

# Consumer TECHNOLOGY Strategic Industry Analysis

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### SILVERWOOD PARTNERS

#### A specialized boutique investment bank focused on transaction advisory across three core industries

- Sell Side M&A
- Buy Side M&A
- Strategic Alternatives Analysis
- Financial Advisor to Corporate Venture Investors

- Strategic Investments
- Growth Equity Private Placements (Series A, B, C)
- Financial Advisor to Family Offices
- Financial Advisor to Ultra-High Net Worth Individuals



#### **TECHNOLOGY**

- Mobile & Wireless
- Internet of Things (IoT)
- Big Data & Analytics
- Augmented & Virtual Reality
- Artificial Intelligence
- Media & Consumer Technology



#### **CONSUMER**

- Food and Beverage Products
  - LOHAS
  - Natural
  - Organic
  - Functional
- Active Lifestyle Products
  - Performance Apparel
  - Sports Equipment



#### **HEALTHCARE**

- HC Information Technology
- HC Information Services
- Technology Enabled Services
- Outsourced Medical Device Technology
- OTC/Consumer/Pharma



#### DEEP TECHNOLOGY EXPERTISE

















































































## DEEP TECHNOLOGY RELATIONSHIPS













































































## SILVERWOOD CONSUMER TECHNOLOGY INDUSTRY MODEL



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**Silverwood Partners Overview** 

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**Consumer Technology Overview** 

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**Learn More About Silverwood** 

# TOP CONSUMER ELECTRONIC TECHNOLOGY TRENDS

- **Software & Technology Consuming Economy Further Growth**
- **Artificial Intelligence** Billion Dollar Markets Like Food & Agriculture Technology are Necessary for Facilitating the Convergence of Everything
- Media Companies Adding New Technology Capabilities Media Companies Transitioning to Direct-To-Consumer
  - Are VDAs poised for broad mainstream adoption?
- **Technology Companies Adding Media Capabilities** Tech becoming media companies – original content initiatives

**Autonomous Systems** Connected Cars, Robots, and Beyond

IoT – The Physical and Digital Worlds Converge The On-Demand Economy Will Transform Labor, Leisure and Lifestyle **Smarter Homes and Cities** A Networked Society Enabling Everything As A Service

Virtual Digital Assistants (VDA)

- **Immersive Experiences** Augmented and Virtual Reality Systems Designed for Complete Immersion
- Is Blockchain the Real Value of Bitcoin? Cryptocurrencies & Digital Tokens - Just Hype, or the Real Deal?

### SOFTWARE & TECH CONSUMING THE ECONOMY

#### Software pumping \$1 Trillion and more into the economy each year – but what is next?

- Major software providers (especially the "Big 5") are going on acquisition sprees and building their own "megaplatforms", with each racing to become the fist on-stop-shop for consumers' software needs
- "Exponential" technologies including robotics, virtual and augmented reality (VR) (AR), 3-D printing, and artificial intelligence (AI) have been seeing heavy interest and funding
- Big Data is developing highly advanced capabilities through the embedding of various cognitive technologies such as machine learning, natural language processing, and speech and pattern recognition in software applications
- Blockchain, the foundation for the digital currency bitcoin, will severely impact the ways in which companies manage online transaction data
- Organizations' struggle to extract value from the huge volumes of data they are now collective is expected to drive greater investment in software
- IoT, "Anything as a service" offerings (ones which allow usage-based consumption), and cybersecurity will likely continue to experience massive growth
- In the wake of appification and IoT, agriculture and food technology are quickly becoming areas of interest for innovators seeking the next billion-dollar opportunity as these historically stagnant markets are ripe for disruption













#### <u>Uber's Highly Focused, Integrated Platform</u>

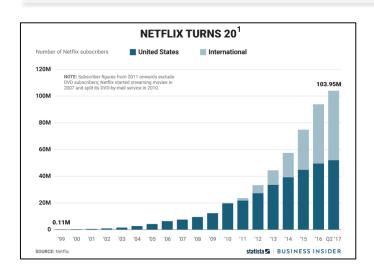


Sources: Forbes, Deloitte

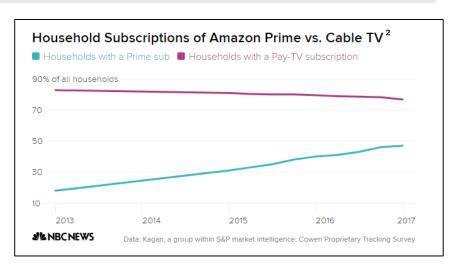
### Media Companies Transitioning to Direct-to-Consumer

#### Content providers rapidly transitioning to direct-to-consumer distribution, bypassing traditional distribution channels

- Media landscape is increasingly defined by direct relationships between content creators and consumers
- Traditional TV networks are facing unprecedented competition from OTT video providers such as Netflix and Amazon
- Multiple walled ecosystems being developed with highly sophisticated, proprietary ad targeting based on deep, technology-based understanding of customers (Amazon, Apple, Facebook, Google, Netflix) – no interest in or need for industry standards or point solution technology providers
- New media ecosystem providers indifferent as to where, how media consumed maintain customer relationship through constant customer presence and not just a transactional or event-based media consumption experience
- Consumer-direct allows for complete control by the producer/developer audience relationship, plus control of prices, margins, release dates, marketing message, in addition to actual content











## Leading New Media Platforms – Original Content Initiatives



Facebook launched live video in 2016. Since the launch, people have created more than 670,000 live streams which have generated over 8.5 billion views, up from 246,000 live streams with over 5.7 billion views at the beginning of March¹. In 2017, Facebook announced Live 360 videos to allow 360 degree live video recording – Facebook is also releasing a standalone app for televisions that will let users watch videos from friends, "liked" pages, and top live videos. In Q3 2017, Facebook announced plans to invest \$1 billion in original content in 2018⁵.



Amazon Prime Video expands to 200 new countries and territories with the potential to reach 100M subscribers by 2018<sup>5</sup>. Amazon is looking to bring Twitch to the core of its business as Amazon Prime subscribers have access to Twitch. People watching games on Twitch can now purchase games directly. Amazon has also struck a \$50 Million deal with the NFL to stream 10 Thursday Night Football games<sup>3</sup>. Amazon Prime is on pace to spend \$4.5 billion on video content over the course of 2017<sup>5</sup>.



Periscope reports 110 years worth of video is watched every day on company's platform, up from 41 years in August 2015<sup>4</sup> Twitter plans to launch a new feature called Project Lightning, which offers a feed of photos, videos and tweets tied to specific live events. Twitter has partnered with Brandlive, Livestream, and Telescope in 2017 to allow an open live video platform.



In Q1 2017, Google announced YouTube TV, which allows subscribers to watch live feeds online from top television networks and is set to launch 2H 2017. YouTube is now enabling live video recording from its mobile app to users with at least 10,000 subscribers and hopes to expand its reach in the future. In Q1 2017, YouTube also announced Super Chat, a paid comment live stream viewers can purchase and send as a donation to creators in exchange for having comments highlighted or pinned.



Snapchat released Live Stories in 2014, which is an amalgamation of snaps, submitted by users and assembled by Snapchat. Live stories is a camera version of live-tweeting that holds storytelling potential. Live stories draw 10-20 million millennials each day. Snapchat and the NFL made a deal in 2015 - other sports partnerships include MLB, NCAA, NBA and PGA.



In Q3 2017, Apple confirmed a budget of \$1 billion to spend on creating its own programming in 2018<sup>5</sup>. Earlier in 2017, Apple debuted original content including Carpool Karaoke and Planet of the Apps on the Apple Music platform. Apple could add as many as 10 more TV shows to its offering in 2018.



In Q3 2017, Verizon completed its acquisition of Yahoo. Verizon combined Yahoo's assets with AOL to create Oath, a subsidiary with more than 50 media and technology brands – including Huffington Post, AOL.com and Yahoo Sports<sup>2</sup>. Verizon is looking to build powerful brands through the integration of strong technology, differentiated content, and trusted data.



In Q2 2017, Baidu began to aim more spending toward content for its video streaming and news aggregation services. In Q2, Baidu's iQiyi agreed to a deal with Netflix to gain licensed content – alongside existing partnerships with BBC, Discovery Channel, and Universal Music<sup>3</sup>. In Q1, iQiyi announced it doubled its paid subscribers to 10 million<sup>3</sup>. Baidu also has its own in-house production company called iQiyi Pictures and another subsidiary called Baifa Youxi, which lets small investors back movie productions.



In Q3 2017, Tencent announced plans to invest \$300 million into original content on its live streaming platform QQ<sup>6</sup>. Tencent is ramping up its efforts to connect social networking with live streaming to attract more users. Tencent plans to offer core resources through its WeChat and QQ Social networking platforms to encourage original content production.



1. Tubular Labs 2. WSJ 3. Business Insider 4. Tubefilter 5. TechCrunch 6. China Daily

## Media Companies Adding New Technology Capabilities

8/8/2017 Disney announced an acquisition of majority ownership of BAMTech



8/8/2017 Disney announced it would end distribution agreement with Netflix





7/11/2017 Disney Accelerator invested in Samba TV, an analytics platform for viewership data. Disney accelerator also invested in VR technology companies The Void and Epic Games



12/20/2016 Viacom announced investment in Chili on-demand video services

#### Roku

11/15/2016 Viacom announced \$45.5 M investment in Roku streaming technology



4/17/2017 Liberty announced Series A investment in Fresco News, a social media platform for uploading news events



#### WATCHWITH°

1/3/2017 Comcast acquires Watchwith, a video metadata platform



Comcast developed X1. a multi-screen cloud-based entertainment platform

(comcast



9/27/2016 Comcast agreed to buy shares of Harmonic in warrant agreement



1/1/2016 Sinclair announced investment in Sorenson Media, a provider of an addressable TV advertising platform



2/27/2017 Discovery announced investment in Play Sports group, a digital sports media platform



5/15/2017 Discovery announced investment in WinView, a mobile gaming platform synchronized with TV Sports



















7/7/2015 Bertelsmann announced \$100 M investment in Saavn, an online music streaming platform



10/22/2014 Fox announced \$25 M investment in Roku streaming technology



9/28/2012 Fox announced investment in Active8me, a mobile wallet for online TV channels



Liberty invested in Realtime Immersion, a developer of 360degree video camera



8/26/2015 BBC announced investment in hybrid streaming platform YouView TV



1/5/2016 Fox announced investment in AR glasses maker ODG



# TECH COMPANIES ADDING MEDIA CAPABILITIES, \$20+ BILLION INVESTED



f)flyby

In Q1 2016, Apple acquired Flyby Media, an AR/VR startup

6/19/2014 Twitter acquired Snappy TV, a service for clipping, editing and sharing clips from live broadcasts



3/9/2015 Twitter acquired Periscope, a live streaming app, for \$86 million1

Amazon is on pace to spend \$4.5 Billion on video in 2017<sup>2</sup>





Apple plans to spend \$1 Billion on original shows in 20181

8/11/2016 Microsoft acquired Beam, an interactive game streaming service.

Microsoft changed the company's

\$1.0B

Netflix

**Original Series** 



\$4.5B

In 2014, Amazon acquired live streaming video platform Twitch



YouTube spends an estimated \$5 billion on content each year3



7/7/2016 Google acquired Anvato, a media streaming and monetization



mixer

name to Mixer

9/5/2017 Facebook announced new Watch Video platform available to all U.S. users



Facebook plans to spend \$1 Billion on original shows in 20181

\$1.0B





Google

amazon

verizon<sup>v</sup>

\$4.48B

\$5.0B

platform





Netflix is on pace to spend \$6 Billion on video in 2017<sup>2</sup>

\$6.0B



TimeWarner and Snap announced a \$100M deal to bring increased ad spending and development of original content for Snapchat







6/13/2017 Verizon announced its \$4.48 B acquisition of Yahoo's operating business and formed "Oath"1





### Physical and Digital Worlds Converge at the Internet of Things

#### Building a Fully Integrated Internet of Things Ecosystem Using the Smartphone as a Foundation

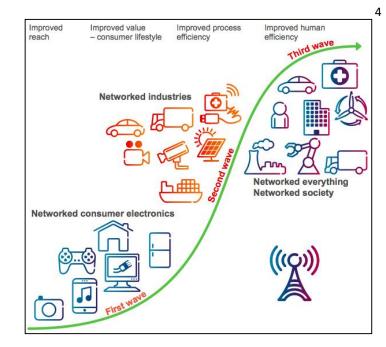
- Extraordinary success and scale of the smartphone which connected billions of people to the Internet over the past ~10 years has driven extreme reductions in the cost of hardware, sensors, processing power, wireless bandwidth and wireless connectivity
- Removal of such barriers has laid foundation for rapid growth of the Internet of Things (IoT) a third wave of Internet development and proliferation that will result in tens of billions of additional "things" being connected during the next 5-10 years
- Developing value-added IoT use cases is imperative to increasing mainstream awareness and acceptance, as well as to fueling continued investment in IoT technology enablers, including platforms and platform-enabled solutions
- As of November 30<sup>th</sup> 2016, US venture investors had poured \$1.3B into IoT-related companies<sup>1</sup> over 60% of projected IoT investment in IoT through 2020 is expected to relate to hardware and application development<sup>2</sup>



# IOT NETWORKING EFFECT – GREATER VALUE THAN THE SUM OF ITS PARTS

#### The World Is Currently Only Scratching the Surface of IoT's Potential

- An increasing diversity of companies are leveraging the smartphone supply chain and creating new connected devices and experiences that combine the physical and digital worlds and capture new data sets
- The transformational potential of IoT lies in the ability to capture, transmit, manage, analyze and act upon diverse and disparate data sets in real-time from anywhere
- However, it is estimated that less than one percent of the IoT data currently being created by connected devices is actually being used<sup>1</sup>
- This opportunity continues to attract widespread interest and investment across the IoT value chain including more than \$7 billion in financing since 2010<sup>2</sup> even through the overall landscape remains highly fragmented
- Continued development of IoT's central infrastructure, D2X communication and data analytics capabilities will meaningfully improve the utility of IoT data
- Improvements in IoT interoperability and security are critical to manage increasing network complexities and unlock the full network effect of billions of connected devices
- Compelling long-term economic and societal rationale exists to drive IoT penetration from new consumer experiences and insights to new markets and economic models
- Further development of IoT's central infrastructure and device to device communication ability will improve meaningful use of IoT data
- Ultimately, a mature, fully integrated and networked global IoT ecosystem will mesh and manage billions of physical, digital and virtual things and impact all aspects of our lives





1. CB Insights 2. McKinsey & Company 3. Cisco 4. Ericsson



### IOT AND EMERGING TECH: WHAT IS HAPPENING?

Data, Processes Information, Assets, Static, Sedentary

Portable, Mobile, Integrated

Manual, Legacy, Antiquated



Automated, Intelligent, Adaptive

Data Collection, Cloud Storage



Data Analytics at the Edge Real-time

Informational, Reactive, Mute



Predictive, Proactive, Cognitive

Labor Intense, People Driven, Human Intelligence, Bespoke, Data Collection



Additive, Robotic, AI, Data Science/Mining Mass Customization

Source: Compass Intelligence

Connected, IoT, Industry 4.0, Open



## CONSUMER INDUSTRIES ADVANCING IN IOT AND AUTOMATION



### **Smart Home**

Lighting
Home
Entertainment
Appliances
HVAC
Security
Surveillance

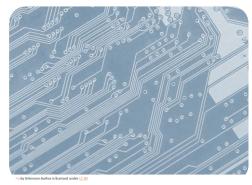
Energy

Management



# **Vehicles**

Safety
Repair
In Car Entertainment
Broadband
Traffic & Routing
Gaming
Fuel Management



# **Electronics**

Smart Consumer
Electronics
Wearables
Entertainment &
Content
Media
Information Sharing



Customer Service

Billing
Installation & Repair
Self-Services
Alerting & Notification
Client Portal Services



#### AUGMENTED AND VIRTUAL REALITY - EMERGING DISTRIBUTION PLATFORMS

#### AR and VR Are Evolving from Vertical Use Cases to Broad-Based Computing, Consumption and Distribution Platforms

- Immersive, real-time multi-platform technologies and experience enablers continue to generate substantial investment interest from leading media and technology companies
- Augmented Reality is an increasingly common theme at industry events its straightforward, productivity value proposition is driving interest and adoption across enterprise, healthcare, industrial and security markets, while multiple consumer offerings are poised to reach the market in 2018<sup>1</sup>
- Virtual reality should see improved traction in 2018 as today's leading platforms and commercial solutions address shortcomings (cost, hardware, etc.), new mobile ecosystem players enter the space and the supply of differentiated, consumer-facing content and experiences begins to increase (e.g. spatial audio)<sup>1</sup>
- Expect entertainment and media systems to increasingly transition to AR/VR platforms as higher quality headsets and capture systems reach the market

#### Notable Recent Augmented & Virtual Reality Transactions<sup>3</sup>









































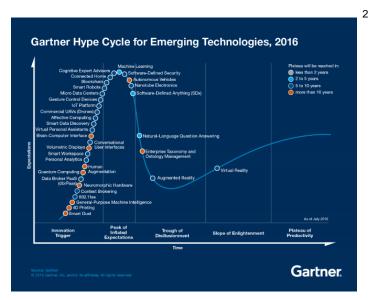












1. RFM Research 2. Gartner 3. Ptichbook

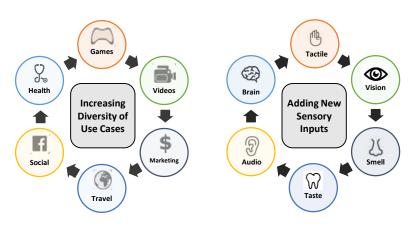


# VIRTUAL REALITY - BUILDING IMMERSIVE, MULTIMEDIA EXPERIENCES

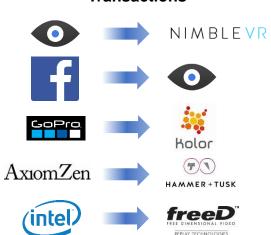
#### Virtual Reality Market Still Approaching Mass Market Inflection Point

- Total Augmented and Virtual Reality VC investments reached 76 deals totaling \$1.3 billion during the first half of 2016, versus \$700 million total invested during 2015. Investments are moving beyond hardware and peripherals into advertising, apps, distribution, games, marketing, video and solutions/services<sup>1</sup>
- Virtual reality could see improved traction in 2017 as today's leading platforms and commercial solutions such as Oculus (Facebook), HTC, Sony and Samsung – address 2016 shortcomings (cost, hardware, etc.), new mobile ecosystem players enter the space and the limited supply of consumer-facing content increases<sup>2</sup>
- Immersive, realistic multi-platform technologies and experience enablers (e.g. 360°video) continue to generate strong investment interest from leading media and technology companies given their ability to quickly integrate, innovate and scale

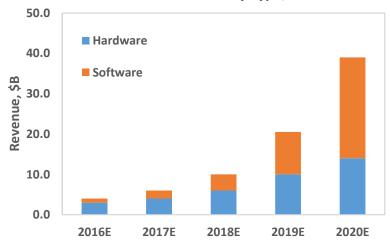
#### VR: Diverse Anticipated Use Cases; Many Inputs<sup>3</sup>



#### **Select Virtual Reality M&A Transactions**



#### Worldwide VR Revenue by Type, 2016-2020E







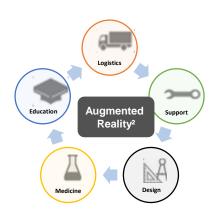
### AUGMENTED REALITY - NEW INTERFACES AND NEW REALITIES

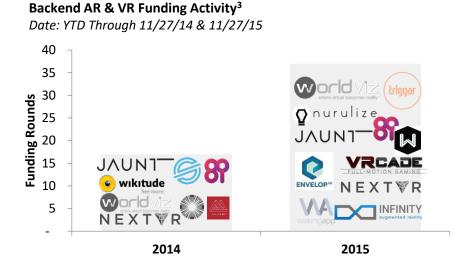
#### Increasing Diversity of Market-Making Platforms Pushing AR Content into New Markets

- Technological advancements still appear necessary to maximize consumer usage wearables, prosthetics, visualization technology
- Longer-term augmented reality has the potential to generate revenue across a very broad base of industries and applications
- Augmented reality poised to accelerate in 2017 after major acquisitions and platform investments from technology giants total market for augmented reality projected to reach \$150 billion by 2020<sup>1</sup>
- Mobile use will play a huge role in furthering the augmented reality market, as smartphones and applications increasingly are becoming the technological control hub for consumers worldwide. The mobile application market alone for augmented and virtual reality is expected to grow at a CAGR exceeding 74% between 2016-2020<sup>2</sup>

#### **Select Augmented Reality M&A Transactions**









### ARTIFICIAL INTELLIGENCE – FROM MEDIA COMPANY TO DATA COMPANY

#### More Data → More Information → More Intelligence → More Money

- Artificial Intelligence (AI) has moved beyond brute force compute power and is now at a key inflection point in 2017 – AI is likely to be among the most significant investment and M&A themes across the broader technology sector with the broadcast and media industries well represented
- All is the fastest growing workload in the data center according to Intel, growing at ~2X the overall computing market by 2020 Intel expects more servers running data analytics than any other workload
- Distributors are integrating AI voice and gesture control features to improve content search, discovery and the overall user experience - programmers are actively working with personal digital assistants as content owners embrace AI to better connect, measure and analyze user patterns in order to maximize consumer content engagement<sup>1</sup>
- In the broadcast and media technology sectors AI is likely to become a significant long-term differentiator by enabling hyper-tailoring of contextual content and advertising to every consumer
- A 2016 GE report suggests ~75% of companies struggle to optimize the use of big data due to its variety, velocity and volume – successful broadcast and media companies will reposition as data-first companies
- Big IT and other large technology vendors and particularly the established search engines generating
  the most data currently best positioned to collect, analyze and act upon the massive amounts of
  information increasingly generated in the data center
- Al investment is increasingly global in scope the Chinese government has recently pledged to invest ~\$15 billion in domestic Al initiatives by 2018<sup>2</sup>
- There are still many limitations to AI systems, perhaps the most significant of which is AI's reinforcement of stereotypes and biases. Because intelligent systems must "learn" from historical data, much work remains to be done in teaching AI to correct stereotypes before AI can be safe for mainstream adoption

#### **Selected Al Media + Data Initiatives**



IBM Watson's computer vision algorithms were employed at this years' Masters tournament to identify and extract contextual content from the tournament's live video streams.

IBM says its Cognitive Highlights application is the first time a system is using cognitive computing methods to rank sports highlights



A Google demonstration website allows video annotation - the API identifies key objects within the video, detects scene changes and provides shot labels of video events over time.

Google also announced plans to use machine learning to better identify objectionable content in videos and help advertisers manage where their ads appear



Al is driving the growth of a variety of emerging Amazon service initiatives, including Prime Air's delivery via autonomous drones, Go – a grocery experience where consumers can just walk in and walk out, and Alexa, the already well-known personal digital assistant.

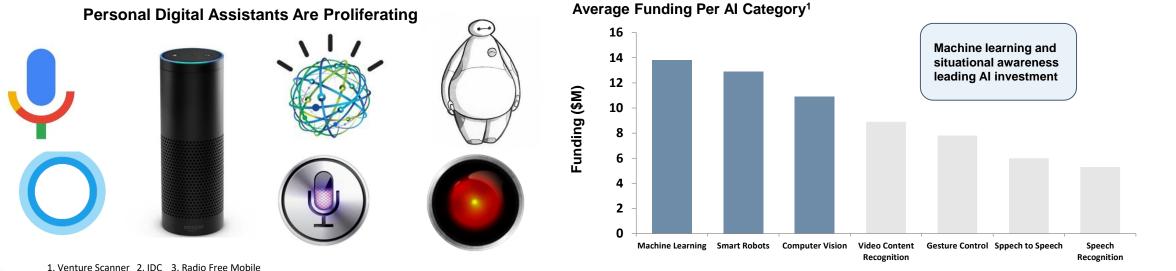
1. CableFax 2. MIT Technology Review



### ARTIFICIAL INTELLIGENCE - INVESTING FOR ECOSYSTEM DIFFERENTIATION

#### Consumer Electronics Will Become Adaptive, Living Systems and Social Machines

- Al has reached a key inflection point having moving beyond brute force compute power and heuristics to reinforced learning and eventually could be integrated into all a variety of consumer devices and industrial machines
- Consumers are becoming familiar with AI via the proliferation of Personal Digital Assistants on mobile devices and in smart homes
- Global AI market revenue is forecast to increase from \$8.0 billion in 2016 to more than \$47 billion in 2020. Almost 50% of AI market revenue will come from software including applications and platforms<sup>2</sup>
- There are several major AI opportunities for companies to solve: 1) to improve AI training while using less data, 2) to create an AI which can take learnings from one task and apply them to others and 3) to creation an AI capable of building models independent of human inputs <sup>3</sup>

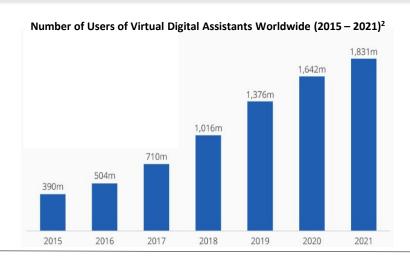


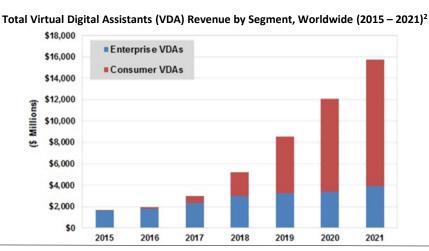
# VIRTUAL DIGITAL ASSISTANTS (VDA)

# Advancements in Al capabilities (NLP, search) and an increasing number of integrations will drive consumer uptake of digital assistants

- The global market for virtual digital assistants is expected to grow to \$15 billion and 1.8 billion active users by 2021, with consumer-specific VDA revenues growing at a CAGR of 195.7%<sup>2</sup>. Virtual digital assistants reached 4 billion devices in 2017<sup>1</sup>
- Digital assistants are poised to bring value to consumer and enterprises through many applications; by interpreting voice commands, fulfilling user requests, and executing tasks, VDAs can, for example, book transportation, set appointments, or text or call individuals for consumers, and VDAs can automate processes like customer support for enterprises, among other applications
- As natural language processing (NLP) and search algorithms improve, digital assistants will be able to provide users services and more relevant results faster
- Like what the App Store did for the iPhone, opening digital assistant platforms to third-party developers will catalyze product integrations and novel use cases
  - Among its competitors, Amazon's Alexa currently has the highest number of integrations (>10,000)
- Privacy remains a large concern for many users, as digital assistants have access to increasing amounts of data in order to realize efficiencies for users







## VIRTUAL DIGITAL ASSISTANTS— INVESTING IN AI





02/15/2017 Raven Tech acquired by Baidu

09/19/2016 API.ai (Dialogflow) acquired by Google

01/05/2015 Wit.ai acquired by Facebook



07/31/2017 Ozlo acquired by Facebook

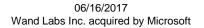


Ozlo





CVAN





05/13/2017 Lattice Data acquired by Apple



10/04/2017 Init.ai acqui-hired by Apple

08/22/2016 Genee acquired by Microsoft



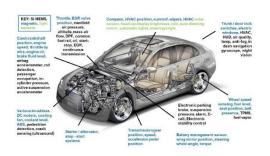
#### CONNECTED CARS & AUTONOMOUS VEHICLES

#### **Connected Cars Today, Autonomous Transportation Tomorrow**

- A growing number and diversity of technology companies are entering the market for connected and autonomous vehicles – from mobile ecosystems to smart homes to dedicated start-ups
- The market for autonomous vehicles is expected to accelerate over the next couple of decades by 2035, BCG expects more than 12 million fully autonomous vehicles to be sold globally
- On December 13, 2016, Google announced it would be spinning off its autonomous car project into a separate standalone business called "Waymo," which stands for "a new way forward in mobility"
- Several trends are driving the market 1) an increasingly software-defined experience in maximizing efficient transport from point A to point B, 2) vehicles can increasingly be equipped with a variety of sensors and connectivity for data capture, V2X exchange and analytics, 3) annual global production of cars and light trucks is peaking in the high 80MM/year range<sup>1</sup>
- Research forecasts a global installed base of 220 million connected cars in operation by 2020<sup>2</sup> however, regulatory (government, insurance, etc.) and infrastructure hurdles will likely limit truly autonomous vehicles from widespread use before the 2020-2025 time frame
- Several critical technological enablers are likely to require significant additional investment to sufficiently advance most autonomous vehicle platforms for widespread adoption<sup>3</sup>:
  - 1) Improved high-definition maps/mapping for greater accuracy and V2X services integration
  - 2) Next-generation V2X positioning and sensing systems that can "read" those maps
  - 3) An artificial intelligence "engine" to operate the mature platform
- The potential savings to be realized is vast a recent Texas Transportation Institute report suggests the typical U.S. urban commuter spends 42 hours/year stuck in traffic jams, while national highway congestion costs \$160 billion per year in lost productivity and inefficient use of resources



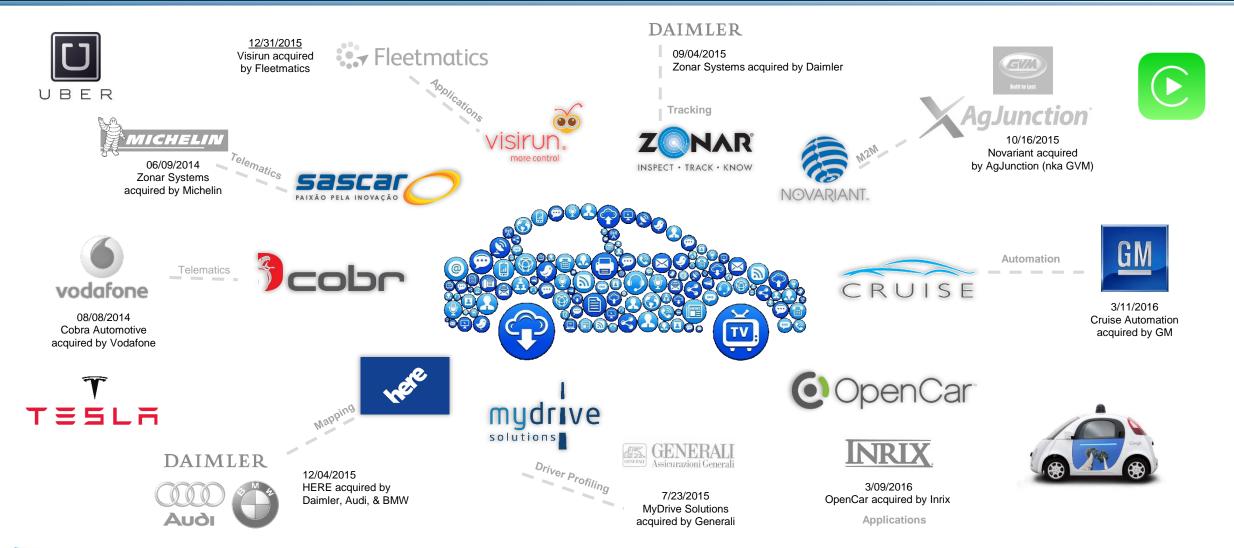
#### Dozens of Sensors Producing More Valuable "Traffic"



1. IHS Automotive 2. Business Insider 3. RFM Research



### CONNECTED VEHICLES – A RACE TO BUILD THE PLATFORM

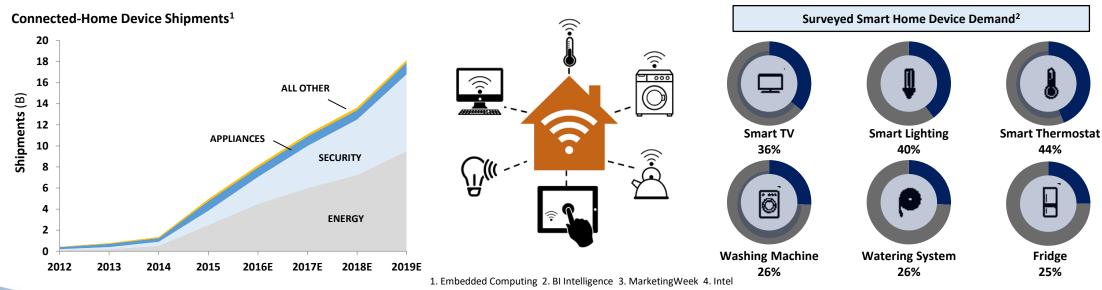




# SMART HOME - EXPECT SERVICES INNOVATION TO DRIVE ADOPTION

#### Consumer Acceptance of Innovative, New Smart Home Services Key To Long-Term Growth

- Smart homes will deliver a diverse range of innovative services across networks of smart, connected everyday things this is prompting some companies to shift their sector focus from devices to solutions the smart home as a service (SHaaS)<sup>1</sup>
- Smart home service providers are expected to increasingly partner or collaborate across vertical sectors to deliver the most compelling services and solutions as value creation is increasingly determined by the ecosystem/services provided rather than the connected devices
- Surveys suggest more than 2/3rds of consumers believe smart home technology will be as prevalent as smartphones by 2025<sup>3</sup>
- Growth in home entertainment centers, home security, appliance control, and healthcare services expected to be key growth sub-sectors
- Shipments of smart home devices expected to grow by a compound annual rate of 67% over the next five years<sup>1</sup> growth expected to be driven by increased comfort with everyday device connectivity, ease of use and demonstrable consumer ROI



# SMART HOME – A DIVERSITY OF PLATFORMS AND ECOSYSTEMS















#### **Product Suite:**

- Alarms/Sensors
- Heating & Cooling
- Video Monitoring
- · Lights & Switches





#### **Product Suite:**

- Alarms/Sensors
- Heating & Cooling
- Video Monitoring
- Lights & Switches
- Wireless





#### **Product Suite:**

- Alarms/Sensors
- Energy Management
- Video Monitoring
- · Lights & Switches
- Locks



#### **Product Suite:**

- Alarms/Sensors
- Energy Management
- · Video Monitoring
- Lights & Switches
- Locks
- · Control Consoles
- Entertaniment



#### **Product Suite:**

- Alarms/Sensors
- Energy Management
- Video Monitoring
- · Lights & Switches
- Locks
- Control Consoles



#### NEXT STEP: SMART CITIES

Fostering of Innovation, Startups, and Tech Incubators

44

A smart city is open, high-tech, eco-friendly, responsive, and innovative, supporting its citizens with optimized public services and enhanced connectivity, both socially and technologically.

Use of Sensors, Smart Meters, High-Tech, IoT for Infrastructure

**Advancement of Sustainable Practices, Green Tech & Ecofriendly Initiatives** 

Leveraging Mobile/Digitial/Online for Citizen Facing Services

**Best-in-class Technology Infrastructure for Residents** 

**Open Government Data Sharing and Interactiveness with Citizens** 

**Superior High-tech Transit and Transportation Systems** 

Real-time Analytics focus on safety, management, and routing

MARKET DRIVERS

- Foster New Business Growth
- Improve Quality of Life
- Increased Production
- Improve Citizen Safety
- Reduce Congestion and Pollution
- Economic Efficiency
- Automate Infrastructure

Cross collaboration & integration with Departments, Citizens, & Community

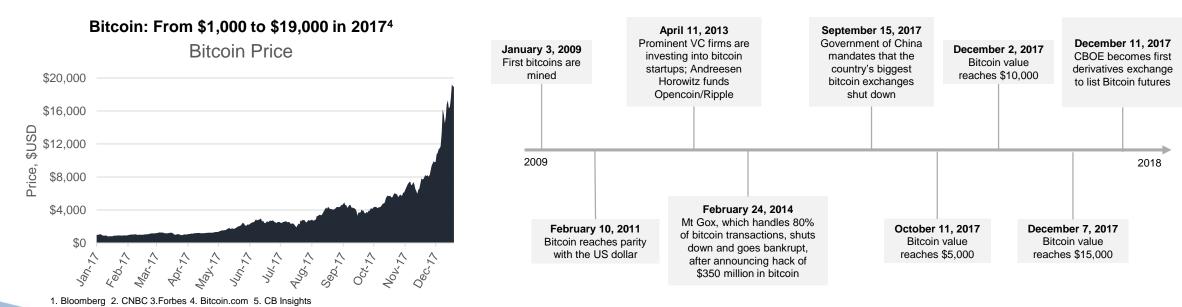
Source: Compass Intelligence



#### THE REAL VALUE OF BITCOIN

#### **Bitcoin Approaching Mass Market Inflection Point**

- On December 17<sup>th</sup>, Bitcoin surged past \$19,000 for the first time, just days after eclipsing the \$15,000 mark. Although Bitcoin has seen extreme price volatility, the question going forward is if cryptocurrency is the next bubble or ready for mainstream adoption.
- The heavily debated trend of 2018 for bitcoin and other cryptocurrencies is whether they will prove to be legitimate financial assets. Bitcoin increased in popularity because of it's decentralized structure; however, that may also be the reason behind its potential downfall. A recent Bloomberg article stated, "the value of ordinary currencies is underwritten by governments and stabilized by central banks acting as trusted monopoly producers, roles which Bitcoin and its rivals leave vacant." 1
- Investors that think cryptocurrencies will attain mainstream adoption feel that Bitcoin can reach price levels of \$40,000 in 2018 alone <sup>2</sup>; however those that feel these cryptocurrencies are not built on fundamental and technical analysis view the current market as a speculative bubble.



#### BLOCKCHAIN UNDERLYING VALUE FOR BITCOIN

#### The Real Value of Bitcoin

- Underlying bitcoin is blockchain the world's leading software platform for digital assets. Blockchain is, in essence, a distributed public ledger that that stores blocks of cryptographically validated data that users cannot corrupt.<sup>3</sup>
- The global blockchain technology market is expected to reach \$7.8B by 2024 (GrandView)
- Even though blockchain technology began being used by cryptocurrencies, other industries are now uncovering different ways to put the technology to use.
- Most financial institutions are speculative of the value of bitcoin, and instead are actively looking for ways to utilize this underlying blockchain technology
- Key ways that blockchain technology can help financial institutions include reductions in counterparty risk, increased liquidity, faster transaction processing times and reduced costs.<sup>1</sup>













### How Blockchain Works for Bitcoin When payment is made with a physical coin the person who had

When payment is made with a physical coin, the person who handed it over can't spend it again. Preventing "double spending" in a digital currency is more complicated.

#### Transaction



Jane uses bitcoin to buy a cup of coffee at Sally's internet café, using her private key to transfer ownership of the currency.

#### Mining network



Word of the transaction is sent through the bitcoin network to "miners" with powerful computers.

#### Block



Miners use trial-and-error computations to solve a puzzle created by combining data about recent transactions. The first to find the unique number that unlocks the puzzle earns the right to bundle the transactions into a confirmed batch known as a block.

#### Verification



The winning miner is rewarded with newly minted bitcoin – but only after other miners confirm that the block's transactions don't contain any attempts to spend the same funds twice.

#### The Chain



Blockchain acts as a public ledger showing all transactions, though the identities of participants are obscured. Each block has a cryptographic link to the previous one. Every addition of a new, linked block to the chain makes it harder for a rogue miner to steal Sally's bitcoin by rewriting the sequence of transactions.

Source: Bloomberg

Bloomberg Quick Take



## CORPORATE BLOCKCHAIN INVESTORS





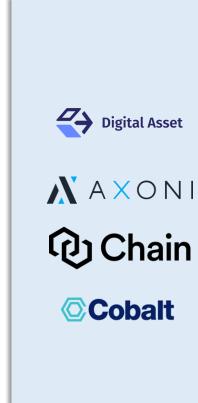


















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3 Learn More About Silverwood



## SILVERWOOD - PRINCIPAL DIFFERENTIATORS

# EXPERTISE EXCELLENCE EXECUTION

**Industry Expertise** 

**Industry Relationships** 

**Industry Commitment** 

**Results Oriented** 

Worldwide Reach

- Leading technology-focused boutique investment bank
- Understand industry dynamics
   — no learning curve; immediately effective
- Active dialogue with industry professionals
- · Constantly refresh contacts
- Call from Silverwood implies competitive strategic deal
- Active in focus sectors for almost two decades
- Senior level commitment to each deal
- Presence at all major industry tradeshows
- Focused on M&A and private placements committed to achieving best available result
- · Process expertise; negotiation expertise
- · Experience in multinational deals
- Active contact with international companies and investors



# RELATIONSHIPS, REPUTATION, RESULTS

#### Silverwood Partners - Premier Reputation within the Technology Industry

- Maintains an active dialogue with large technology buyers and private equity firms with an interest in the technology industry
- Proprietary industry knowledge base constantly updated by active presence at all major industry tradeshows and a growing network of industry advisors
- Industry analyses are widely disseminated to over 10,000 contacts throughout the institutional community

- Organizes and hosts networking events at major industry tradeshows – attendees typically include key technology company executives and investors focused on the technology sector
- Presents unique opportunity for industry professionals to interact and network in a collegial setting













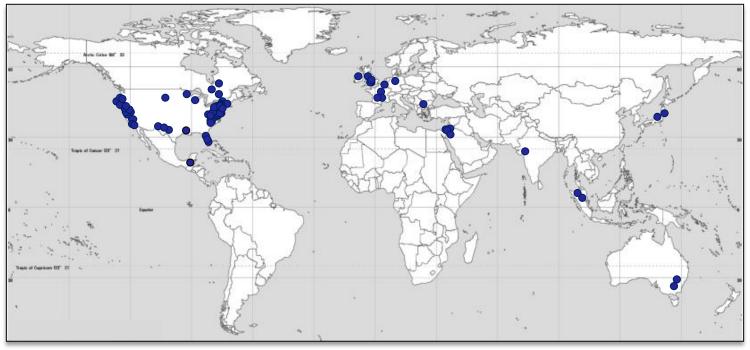


# SPECIALIZED INVESTMENT BANK – GLOBAL FOCUS

#### Silverwood combines Tier I transaction advisory capabilities with a global focus:

- Clients and active contacts in the Americas, Europe and Asia Pacific
- Deep expertise in cross border transactions understand the complexities and intricacies involved in executing complex, cross border deals

#### **Representative Silverwood Engagements and Clients**





### INDUSTRY ADVISOR PROGRAM - INTERESTED?

#### **Formal Consulting Affiliation with Silverwood Partners**

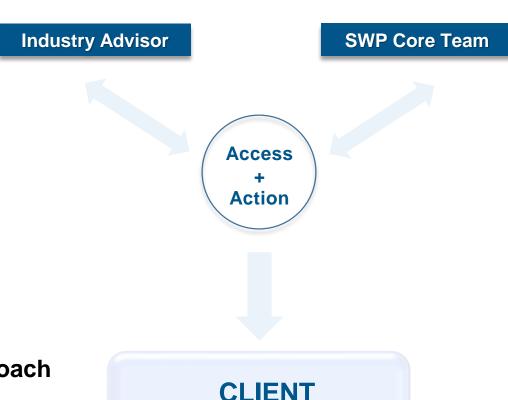
- Personal Business Development Opportunity
- Revenue Opportunity
- Board Member Opportunities
- Investment Opportunities
- Networking Opportunities
- No Costs, Conditions, or Commitments

**Click Link to Learn More About Program** 

#### **Contact Silverwood Partners to Discuss Interest and Approach**

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**ENGAGEMENT** 



# THE SILVERWOOD INVESTMENT BANKING TEAM

Jonathan Hodson-Walker

Founder, Managing Partner



- 25+ years of investment banking experience in the US and Europe
- MD and Group Head at Gleacher & Co. (First Albany)
- · Co-founded, co-managed IBD at H.C. Wainwright
- Corporate Finance VP at CS First Boston in New York and London (UK country desk)
- Fulbright Scholar with MBA from the Kelley School of Business at Indiana University

Bryan J. Prohm
Managing Director



- 12+ years of international technology industry experience in business intelligence, consulting, market research and strategy roles at Ericsson, Gartner and Motorola
- 8+ years of TMT equity research experience at Cowen & Company
- B.A. in International Studies from UNC Chapel-Hill and MA, Russian & East European Studies from University of Michigan

**Ned Montenecourt** *Managing Director Advisor* 



- Founder and Managing Director of LaunchSail, a consulting group focused on strategic introductions and intellectual capital
- Previous roles as Director and Chief Compliance Officer of Risk-Distribution & Execution at BlackRock and Pierpont Securities
- BS and BA, Finance and Architecture from Lehigh University

Lawrence E. Hem Managing Director



- · Head of Silverwood's consumer practice
- Previous investment banking experience at J.P. Morgan, Valuefinder Group and Stonebridge Associates
- Founder and former Co-CEO of CATZ Sports Performance
- MBA in Finance and Strategy from The Kellogg School at Northwestern University

Gwendalyn S. Moore Senior Analyst



- Consumer, Technology, and Healthcare coverage
- Previous experience in strategic business operations at VMTurbo and technology investment banking at AGC Partners
- BA, summa cum laude, and MS in Economics from Tufts University

Joshua Stinehour, CFA Managing Director Advisor



- Principal Analyst at Devoncroft Partners
- Media technology sector coverage; 10 years of experience
- Former lead software analyst at EMC integration of VMWare, Documentum, Legato
- MBA from Babson; M.S. in Computer Science from Rochester Institute of Technology; B.S. Computer Science from Union College



## INDUSTRY ADVISOR TEAM - TECHNOLOGY



Stephanie Atkinson Industry Advisor CEO at Compass Intelligence



Wendy Chou
Industry Advisor
Founder and President
at CHOUMedia



John Ellis
Industry Advisor
Founder and Managing Director
at Ellis and Associates



Eric Baron
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CEO and Founder EBA Performance
Ltd, Head of EMEIA at Ericsson



Matt Danilowicz
Industry Advisor
CEO International City Mortgage



George Elsaesser
Industry Advisor
President at GEA & Associates



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Co-Founder of Madcelerator



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Consultant and Advisor for IoT, ecommerce, mobile/wireless
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VP Video Sales at Tektronix,
Global team leader



Dan Ledger
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Principal and Founder of Path
Collaborative, Principal and
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David Gilby
Industry Advisor
Senior VP of Sales and
Business Development
at SweetLabs, Inc



**Tom Lamar**Industry Advisor
Founder LaunchSail LLC, SVP at Apto
Solutions



Phil Marshall
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Chief Research Officer at Tolaga
Research;
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Joop Janssen
Industry Advisor
MD at YOAP Holdings
Former CEO of EVS
Former CEO of Vitec Videocom



JP Laqueur
Senior Industry Advisor
Principal and Chief Connector
at BrandFoundations



Steve Matthews
Industry Advisor
CEO of the Roberts Group
Former COO of Omgeo



William Jefferson Black
Industry Advisor
Managing Director at Finance
Information Group



Allexe Law
Industry Advisor
Founder of Art Science Group,
Executive Coach and Mentor



**Jeff Moore** *Industry Advisor*Principal at Wave7 Research



# INDUSTRY ADVISOR TEAM — TECHNOLOGY (CONTINUED)



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Industry Advisor
Executive—Level Technology &
Production Innovator



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Industry Advisor
President Consumer Media,
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Senior Industry Advisor
President at Purple Pixel Consulting,
VP, Market Development at Codex



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Former Global Channel and
Partner Manager at Microsoft



Yojak Vasa
Industry Advisor
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Ericsson



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Industry Advisor
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Sectors



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Industry Advisor
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Leadership Roles at Red Bee Media,
Technicolor, Avid



Stephen Wharton
Industry Advisor
Chief Technology Officer at SkyCam
President of Kinemetric Holdings



Joe Zaller
Senior Industry Advisor
Owner and President of
Devoncroft Partners



### INDUSTRY ADVISOR TEAM - CONSUMER



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Industry Advisor
Former President and CEO of
Rotobrush and Unger
Software Corporation



Rimas Buinevicius
Industry Advisor
Co-Founder of Madcelerator



Oswaldo da Costa e Silva Industry Advisor Founder of InnoCrest Consultancy



Fred Coutts

Industry Advisor

President and Founder of
Waypoint Marketing Group

Organic, Natural Living Markets



Greg Doherty
Industry Advisor

EVP and Managing Director
Dietary Supplements
Bolton & Company



Leslie Freytag
Industry Advisor
Senior Executive, Harry &
David, Neiman Marcus



Robert Genco Industry Advisor Founder Della Terra LLC Supplements



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Industry Advisor
Board Member and Private
Investor



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Industry Advisor
Sr. Partner at Helmsman
Group, worked with Annie's,
Kashi, Hain Celestial



Saul Katz
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Founder & CEO of New Era
Nutrition



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Industry Advisor
Founder & CEO of Kohnstamm
Communications



Jim Lamie Industry Advisor VP Global Marketing, SMS Audio, Gillette Co.



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Industry Advisor
Founder of Art Scinence
Group, Consultant and
Mentor



Carol Nicholson
Industry Advisor
Owner and CEO of
International Marketing
Company



# Industry Advisor Team – Consumer (Continued)



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