

ON THE SCENE

MaRS Consumer & Commerce

A look back—and forward

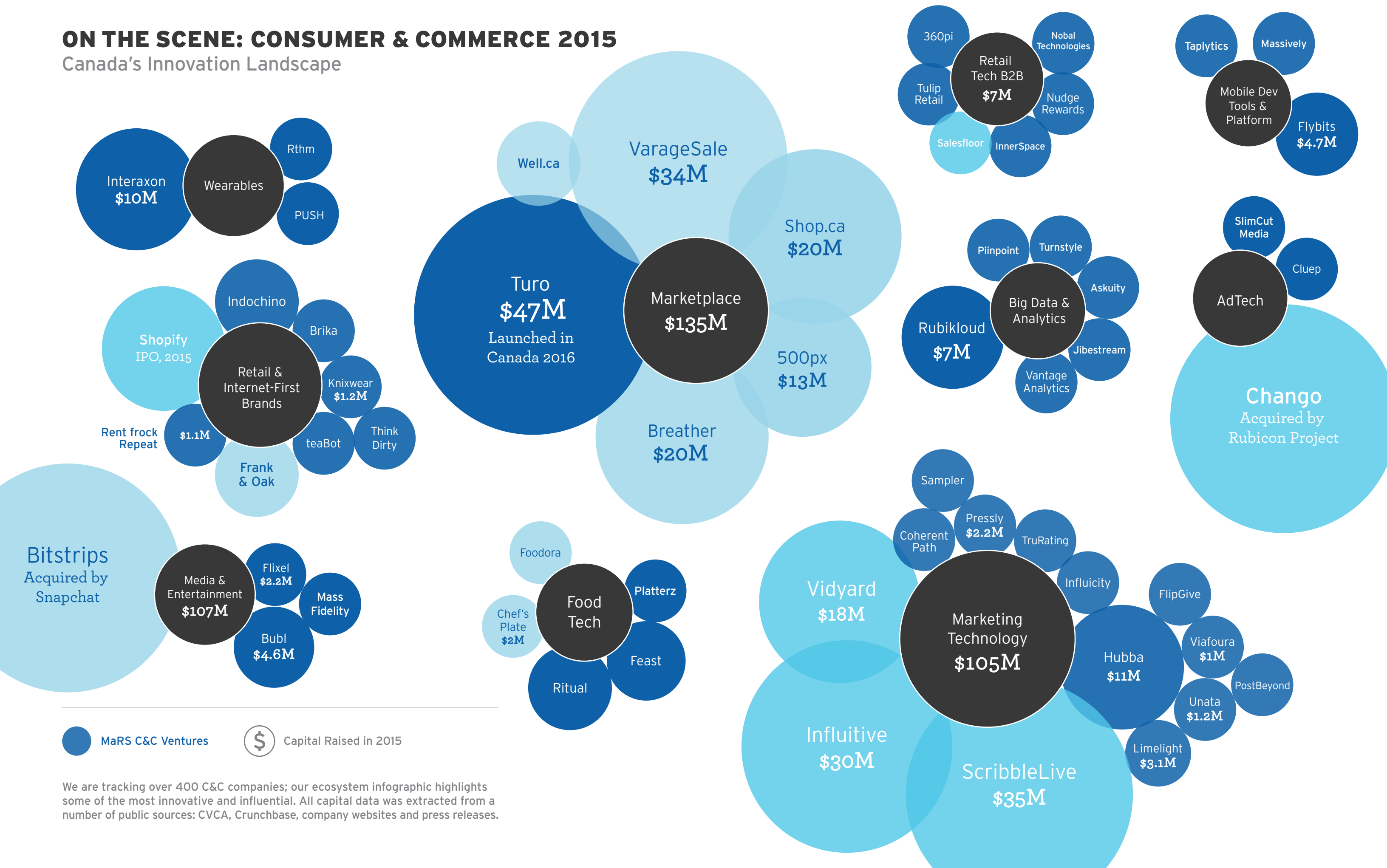
In this special report—**Canada's Innovation Landscape: Consumer & Commerce**—we highlight several smart, innovative companies that are redefining industries, changing consumer habits and challenging business model assumptions. From companies that keep us engaged and in style to technologies that change how we entertain and shop, our consumer and commerce entrepreneurs are creating first-of-their-kind companies that are executing well by doing good. There are plenty of proof points that demonstrate that consumer and commerce innovation in Canada is alive and more vibrant than ever—and the pace of change is unlikely to slow down. Enjoy!



Alex Holyoake | Unsplash



ON THE SCENE: CONSUMER & COMMERCE 2015
Canada's Innovation Landscape



MaRS C&C Ventures

\$ Capital Raised in 2015

We are tracking over 400 C&C companies; our ecosystem infographic highlights some of the most innovative and influential. All capital data was extracted from a number of public sources: CVCA, Crunchbase, company websites and press releases.

CATCHING THE NEXT WAVE OF INNOVATION

A LOOK FORWARD | CONSUMER & COMMERCE 2025

The convergence of sensors, data and connected devices has enabled a new breed of self-aware networks and inspired a new set of consumer needs, wants and experiences. As these innovations advance our interactions with both the digital and physical worlds, and as they create real-time feedback systems between our bodies and the environment, the opportunities for advertisers to reach, influence and persuade us will be more pervasive than ever.

In this report, we explore some of the themes and rising trends in the consumer and commerce space that will dictate the direction, reach and adoption of new technologies across generations, geographies and industries.

“ The combined market cap of Amazon, Apple, Facebook, and Google is equal to Canada’s GDP of \$1.7 trillion. ”¹

“ Venture-capital firms invested \$4.8 billion in consumer products and services in the US last year, nearly four times more than 2013. ”²

01_TECHNOLOGY

Augmented reality / virtual reality to enhance the shopper experience

COOL PRODUCT VERSUS COOL EXPERIENCE?

E-commerce is bringing a vast variety of products to consumers—more than ever before—but, for many, the final purchase decision is still greatly influenced by the shopping experience. Advancements in virtual reality (VR) and augmented reality (AR) have created new opportunities for companies to provide immersive experiences for their customers, and many traditional retailers are looking to digitize the customer experience. Retailers across various industries have been experimenting with VR and AR, and are redefining what it means to “try before you buy.”

AROUND THE WORLD

Automakers such as Lexus³, Volvo⁴, Audi⁵ and Infiniti⁶ have implemented virtual car tours and test-drive simulations through VR platforms. Furniture retailer Ikea has developed a mobile app catalogue that offers an AR feature that allows nearly 300 Ikea products to be virtually placed and viewed in users’ own homes.⁷ EBay has partnered with Australia-based Myer to launch the world’s first virtual department store.⁸ Topshop has partnered with Kinect to create AR dressing rooms.⁹

STARTUPS

- [PINC](#)
- [INCONTEXT](#)
- [PINCH](#)
- [MATTERPORT](#)
- [BUBL TECHNOLOGY](#)
- [CIMAGINE](#)
- [MAGIC LEAP](#)

 Hyperlinks denote Canadian ventures

Artificial intelligence and face-to-face encounters with robots become commonplace in retail

New data capabilities and advancements in artificial intelligence have also enabled consumers in unprecedented ways. Consumers can now further simplify their shopping experience through personal digital assistants, allowing decisions to be made on their behalf while still aligning purchases with their personal preferences.

Similarly, big-box retailers have started testing in-store robotic shopping assistants that help customers navigate the store to find products, browse in-store specials in real time and connect with store experts.

AROUND THE WORLD

Amazon launched a personal assistant known as Alexa. Stitch Fix¹¹ is a subscription service startup enabled by AI. Each month subscribers receive a curated box of clothing items chosen for them by a combination of machine and human stylists. Lowes¹² started testing in-store robotic shopping assistants (known as OSHbots) at its subsidiary Orchard Supply Hardware stores in California. Just tell OSHbot what you’re looking for and it will guide you to your desired items.

STARTUPS

- [CLEARPATH ROBOTICS](#)
- [SIMBE ROBOTICS](#)
- [ROBOTLAB](#)
- [MASSIVELY](#)
- [DEEPLARNI.NG](#)
- [TEABOT](#)
- [X.AI](#)
- [HOWDY.AI](#)

01_TECHNOLOGY

The rise of the Internet of Things and machine learning

SENSORS, DATA, ALGORITHMS... AND THE “INTERNET OF ME”

We are entering into an era of deep personalization where everything from our bodies to our homes are interconnected, and where all of the objects we use—from the water bottles we drink from to the pillows we sleep on—produce data. As the number of Internet-connected devices rapidly grows to 75.4 billion¹³ (nine times the world’s population) by 2025, consumer demands for convenience, product availability and both personalized and contextualized experiences will continue to increase.

With Internet of Things (IOT) technologies narrowing the gap between the physical and digital worlds, retailers are leveraging the enormous amount of data being collected to connect with their consumers in real time, both inside and outside of their stores. Firms today are already experimenting with ways to capitalize on IOT opportunities. From improving the in-store customer experience (through shopper traffic analytics via digital signage and location-based beacon technologies) to optimizing their supply chain (through real-time inventory data via RFID and predicative analytics platforms), IOT is being applied to the retail landscape in diverse and transformative ways.

AROUND THE WORLD

Hugo Boss uses heat sensors to track customers and their movements, which helps store managers place premium products in high-traffic areas.¹⁴ Zara implements RFID tags to keep track of its inventory and replenish clothing racks more quickly.¹⁵ Amazon Dash automates product replenishment. American grocer Kroger¹⁶ has developed an IOT platform that enables greater visibility into retail store inventory and operations, and has improved loss prevention through sensors and employee mobile devices, leading to cost savings and better customer satisfaction.

- “ The combined virtual reality and augmented reality market is expected to reach anywhere from \$80 billion to \$182 billion in market size by 2025.¹⁷ ”
- “ Machine intelligence startups have amassed almost US\$1 billion in investments since the technology began to look viable in 2010.¹⁸ ”
- CB INSIGHTS

STARTUPS

RUBIKLOUD	INNERSPACE
ASKUITY	MALUUBA
360PI	NOBAL TECHNOLOGIES
TURNSTYLE ANALYTICS	FLYBITS

02_MARKETS

MARKETS OUTSIDE OF NORTH AMERICA AND EUROPE WILL SEE AN UNPRECEDENTED WAVE OF NEW CONSUMERS - AND TECHNOLOGIES TO MATCH

Emerging markets (constituting 80% of the global population) will continue to undergo rapid commercial growth. With a rising middle class in most major emerging markets, including China, India and Brazil, and with over 50% of the population in these markets under the age of 25, many of these economies will undoubtedly be the frontier for both exported technology solutions and new innovations.

Retail sales in Asia will grow the fastest in the world over the next five years and are expected to exceed \$10 trillion by 2018 (double the projections for North America as a whole¹⁹). With major players such as Flipkart and Alibaba continuing to develop strongholds throughout Asia, Indian and Chinese e-commerce and m-commerce are reshaping the strategies of major retailers who are looking to penetrate these markets. The rising middle class and urbanization throughout East and Southeast Asia will likely sustain and accelerate the growth seen in recent years.

Latin America remains a booming market for e-commerce. In Brazil alone, business-to-consumer e-commerce sales are anticipated to increase from \$17.8 billion in 2014 to \$40.8 billion in 2019.²⁰ Mexico, Colombia and Chile are also seeing traction on this front.

Africa is another promising frontier for new commercial innovations, thanks to the proliferation of mobile technology and the growth of its urban economies. Political instability and developing infrastructure aside, there is tremendous consumer potential within the African market. By 2025, approximately 200 million people will have discretionary income and more than half of income-earners will be between 16 and 34 years old.²¹ These key data points lay the groundwork for a strong consumer market down the road, especially if governance, tax and trade policies in African countries improve and become more receptive to this growth.

AROUND THE WORLD

Uber is adjusting its operating model to penetrate new markets in India and China, and throughout several countries in Latin America. It is facing competition from local counterparts such as Didi Chuxing, Ola and Tappsi.²² In Africa, SABMiller restructured its business model to rely on local ingredients and distributors, increasing its market share in 15 countries throughout the continent.²³ Companies like Coca-Cola have had to adjust their products to fit local tastes; their Minute Maid Pulpy product was made specifically for Chinese consumers and quickly became a top seller; Shanghai is now home to its biggest innovation centre outside of the U.S.

STARTUPS

FLIPKART	YAOOTA!	AFRICA INTERNET GROUP	<u>SSENSE</u>
COUPANG	VANIDAY	The continent's first unicorn ²⁴	<u>ZVELLE</u>
SNAPDEAL	TROCAFONE		

“ 40% of the world’s population (3.38 billion people) has an Internet connection today.²⁵ Connecting the remaining 60% represents a huge opportunity both commercially and socially. ”

03_INSIDE OUT: EMOTIONS AS THE NEW MARKETING CURRENCY

Consumption patterns are no longer defined by traditional demographic segments

Traditional demographic segments no longer define consumption patterns. Advertisers have always aimed to persuade consumers to act, think and behave in a certain way; however, the unprecedented connectivity of our world invites advertisers to speak to us in a whole new way.

The development of new devices and systems that recognize, process and interpret a range of human emotions—through speech, facial recognition, body gestures, pulse, heart rate and electro-dermal activity—has enabled brands and marketers to aggregate billions of emotion-based data points to better target their advertising campaigns.

AROUND THE WORLD

Facebook released the “empathy” button.²⁶ Honda and Procter & Gamble test drive affective-based technologies to gauge people’s emotions as they try out products.²⁷ Affectiva, an emotion-detection software maker based in Waltham, Mass., collaborates with the likes of Coca-Cola and Unilever to gauge consumer reactions to advertising campaigns.²⁸ Companies like Coca-Cola have had to adjust their products to fit local tastes. For instance Coca-Cola’s Minute Maid Pulpy was made specifically for Chinese consumers and quickly became a top seller. Shanghai is now home to the company’s largest innovation centre outside of the US.²⁹

STARTUPS

AFFECTIVA	OM SIGNAL	RTHM
HEXOSKIN	EMOTIENT	CLUEP
PIP	Acquired by Apple	MYANT
	EYERIS	

“ Two companies own the advertising space. Google and Facebook control 51% of the global market for mobile advertising.”³⁰

04_MOVE OVER MILLENNIALS: THE CONSUMER OF THE FUTURE

Generation Z will soon overshadow their millennial predecessors in size and influences

Members of Gen Z (those born between 1995 and today)—the world’s youngest cohort composed of digital natives—will soon dominate this pervasive economy of persuasion. This new generation is behaviourally distinct and requires less technological education than its predecessors. Emerging research is finding that Generation Z is uniquely self-reliant, productive and goal oriented³¹ as a result of turbulent and financially unstable economic times in the early 2000s. In the retail space, it will be challenging for marketers to reach and develop a sense of brand loyalty with this group, which has grown up massively connected (five screens minimum), money conscious and label agnostic.

AROUND THE WORLD

Younger consumers are seeking more authenticity in their brands. Traditional teen retailers like American Eagle Outfitters are adapting their brands to be less retouched and more body-positive (AEO’s Aerie brand saw 17% growth within one year after launching its “Aerie Real” campaign)³². Primark is redesigning its brick-and-mortar experience to be more social media friendly by offering hashtags, larger changing rooms and free Wi-Fi to encourage selfie sharing. Teens are spending more money on food (22% of their income) at Instagram-friendly locations like Starbucks.³³

STARTUPS

BITSTRIPS	GALAXIA	WECHAT	YIK YAK
Acquired by Snapchat	WILLA	PEACH	

“ With a total population of over 1.9 billion³⁴ (27%), this generation will be the single largest group of consumers by 2020, making up 40% of the population in the world’s biggest markets, including the United States, Europe, China, India, Brazil and Russia.³⁵ ”

05_INDUSTRIES RIPE FOR INNOVATION

Flying machines. Hyperloops. Electric vehicles. Driverless automobiles. Are machines the new consumer class?

The future of mobility – both personal and commercial – is being reshaped by established players and a new generation of innovative startups. As concerns about greenhouse gas emissions intensify and our world’s cities become more congested, new solutions are emerging to meet the mobility challenge.

“ By 2030, 60% of the world’s population will live in cities, up from about 50% today. ”³⁷

While technology is leading the charge, there are three major trends that will dominate the transportation industry in the coming decade in both advanced and emerging economies: electric and fuel cell vehicles, self-driving cars and on-demand mobility.

The car of the future will be dramatically different; however, the ways we get around will be fundamentally transformed.

AROUND THE WORLD

Volkswagen made a US\$300-million strategic investment in Gett, a global ride-hailing provider.³⁸ Toyota secured a strategic investment in Uber.³⁹ Google will be opening an autonomous car centre in Detroit.⁴⁰ BMW i Ventures invested in California-based carpooling startup Scoop.⁴¹ Apple took a \$1-billion stake in China’s main Uber competitor, Didi Chuxing.⁴²

STARTUPS

UBER	AEROMOBIL	<u>TURO</u>
DIDI CHUXING	<u>WATERLOOP</u>	<u>REVELO</u>
ZOOX	<u>TRANSPOD</u>	

06_FINAL THOUGHT: HUMANS TO MARS 2030

Is space the next frontier?

With the barriers and costs of developing and deploying space technologies decreasing, space exploration has shifted from a public undertaking to a private pursuit, opening up opportunities for new applications and new competitors. From small satellites to advanced rockets and space-craft, the number of private companies and startups targeting commercial space opportunities has increased from a few in 2010 to thousands today. This number continues to increase daily.

While it may be early days, venture capital firms invested \$2 billion in space startups in 2015, more than the previous 15 years combined⁴³, signaling that space exploration is an investment worth making.

AROUND THE WORLD

Two years ago, Google acquired satellite startup Skybox for a mere \$500 million.⁴⁴ Los Angeles-based RocketLabs produced a vehicle called the Electron that can rapidly deliver small satellites to dedicated, commercial orbits at world-first frequency.⁴⁵ The company secured a major contract for 12 launches over the next 18 months.⁴⁶ For the third time in a row, the SpaceX Falcon-9 rocket stuck its landing.⁴⁷ Virgin Galactic created a commercial to promo its human flight launch programs.⁴⁸

STARTUPS

FIREFLY SPACE SYSTEMS	ASTROSCALE
SPACEX	URTHECAST
ONEWEB	KEPLER COMMUNICATIONS

“ We expect to be at 10,000 companies commercializing space in the next 10 years. ”⁴⁹

– RICHARD ROCKET, CEO OF NEWSPACE GLOBAL

“ Our ability to get to space has changed more in the last 5 years than during the entire prior period of space exploration. ”⁵⁰

– GOLDMAN SACHS EMERGING THEME RADAR, DECEMBER 2015

**MARS VENTURE SERVICES |
CONSUMER & COMMERCE**

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DISCLAIMER

The information provided in this report is presented in summary form, is general in nature, is current only as of the date of publication and is provided for informational purposes only.

MaRS Discovery District, ©June 2016



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