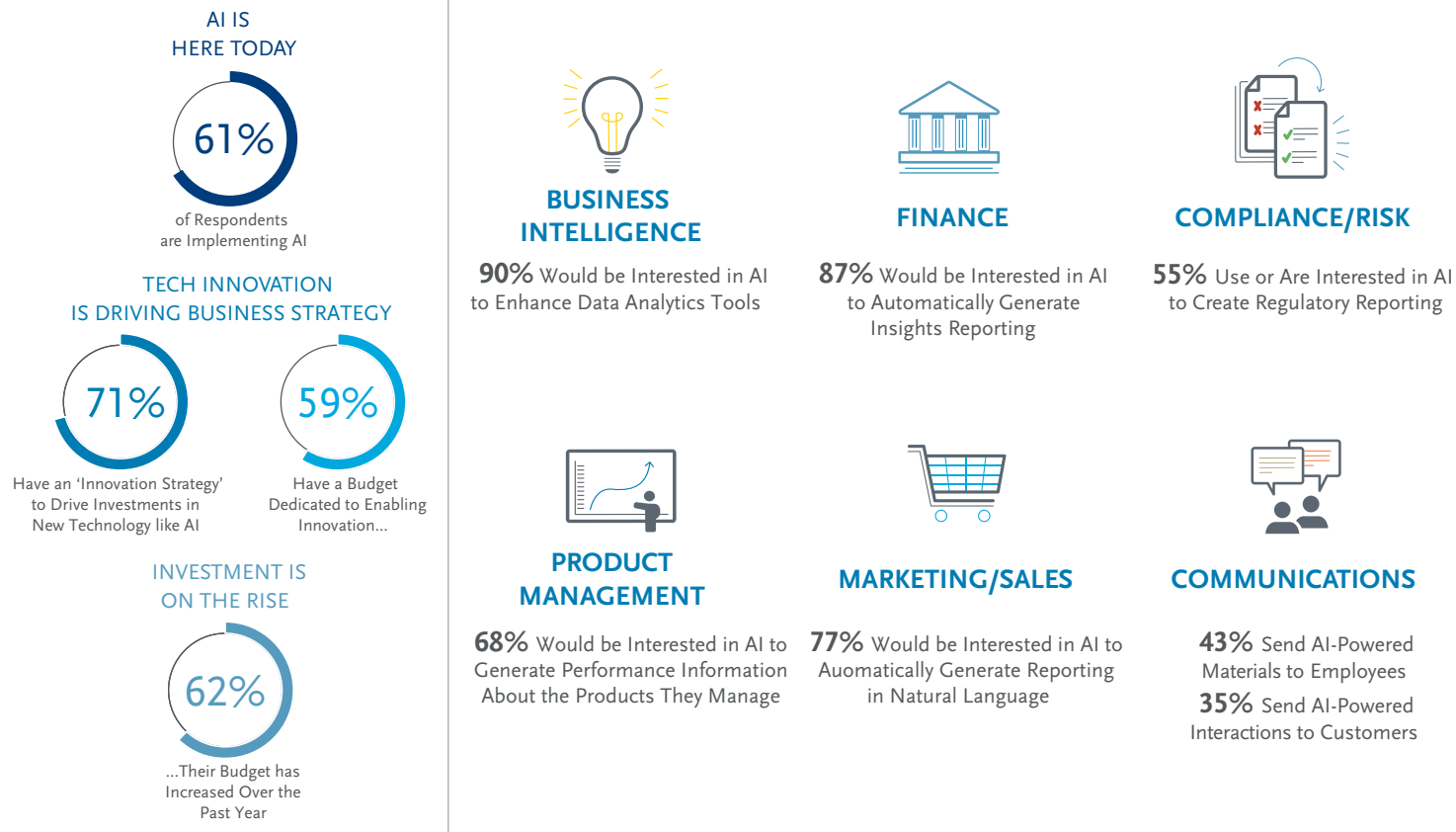
Highlighted Advancement

Single Defined-Route Demo in 2017, Compared to 20 Different Routes Demonstrated in 2018.

Aptiv expects to have a platform for self-driving rides available in 2019 & believes that production may be possible by 2020.



A Recent Study Shows the Growth & Breadth of AI Applications

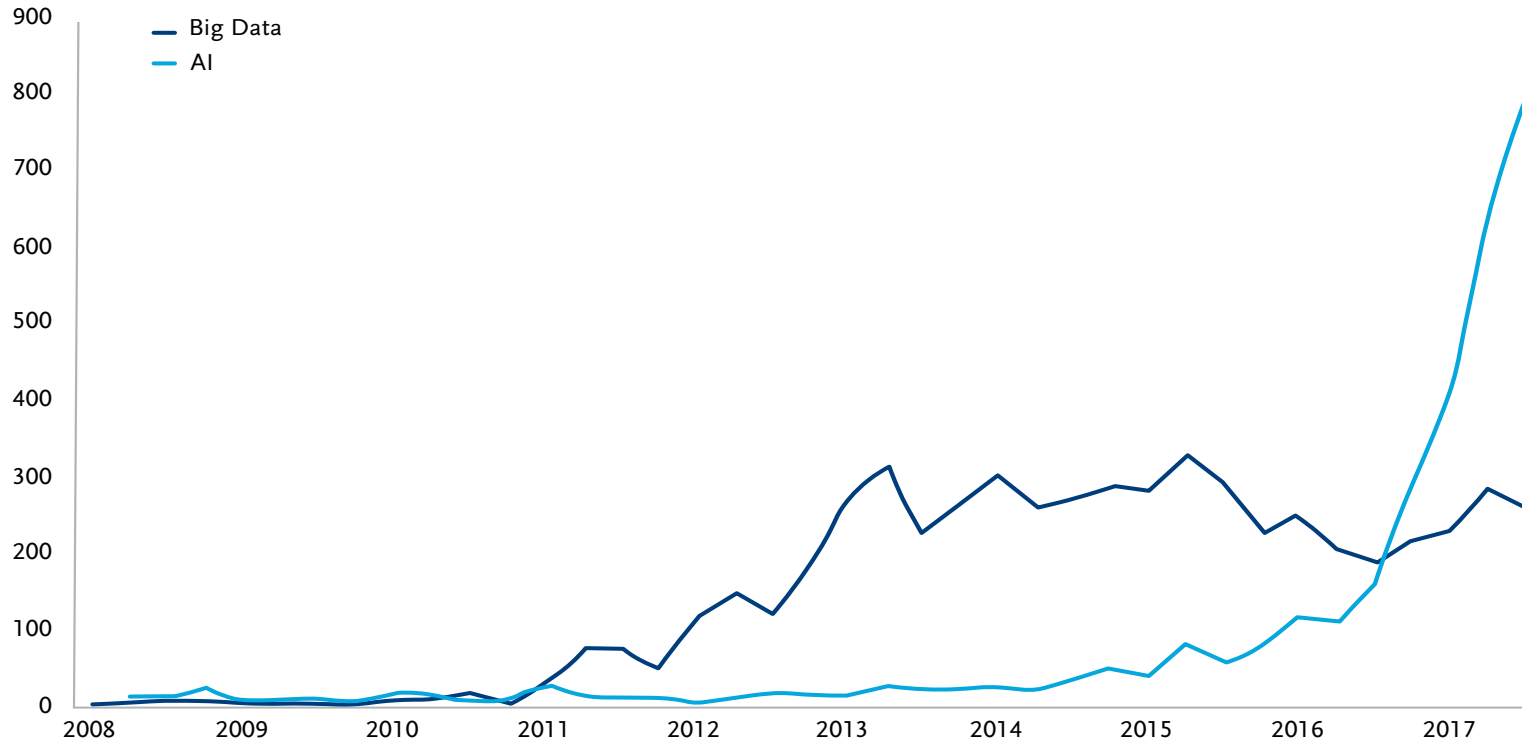


Source: Narrative Science

Why Now? Company Interest in AI is Exploding

Mentions of AI vs. Big Data in Earnings Calls

1Q08 – 3Q17*



*Represents date earnings call took place

Source: CB Insights

II. Timing is Everything

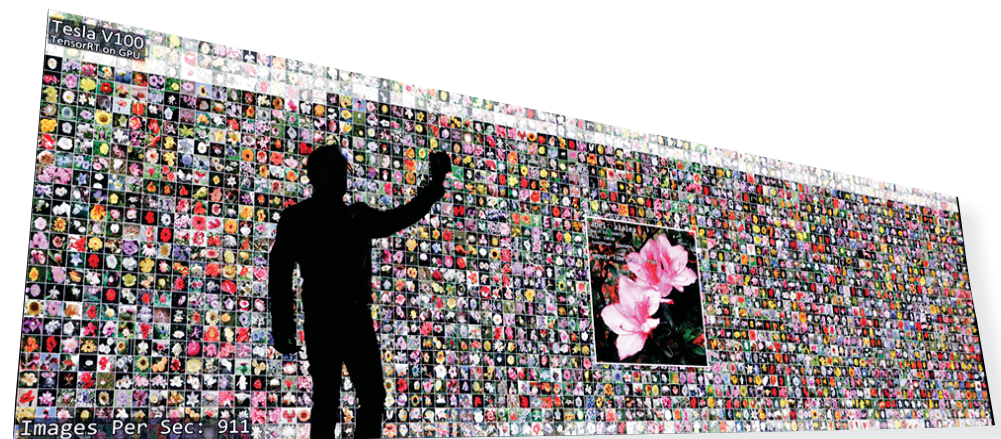
Why Now? The Processing Power is Here

Consumer Electronics Show

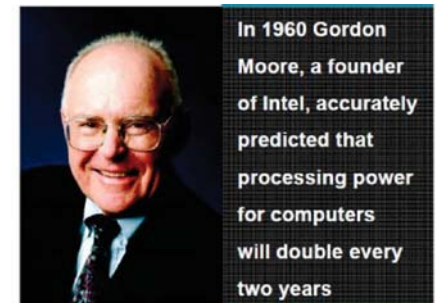
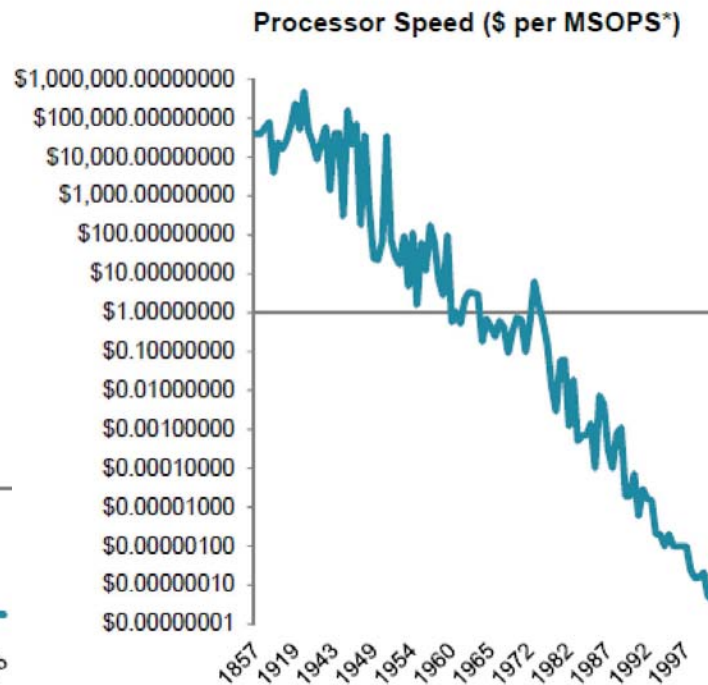
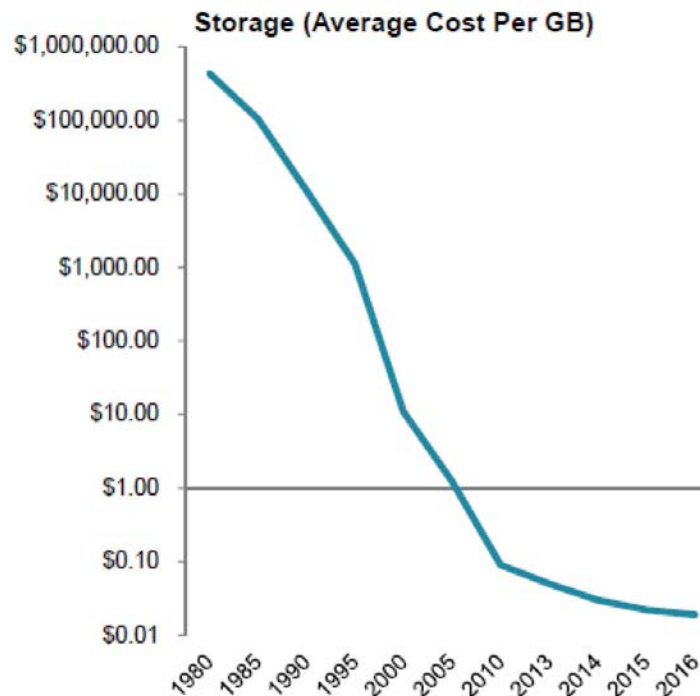
Key Note Speaker Jensen Huang, CEO of NVIDIA

Displayed the growing power of Artificial Intelligence

- Using the latest generation of CPUs, a deep learning network could accurately infer what flower is displayed at a rate of **5 images per second**.
- When using NVIDIA's V100 architecture, the deep learning system was then able to identify over **900 images per second**.
- This 180x improvement exhibits how the current development in processing power is unlocking the enormous potential of AI applications.



The Cost of Compute and Storage Has Collapsed



Moore's Law
Predicted Exponential
Gains in Compute
Power Over Time

Source: GP Presentation

*Million Standardized Operations Per Second

NVIDIA Corp. Creates GPUs for Machine Learning Data Centers, Gaming, & High-End Computing Hardware to Support Analytics & Predictive Software.

NVIDIA is a Preferred GPU Supplier to Companies at the Forefront in the AI space such as Google, Microsoft, Facebook, & Amazon.



Source: NVIDIA

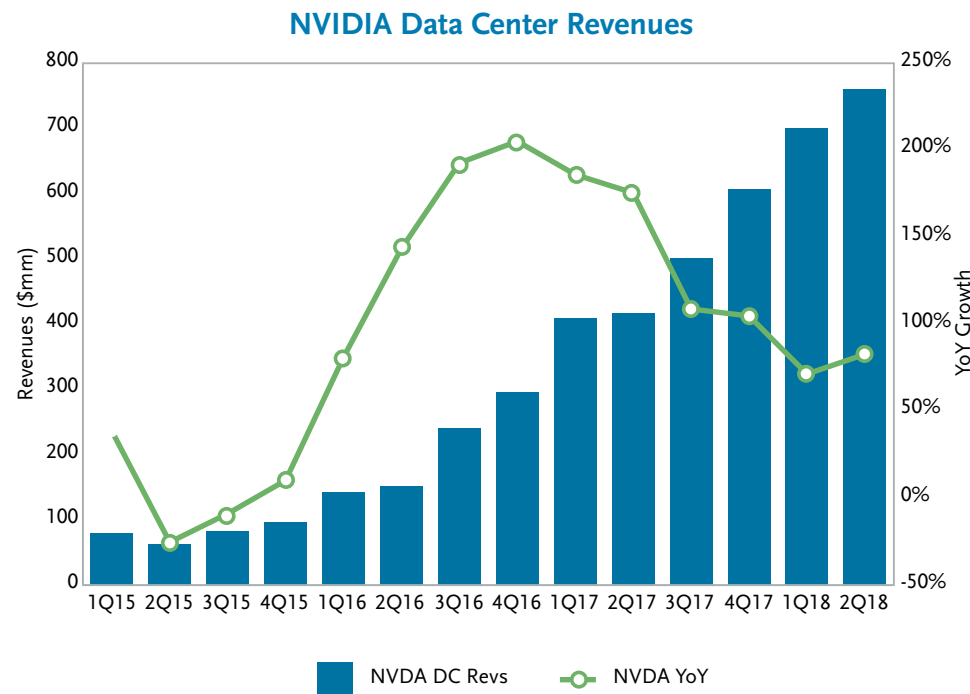
Why Now? – Leading Edge Companies Already Showing Results

NVIDIA Corp. is an Early-Stage Beneficiary of the Upcoming Boom in AI.

NVIDIA Exemplifies Growth within the Data Center Industry with AI Applications including:

- Machine Learning
- Natural Language Processing
- Predictive Analytics

All have Vast Amounts of Data that Need to be Moved, Processed, and Stored.



Source: Company Filings

AI is the Next Phase in Disruption Evolution

Innovations Seen When Each Generation was in Their 20s.
Each Generation is Also Characterized by Innovations that Differentiate that Generation from Prior Generations.

Baby Boomers 1970 – 1980s

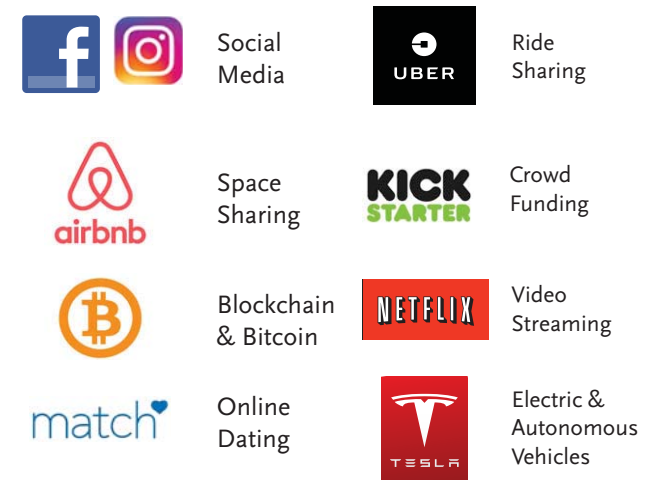


Disruptive & Misunderstood by Prior Generations

Gen X 1990s – 2000s



Millennials 2000s – Now



Growth of Social Media & Digital Businesses Differentiates the Millennial Experience. Notably, Artificial Intelligence is the Newest Innovation.

Source: FundStrat

BSA/AML/OFAC Compliance and FinTech Solutions: Blockchain

Anna Fridman

Co-Founder and General Counsel of Spring Labs

| Cryptocurrency vs. Blockchain



Cryptocurrencies

- Applications built using blockchain technology
- “Tools” utilized on blockchain networks; not the actual network
- Digital asset



Blockchain

- Underlying set of infrastructure & technologies
- Distributed ledger technology and smart contracts
- Blockchain applications include cryptocurrencies, enterprise applications, Internet of Things

| Nefarious uses made headlines



Drug Trafficking and Other Illicit Activity

- Anonymous sending and receiving of digital currency
- “Silk Road”



Fraud

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| Blockchain AML Opportunities

Exhibit 72: AML implementation procedures are highly manual
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Suspicious activity reports

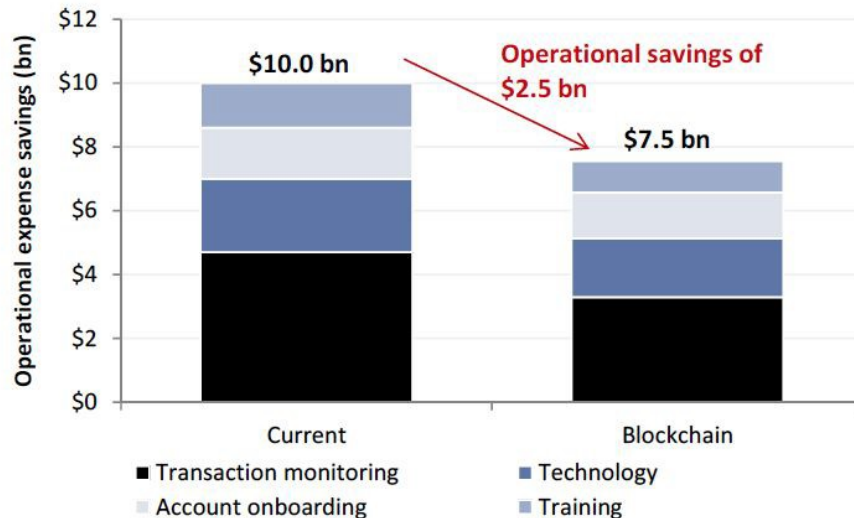
Currency transaction reporting

Case & alert management

Source: Goldman Sachs Global Investment Research.

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