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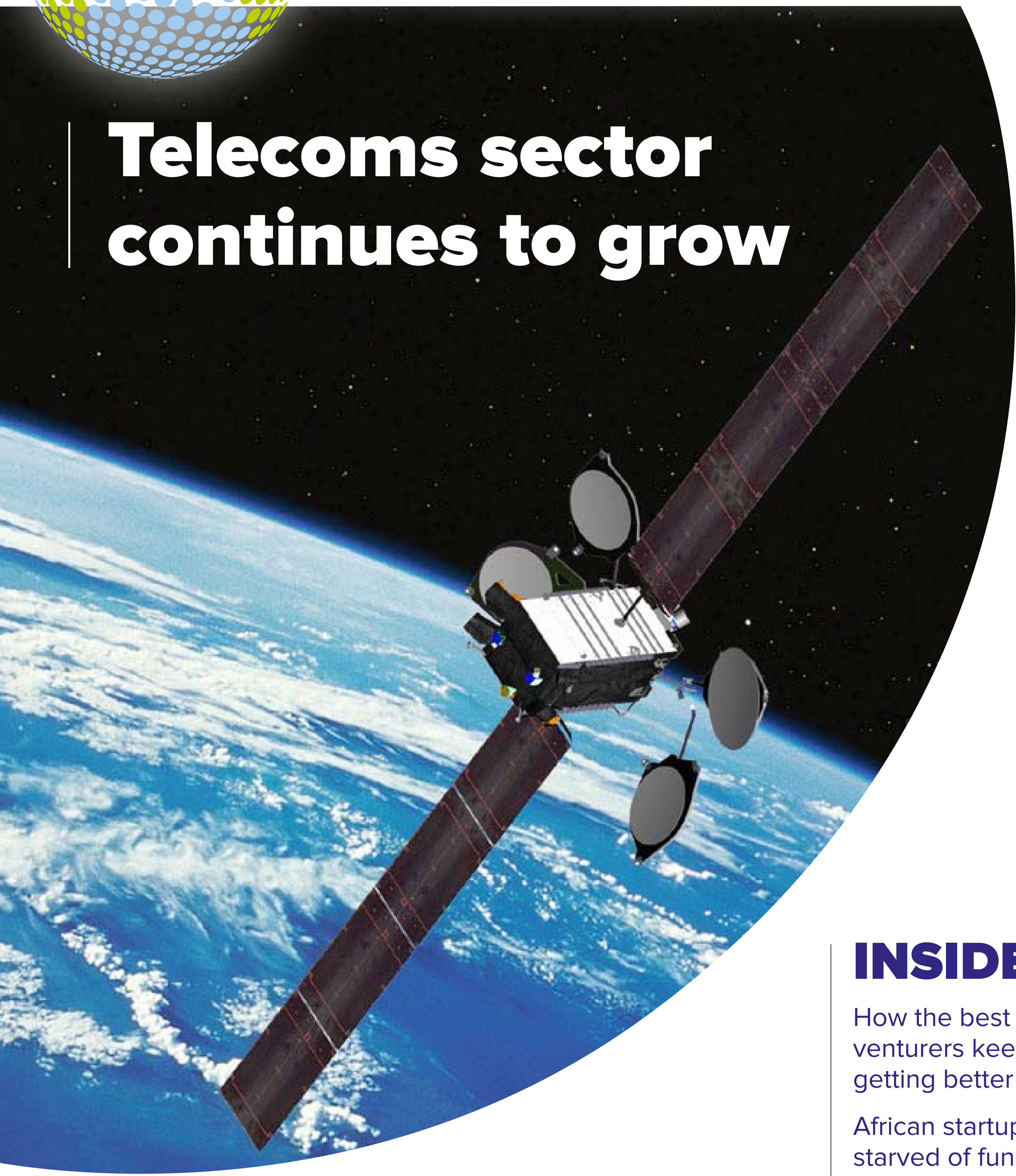
Global Corporate Venturing

Telecoms sector continues to grow



INSIDE

How the best venturers keep getting better

African startups starved of funds

Who is winning the innovation race?

New US law's ecosystem impact

Contents

3 **Editorial:** Getting better, together

4 **News**
16 Comment: Alphabet's results highlight its 'other bets'
17 Analysis: Uptick in e-commerce
18 Analysis: China and US share the mega-deals
18 Big deal: Didi Chuxing gets $500m from Booking
19 Analysis: Energy crackles with fresh investment
20 Analysis: Delivery yields $134m pick-up for Glovo
21 Analysis: Lyft gets $600m lift
21 Analysis: Revival in life sciences IPOs
22 Symposium: GCV raises over £6,000 for charity

24 **Profile:** Tencent thrives on value in its portfolio companies
26 Comment: Tencent plans greater control of Nio

28 **Sector focus:** Telecoms growth continues
39 University and government backing for telecoms businesses
39 Interview: Marc Rennard, Orange Digital Ventures
41 Spotlight: Low Earth orbits – opportunity or peril?
47 Interview: Michael Lohnert, Boeing HorizonX Ventures

50 **Comment:** How the best corporate venturers keep getting better
Michael Brigl, Nico Dehnert, Stefan Gross-Selbeck, Alexander Roos, Florian Schmieg and Steffen Simon, Boston Consulting Group

54 **Comment:** The corporate capital correlation – one year later
Selina Troesch, Touchdown Ventures

55 **Comment:** Outsized returns: betting against the crowd
Karthik Sivan, strategy director, Naspers

56 **Comment:** Why we are in trouble if we don't change education
Erik Vermeulen, Tilburg University

59 **Innovative region:** Emerging African opportunities struggle for funding

66 **University Corner:** How to lose the innovation arms race

67 **Government House:** US foreign investment bill's impact on venture and startups
Jeff Farrah, National Venture Capital Association

69 **Analysis:** Past two months' venturing activity

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EDITORIAL

Getting better, together

James Mawson, editor-in-chief

There is a tension in any industry when a region, sector or handful of companies start to shift the established metrics for success and traditionalists begin to feel uncomfortable. This is undoubtedly starting to happen in venture capital more broadly as corporate venturers move the model from, effectively, a local, village-style provision of capital and advice to an international, service-led approach to meet the entrepreneurs' five primary needs of capital, customers, product development, hiring and an exit.

This large shift being played out over the past decade primarily through the impact of corporations adding their often unique ability to provide large amounts of capital, acquire or help float venture-backed companies and offer a firehose of customers and technical support.

But even within this broader development, much of the momentum has come from a relatively small number of corporate venturers. GCV Analytics tracked 1,354 deals worth an estimated $85.3bn in the first half 2018, of which $66bn – 77% – were deployed in 145 deals that were $100m or larger.

For context, in the 12 months to the end of March 2014, there were 47 deals of at least $100m, 41 of which included corporate venturing units in their investment histories, before the numbers started to shoot up in the second-quarter that year with 32 large deals of at least $100m that raised nearly $7.4bn overall, according to Global Corporate Venturing's analysis and a GCV Symposium keynote address.

A glance at the host of initial public offerings announced or completed shows billions in paper returns for the groups able to invest in fast-growing companies

The same sorts of names crop up in many of these large rounds, such as SoftBank, Tencent and Alibaba. Probably unsurprisingly, therefore, during the first half of 2018, $42.3bn of the $66bn GCV Analytics tracked went to China-based companies. In comparison, $15.3bn went to US-based emerging businesses.

It is hard to comprehend the speed of the transformation in the innovation ecosystem's locus effectively from Silicon Valley in California to the region around Hong Kong and Shenzhen. You can get a good sense by comparing the GCV Asia Congress in the latter region this month with the Global Corporate Venturing & Innovation Summit in Monterey in January.

And while all sectors and regions have developed their corporate venturing strategies, the leaders have been technology companies, whether Alphabet, Amazon and Apple in the US or Chinese peers, such as Baidu, Alibaba and Tencent. All have created multiple ways to find and support entrepreneurs as part of platform expansion into different geographies and markets.

But whereas the concerns in the mid-point of the decade were around whether such large deals could ever see a profitable exit, the answer so far has clearly been yes. A glance at the host of initial public offerings announced or completed shows billions in paper returns for the groups able to invest in fast-growing companies and provide the capital and resources to help them scale.

There is perhaps an element of fortune in this. The unusual length of the economic growth in the current cycle has resulted in a bull run in US stocks, which last month passed the previous record leading up to the dot.com crash around the millennium. Smart well-connected investors close to the edge can create favourable market conditions and time entry and exit.

But behind the scenes what is also interesting is the joined-up thinking about portfolio management by corporate venture capitalists. The techniques in private equity groups to connect portfolio companies and tap them for recurring revenue streams have morphed in new ways through diversified holding companies.

Rather than reaping purely management fees from portfolio companies, along with a host of other costs, CVCs are using their core services to support portfolio companies or connecting them to each other as part of a bigger perspective on market dominance and longer-term value creation running into decades or hundreds of years.

This is creating challenges for more traditional-minded CVCs following the old venture capital playbook. Without free cashflow in the billions to invest and a dedicated leadership committed to the new approach, the alternatives are to be smarter in working with other corporations and investors to leverage the balance sheet and rework portfolio management to offer greater service to the entrepreneurs.

Wendell Brooks, president of Intel Capital and chairman of the GCV Leadership Society for the next two years, put it most eloquently in his call at the GCVI Summit this year that "we are better, together".

As we roll out our GCV Connect platform to help corporate ventures collaborate on portfolio companies, syndicating online and in real life through events, whether in London, Sao Paulo, Helsinki or New York, Houston, California or China, all will be able to benefit and continue making the world a better place through the power of innovation capital supporting entrepreneurs. ◆

NEWS

Robinson promotion leaves MacTough in charge


Robinson


MacTough

Dan Robinson, vice-president and managing director of mergers and acquisitions and venture investments at US-based Liberty Mutual Insurance, has been promoted to head of strategy for global retail markets.

He said he would now be helping set the "broader, long-term strategic direction for Liberty's $23bn personal and small commercial business in the US". He added that Russ MacTough was "taking on the whole show" at its $150m corporate venturing unit, Liberty Mutual Strategic Ventures.

MacTough, who said he would be at the GCVI Summit in Monterey in January and was named a GCV Rising Star last year, joined Liberty in July 2015 just after Robinson had set up its Liberty Mutual Strategic Ventures. The team has invested in seven companies across the connected home, insurtech, sharing economy and mobility sectors, with one, August Home, acquired by Assa Abloy, a holding company behind the Yale lock brand, at the end of last year.

Nio Capital invites Yu to join team


Yu

Nathan Yu, former vice-president of China-based carmaker Geely Holding Group, has joined Nio Capital, the corporate venturing unit backed by smart electric car developer Nio, as its fourth managing partner.

Yu will join fellow managing partners William Li, Nio's founder and chairman, Ian (Yan) Zhu, formerly at Tsinghua Holdings' Tsing Capital unit, and Junyi Zhang, who used to head automotive activities at consultancy Roland Berger China.

Nio Capital was founded in 2016 with a RMB10bn ($1.5bn) fund co-sponsored by Nio, investment manager Hillhouse Capital and venture capital firm Sequoia Capital. The fund has also struck partnerships with UK-listed oil major BP and internet-of-things technology provider G7 as it prepares to close a reported $500m offshore fund

Yu had worked at Geely for four years and was responsible for its international business, including the acquisitions of automotive manufacturers Proton and Lotus, in Malaysia and the UK respectively, as well as US-based flying car developer Terrafugia.

Park drives his way to LG


Park

LG Technology Ventures, the new strategic investment arm of South Korea-based electronics producer LG, has hired Taejoon Park from fellow corporate venturing unit Applied Ventures as an investment director.

Established in the US in May this year, LG Technology Ventures is equipped with $400m from LG and subsidiaries LG Chem, LG Display and mobile carrier LG Uplus, and will invest in developers of technologies such as artificial intelligence, robotics and auto components.

Park had several roles at Applied Ventures, semiconductor technology producer Applied Materials' corporate venturing unit, after joining in 2012, most recently investment principal.

The move followed the departure of Tony Chao, a senior investment director and general manager at Applied Ventures, in June this year to take up a partner role at venture capital firm Tyche Partners.

LG Technology Ventures' chief executive is Dong-Su Kim, formerly a general manager at Samsung Ventures America, a corporate venturing subsidiary of consumer electronics manufacturer Samsung.

Munich Re/HSB Ventures captures Kaplan

Munich Re/HSB Ventures, the strategic investment arm of Germany-based reinsurance firm Munich Re and its US-based Hartford Steam Boiler subsidiary, has hired Oshri Kaplan as a venture partner.

Kaplan was previously a venture partner at US-based corporate innovation platform Silicon Foundry. Following Kaplan's departure in June this year, Ludovic Ulrich stepped up the following month to assume the role of partner at Silicon Foundry.

Prior to joining Silicon Foundry in December 2017, Kaplan was senior managing director for supply chain services provider Flex's innovation and new ventures team for more than four years, investing in tech-based startups.

He has also been internal innovation leader at consulting services provider Deloitte Israel, promoting innovation and developing multidisciplinary products and services, after an investment associate role at Israel-based Docor International Management, a subsidiary of VC firm Crecor.

NEWS

Lee finds Silk Ventures road


Lee

Leonard Lee, formerly vice-president and global head of new business models and services for aviation and aerospace manufacturer Airbus Group, has joined investment firm Silk Ventures as a partner.

Headquartered in the UK with offices in China and the US, Silk Ventures operates as a venture catalyst, providing funding as well as support for cross-border expansion. Its backers include the Chinese government and assorted China-based corporates.

During his time at Airbus, from January 2017 to April this year, Lee worked on the development of innovative business models across the company's aviation, helicopter, defence and space divisions. He was previously with software provider Microsoft for 12 years, initially as regional director of business excellence for the Asia-Pacific region, before being promoted to senior director in 2007 and then to general manager of corporate quality and business excellence in 2010.

Microsoft hired Lee from industrial technology conglomerate General Electric, where he had spent a total of five years at its GE Money Australia and GE Healthcare Asia subsidiaries.

Rahman runs to Vision Fund

Japan-based telecoms and internet group SoftBank has hired Faisal Rahman to head investments for the SoftBank Vision Fund in the Middle East, the National has reported. Rahman came from financial services firm Deutsche Bank where he was co-head of its finance and solutions group in Central and Eastern Europe, the Middle East and Africa. He will join SoftBank Investment Advisers, which oversees the Vision Fund's activities.

Boshier helps Yamaha venture to Australia


Boshier

Craig Boshier has joined Yamaha Motor Ventures & Laboratory Silicon Valley (YMVSV), Japan-headquartered electronics and automotive manufacturer Yamaha's corporate venture capital subsidiary, as an Australia-based general manager.

Yamaha hired Boshier from health and wellness consultancy Valu Health, a healthcare consultancy he founded in January this year after leaving BCG Digital Ventures, a subsidiary of consulting firm Boston Consulting Group where he was managing director.

Boshier said YMVSV's priority was to establish offices and staff to cover the country as well as nearby markets such as New Zealand and Southeast Asia. The unit will in particular target investments in agricultural technology, and Boshier cited the sector's importance for Australia's economy as a key factor. It will also explore investments in medical, transport and construction technology.

Suzuki switches back to MUFG

Nobutake Suzuki has rejoined Japan-based financial services firm Mitsubishi UFJ Financial Group (MUFG) after nearly 16 years as a partner at venture capital firm Global Brain.

The bank has appointed Suzuki to two roles – managing director and head of corporate planning and digital transformation. His history with MUFG goes back to when he was serving as the associate vice-president of Bank of Tokyo-Mitsubishi UFJ's industrial research department between 1993 and 1996, when it merged with MUFG.

Suzuki was also vice-president of EC business department at Bank of Tokyo-Mitsubishi UFJ between 2001 and 2002. He has an engineering degree in physics from Osaka University.

Steffek makes strides to Ara Partners

Cory Steffek has left Saudi Aramco Energy Ventures (SAEV), the corporate venturing arm of petroleum producer Saudi Aramco where he was a managing director, to join private equity investment platform Ara Partners. US-based Ara Partners, which hired Steffek as managing director, focuses on lower middle market investments in the energy, industrial and infrastructure industries.

Steffek joined SAEV in 2012 and his role with the Saudi Arabia-headquartered unit had, like Ara Partners, been based in Houston, Texas. Johanna Schmidtke, a Houston-based investment director at SAEV since 2013, has initially taken over Steffek's responsibilities at the unit.

Prior to joining Aramco, Steffek was director of global development and corporate strategy for solar module manufacturer First Solar, having moved there from a principal role at venture capital firm Altira Group in 2011.

NEWS

Next47 loses two

Swati Dasgupta has left Next47, a subsidiary of industrial conglomerate Siemens, for a director position at National Grid Ventures, the strategic investment arm of UK-based power grid operator National Grid Group.

National Grid Ventures oversees investments in technology startups, energy projects and partnerships on behalf of its parent. The unit is run by Lisa Lambert, who worked in venture capital activities for chipmaker Intel for 17 years.

Before joining corporate venturing vehicle Next47 as a director in 2017, Dasgupta was a director of external innovation at Siemens' technology-to-business unit, TTB, from 2013. She previously spent nearly a decade as a partner at IBM Venture Capital Group, a corporate venture capital subsidiary of computing technology producer IBM.

Her move from Next47 follows the departure of Susana Quintana-Plaza who ran its London office as a partner. Quintana-Plaza joined Next47 in late 2016, having previously been senior vice-president of technology and innovation for energy utility Eon since 2014. She was Eon's vice-president of innovation scouting and co-investments for three years.

Named as a Global Corporate Venturing Rising Stars in January 2018, Quintana-Plaza had made the GCV Powerlist two years before while at Eon. She first joined Eon in 2009 as a strategic and business development manager. She has not disclosed her plans.

García helps uncork Femsa Ventures

Mexico-based beverage producer Femsa has appointed Javier García, formerly a strategic planning manager at the company, to head new investment unit Femsa Ventures. The size and strategy of the fund are yet to be disclosed, but García said: "Philosophically, we exist to build a structural support system to enable collaboration efforts between entrepreneurs and our business platforms. The existence of the fund is a vehicle to attract and engage with the ecosystem."

Morales' journey reaches Outlier


Morales

Rumi Morales, formerly head of financial exchange operator CME's corporate venturing unit, CME Ventures, has joined US-based venture capital firm Outlier Ventures as a partner. CME hired Morales as executive director for international corporate development and finance in 2010 and promoted her to head of CME Ventures three years later. Outlier Ventures invests in blockchain and crypto asset technologies, including those related to artificial intelligence, robotics and the internet of things. The firm has offices in Canada and the UK, but Morales will help it expand in the US from a Chicago office. Before CME, Morales was founder of Singapore-based financial research provider Malmora and a vice-president at investment banking firm Goldman Sachs.

Visa invites Williams to strategic investment role


Williams

US-headquartered payment services firm Visa has promoted Otto Williams to oversee its strategic investments and partnerships in Central and Eastern Europe, Middle East and Africa. He will be based in Dubai as vice-president and head of strategic partnerships, fintech and ventures.

He came to Visa in 2010 through Syncada, a cloud payment venture formed by Visa and US Bancorp. Visa promoted him from a global business development manager role at Syncada to Visa's own director of global business development two years later, before promoting him to senior director of innovation and strategic partnerships in 2013.

Williams had been vice-president of innovation and strategic partnerships since late 2016, a San Francisco-based position that involved helping Visa form alliances to help the company strengthen its financial technology resources.

Omron Ventures absorbs Inoue

Tomoko Inoue has left venture capital firm MedVenture Partners to join Omron Ventures, the corporate venturing arm of Japan-based automation equipment manufacturer Omron, as chief executive.

Inoue joined from her senior manager role at MedVenture Partners, a subsidiary of public-private investment partnership Innovation Network Corporation of Japan having helped set up the unit.

During her time at MedVenture Partners, Inoue helped raise a $54m fund, sourced deals and oversaw investments. She was previously a vice-president at private equity firm Tokio Marine Capital from 2006 to 2009.

NEWS

Frazier extracts Saxton for EIR role ...

Saxton

Tracy Saxton, an alumna of corporate venturing funds Roche Venture Fund and Pivotal BioVenture Partners, has become entrepreneur-in-residence at US-based venture capital firm Frazier Healthcare Partners, which provides VC and growth-stage funding for life sciences technology developers and has raised a total of $4.2bn since it was founded in 1991.

Saxton's position at Frazier involves her being founder and chief executive of Aucupo Biosciences, a stealth-stage Frazier-incubated startup developing treatments for patients with conditions insufficiently addressed by current therapies.

Before Frazier, Saxton co-founded Pivotal BioVenture Partners, a biotech-focused VC firm funded by property and life sciences group Nan Fung, in early 2017. She had previously spent two years as an investment director at Roche Venture Fund, the corporate venturing arm of pharmaceutical firm Roche, during which time she was named a GCV Rising Star.

The move was announced alongside Frazier's appointment of Vanessa Bhark as senior associate. Bhark had worked on corporate development, including licences, collaborations and acquisition deals, at biopharmaceutical company Gilead Sciences since 2014.

... as Pivotal BioVenture prises Preston from TPG

Preston

Pivotal BioVenture Partners, a US-based healthcare-focused venture capital firm financed by property development and life sciences group Nan Fung, has hired Heather Preston as managing partner.

Founded in 2017 with $300m from Nan Fung subsidiary Nan Fung Life Sciences, Pivotal invests in North America and Europe-based life sciences technology developers from seed stage onwards.

Preston came to Pivotal from TPG Biotech, private equity group TPG's life sciences venture capital arm, where she was a partner and managing director for over a decade. She was trained in gastroenterology and hepatology from UC San Francisco and was a postdoctoral research fellow in molecular biology at the Dana Farber Cancer Institute.

Telefónica twists corporate venturing personnel

Spain-based telecoms firm Telefónica has been shaking up its corporate venturing and open innovation structure with several moves.

Following the departure of Ana Segurado, managing director of Telefónica's Open Future platform, her responsibilities at Telefónica Ventures were taken on by incoming scouting and innovation investments director Guenia Gawendo, already a director at the group's Silicon Valley office since 2016. Gawendo reports to Telefónica's chief innovation officer, Gonzalo Martín-Villa, who has been responsible for the group's global innovation since replacing Javier Placer as head of Telefónica Open Future in November 2017.

Martín-Villa hired Miguel Arias, formerly chief operations officer at geolocation data technology provider CartoDB, in January 2018 as global entrepreneurship director of Telefónica Open Future. Arias now manages all Telefónica's entrepreneurship activities, including the 11 Wayra accelerators across Europe and Latin America, and some 60 co-working spaces around the world.

SenseTime scouts Li for investment role

China-based facial and image recognition software provider SenseTime has hired Jennifer Xuan Li from internet group Baidu as an investment director. Li had been a strategic investment director at Baidu's artificial intelligence group since late 2015, and before that spent a little over a year as an investment banking analyst at financial services firm Deutsche Bank's mergers and acquisitions team. She has also worked as an analyst for UBS and Canaccord Genuity.

Statkraft Ventures attracts Alkassar as partner

Statkraft Ventures, the corporate venturing vehicle for Norway-based power producer Statkraft, has hired entrepreneur Ammar Alkassar as a venture partner. Alkassar founded cybersecurity startup Sirrix in 2005 based on his research at the German Research Centre for Artificial Intelligence, and sold it to Germany-based peer Rohde and Schwarz in 2015, remaining as CEO for a further three years. Statkraft Ventures focuses on investments in Europe-based companies developing technologies that disrupt the energy industry.

NEWS

Eggen and Saijo form Counterpart fund


Eggen


Saijo

Patrick Eggen has left mobile chipmaker Qualcomm's corporate venturing unit, Qualcomm Ventures, where he was managing director for North America, to launch a venture capital fund, Axios has reported.

The fund, Counterpart Ventures, has been co-founded by Eggen and Joe Saijo, formerly president and managing director of Recruit Strategic Partners, a corporate venturing subsidiary of human resources firm Recruit. Counterpart will provide between $2m and $8m for companies and is stage-agnostic. It has not revealed the areas in which it plans to invest.

Eggen joined Qualcomm Ventures in 2005 and set up and led the unit's early-stage fund before heading overall North American investments in May 2016. Saijo joined Recruit Strategic Partners in 2012.

JD.com joins efforts to raise $5.8bn fund

China-based e-commerce firm JD.com is joining a range of partners to raise up to RMB40bn ($5.81bn) for venture capital fund Starquest Capital, Reuters has reported. Starquest, also known as Xingjie Capital, will be run by private equity firm China Reform Holdings.

VC firm Sequoia Capital China is also a limited partner in the fund. Its founder and managing partner Neil Shen is chairman of Starquest but does not participate in day-to-day operations, according to the sources. The renminbi-denominated fund will target late-stage investments in technology companies and has so far secured 25% of its target, raising capital from domestic backers, according to a source. It is in discussions with other prospective investors for the rest.

JD.com and Sequoia China have already worked together on investments in companies including Ele.me, the online food delivery service set to be acquired for an enterprise value of $9.5bn, and publicly-listed online travel agency Tuniu.

SoftBank eyes India with $5bn Asia fund

Telecoms and internet group SoftBank intends to launch a $5bn Asia fund that will direct half its capital to India-based startups, CNBC-TV18 has reported.

Japan-headquartered SoftBank could begin holding roadshows for the as-yet unnamed fund as soon as next month according to a source, and should those go well it will aim to launch it in the first quarter of 2019. Another source told CNBC-TV18: "The fund will have a 50% dedicated allocation to India, which means $2.5bn will be invested in India out of that fund alone."

SoftBank has long been a fervent investor in the Indian venture capital space and pledged in 2014 to commit $10bn to the country in the next decade.

Rocket Internet targets $2bn fund

Germany-based e-commerce group Rocket Internet is preparing to raise between $1bn and $2bn for a corporate venturing fund that will invest predominantly in the US, Bloomberg has reported. Rocket Internet will be the lead partner in the fund but is seeking additional investors to contribute capital, with the fund expected to be closed as soon as December this year, a source told Bloomberg.

Founded in 2007, Rocket Internet operates an incubation and venture capital model that involves both building and investing in e-commerce platforms and online service providers, usually in Europe or in emerging markets where business models already successful elsewhere can be replicated.

The vehicle will represent Rocket Internet's first significant foray into the US and will also look to invest more in artificial intelligence-influenced companies.

Sinopec signs off on $1.5bn investment entity

China-based oil, gas and chemicals supplier Sinopec has formed investment firm Sinopec Capital with RMB10bn ($1.48bn) of capital.

It will invest in emerging areas such as new energy, advanced materials, artificial intelligence and smart manufacturing, and supply chain technologies.

Although Sinopec has not stated directly that the vehicle will invest in startups, its activities will cover equity investments and management as well as project investments and asset management. The fund will get 49% of its capital from oil and gas refiner Sinopec Corp and the remaining 51% from parent company Sinopec Group.

NEWS

SoftBank's Misra makes plans for $250m fund

Telecoms group SoftBank will be the anchor investor in a fund of up to $250m that will be formed by Kabir Misra, an executive at the SoftBank Vision Fund, DealStreetAsia has reported.

The fund is looking to raise between $200m and $250m, according to sources. Misra is managing partner of SoftBank Investment Advisers, which manages the Vision Fund, but will leave formally once the fund reaches a final close.

One of the sources told DealStreetAsia: "He is essentially transitioning into a new role and will act as an adviser to SoftBank."

The as-yet unnamed vehicle will make early and mid-stage investments below $20m in size, avoiding any conflict of interest with Vision Fund, which focuses on large growth-stage deals. Portfolio companies based in the US, India and Southeast Asia will be targeted, and while the sources did not reveal any particular areas of interest, Misra is regarded as an e-commerce expert.

Misra has been at SoftBank since 2006 and before joining SoftBank Investment Advisers was principal at SB Prince-Ville Fund, a $250m fund formed in 2013 which backed companies including fitness tracker developer FitBit.

Misra also sits on the board of directors at mobile financial services provider Paytm and was reportedly heavily involved in SoftBank's investment in another India-based company, e-commerce marketplace Flipkart, as well as the latter's sale to Walmart earlier this year.

Telstra and HarbourVest ring in $500m fund

Telstra Ventures, the corporate venturing arm of Australia-based telecoms company Telstra, has channelled its activities into a partnership with private equity firm HarbourVest. The size of the vehicle will be A$675m ($500m), according to the Australian Financial Review (AFR), which reported that Telstra is expected to hold a 62.5% stake and HarbourVest 32.5%.

Founded in 2011, Telstra Ventures runs offices in Australia, the US and China and targets deals in sectors such as mobile internet, media, cloud computing, machine learning and cybersecurity.

The fund will take over management of Telstra Ventures' portfolio, but the companies have not confirmed whether it will retain the existing Telstra Ventures name, offices or management.

Krungsri commits to SBI fund

Bank of Ayudhya, a Thailand-based financial services firm also known as Krungsri, has committed an undisclosed amount of capital to a venture capital fund being raised by financial services provider SBI Holdings.

The SBI AI and Blockchain Fund is overseen by SBI subsidiary SBI Investment and is targeting a ¥50bn ($453m) final close to back blockchain and artificial intelligence technology developers. Krungsri contributed to the fund through its Krungsri Finnovate unit. SBI Holdings itself was spun out of Japan-based telecoms group SoftBank.

Longzhu Capital logs $300m close

Longzhu Capital, the corporate venturing arm of China-based local services portal Meituan Dianping, has closed its first fund at RMB2bn ($300m), China Money Network has reported.

The capital came from Meituan Dianping, internet group Tencent and agribusiness New Hope Group as well as China Merchants Capital, Noah Holdings, Guochuang Kaiyuan Fund and Xiangjiang Shengshi Fund.

Longzhu Capital focuses on sectors such as catering, new retail and local services, and aims to leverage Meituan Dianping's expertise and resources. It originally targeted a $220m close.

Credit Suisse Next Investors closes $261m fund

Switzerland-based financial services firm Credit Suisse's financial technology and data investment arm Next Investors has closed its latest fund, Next Investors II, at $261m.

The fund, which is overseen by the bank's Credit Suisse Asset Management subsidiary, raised capital from unnamed financial services firms, funds of funds, family offices and ultra-high-net-worth individuals in North and South America, Europe and the Asia-Pacific region.

It will invest in growth-stage technology and financial services technology developers, focusing on companies where its management team can offer expertise. A regulatory filing indicates that Next Investors had originally targeted a $300m close.

New Oriental enrols corporates in $220m fund

China-based educational services provider New Oriental Education and Technology has formed a RMB1.5bn ($220m) investment fund to target education-focused companies, China Money Network has reported.

Educational services firm Sunlands Education and recruitment platform 51Job have also backed the fund, as have financial services providers Industrial and Commercial Bank of China, Citic Trust, Noah Group and Gaodun Finance. Municipal government-owned fund manager Zhangjiagang Industrial Capital Centre is also a limited partner.

The vehicle will focus on early-stage startups based in China, and plans to make up to 30 investments of between $3m and $15m. The firm also intends to launch a separate dollar-denominated fund of $220m in size with a similar investment strategy.

BlackFin directs fintech fund to $210m close

France-based investment firm BlackFin Capital Partners has closed a €180m ($210m) financial technology fund with backing from limited partners including insurance firms Securex and Macif. The corporates joined the final close of Black-Fin Tech 1 alongside financial services firms BNP Paribas, Crédit Agricole and Banque Populaire et Caisse d'Epargne, German state-owned development bank KfW and undisclosed family offices.

Insurance companies Vaudoise Assurances, Groupama, Sogecap, Natixis Assurances and Swiss Life contributed to the fund's $117m first close July 2017 along with French state-owned investment bank BPIFrance's MultiCap Croissance fund and unnamed financial institutions and family offices.

The fund will back financial, insurance and regulation technology developers at seed to series C stage, with a focus on business-to-business products. It will target startups based across Europe, investing from offices in Paris, Brussels and Frankfurt. It is being led by investment directors Maxime Mandin and Julien Creuzé, investment manager Gabrielle Thomas and associate Romain Grimal.

Grab Ventures expands Indonesia funding by $250m

Singapore-based ride-hailing service Grab has added $250m to its Indonesia-focused corporate venturing unit, Grab Ventures, which was launched in June in Singapore under Chris Yeo's leadership. The unit said it would work with Indonesia's Ministry of Communication and Information Technology and its Creative Economy Agency, as well Amazon Web Services and MDI Ventures, the corporate venturing unit of Telkom Indonesia. Grab Ventures will invest in mobility, food, logistics, fintech startups and set up an accelerator, Grab Ventures Velocity.

Latitude gets Sinar Mas assistance for $200m fund

Latitude Venture Partners, an Indonesia-based venture capital and business development vehicle affiliated with conglomerate Sinar Mas, has secured $200m in capital, DealStreetAsia has reported. Founded earlier this year, Latitude targets investments in growth-stage companies that can bring value to Indonesia, where Sinar Mas is also based. Sectors of interest to the firm include financial, industrial, healthcare and artificial intelligence technology.

Sinar Mas already operates corporate venturing unit known Sinar Mas Digital Ventures and is a partner in EV Growth along with internet company Yahoo Japan and VC firm East Ventures. Latitude is headed by Linda Wijaya, formerly CEO of paper producer Asia Pulp and Paper and a shareholder in Sinar Mas, as managing partner.

AP Ventures applies itself to $200m launch

UK-based venture capital fund AP Ventures has been launched with $200m of capital, $100m of which came from Anglo American Platinum, the platinum-focused subsidiary of mining company Anglo American. The remaining $100m came from AP Ventures' other cornerstone investor, South African government-owned asset management firm Public Investment Corporation.

AP Ventures will invest in companies developing technologies or products that make use of the platinum group metals that Anglo American Platinum sources, including systems that can help integrate renewable energy or mitigate the effects of population growth. Areas that could be covered by AP Ventures's brief include hydrogen infrastructure, energy storage, fuel cell-based electric mobility, water purification, medical devices, sensors and durable electronics.

The fund will be based in London but plans to open a South African office as it looks to secure external investors. Its team was previously part of the PGM Investment Programme, the strategic investment initiative created by Anglo American Platinum in 2014. The latter will also transfer its existing portfolio to the new fund.

NEWS

Health Enterprise Partners hits up corporates

US-based healthcare investment firm Health Enterprise Partners (HEP) has closed its oversubscribed third fund at $188m, having secured several healthcare organisations and care providers as backers.

Although the participating corporates were not named, HEP identifies a number of strategic limited partners on its website, including healthcare systems Allina Health, Intermountain Healthcare, Novant Health, Sentara Healthcare and UCHealth. Others are health insurance providers Anthem Blue Cross, BlueCross BlueShield of Tennessee and Usable Corporation.

Founded in 2006, HEP generally makes growth equity and small buyout investments of between $5m and $15m in healthcare technology and services providers.

Swisscom switches to external investors

Swisscom Ventures, the corporate venturing subsidiary of telecoms firm Swisscom, has closed a Sfr200m ($199m) fund that included an oversubscribed offering to third-party investors. Swisscom has committed about $50m to the Digital Transformation Fund, with the rest committed by institutional investors. It will target early to later-stage companies, with half the dealflow expected to come from Switzerland and the rest from the US, Europe and Israel.

SCG cements investment in Capricorn fund

SCG Chemicals, a subsidiary of building materials producer Siam Cement Group, has committed an undisclosed sum to Belgium-based venture capital fund manager Capricorn Venture Partners' latest fund. Capricorn Sustainable Chemistry Fund (CSCF) targets developers of fibre, jet fuel, food and feedstock technologies, innovative or sustainable agriculture processes and more functional materials. The fund reached a €50m first close in late 2016 and has set a target of €100m ($129m) to €150m for its final close.

Westly Group whets corporate interest

US-based venture capital firm Westly Group has raised $130m for its latest fund, with several corporates among the limited partners, Bloomberg has reported.

Duke Energy and Innogy were among the anchor investors. Other commitments came from energy utilities CLP Group, American Electric Power and Chubu Electric Power as well as tyre manufacturer Bridgestone.

Founded in 2007, Westly focuses on energy, transportation and smart building technology developers, and the latest fund will provide between $3m and $5m per investment, co-founder and managing partner Steve Westly told Bloomberg.

Wisconn Valley Venture Fund surges with $100m

Four corporates – Advocate Aurora Health, Foxconn, Johnson Controls and Northwestern Mutual – have joined forces to launch the $100m Wisconn Valley Venture Fund aimed at healthcare, technology, manufacturing and financial services.

Healthcare provider Advocate Aurora Health, contract electronics manufacturer Foxconn, building materials supplier Johnson Controls and insurance company Northwestern Mutual each supplied $25m.

The vehicle will invest in early-stage startups both in the US and internationally, seeking not only investment returns but also strategic benefits for the four limited partners. Each of the four corporates will have representation on the fund's investment committee. It will operate out of Milwaukee, Wisconsin, though a fund manager has yet to be selected.

New Voices makes noise with $100m close

New Voices Fund, a US-based investment fund focused on women of colour, has been launched officially with $100m from investors, including consumer goods producer Unilever, American Spa has reported.

The fund was formed when Unilever acquired Sundial, a producer of personal care brands created to meet the needs of people of colour, in a November 2017 deal that involved the companies making a $50m joint anchor investment.

New Voices will fund consumer, technology, media and entertainment companies with non-white female founders at seed to series C stage, supplying expertise along with capital. Eight portfolio companies have so far received a total of $30m from the fund.

NEWS

Motley Fool launc hes $100m fund

US-based financial advisory service Motley Fool is raising $100m for a venture capital fund, the Washington Business Journal has reported. Motley Fool combines financial and investment advice with several mutual funds.

Ollen Douglass, Motley Fool's chief financial officer until January this year, will run Motley Fool Ventures as managing director. John Keeling, senior vice-president of business development at the company, will also be a venture partner.

The corporate has not revealed details of the sectors in which it plans to invest, but Keeling said it would participate in rounds at the seed to series B stage, building a portfolio that "reflects our best vision of the future". It has yet to raise capital, according to a regulatory filing.

PSL places corporates in tech fund

Paris-based university Université Paris-Sciences-et-Lettres (PSL) has joined venture capital firm Elaia Partners to launch France-based investment vehicle PSL Innovation Fund with backing from several corporates.

Financial services firm BNP Paribas, industrial manufacturer Naval Group and insurance provider MGEN are limited partners, as are KPN Ventures, the corporate venturing arm of telecoms firm KPN, and FamilleC, part of cosmetics manufacturer Clarins Group.

The fund, which is targeting a €75m ($87.5m) close, will be managed by Elaia Partners. Additional investors include Université PSL and Fonds National d'Amorçage 2, an early-stage vehicle managed by government-owned investment bank BPIFrance. The fund will invest in areas of expertise for Université PSL, focusing on deep tech subsectors such as artificial intelligence, cleantech, materials, biomedical engineering and digital applications.

Nabtesco puts $85m fund in motion

Japan-headquartered industrial equipment manufacturer Nabtesco has launched Switzerland-based corporate venturing fund Nabtesco Technology Ventures with €75m ($85m). The unit, operated in partnership with Switzerland-based investment firm Emerald Technology Ventures, will invest in areas of strategic importance to Nabtesco, such as robotics, motors, artificial intelligence and internet-of-things technology.

Nabtesco Technology Ventures has been operational since June this year. It will focus on motion control technology and is looking chiefly at investments in Europe and North America. Hiroshi Nerima, a business development manager at Nabtesco who joined the company in 2012, will be Nabtesco Technology Ventures' president, chief executive and managing partner.

Cyberdyne assembles venturing fund

Japan-based robotics technology provider Cyberdyne has raised an initial ¥9.2bn ($81.9m) for a strategic investment fund that features insurance firms Sompo Japan Nipponkoa and Daido Life, home builder Daiwa House Industry, financial services firm Mizuho Bank and its corporate venturing vehicle, Mizuho Capital, Nikkei Asian Review has reported.

Founded in 2004, Cyberdyne develops robotics technology and its best known for a cybernetic exoskeleton capable of enhancing body strength. The fund is targeting a final close between ¥20bn and ¥30bn and is raising funds through CEJ Capital, an entity established by Cyberdyne, Mizuho Capital and venture capital firm Global Brain in December 2017.

The vehicle is intended to invest over a 10-year period and is considering deals in sectors such as robotics, artificial intelligence, medical and healthcare technology. It will provide anything up to $18m to each portfolio company, supporting them from research to commercialisation. Yoshiyuki Sankai, Cyberdyne's founder, president and CEO, will head the fund. It will look to access technologies that can integrate with the company's exoskeletons.

MTech meets corporates to raise $75m

UK-based venture capital firm MTech Capital has reached the first close of insurance fund InsureTech with $75m from corporates, including financial services firm CNA Financial Corporation and insurance and financial group NN Group.

They were joined by an undisclosed "top-three" insurance firm as anchor investors in the fund and MTech intends to secure additional insurance providers as investors on the way to a $150m final close in the next year.

InsureTech, which has offices in London and Los Angeles in the US, is targeting developers of technology capable of disrupting the insurance industry, particularly early-stage companies.

MTech said it had also formed parallel funds in the form of structured partnerships, but did not disclose precise details.

NEWS

Sunway beats $50m path to venturing

Diversified Malaysia-based conglomerate Sunway is raising $50m for new corporate venture capital vehicle Sun Sea Capital, the New Straits Times has reported.

Sunway initially announced plans for the vehicle through a stock exchange filing without disclosing financial details. It plans to put up $5m, according to the Times, and and seek external funding. The fund will target deals around series A stage with a ticket size of between $1m and $3m. Prospective portfolio companies will be based in Malaysia, Thailand, Singapore, Indonesia, the Philippines, Vietnam or Hong Kong, working in areas such as online-to-offline services, enterprise software, logistics, entertainment, digital health and financial technology.

Koichi Saito and Kuan Hsu, co-founders and general partners of internet and mobile-focused VC fund KK Fund, have been signed up by Sun Sea Capital as consultants.

Sunway formed corporate venturing unit Sunway Ventures in May last year but it has not disclosed any investments. The company's non-profit incubator, Sunway Innovation Labs, admitted its first participants in March this year.

BIF's fundraising efforts beget $50m

India-based venture capital firm Bharat Innovation Fund (BIF) has raised $50m from limited partners including electronics producer Philips, insurance provider ICICI Lombard and electrical equipment manufacturer Bajaj Electricals, the Economic Times has reported.

Financial services firm RBL Bank and Indian government-owned development financial institution the Small Industries Development Bank of India also contributed, the latter through its Fund of Funds for Startups.

BIF, an affiliate of Indian Institute of Management Ahmedabad's Centre for Innovation Incubation and Entrepreneurship, is targeting a $100m final close, according to recent press reports, having initially been rumoured to be seeking $150m at the time of the fund's 2016 launch. The fund will focus on pre-series A and series A-stage startups in deep technology-focused areas such as financial technology, renewable energy and agriculture.

BIF was co-founded by managing partners Kunal Upadhyay and Shyam Menon, with founding partner Ashwin Raguraman. Upadhyay and Menon are also the co-founders of the Centre for Innovation Incubation and Entrepreneurship's cleantech fund, Infuse Ventures, which was launched in 2012.

THG launches venture unit and accelerator

The Heritage Group, a diversified US-based holding company, has launched corporate venturing unit HG Ventures, through which it plans to invest $50m a year. The unit will make strategic investments in early and growth-stage companies in its parent's core sectors of infrastructure, materials, energy and environmental services. It does not have a specific fund size.

The unit will be overseen by the company's New Ventures Group, a division headed by Kip Frey, an executive vice-president hired last month from Duke University, where he was vice-provost for innovation and entrepreneurship.

The Heritage Group has also set up an accelerator run by entrepreneurs network Techstars. New Ventures Group has set up the initiative, the Heritage Group Accelerator Powered by Techstars, to mentor and develop early-stage companies at its corporate research and innovation facility in Indianapolis, Indiana. The scheme will begin next year, selecting 10 startups developing materials science, environmental services or speciality chemicals technologies to take part in a three-month initiative.

The Heritage Group will invest $120,000 in each startup while Techstars, which operates more than 40 accelerators worldwide, will offer access to a global network of financial, managerial and technical mentors.

The Heritage Group is unrelated to healthcare-focused venture capital firm Heritage Group.

Drone Fund seeks $45m close

Drone Fund, a Japan-based venture capital firm that targets unmanned aerial vehicle technology, has secured several corporates as limited partners for its second fund, the Bridge has reported.

The firm invests in developers of technology centred on unmanned aerial vehicles, or drones, and is targeting between ¥3bn and ¥5bn ($27m to $45m) for the fund's final close. Telecoms firm KDDI, game producer Sega Sammy, price comparison platform Aucfan, engineering consultancy Japan Asia Group, education provider Leave a Nest and Canal Ventures, the investment arm of systems integrator Nihon Unisys, are among the fund's limited partners.

Others are financial services firms Mizuho Bank and Bank of Fukuoka, the latter through its FFG Venture Business Partners unit; KSK Angel Fund, the VC vehicle for footballer Keisuke Honda; startup hub Mistletoe and the founding family of motor manufacturer Mabuchi Motor.

NEWS

BP pumps $10m into Nio Capital

Oil and gas supplier BP has provided $10m for a US dollar-denominated fund owned by Nio Capital, the corporate venturing arm of China-based smart electric car developer Nio.

Founded in 2016, Nio Capital invests in transport technologies such as electrification, autonomous driving software and shared mobility offerings. It raised $500m for its first fund, which was launched in November 2017.

BP's commitment to the fund comes two months after it formed a strategic partnership with Nio Capital. The companies have not disclosed whether BP's investment will be channelled into a new or existing fund.

Line lays down $10m for token fund

Japan-based mobile messaging platform developer Line has committed $10m to corporate venturing fund Unblock Ventures that will concentrate on token investments. The fund, based in Hong Kong, will make investments in the token offerings that have proven a key fundraising method for blockchain and crypto technology developers, and increasingly for more mainstream companies.

The fund will be overseen by Unblock, Line's blockchain technology subsidiary, but Line committed the capital through another cryptocurrency and blockchain-focused unit, LVC Corporation, and expects to increase the fund's size as the sector grows. Recipients of funding from Unblock Ventures will be early-stage companies. Line said the vehicle was launched "to boost the development and adoption of cryptocurrencies and blockchain technology".

SBI and OSK okay $20m fund

Japan-headquartered financial services provider SBI Holdings and Malaysia-based private equity firm OSK Ventures have established a venture capital fund with an initial $20m, DealStreetAsia has reported. OSK-SBI Dynamic Growth Fund will target investments in Southeast Asia with a projected five-year lifespan. The partners intend to recruit additional limited partners, but have not specified the sectors on which the fund will focus.

Golden Gate lets in $65m

Singapore-based venture capital firm Golden Gate Ventures has achieved a $65m first close for a $100m fund, with limited partners including conglomerate Hanwha and internet company Naver, TechCrunch has reported. The fund will target early-stage startups in Southeast Asia and is expected to achieve a final close by the end of this year. Investors include Singaporean state-owned investment firm Temasek, VC firm Mistletoe and Eduardo Saverin, co-founder of social media company Facebook.

Bumble buzzes into new fund

US-based dating platform Bumble has launched a corporate venturing fund that will concentrate on female-founded and female-led businesses, Forbes has reported.

The Bumble Fund has so far received $1m from Bumble and will invest between $5,000 and $250,000 in each portfolio company, targeting startups with founders from diverse backgrounds. Sarah Jones Simmer, Bumble's chief operating officer, will head the fund, taking advice from Sarah Kunst, managing director at venture capital firm Cleo Capital, one of Bumble's existing commitments. Bumble has also backed another fund, Female Founders Fund.

M12 lays path for female founders

M12, the corporate venturing unit owned by US-headquartered software provider Microsoft, is one of three venture capital investors jointly backing a contest for women entrepreneurs. Luxembourg-based VC fund EQT Ventures and SVB Financial Group, owner of venture debt provider Silicon Valley Bank, are the other co-founders of Female Founders Competition.

The contest is open to enterprise technology developers based in Europe, the US or Israel with at least one female founder that have raised less than $4m in funding. Two winners will receive a total of $4m in venture capital in addition to mentoring and access to technology resources.

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Binance Labs experiments with incubator

Binance Labs, a social impact fund formed by US-based cryptocurrency exchange Binance, has launched an incubation initiative towill help founders develop viable blockchain technology offerings.

The first iteration of Binance Labs Incubation Program will take place in San Francisco and will last 10 weeks, after which each participant will received $500,000 in exchange for a 10% equity stake or the equivalent in tokens.

Binance said in a blog post it decided to establish the scheme because too many crypto projects lacked the ability to fit the existing market or need for specific products, and because too many founders in the sector followed hype rather than focusing on building viable products.

The formation of the incubator comes two months after Binance revealed plans to invest up to $1bn through Binance Labs, providing funding for startups and other funds through its BNB token.

Splice to spit out $1m through media fund

Singapore-based digital media company Splice has formed a $1m venture capital fund in partnership with blockchain-based journalism organisation Civil that is intended to help launch media startups across Asia.

The fund, Splice 100, will be managed by Splice and is intended to be the catalyst for the launch of 100 startups in three years by making micro-investments at the pre-seed stage. Splice did not offer additional details.

Startups to get Ironclad investments

US-based beer producer Ironclad Brewery has formed a corporate venturing unit that will invest up to $50,000 in local startups, Brewbound has reported. Ironclad, which was founded in 2014, will provide between $25,000 and $50,000 to each portfolio company and expects to invest about $200,000 a year in eight startups. The fund's first deal is a $50,000 investment in Petrics, the developer of a smart pet bed and activity tracker that provides information on a pet's health and behaviour. The funding was matched by another investor, according to a regulatory filing.

Skala to let down ladder to startups

Gree Ventures, the corporate venturing arm of Japan-based digital media company Gree, has formed Indonesian startup accelerator Skala in partnership with conglomerate Salim Group's Innovation Factory. Skala will provide $30,000 of funding per startup in return for a 5% stake, once it has completed a three-month scheme. Gree Ventures principal Nikhil Kapur and investment manager Samir Chaibi are operating partners at Skala alongside Innovation Factory director Adrian Lim and Budiman Wikarsa, head of Amazon Web Services' Indonesian startup ecosystem.

BLS gives blessing to accelerator

India-based outsourcing services provider BLS International has formed Dubai-based BLS Accelerator. It will chiefly work with Indian startups, providing seed and series A-stage funding plus mentoring, advice and connections to angel investors, seed-stage funds and venture capital firms. The unit is headed by CEO Riya Aggarwal and joint managing director Shikhar Aggarwal and will provide up to Rs5m ($70,000) to each participant in the three-month initiative. It intends to invest up to Rs50m this year, according to news agency IANS.

MUFG demos third accelerator batch

Japan-based financial services group Mitsubishi UFJ Financial Group (MUFG) has held the demo day for the third batch of its MUFG Digital Accelerator, the Bridge has reported.

Credit Engine, operator of short-term business lending service Lendy, won the top award, securing a ¥2m ($18,000) business support grant. The runners-up were MDR, creator of a software development kit for quantum computing that has a product agreement in place with MUFG Bank, and Restar, developer of real estate asset evaluation platform Remitis.

The audience award was won by No New Folk Studio, creator of an internet-connected insole device called Orphe Track that can collect data on a user's feet. Other participants included cryptocurrency wallet developer AndGo and Factbase, owner of crypto data portal Signal.

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Alexa Fund alerts second accelerator batch

Alexa Fund, the venture capital vehicle for US-based e-commerce, connected device and cloud computing company Amazon, has chosen nine companies for the second batch of its accelerator initiative.

The list includes voice-based shopping startup Blutag, smart water meter developer Conservation Labs, digital laboratory assistant developer HelixAI, commercial building assistant provider Imageous, conversational customer service technology developer Presence AI, touch-based technology provider Novalia, online conversational app developer Jargon, children's coding platform Unruly Studios and speech recognition startup Voiceitt.

Facebook fills out Brazilian accelerator

Social media company Facebook and social impact business supporter Artemisia have announced the first 10 participants in their accelerator partnership, DCI has reported.

The companies are cleaning services marketplace Parafuzo, medical chatbot developer Cloud.ia, therapist platform Vittude, rare disease diagnostics startup Nindoo, Egalitê, which helps disabled users find employment, civic engagement platform Colab, education chat app developer EduSim, microentrepreneurship creation service MEI Fácil, debt remittance services provider Blu365 and CanalBloom, creator of an early learning product for children.

Senior to send funding to startups

Brazil-based enterprise software provider Senior has launched a corporate venturing vehicle called Senior Ventures that is intended to invest in 10 companies by the end of 2022, Baguete has reported.

The fund will target developers of financial and human resources technology that can be both consumer and business facing. Senior has already been active in accelerating startups since 2014.

Senior Ventures' portfolio so far includes SocialBase, the Brazil-based developer of a social communications hub for businesses that allows their employees to communicate with each other more effectively.

Tokyo Electric powers up new unit

Japan-based energy utility Tokyo Electric Power has formed incubator subsidiary Tepco Ventures to develop companies that will combine energy and industrial technology.

Tepco Ventures will operate as an internal incubator while also setting up companies as joint ventures in partnership with other parties, both local and international. It will replace New Business Task Force, Tokyo Electric's existing corporate venturing unit. The new vehicle will focus on "Utility 3.0" technologies, such as distributed energy and energy infrastructure beyond electricity, as well as advanced batteries, drone technologies and location services based on internet-of-things technology.

Comment: Alphabet's results highlight its 'other bets'

James Mawson, editor-in-chief

With Facebook and Netflix stumbling without recognised corporate venturing units, it has been interesting to see the other big four US internet companies – Microsoft, Amazon, Alphabet and Apple – with powerful CVC investments report or predict strong results.

Alphabet was the most clear-cut as it reported better-than-expected second-quarter earnings, driving Alphabet shares to a new all-time high. It generated adjusted earnings per share of $11.75 versus the Wall Street consensus of $9.59 for the quarter, according to cable news provider CNBC. Alphabet also posted a $1.06bn gain in its equity investments over the period, which translated into $1.17 earnings per share of outperformance.

Ruth Porat, chief financial officer of Alphabet and Google, said: "Our investments are driving great experiences for users, strong results for advertisers, and new business opportunities for Google and Alphabet."

Effectively, Alphabet is made up of its "alpha" – advertising on its search engine Google – and "other bets", such as those made through its corporate venturing units, such as GV, CapitalG and Gradient, and from its balance sheet. These other bets brought in $145m of revenue in the three months to the end of June, but generated an operating loss of $732m.

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As a result one well-known investor told CNBC that Alphabet had a shot at being the next Berkshire Hathaway – Warren Buffett's conglomerate holding company.

Josh Brown, CEO of Ritholtz Wealth Management, told CNBC: "What I am really talking about is the diversified nature of what [Alphabet is] building away from the ad platform, in much the same way as Berkshire reinvested the float from insurance premiums into other investments. I guess I am also talking in terms of longevity, not just size.

"This quarter witnessed a host of Google's other investments throwing off profits. Larry and Sergey [Google co-founders Larry Page and Sergey Mikhaylovich Brin] were very open about their intention to create something Berkshire-like when they first announced the new structure and Alphabet."

With Alphabet's Chinese peers, particularly Baidu, Alibaba, Tencent and JD having similar models of reinvesting heavily in other bets through corporate venturing, the big eight global tech companies are converging on similar strategies. ◆

Analysis: Uptick in e-commerce

Kaloyan Andonov, reporter, GCV Analytics

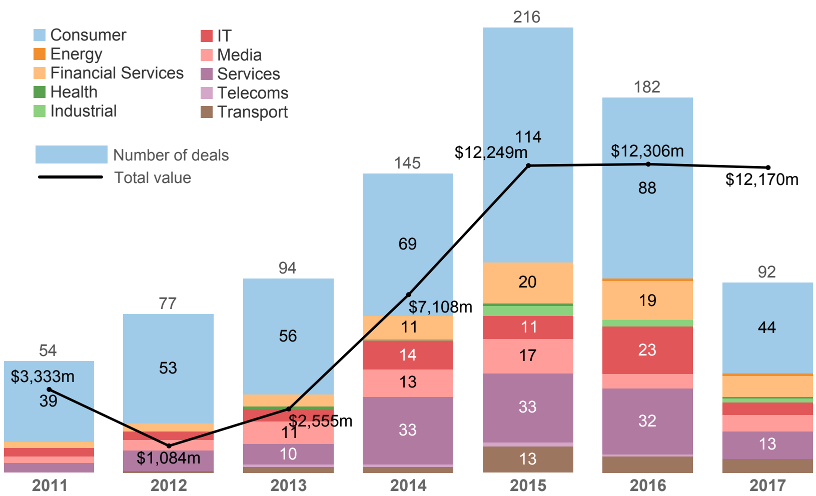
South Africa-based media and e-commerce group Naspers committed $500m to US-based e-commerce app developer Letgo. The investment was made through its online marketplace subsidiary OLX.

Letgo has developed an app enabling users to buy and sell second-hand items. The platform employs an artificial intelligence system that sets a category, title and price for each item based only on a photo. To date, the app hosts some 400 million listings and has been downloaded more than 100 million times. The company plans to support further development of the app and to expand into real estate listings.

South of the US border, Mexico-based department store operator Falabella paid $138m for online marketplace Linio, giving exits to retail group Tengelmann and diversified conglomerate Access Industries.

Launched in 2012, having been incubated by Rocket Internet, Linio runs an e-commerce platform that allows businesses to sell a wide variety of consumer goods such as electronics, toys, cosmetics and automobiles. While keeping offices in the US and China, Linio operates primarily in Latin American countries – Argentina, Mexico, Chile, Peru, Colombia, Venezuela, Ecuador and Panama.

Corporate-backed rounds in e-commerce and related enterprises by sector 2011-17



Also within the broader e-commerce ecosystem, China-based online grocery delivery service Dada-JD Daojia raised $500m from big-box retailer Walmart and e-commerce firm JD.com. Walmart provided $320m of the investment while JD.com supplied the rest. Walmart had committed $50m to Dada-JD Daojia in 2016 as part of a cooperation agreement.

Founded in 2014 and previously known as New Dada, Dada-JD Daojia runs two companies – its crowdsourced last-mile delivery service Dada, and JD Daojia, which offers one-hour delivery of items ordered online from more than 100,000 partner retailers. The platform's partners include 200 Chinese branches of Walmart across 30 cities. Walmart recently opened a specialist store in Shenzhen to meet demand from customers on JD Daojia.

Corporate venturers have been investing in e-commerce enterprises and tangential technologies and services. Deals in this space peaked in 2015 at 216 transactions but began to drop in 2016 (182 rounds) and went down to 92 last year. The sums invested in such businesses in corporate-backed rounds, however, remained relatively stable and above $12bn between 2015 and 2017, indicating that the average round size is growing. ◆

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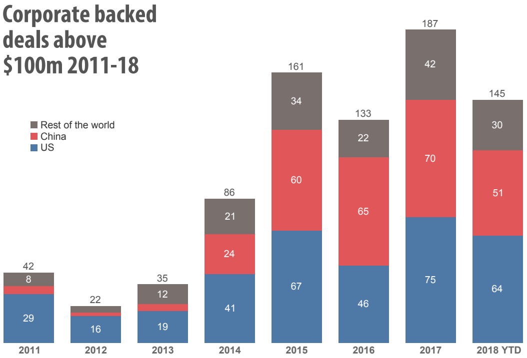
Analysis: China and US share the mega-deals

Kaloyan Andonov, reporter, GCV Analytics

GCV Analytics data shows it is likely a corporate investor is included in the syndicates of larger VC funding rounds. There are plenty of reasons for this. For a variety of communication-related reasons, many corporate investors are often reluctant to disclose publicly that they are backing a startup until it reaches later stages of development, which naturally tend to attract larger rounds. In addition, some corporate venturers play the game mostly for financial returns, therefore later-stage and larger rounds – some of which even offer clauses guaranteeing minimum returns should the envisioned exit strategy fail – are naturally alluring.

Corporate-backed nine-figure funding rounds are, therfore, revealing on a global scale. In any year, most deals of $100m and above are concentrated in the two major innovation geographies of the world – the US and China. It is also these rounds – less than 200 annually – that account for the bulk of total estimated corporate venturing capital. For example, GCV tracked 1,354 deals worth an estimated $85.3bn in the first half 2018, of which $66bn or 77% were deployed in 145 deals f $100m or more.

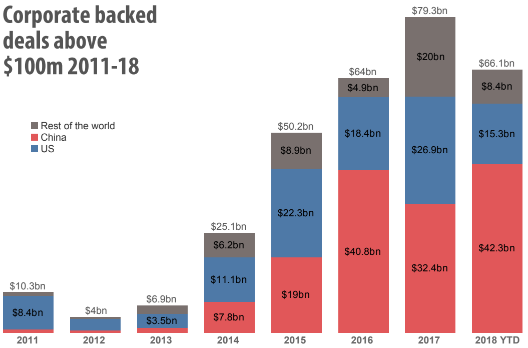
Corporate backed deals above $100m 2011-18



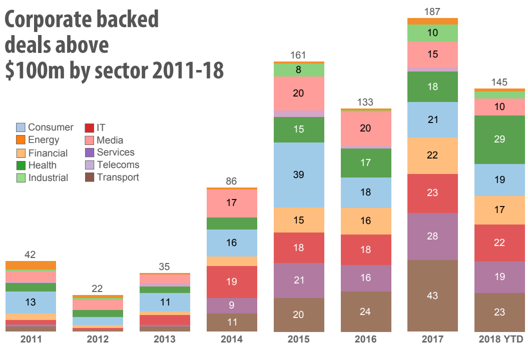
Geographically, values are skewed towards China and the US – much more towards China. During the first half of 2018, $42.3bn out of the $66bn we tracked went to China-based companies, while $15.3bn went to US-based emerging businesses.

Finally, it is worth asking what type of companies raise these gargantuan rounds. Unlike their geographical distribution, there does not seem to be a bias in favour of companies from a particular sector. Except for some occasional peaks for companies from the transport, consumer or health sector in recent years, a promising business from almost any industry can be equally likely to raise a large round. ◆

Corporate backed deals above $100m 2011-18



Corporate backed deals above $100m by sector 2011-18



Big deal: Didi Chuxing gets $500m from Booking

Robert Lavine, news editor

Online travel agency Booking Holdings has invested $500m in China-based on-demand ride service Didi Chuxing as part of a strategic partnership agreement, as the latter prepares to spin off its automotive services arm.

Didi Chuxing operates a ride-hailing platform with more than 550 million registered users, providing some 30 million rides a day, covering a range of options including taxis, buses, minibuses, designated driver services, corporate lifts, bicycle rental and food delivery.

Booking Holdings, previously known as Priceline Group, has formed the partnership to allow it to offer ride-hailing services powered by Didi through its various brands, which include Booking.com, Priceline, Kayak, Cheapflights and OpenTable. Didi customers will, meanwhile, be able to book hotels through Booking Holdings subsidiaries Booking.com and Agoda.

Stephen Zhu, Didi Chuxing's vice-president for strategy, said: "Building on its leadership and expertise in the global online travel market, Booking is championing a digital revolution of travel experience.

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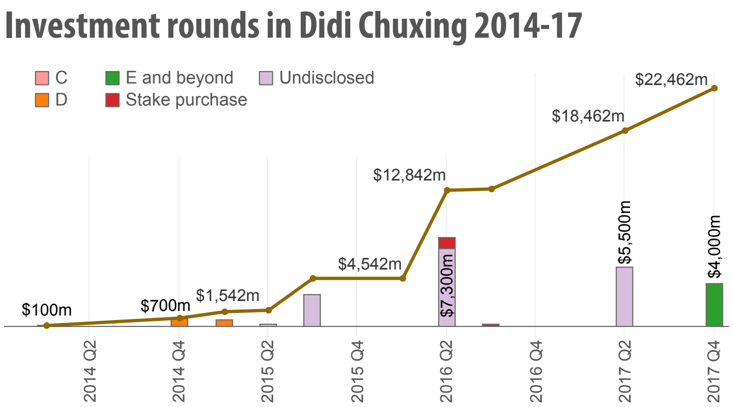


"We look forward to seamlessly connecting every segment of the journey and improving everyone's travelling experience through more collaborative innovation with the Booking brands on product, technology and market development."

Todd Henrich, head of corporate development for Booking Holdings, added: "Didi has clear advantages in technology and scale in the shared mobility industry. We believe that together we can offer smarter transportation services to our brands' customers, and help Didi's customers with seamless access to the products and services the brands in our company provide throughout the world."

The deal was announced as sources told Reuters that Didi also plans to spin off its car services unit, which it currently values at between $2bn and $3bn, in an initial public offering of between $1bn and $1.5bn. SoftBank, the telecoms and internet group that backed Didi's last round in December 2017 at a $56bn valuation, has been approached to take part in the offering, the sources said, though they did not specify what the firm's participation would involve.

The car services unit, launched in April this year, provides access to services such as car rental, sharing, sales, refuelling, maintenance and repair services provided by some 5,000 partners in more than 200 Chinese cities.

Booking Holdings' investment increased Didi's total debt and equity financing to about $17.7bn, and the Wall Street Journal reported in April this year that the company was considering an IPO of its own as soon as this year at a valuation of up to $80bn.

SoftBank and Abu Dhabi-owned sovereign wealth fund Mubadala Investment Company supplied the company's last funding, investing $4bn in December, eight months after SoftBank put up $5bn of a $5.5bn round that included Silver Lake Kraftwerk and financial services firms China Merchants Bank and Bank of Communications.

Didi Chuxing was formed by the merger of rivals Didi Dache and Kuaidi Dache in 2015, at which point they had raised a combined $1.55bn from SoftBank, e-commerce firm Alibaba, internet group Tencent, car rental service eHi, DST Global, Matrix Partners, Tiger Global Management, New Horizon Fund, GSR Ventures and Citic PE.

The merged company secured $3bn just after the deal closed, getting cash from Alibaba, Tencent and Ping An Ventures, the corporate venturing arm of insurance firm Ping An, as well as China Investment Corp, Temasek, Capital International Private Equity Fund and Coatue Management

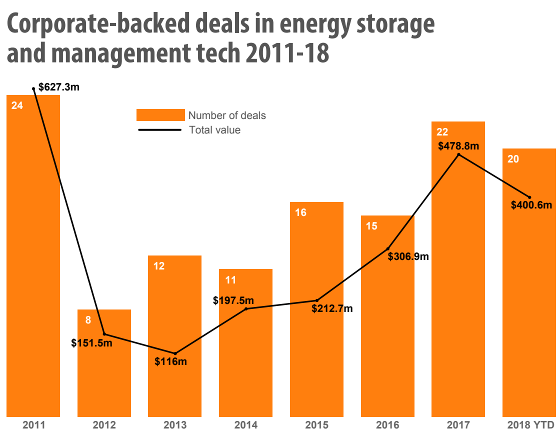
Alibaba and its financial services affiliate Ant Financial joined SoftBank, Tencent, electronics producer Apple, insurance group China Life and asset manager BlackRock in a $4.8bn equity round for Didi the following year that was closed at a $28bn valuation together with $2.5bn in debt financing. ◆

Analysis: Energy crackles with fresh investment

Kaloyan Andonov, reporter, GCV Analytics

Electric storage and management tech companies have been appearing in venturing and acquisition deals involving oil and gas companies.

Oil and gas majors, alongside car manufacturers, tend to be major corporate backers of such technology developers, as they anticipate a transition to a low-carbon future relying on more sustainable and cleaner energy sources. The number of corporate-backed rounds in such businesses increased throughout last year to 22 rounds with an estimated total capital of $479m. These figures are likely to increase even further by the end of this year – in the first half there had already been 20 such deals involving estimated capital of $400m.



NEWS

Germany-based energy storage system developer Sonnen completed a €60m ($70m) financing round led by Shell Ventures, the corporate venturing arm of the oil and gas producer. Other participants in the round were not revealed. Formerly known as Sonnenbatterie, Sonnen has created a home energy storage and management system designed to work in tandem with solar panels. It also runs a community scheme where owners of its systems can share their surplus solar energy. Sonnen is pursuing a cooperation agreement with Shell's new energies unit that will cover integrated energy, electric vehicle charging and grid services based on Sonnen's virtual battery technology.

Petroleum supplier BP agreed to buy Chargemaster, a UK-based operator of a network of electric vehicle charging points, for an undisclosed amount, giving an exit to automotive manufacturer BMW, which had committed capital in 2013 via its BMW i Ventures unit. Established in 2008, Chargemaster designs, builds and installs chargers, operating a network of 6,500 across the UK, both public and in-home. It receives money through a mix of subscription and pay-as-you-go fees. The company will operate as an independent subsidiary after the acquisition. It will enable BP to install charging points at its petrol stations.

ChargePoint, a US-based electric vehicle charging network operator, agreed to buy US-based energy management software provider Kisensum for an undisclosed amount. The acquisition is part of an aggressive growth push, as its chief strategy officer Simon Lonsdale defined it. Founded in 2014, Kisensum develops an energy management storage platform designed for energy distribution grids. ChargePoint runs a network of almost 38,000 chargers working with electric cars, buses and trucks, and serves more than 7,000 corporate and public customers. Its corporate backers include carmakers Daimler and BMW, the latter of which invested in its latest $124m round raised last year. ◆

Analysis: Delivery yields $134m pick-up for Glovo

Kaloyan Andonov, reporter, GCV Analytics

Spain-based last-mile on-demand delivery service Glovo closed a funding round of €115m ($134m), which valued it at $348m. The transaction featured corporate investors such as e-commerce firm Rakuten and restaurant group AmRest, alongside traditional venture investors such as venture capital funds Seaya Ventures and growth equity firms Idinvest Partners and GR Capital. AmRest reportedly committed $29m of the total. Rakuten is a returning investor, as it backed Glovo's $35m series B round in 2017.

Founded 2014, Glovo runs a network of local couriers it calls "Glovers" to provide a rapid on-demand delivery service for food and consumer items on behalf of local businesses.

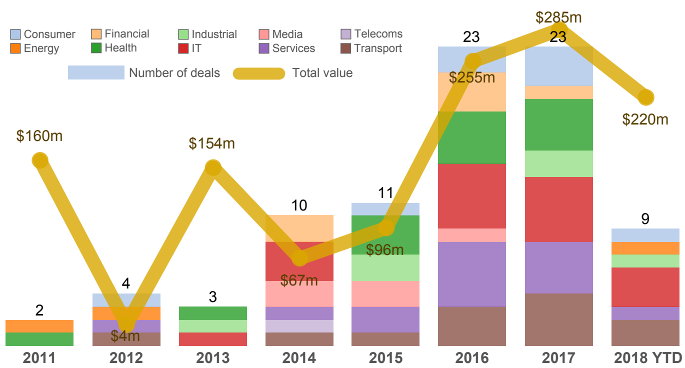
Glovo is currently available in about 60 cities across 17 countries in Europe, the Middle East and Africa. The company intends to use the new capital to fund further international growth and hire some 100 engineers.

Despite being hit hard by the global financial crisis, Spain boasts a relatively vibrant and dynamic startup ecosystem. It was not until 2016, however, that GCV tracking revealed more deals raised by Spanish startups featuring corporate players in the syndicates.

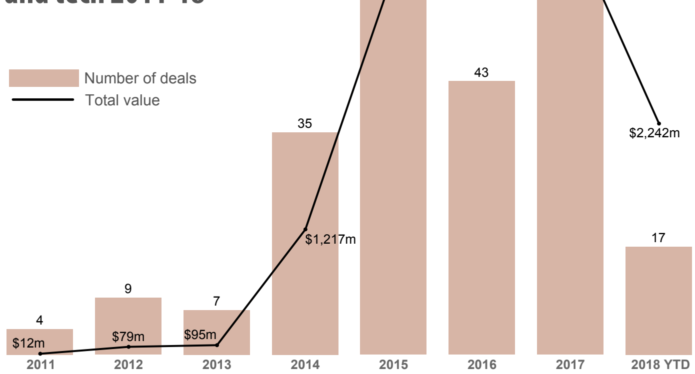
During the first half of 2018, we tracked 9 such deals totalling an estimated $220m and this pace will likely be kept by the end of the year.

Glovo forms part of the broader delivery services and tech space. Corporate-backed deals there have fluctuated somewhat in recent years, and appear to be set for a slowdown in 2018. ◆

Corporate venturing in Spain 2011-18



Corporate-backed deals in delivery services and tech 2011-18



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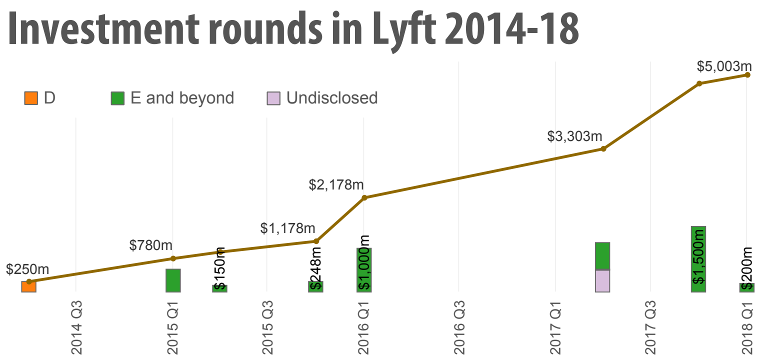
Analysis: Lyft gets $600m lift

Kaloyan Andonov, reporter, GCV Analytics

US-based ride-hailing service Lyft closed a $600m round. Its previous backers include a host of corporates, among them automotive manufacturer General Motors, diversified internet company Alphabet, e-commerce companies Alibaba and Rakuten as well as auto parts manufacturer Magna International.



The latest transaction reportedly valued the company at $15.1bn post-money. The valuation is a significant jump from a reported $11.7bn valuation at which Magna International invested $200m earlier this year.

Founded in 2012, Lyft operates a cab-hailing app similar to that of competitor Uber, aiming to make up for its smaller market share and funding size by positioning itself as a more customer-friendly and fun alternative. It had more than 610,000 daily active drivers across the US and Canada at the end of 2017.

The new round was led by financial services group Fidelity Management and Research. It took Lyft's overall equity funding to $5bn. Fidelity also participated in a $1.5bn round, which took place in December last year, along with Rakuten. ◆

Analysis: Revival in life sciences IPOs

Kaloyan Andonov, reporter, GCV Analytics

A number of life sciences companies – makers of pharmaceuticals and medical devices – backed by corporate venturers have gone public or filed for initial public offerings in the past month.

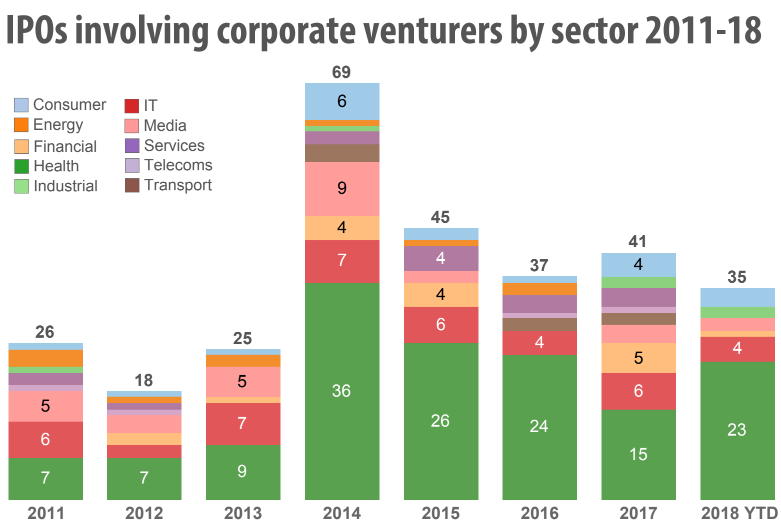
The number of life sciences IPOs has been on a downward trend since 2014, but this year new life is being breathed into them. IPOs normally constitute a relatively small portion of exits for corporate or traditional VCs. IPOs of corporate-backed life sciences companies, however, account for a significant number of those.

Since their peak at 36 transactions in 2014, the number has declined over the past few years to just 15 last year. During the first half of 2018, however, GCV has already reported 23.

Xeris Pharmaceuticals, a US-based drug formulation developer backed by drug producer Institut Mérieux, floated on the Nasdaq Global Market, raising $85.5m after issuing 5.7 million shares at $15 each.

Xeris has developed two formulation technology platforms, XeriSol and XeriJect, which can be used to create ready-to-use injectable and infusible drugs that can be stored at room temperature. The company's main product is an injection for hypoglycaemia – low blood sugar – in diabetes patients.

Neuronetics, a US-based



Global Corporate Venturing

NEWS

medical device developer backed by pharmaceutical firm Pfizer and diversified industrial conglomerate General Electric, completed its IPO at $107.5m, after pricing 5.5 million shares at $17 each on the Nasdaq Global Market.

However, its shares closed at $26.96, giving it a market capitalisation of about $451m, while underwriters took up an option to buy a further 825,000 shares. Neuronetics' lead product is a device intended to treat psychiatric disorders by creating a magnetic field to stimulate parts of the brain associated with mood.

US-based cancer drug developer Neon Therapeutics went public in a $100m IPO that gave exits to diversified conglomerate Access Industries and pharmaceutical firm Pharmstandard. The company issued 6.25 million shares on the Nasdaq Global Select Market at $16 each, in the middle of the $15 to $17 range it had set. Neon develops immuno-oncology therapies to fight cancer.

US-based antibodies developer Allakos filed for a $75m IPO which could provide exits to pharmaceutical firms Roche and Novo. Founded in 2012, Allakos is working on a treatment to address eosinophil and mast cell related diseases. Eosinophil disorder causes overproduction of cells responsible for releasing toxins, leading to inflammation. Mast cell-related diseases cause chemical mediators to be released excessively, leading to symptoms ranging from skin rashes to anaphylaxis. ◆

Symposium: GCV raises over £6,000 for charity

During the annual Global Corporate Venturing Symposium in London, we like to have fun and also help charity. At this year's gala dinner, a charity quiz and fundraising effort was led by Andrew Gaule, CEO of Aimava. Did the attendees know their facts about corporate venturing as they answered questions drawn from GCV's World of Corporate Venturing 2018?

The charity that benefited this year was World Vision UK, which supports more than 4 million children and their communities. You can see a short video from World Vision Zambia at *https://youtu.be/jCRSFbYh84g*

Two attendees who showed they knew their stuff, or were just lucky, won the prize of nominating a charity.

Andrew Muir of UK Innovation & Science Seed Fund nominated Centre for Effective Altruism

Julio Romo of TwoFourSeven nominated the Samaritans

> "The conference's generous support means we can continue to be there for anyone struggling to cope with whatever life has thrown at them. Having a Samaritans volunteer at the end of the phone, day or night, throughout the year, is a lifeline for those who feel at the lowest point in their lives." – *Samaritans*

On the night and with online donations we collected £2,410 from attendees. Mawsonia – publisher of GCV, Global University Venturing and Global Government Venturing – matched all donations. We would also like to thank Akira Kirton of BP Ventures, which also matched the donation to World Vision UK. A total of £6,025 ($7,780) was raised.

You can see short videos featuring previous GCV charity donations, to the Kasisi Children's Home and Reading Partners, at *https://youtu.be/1ZatpUm6eWE*

PROFILE

Tencent thrives on value in its portfolio companies

Kaloyan Andonov, reporter, and James Mawson, editor-in-chief

Three companies backed by Tencent have announced their intention to hold initial public offerings (IPOs), adding billions more in potential liquidity to the corporate but, probably more importantly, liquidity to continue expansion and longer-term alliances between the internet conglomerate and portfolio company partners.

Content aggregating app Qutoutiao filed for an IPO in the US with a $300m target. Tencent is among the backers of the two-year-old company. It reportedly led a $200m round for a 7.8% stake in March that valued Qutoutiao at $1.6bn post-money. Founded in 2016, Qutoutiao aggregates news content according to a user's personal tastes.

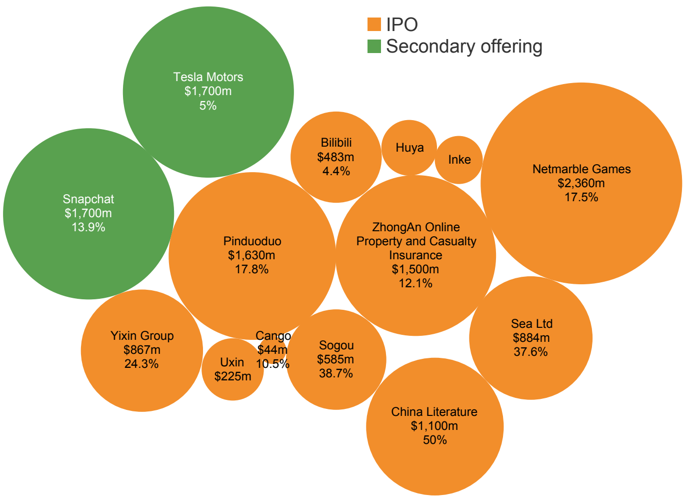
China-based smart electric vehicle developer Nio filed for $1.3bn IPO in the US. Along with company CEO Bin Lin, who will hold class C shares, Tencent will have a significant say in setting the company's strategy *(see comment)*.

China-based online education platform operator Koolearn, an online education subsidiary of New Oriental Education & Technology Group, reportedly filed for an IPO at the Hong Kong Stock Exchange. Koolearn had raised RMB320m ($50m) from Tencent's Image Frame affiliate in 2016 and Tencent has a 12.06% stake.

Its stakes in these three IPOs alone would yield Tencent an estimated $2bn in paper returns. This follows a previous GCV analysis estimating Tencent's ownership positions in five IPOs last year amounted to about $14bn.

The three latest flotations could come ahead of other large portfolio company IPOs planned for group buying platform Meituan Dianping and ride-hailing service Didi Chuxing – collectively these two alone could be valued at more than $100bn given private valuations of a reported $30bn to $60bn for the former and $70bn for the latter.

Tencent's exits 2017-18 with value and known retained stake



The bubble chart summarises Tencent's partial exits since the beginning of 2017 with known retained ownership stakes. Other notable partial stakes have been acquired by Tencent since the beginning of 2017. Tencent and its subsidiary Tencent Music Entertainment agreed to swap minority stakes of undisclosed size with music-streaming service Spotify. Tencent also committed $372m for a 5% stake in China International Capital Corporation (CICC), one of the country's most active investment banks. Tencent holds 5% of electric car developer Tesla Motors, led by Elon Musk, as well as 13.9% of social media platform Snapchat, which it acquired after a drop in its stock price.

A notable IPO was that of Pinduoduo, a China-based group buying platform backed by Tencent. It raised about $1.63bn when it floated in the US. The company priced the initial public offering at the top of its $16 to $19 range and issued about 85.6 million American depositary shares on the Nasdaq Global Select Market. The IPO reportedly valued Pinduoduo at $23.8bn. Pinduoduo's group buying platform enables multiple buyers to form groups to buy items in bulk at discounted rates.

China-based e-commerce marketplace operator Yixin Group, spun out of automotive transaction services provider BitAuto, raised HK$6.77bn ($867m) in its IPO, giving an exit to Tencent. The company issued almost 879 million shares on the Hong Kong Stock Exchange at the top of the HK$6.60 to HK$7.70 range it had set. The first day of trading give it a

PROFILE

market cap of about $6.54bn. Yixin runs an online platform that functions as a marketplace for vehicles. It also operates a financial services operation that provides leasing as well as financing for car purchases.

Bilibili, a China-based online entertainment platform backed by Tencent and mobile game developer FingerFun, raised $483m in its IPO on the Nasdaq Global Select Market. The company priced 42 million American depositary shares at $11.50, in the middle of its $10.50 to $12.50 range, giving it a $3.19bn market cap. Bilibili operates an online platform focused on anime, comics and gaming that incorporates video-streaming, mobile games and livestreaming. It had an average of 76 million monthly active users in the first two months of 2018.

China-based live game-streaming platform Inke, backed by online game publisher Beijing Kunlun Tech and Tencent, raised HK$1.05bn in its IPO. The company priced its shares at HK$3.85, at the bottom of the range it had previously set, while increasing the number of shares in the offering from 257 million to 300 million. Founded in 2015, Inke runs a mobile-focused livestreaming platform that concentrates on gaming, allowing viewers and video creators to communicate with each other. It had about 195 million registered users at the end of 2017.

China-based automotive sales service provider Cango, previously backed by Tencent, insurance firm Taikang Life Insurance and ride-hailing company Didi Chuxing, floated on the New York Stock Exchange in a $44m IPO. The offering consisted of 4 million American depositary shares at $11 each. The company had initially targeted $300m for the IPO. Cango operates an online platform that connects car dealers, buyers and financial institutions.

Apart from IPOs, Tencent's trade sales this year include Flipkart to Walmart for more than $20bn, although Tencent was reported to be keeping a stake in the company, Ele.me to Alibaba at a reported $9.5bn valuation, and bike-hiring platform Mobike to another portfolio company, Meituan Dianping for a reported $2.7bn.

Tencent holdings

Company	Stock exchange	Tencent holding % stake (as of Sep 30)
China Literature	HKG	50
Huya	NYSE	39.5
Sea	NYSE	37.6
58.com	NYSE	21.7
HengTen Networks Group Limited	SEHK	19.7
Pinduoduo	Nasdaq	17.8
Netmarble Games	KOSE	17.7
Glu Mobile	Nasdaq	16.9
JD.com	Nasdaq	16.6
Nio	Not quoting yet	15.2
Cheetah Mobile	NYSE	14.6
Leju Holdings	NYSE	14.6
Huayi Tencent Entertainment	SEHK	14.3
Snap	NYSE	13.9
ZhongAn Online P&C Insurance	SEHK	12.1
Koolearn	Not quoting yet	12.06
China South City Holdings	SEHK	10.7
Cango	NYSE	10.5
NavInfo	SZSE	9.9
Frontier Developments	Aim	8.8
Kakao	KOSE	8
Aiming.	TSX	8
Huayi Brothers Media	SZSE	7.9
Qutaotiao	Not quoting yet	7.8
Mail.Ru Group	LSE	7.4
Bitauto Holdings	NYSE	7.1
Kingsoft Corporation	SEHK	7
China LotSynergy Holdings	SEHK	5.7
China International Capital	–	5
Tesla.	Nasdaq	5
Paradox Interactive	USPDX	5
YG Entertainment.	Kosdaq	4.5
Bilibili	Nasdaq	4.4
China United Network Communications	SHSE	3.3
Hangzhou Shunwang Technology	SZSE	2.6
Media Asia Group Holdings Limited	SEHK	2.3
Ourpalm	SZSE	2
Hylink Digital Solution	SHSE	1.5
Inke	HKG	0.9
PATI Games	Kosdaq	0.9
Postal Savings Bank of China	SEHK	0.2
Mobike	–	0
Ele.me	–	0
Youxinpai (Beijing) Information Technology	–	–
Spotify	NYSE	–
FlipKart	–	–

Sources: China Money Network, GCV Analytics, PitchBook

In its financial results, Tencent said: "Recently we have invested aggressively in game live broadcast services, which we view as supportive to our game platform, and in smart retail opportunities, which we view as supportive to our payment and cloud services. We have partially funded these investments by monetising some existing investments, for example, exiting our positions in investee companies Ele.me and Mobike."

But cash returns have come in other ways, too. As the shifting of assets show, the relationship between Tencent and its portfolio companies are more entwined than just that of investor and investee. In its latest financial results, Tencent gave the example of China Literature, which it floated earlier in the year and with which it worked closely.

Tencent said: "Our video services reached 74 million subscriptions, up 121% year on year and maintaining our industry-leading position in China. We attribute this success primarily to our exclusive content in key video genres. For instance, an exclusive drama series, Legend of Fuyao, which was sourced from intellectual property developed with our listed subsidiary China Literature, was ranked the number-one exclusive drama series by video views industry-wide in the first half of the year."

PROFILE

In an article on cross-shareholdings, the Financial Times noted Meituan paid Tencent RMB87.8m for marketing and promotion services last year, a drop from the previous year's RMB128.1m, but this year it was handing all its business to Tencent, capping the annual fee at RMB450m. Similarly, Pinduoduo paid Tencent $33m in service fees in the first three months of the year. If the projections materialise, Meituan will be paying Tencent up to RMB3.6bn in fees in 2020, the FT said.

Alibaba, Tencent and Baidu form a troika developing much of the innovation ecosystem in China. While Baidu has been building up its technology, the battle has seemed to be between Alibaba and Tencent, with slightly differing approaches. As news provider Fortune noted in an article on the two, "Alibaba's is largely a strategy of buying controlling stakes in businesses that are a fit with its commerce platform. Tencent takes hundreds of minority stakes in an array of businesses to win over partners and gain access to their technology."

In May 2018, Alibaba and Cainiao led a $1.38bn investment for an approximate 10% equity stake in ZTO Express, an express delivery company in China that listed nearly two years ago.

While looking for controlling stakes more broadly, Alibaba in the past three months has taken up an option to acquire a third of Ant Financial ahead of its IPO, and has partnerships with portfolio companies similar to those of Tencent. Its "royalty and technology service fees" earned Alibaba in the region of RMB1bn, or about $160m, per quarter, from Ant, according to news provider TechCrunch.

But regardless of broad approach, their ambitions remain undimmed. As Peter Diamandis, executive founder of Singularity University, concluded in a report on the Baidu, Alibaba and Tencent: "China's tech behemoths are disrupting everything from intelligent urban infrastructure to personalised medicine.

"But they are not just revolutionising these industries on their home turf. They are bringing enormous sums of capital and cutting-edge technology to startups and markets across the globe. The pie is not getting smaller – it is getting bigger."

Led in large part by Tencent and Alibaba, investment bank Goldman Sachs in its Venture Capital Horizons report focused on China, and noted a 111% growth in Chinese venture capital investments in the first six months of the year, hitting $30.9bn in the second quarter out of a global total of $71bn, probably making 2018 "a record-breaking year for global venture capital investments". ◆

Comment: Tencent plans greater control of Nio

James Mawson, editor-in-chief

Nio, a China-based smart electric vehicle developer, filed last month to raise up to $1.3bn in an IPO in the US, but among the details of its offering is an unusual move for one corporate venturing unit to exert significant influence over its future strategy through unequal voting rights.

Nio's F-1 filing said: "Each fully paid preferred shares held by Tencent will be converted into the same number of fully paid ordinary shares to be redesignated as class B ordinary shares."

Holders of class A ordinary shares are entitled to one vote per share, holders of class B ordinary shares are entitled to four votes per share and holders of class C ordinary shares – effectively Bin (William) Li, Nio's chairman and chief executive – are entitled to eight votes per share.

With Li owning 17.2% of the company through various holding entities, Tencent is its largest investor, with a 15.2% stake. Together, therefore, the two groups will have more control through the power of the extra voting rights.

The filing warned: "Due to the disparate voting powers associated with our triple classes of ordinary shares, Mr Li and Tencent entities will have considerable influence over important corporate matters. After this offering, Mr Li and Tencent entities will continue to have considerable influence over matters requiring shareholder approval, over matters such as electing directors and approving material mergers, acquisitions or other business combination transactions.

"This concentrated control will limit your ability to influence corporate matters and could also discourage others from pursuing any potential merger, takeover or other change of control transaction, which could have the effect of depriving the holders of our class A ordinary shares and our American depositary shares of the opportunity to sell their shares at a premium over the prevailing market price."

This type of structure has been tried before, but usually only to give the founders and executives greater control. US-listed messaging company Snap floated last year giving new investors in its A shares no voting rights, while early investors, such as Tencent with 17.5% after buying stock following the flotation, had one vote per B share and the C stock – held exclusively by Snap's co-founders, CEO Evan Spiegel and chief technology officer Bobby Murphy – came with 10

PROFILE

votes each, or about 88.5% of the voting power, according to analysis by Recode.

Similarly, Facebook CEO Mark Zuckerberg controls 60% of the voting power at the social giant, while, at Alphabet, Google co-founders Sergey Brin and Larry Page control more than 52% of the vote combined, Recode noted.

Li's decision to grant Tencent greater voting rights reflects the importance of the internet conglomerate in Nio's future. Tencent has, through private investments in public offerings, often tried to acquire shares in portfolio and listed companies rather than using stock markets to exit holdings.

This trust has been built over the past decade. Li Bin had worked with Tencent Investment's managing partner, Zhaohui (Jeffrey) Li at his previous startup, car retailer BitAuto. Li Bin founded BitAuto after the millennium and reportedly raised $12m from Li Zhaohui in 2009 during his time as an investment principal at Germany-based publisher Bertelsmann's Asian corporate venturing unit. BitAuto then listed in New York in 2010 and Bertelsmann Asia Investments reportedly sold its stake in BitAuto to unidentified buyers for $65m at the start of 2014.

Li Zhaohui this year joined Nio's board, alongside Tencent colleagues James Mitchell, chief strategy officer, and Zhong Xiangping, a general manager of the map platform product.

Nio in its filing said: "Our key partners include Tencent, Baidu, Mobileye and Contemporary Amperex Technology [a battery maker for electric vehicles]. We believe their expertise and know-how broaden our service offering and solidify our technological leadership. For example, we are closely collaborating with Mobileye [acquired by data company Intel for $15.3bn last year] to develop next generation autonomous driving technology to be used in our vehicles.

"It is the most compelling vision of advanced mobility that I have come across so far"

"We have partnered with other strategic partners, including Baidu for its online video iQiyi, search engine and map data and mapping technology, and Tencent for its Tencent Cloud, QQ music, Keen Lab and for NOMI text to speech function.

"We also plan to establish and develop strategic partnerships with Tencent, JD and other technology leaders in our ecosystem to explore more value-added services empowered by big data and our cloud architecture, such as mailbox service, or last-mile express delivery service, and in-car entertainment."

While Nio also discusses the manufacturing alliance with JAC to make its ES8 and ES6 models, the focus of much of the filing is a pitch to change how people buy and use a car.

Tom Whitehouse, chairman of the London Environmental Investment Forum and contributing editor to Global Corporate Venturing, said of Nio: "It is the most compelling vision of advanced mobility that I have come across so far. I feel it will be very difficult for Europe and North America to compete."

News provider Financial Times in its analysis said: "The promise to its potential investors in Nio's American depositary shares – who will join early backers such as Tencent, Baidu and Sequoia Capital – is to revolutionise the experience of owning a car."

Li Bin said in the IPO filing: "Product excellence is just the beginning for Nio. What users want is a holistic experience exceeding expectations.

"We expect that the ownership of cars will be redefined by a new experience with respect to cars, services, digital connections and the experience beyond the car. Technological advances will not only reshape automotive products, but also connect cars, smart devices, infrastructure, service providers and users, making a more efficient and innovative user experience possible."

The FT noted that while Nio "has only received 17,000 orders for its first car, some 490,000 people have downloaded its social network app, and posted more than a quarter of a million photos".

Mike Maples, partner at venture capital firm Floodgate, in a guest comment for Fortune, said the power of connections in a world of networked capitalism meant "software-defined networks will be the most valuable businesses, displacing traditional corporations as central actors".

Effectively, Nio, which also runs a corporate venturing unit in Nio Capital, is trying to leverage network effects – best seen by Tencent on its WeChat messaging and applications platform – and a collaboration and partnering ecosystem to restructure what is meant by a corporation.

Rather than focus only on reducing transaction costs in buying an electric vehicle, Nio is pushing the firm into areas that Julian Birkinshaw, professor of strategy and entrepreneurship at London Business School, in an article for Harvard Business Review, said would also be important to future success, such as purpose, managing priorities and a long-term approach.

Heady stuff for a startup with $7m in revenues and more than $500m in losses so far this year, but Birkinshaw noted: "Firms create value by nurturing 'unreasonable' behaviour."

Giving Tencent greater influence over the company is less unreasonable from this perspective of longer-term partnership, but whether it will assist the flotation has yet to be tested. ◆

SECTOR FOCUS

Telecoms growth continues

Kaloyan Andonov, reporter, GCV Analytics

The telecoms sector is the connecting tissue in the process of digitisation various industries are undergoing globally. Developments in telecoms will enable and facilitate the further massification of innovative mobile and internet-related technologies.

GCV Analytics defines the telecoms sector as encompassing telecoms service providers, wireless connectivity technologies and other related businesses.

Telecoms is arguably one of the most disrupted sectors in terms of its basic services. Telecoms carriers no longer rely on solid revenues from voice or texting services. Over-the-top (OTT) providers of services such as Whatsapp, Skype or Viber seem to have replaced them in the era of internet-connected mobile devices. Thus, partnerships with such OTT disruptors and other businesses operating in the form of mobile apps offer opportunities for revenue growth.

Recent trends in the consumption of mobile internet access have intensified the erosion of profit margins for telecoms, as subscribers tend to use more data, while their monthly bills either stay the same or go down. A report by Deloitte – 2018 Telecommunications Industry Outlook – points out that the industry is searching for new growth opportunities in emerging technologies, noting that it is "critical to identify rapid investment opportunities across the telecoms portfolio – including 5G [fifth generation telecoms], the internet of things and cross-industry partnerships, such as mHealth and mPayments, as well as a host of other growth opportunities".

One example of the convergence of telecoms with other industries involves Canada-based telecoms provider Telus. Both the corporate and its venturing activities extend into the field of healthcare IT. Richard Osborn, managing director of Telus Ventures, explained: "With a deep commitment to helping improve Canada's healthcare system, and as the largest health technology vendor in Canada, the division of Telus known as Telus Health has, with the active support of Telus Ventures, acquired, developed and partnered to create a suite of complementary technologies serving healthcare professionals and patients across the country."

With a decisive role to play in overall technological disruption, the telecoms sector is one of the most competitive industries. To stay competitive, companies – whether new or established – need constantly to make significant outlays of capital. This is why the telecoms business is so capital-intensive, and helped lead to innovative new fundraising methods – Swisscom and Telstra raising third-party capital this summer *(see box)*.

SoftBank, a Japan-based conglomerate and owner of US phone operator Sprint among other mobile and internet assets, had led the way with its own third-party raising of capital for its near-$100bn Vision Fund.

Despite strong competition and mixed economic conditions, the industry is flush with opportunities. An Economist report – Telecoms in 2018 – forecast that this nyear there would be "an average of 113 mobile subscriptions per 100 people in the world's 60 biggest markets". According to the report, this growth "will be driven by the increasing uptake of mobile phones and smartphones in Asia, particularly India, and in the emerging markets of sub-Saharan Africa, the fastest-growing region worldwide".

In developed markets, such as the US, Europe and East Asia, new subscriptions are expected to come from a new and wider range of internet-connected devices and applications within the broader internet-of-things (IoT) space – from connected vehicles through automated workplaces to smart homes.

The part of IoT most ostensibly connected via telecoms today is the connected vehicle space. Deloitte's report states: "The largest US carriers have made significant investments in the connected car space over the last several years, and we are already seeing strong growth in mobile subscriptions

Telstra reorients financially while Swisscom raises a new fund

Telstra Ventures, the corporate venturing arm of Australia-based telecoms firm Telstra, channelled its activities into a partnership with private equity firm HarbourVest. The total size of the vehicle will be A$675m (about $500m).

HarbourVest reportedly agreed to pay for $62.5m for a 25% stake in the vehicle. It was later reported that both Telstra and HarbourVest had each invested a further $92m in the fund, leaving Telstra with a 62.5% stake and HarbourVest with 32.5%. The fund will take over management of Telstra Ventures' portfolio but it is not clear whether the fund will retain the Telstra Ventures name, offices or management.

Founded in 2011, Telstra Ventures runs offices in Australia, the US and China and targets deals in sectors such as mobile internet, media, cloud computing, machine learning and cybersecurity.

Swisscom Ventures, the corporate venturing subsidiary of telecoms provider Swisscom, closed a Sfr200m ($200m) fund that included an oversubscribed offering to third-party investors. Swisscom committed about $50m to the Digital Transformation Fund, with the rest committed by institutional investors. The fund will target early to later-stage companies, with half the dealflow expected to come from Switzerland and the rest from the US, Europe and Israel.

Swisscom Ventures has gone through a number of iterations, ending up with an early-stage fund that runs on an evergreen model where returns are reinvested in new portfolio companies. However, unlike its Australian peer, Swisscom Ventures will remain with its parent company maintaining a focus on both strategic and financial goals.

Alternative models to leverage corporate cash along with traditional VC and private equity investors are emerging, but the viability of corporate venturing for telecoms players has also proven its effectiveness and attractiveness when it comes raising funds.

SECTOR FOCUS

for connected vehicles." The report also predicts that connected vehicles will "continue to be an important growth area for carriers in 2018".

There are, however, other areas within IoT that can also create opportunities, such as smart homes, wearables, vehicle fleets, predictive maintenance and automation of manufacturing in different industries. Some of them are likely to generate challenges in educating consumers. In the US alone, for example, fewer than a fifth of consumers claim to feel "very well informed" about cybersecurity risks in connected home applications, according to Deloitte's 2017 Global Mobile Consumer Survey. Furthermore, according to the same survey, failure to use mobile phone payments is largely due to a perceived fear that they are not secure enough.

The emerging connected world will necessitate higher internet speeds and it is incumbent on the telecoms industry to deliver them. The rollout of 5G mobile networks is a key area of focus in most developed markets. It is, however, as noted above also associated with significant capital outlays. According to Deloitte's 2018 Telecommunications Industry Outlook, these new mobile networks "will rely on substantial investment in the core fibre backhaul network to support anticipated growth in data services". While 5G is being tested and prepared for developed markets with a view to full deployment by 2020, telecoms companies are rolling out 4G networks and amplify mobile coverage throughout developing markets.

Beyond IoT and 5G, the telecoms sector can also look for synergies and partnerships with other industries and disruptive technologies related to media consumption over mobile devices. Among the most promising candidates is augmented reality (AR). At the time of writing, US-based telecoms carrier AT&T has partnered US-based AR technology developer Magic Leap. Improvements of AR software and hardware will fuel this trend.

Online media consumed on a subscription basis is a fertile ground for fruitful partnerships. According to Deloitte's outlook report, 50% of adults in developed markets are expected to be paying for at least two online-only media subscriptions by the end of this year.

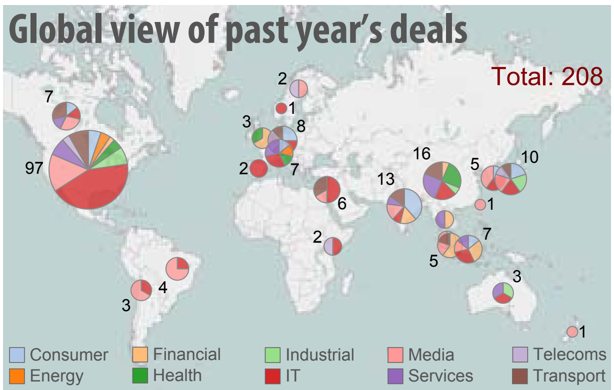
Another area of opportunity lies in broadcasting. According to Deloitte's report, events and live broadcasts are expected to generate revenue of $545bn this year, mostly from traditional sectors and only a small portion from eSports and live streaming. The report also notes that China is the largest market for live streaming, with viewership likely to reach 456 million people.

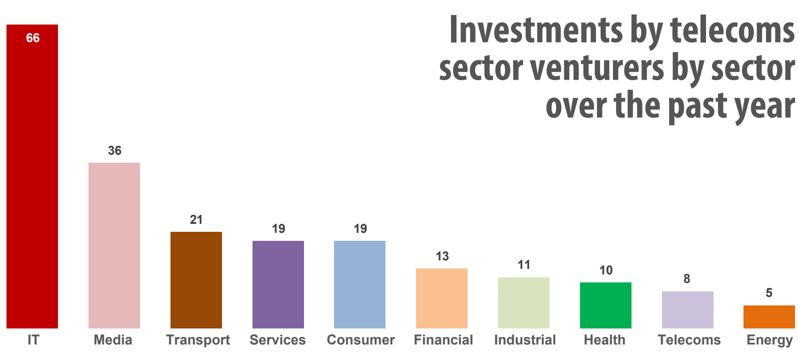
There are other developments in related technologies that telecoms will be drawn to – from image and speech recognition, to using machine learning to deal with growing mountains of data, to providing high-speed in-flight internet access. The pattern of corporate venturing investments tracked by GCV Analytics confirms this.

The regulatory and political climate for telecoms varies greatly across geographies. There have been both favourable and not-so-favourable developments in key markets. On one hand, certain measures taken by the US administration, such as the tax reduction for US-based businesses and rescinding net neutrality rules – which required internet service providers to offer equal access to all web content – are positive for US-based telecoms. On the other side of the Atlantic, the forced removal of roaming charges across the EU is likely to exert further pressure on already squeezed margins.

For the period between August 2017 and July 2018, we reported 208 venturing rounds involving corporate investors from the telecoms sector. A large number of those (97) took place in the US, while 16 were hosted in China, 13 in India and 10 in Japan.

Many of those commitments (66) went to emerging enterprises in the IT sector – augmented and virtual reality technologies, artificial intelligence, big data and analytics as well as enterprise software – with the remainder going into companies developing other technologies favouring synergies with telecoms – 36 deals in media (games and gaming, digital and online marketing, social media and networks), 21 in transport (connected and autonomous vehicles, ride-hailing apps as well as





vehicle marketplaces and platforms) and 19 in services (logistics and supply chain as well as accommodation and travelling), among others.

The network diagram showing co-investments illustrates the wide spectrum of investment interests among the sector's incumbents. The commitments include smart antennas and telecoms technology developers (Alcan Systems and Matrixx) through cybersecurity applications (Nok Nok Labs and Morphisec), AR and artificial intelligence technologies (Edgybees and Fyusion), media (Fastly), e-commerce platforms and vehicle marketplaces (ShopBack and Carro) and drones (PrecisionHawk).

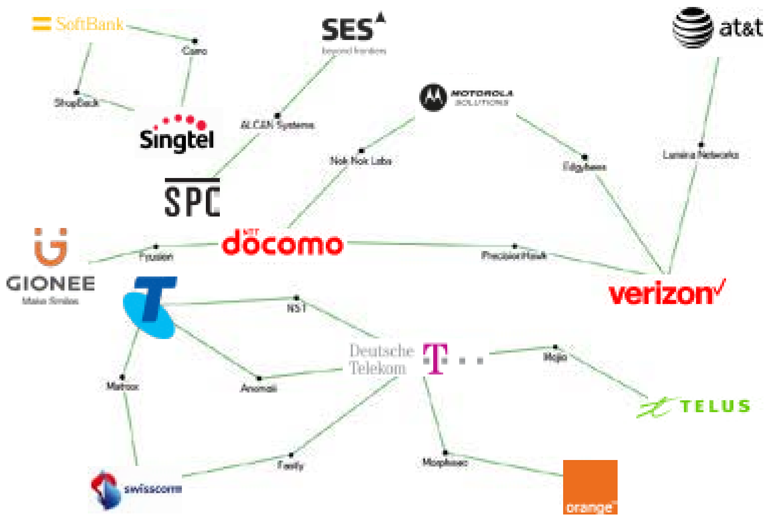
On a calendar year-on-year basis, total capital raised in corporate-backed investment rounds went up significantly from $13.33bn in 2016 to $34.48bn in 2017 – a 160% surge. The deal count also increased 8% from 185 deals in 2016 to 200 in 2017. The 10 largest investments by corporate venturers from the telecoms sector were spread across other industries.

The leading corporate investors from the telecoms sector were SoftBank, Verizon and NTT Docomo. The list of telecoms corporates committing capital in the largest rounds was also topped by SoftBank, along with telecoms firms Telstra, AT&T and Nokia.

The most active corporate venture investors in emerging telecoms companies were mobile semiconductor and chipset manufacturer Qualcomm, along with SoftBank and telecoms provider Swisscom.

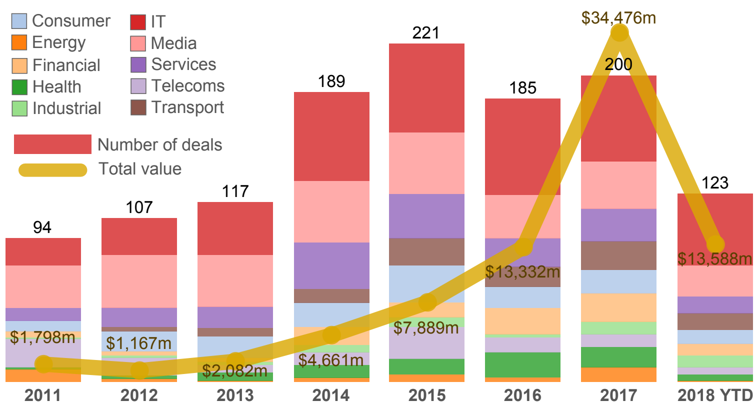
The rising telecoms businesses in the portfolios of corporate venturers were varied, encompassing instant visibility solutions (Matrixx),

Co-investments by telecoms sector venturers 2014-18

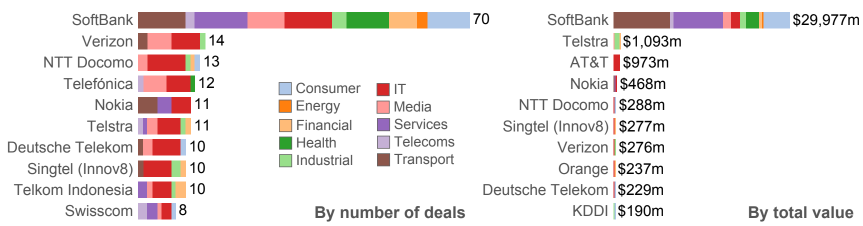


Includes only selected companies with two or more telecoms corporate co-investors

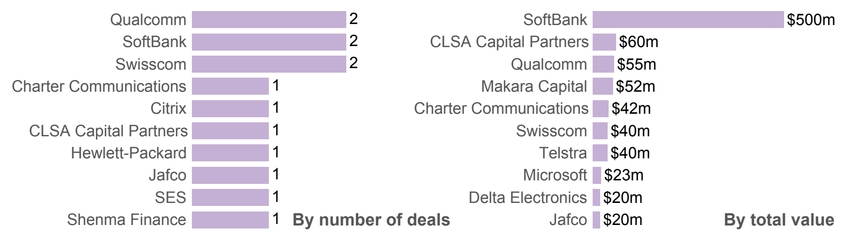
Deals by telecoms corporate venturers 2011-18



Top telecoms sector investors over the past year



Top investors in telecoms over the past year



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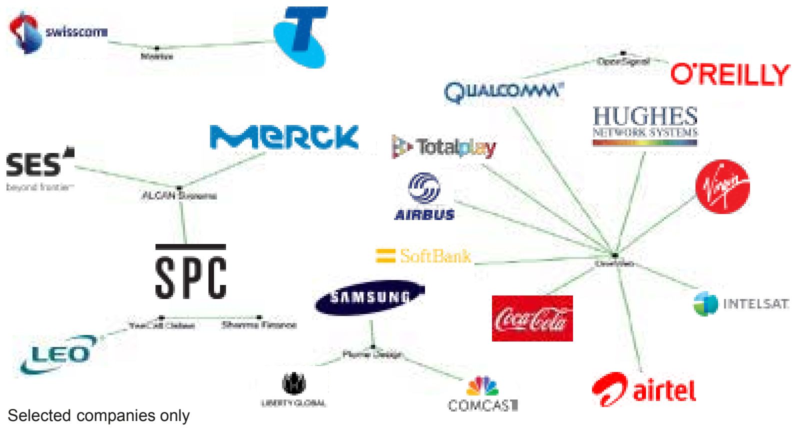
flat smart antennas (Alcan), tools for crowdsourcing wireless networks signal (Open Signal), developers of micro-satellites to provide internet access (OneWeb), cloud-powered wifi systems (Plume Design) and software for online calls and chat (YeeCall Online).

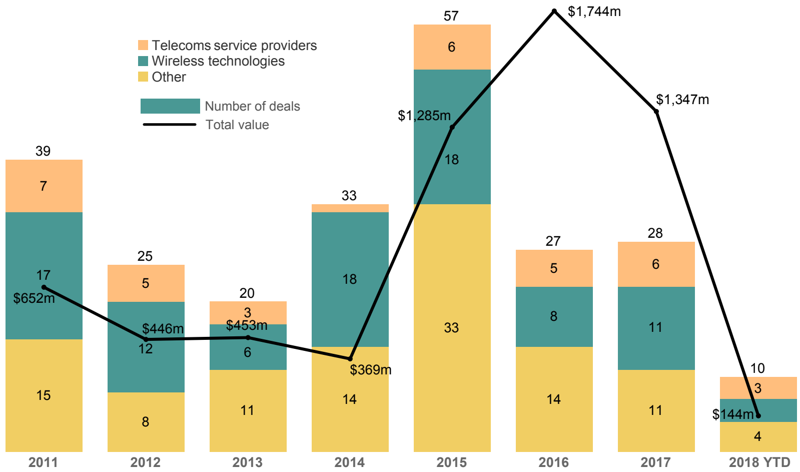
Overall, corporate investments in emerging telecoms-focused enterprises remained stable from 2016 to 2017 in terms of deal volume – 27 and 28 deals respectively, while estimated total investment value dropped from $1.74bn to $1.35bn.

Corporate co-investments by telecoms enterprises 2016-18



Selected companies only

Telecoms deals by subsector 2011-18



Deals

Telecoms sector corporates invested in large rounds, raised by a range of enterprises, primarily from different sectors, such as services, industrials and IT. None of the top 10 rounds, however, were above the $1bn mark. Most featured SoftBank as an investor, as its investment thesis extends across numerous industries.

US-based AR headset developer Magic Leap raised a $963m series D round, which valued at it $6bn. The round featured media firm Grupo Globo, e-commerce group Alibaba and diversified internet conglomerate Alphabet. Saudi Arabia's Public Investment Fund committed $400m. The rest was provided by new backers, including media group Axel Springer's corporate venturing unit, Axel Springer Digital Ventures. Subsequently, it was reported that AT&T had struck a partnership with Magic Leap, which included taking an equity stake in the company, probably as part of this round. However, AT&T's commitment and stake size were not revealed. Founded in 2011 and operating mostly in stealth mode since then, Magic Leap is developing an AR headset together with a dedicated operating system and is in talks with prospective content producers. It expects to release the headset commercially at a unti price of between $1,500 and $2,000 by the end of this year.

The SoftBank Vision Fund led an $865m series D round for US-based construction services platform Katerra. Other investors included contract manufacturer Foxconn as well as venture firms Greenoaks Capital, DFJ Growth and Khosla Ventures. Founded in 2015, Katerra has built a platform that streamlines the design and building process by operating as an end-to-end system through which it sources and gains materials before construction begins.

China-based robotics technology producer UBtech Robotics raised an $820m series C round, featuring Telstra. The round, which valued UBtech at $5bn, was led by internet company Tencent and included consumer electronics maker Haier Group, furniture rental service Easyhome Furnishings, conglomerate Chia Tai Group, power producer China General Nuclear and online lending platform CreditEase. Founded in 2012, UBtech creates family-friendly humanoid robots for entertainment and educational applications. Its range includes a service robot called Cruzr and a Stormtrooper robot, based on the Star Wars franchise.

SoftBank led a $535m series D round for US-based delivery services provider DoorDash. The company was reportedly valued at $1.4bn post-money. Venture capital firm Sequoia Capital, charitable foundation Wellcome Trust and Singaporean sovereign wealth fund GIC also participated. The individual amounts provided by each investor were not revealed but earlier reports suggested that SoftBank was considering a $300m investment in DoorDash through the SoftBank

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Top 10 deals by telecoms sector corporate investors over the past year					
Company	**Location**	**Sector**	**Round**	**Size**	**Investors**
Magic Leap	US	IT	D	$963m	Alibaba | Alphabet | AT&T | Axel Springer | Grupo Globo | Public Investment Fund
Katerra	US	Industrial	–	$865m	Canada Pension Plan Investment Board | Divco West Real Estate Services | Navitas Capital | SoftBank | Soros Fund Management | Tavistock Group
UBtech	China	Industrial	C	$820m	CDH Investments | CreditEase | Haier | Industrial and Commercial Bank of China | Minsheng Securities | Shenzhen Green Pine Capital Partners | Telstra | Tencent
DoorDash	US	Services	D	$535m	GIC | Sequoia Capital | SoftBank | Wellcome Trust
OneWeb	US	Telecoms	–	$500m	SoftBank
WeWork China	China	Services	B	$500m	Hony Capital | SoftBank | Temasek | TrustBridge Partners
Compass	US	Services	E and beyond	$450m	SoftBank
Paytm Mall	India	Consumer	–	$445m	Alibaba | SoftBank
Wag	US	Services	–	$300m	SoftBank
Oyo Rooms	India	Services	D	$250m	Greenoaks Capital | Hero Enterprise | Lightspeed Venture Partners | Sequoia Capital | SoftBank

Vision Fund. DoorDash runs a last-mile delivery service for restaurants and operates across more than 600 cities in the US and Canada.

SoftBank invested about $500m in US-based satellite broadband provider OneWeb, which reportedly intends to launch a series of satellites to provide LTE, 3G and wifi internet coverage to underserved areas. The company aims to start supplying internet to Alaskan users in 2019 and eventually plans to have some 900 satellites in orbit. Previous backers of OneWeb include aerospace group Airbus, conglomerates Virgin Group and Bharti Airtel, satellite service providers Hughes Network Systems and Intelsat, Qualcomm, cable and internet services firm Totalplay as well as beverage producer Coca-Cola.

SoftBank and its Vision Fund were among the investors co-leading a $500m series B round raised by WeWork China, co-working space provider WeWork's Chinese offshoot. The round reportedly valued the company at $5bn. This latest capital influx will be used to expand its presence in China. Launched in July last year, WeWork China has built a network of 40 locations in three Chinese cities with a total membership of about 20,000, providing working spaces with facilities such as meeting rooms, printers, office supplies and free coffee.

The Vision Fund provided $450m to US-based online real estate transaction platform Compass at a $2.2bn valuation. The transaction took place weeks after the company's $100m series E round. Founded in 2012, Compass runs a luxury real estate brokerage that spans 30 US cities and uses proprietary technology intended to simplify property buying and selling. It has multiplies the number of its agents by five in the past two years.

India-based online retailer Paytm Mall raised $445m in a funding round led by SoftBank with a $400m commitment. Alibaba supplied an additional $45m for the round, which valued Paytm Mall at approximately $1.9bn. The capital will be supplied across four tranches and will give SoftBank a 21.1% stake, with Alibaba's stake dropping from 36.3% to just over 30%. Launched by mobile payment platform Paytm in 2016, Paytm Mall has since been restructured into a separate business by One97 Communications, the e-commerce and online services group that owns Paytm. It operates an online marketplace aimed at bricks-and-mortar stores.

US-based dog-walking app provider Wag received $300m from the SoftBank Vision Fund. Wag had initially targeted $100m for its funding round and had already secured a commitment for at least some of that amount from an undisclosed venture capital firm. Founded in 2014, Wag operates a mobile marketplace that enables dog owners to connect with certified dog walkers and dogsitters. Owners can track their pet using GPS, while walkers and sitters can share photographs using the app. The platform is geared toward people with a busy lifestyle and offers both on-demand services and regular appointments.

India-based budget hotel booking platform Oyo Rooms raised $250m in a funding round led by the Vision Fund. Service project management and contract manufacturing company Hero Enterprise also contributed to the round, which reportedly valued Oyo at $850m to $900m. Founded in 2012, Oyo operates an online platform for users to book rooms in budget hotels guaranteeing a certain standard of accommodation. The company currently has a network of 8,500 hotels with 70,000 rooms in 230 cities.

There were other interesting deals in emerging telecoms-focused businesses that received financial backing from corporate investors from other sectors.

Iconectiv, a US-based telephony technology subsidiary of communications equipment manufacturer Ericsson, secured $200m from investment firm Francisco Partners in return for a 16.7% stake. Francisco Partners has transferred the capital to Ericsson as a dividend. The two signed the agreement in March 2017 before closing the deal. Iconectiv's technology lets clients interconnect networks, add features such as call routing and billing, and allows customers to keep their mobile phone number when switching operators. The platform also offers fraud detection and identity verification technology.

SECTOR FOCUS

Top 10 investments in emerging telecoms enterprises over the past year

Company	Location	Round	Size	Investors
OneWeb	US	–	$500m	SoftBank
Iconectiv	US	Stake purchase	$200m	Francisco Partners
Cubic Telecom	Ireland	C	$47m	Audi | Ireland Strategic Investment Fund | Qualcomm | Valid Soluciones Tecnologicas
Federated Wireless	US	B	$42m	Arris | Charter Communications | GIC
Matrixx	US	C	$40m	Adams Street Partners | CK Hutchison | Greylock Partners | Spring Lake Equity | Sutter Hill Ventures | Swisscom | Telstra
Zipwhip	US	C	$23m	Microsoft | OpenView Venture Partners | Voyager Capital
Skyroam	US	C	$20m	China Broadband Capital | Delta Electronics | GSR Ventures | Jafco | Vickers Venture Partners
Asocs	Israel	–	$10m	Fornaciari Trust | Taylor Frigon Capital | undisclosed strategic investors
Alcan Systems	Germany	A	$9m	Merck | SES | SPC
Africa's Talking	Kenya	–	$9m	International Finance Corporation | Orange | Social&Capital

Ireland-based IoT platform developer Cubic Telecom raised $47m in series C funding from investors including Qualcomm, digital technologies provider Valid Soluciones Tecnologicas and carmaker Audi. The round also featured sovereign development fund Ireland Strategic Investment Fund, while Audi invested through its Audi Electronics Venture subsidiary. Founded in 2006, Cubic Telecom produces software that helps IoT and machine-to-machine devices connect to the internet and communicate through data, voice or text. In addition to being investors, Audi and Qualcomm are both customers.

Federated Wireless, a US-based developer of phone spectrum management technology, closed a $42m series B round. Telecoms firm Charter, telecom equipment maker Arris and wireless and broadcast communications infrastructure operator American Tower co-led the round with Singaporean sovereign wealth fund GIC. The round valued Federated Wireless at approximately $122m post-money. Federated Wireless was set up in 2012 by Allied Minds and is working on shared spectrum technology that enables commercial carriers and governments to use the same 3.5GHz telecoms band securely without affecting quality of service. The approach makes it possible for carriers to launch additional services, while enabling new providers to enter the mobile phone market without the need to own a specific frequency band. It can also be used to make existing 4G networks more stable.

Matrixx Software, a US-based developer of software for the telecoms industry, secured $40m in a series C round that included conglomerate CK Hutchison as well as Swisscom and Telstra. Venture capital firm Sutter Hill Ventures led the round, in which Telstra and Swisscom invested through their Telstra Ventures and Swisscom Ventures units. Matrixx has created a digital commerce platform that telecoms operators can use to digitise their business operations, incorporating features such as customer engagement, service delivery, monetisation, the design of products and the management of their lifecycles.

Microsoft Ventures – the corporate venturing subsidiary of software company Microsoft – recently rebranded as M12, participated in a $22.5m series C round for US-based business texting service Zipwhip, whose technology enables users to send text messages from landlines or other non-mobile phone numbers. The company also offers an enterprise-grade cloud-based platform for mobile and landline operators.

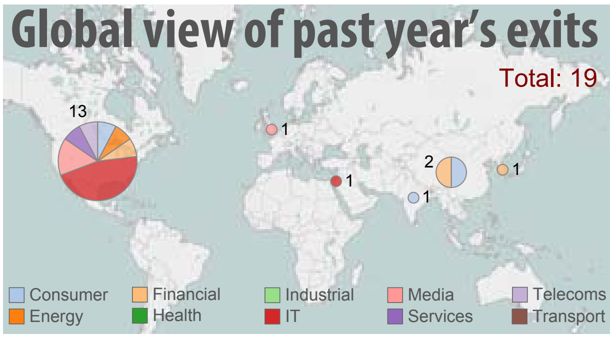
Asocs, an Israel-based virtualised communications technology provider backed by IT manufacturer Fujitsu, raised $10m of a $30m funding round. The $10m figure includes commitments from investment firm Taylor Frigon Capital and Fornaciari Trust as well as undisclosed strategic investors. Founded in 2003, Asocs operates edge-based communication systems for wireless networks that offer high security and bandwidth.

Orange Digital Ventures Africa, the initiative launched by the venturing unit of telecoms firm Orange, announced its first investment in a $8.6m round raised by Kenya-based Africa's Talking. The round was also backed by the International Finance Corporation, an investment unit of the World Bank. Founded in 2010, Africa's Talking is developing a mobile communication platform intended to build mobile technology systems that are scalable, robust, reliable and cloud-based.

Exits

Corporate venturers from the telecoms sector completed 19 exits between August last year and July this year, including 16 acquisitions and three initial public offerings (IPOs). On a calendar year basis, GCV reported 28 exits in 2017, the same number as 2016. However, the estimated exited capital declined 41% from $6.5bn in 2016 to $3.85bn in 2017.

Big-box retailer Walmart agreed to pay $16bn for a 77% stake in India-based e-commerce marketplace Flipkart, giving several corporates



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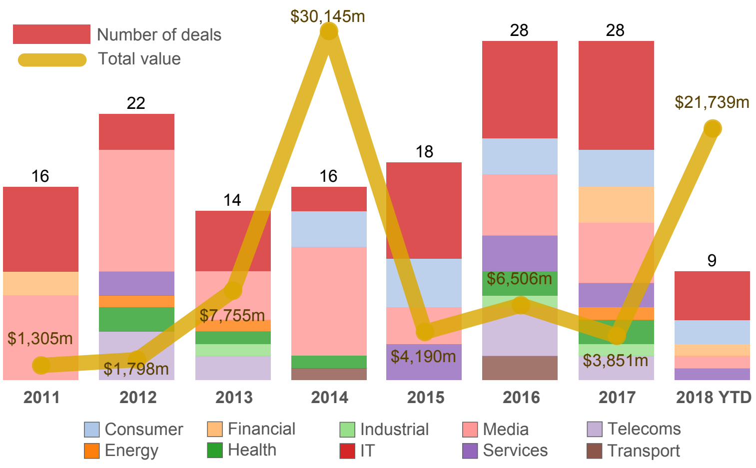
billion-dollar exits. SoftBank's Vision Fund scored the biggest exit in the deal, taking just over $4bn, having paid $2.5bn for a stake of about 20% in August last year. The purchase was the largest M&A transaction in the venture capital space since Facebook's $19bn acquisition of WhatsApp in 2014. Founded in 2007 as a book specialist, Flipkart has built a diversified e-commerce platform.

Exits by telecoms corporate venturers 2011-18



China-based consumer electronics producer Xiaomi raised $4.72bn in an IPO on the Hong Kong Stock Exchange. The company priced roughly 2.18 billion shares at the low end of the HK$17 ($2.17) to HK$22 range previously set. The price valued Xiaomi at about $54bn. Seven cornerstone investors had pledged to buy a combined 10% of the shares, but they reportedly invested $548m in the offering. Cornerstone investors included telecoms company China Mobile, Qualcomm, logistics firm SF Express, state-owned China Merchants Group and investment firm CICFH Entertainment. The IPO was originally intended to be a dual offering that would have raised up to $10bn but Xiaomi was forced to drop the Shanghai portion, reportedly after failing to satisfy Chinese regulators. Founded in 2010, Xiaomi designs and manufactures smartphones as well as other electronic devices such as smart home products, tablets and televisions which are connected through its MIUI operating system.

SoftBank invested $500m in China-based online insurance platform ZhongAn Online Property and Casualty Insurance as part of the latter's $1.5bn IPO. ZhongAn issued approximately 199 million new shares on the Hong Kong Stock Exchange at HK$59.70 each, at the top of the HK$53.70 to HK$59.70 range it had set. SoftBank acquired a stake of just under 5%. ZhongAn's online platform provides around 300 specialised insurance packages, its most popular being the option to append insurance to e-commerce purchases to cover the cost of returning goods.

US-based digital signature technology provider DocuSign floated in a $629m IPO in which Alphabet and mass media group Comcast both sold shares. The shares were priced at $29, above the $24 to $26 range the company had set, giving it a market capitalisation of more than $4.4bn. The company issued just over 16 million shares on the Nasdaq Global Select Market, for almost $466m of proceeds, while its existing shareholders sold almost $164m of shares in the offering. Previous backers of DocuSign include a number of corporates, including telecoms firms Deutsche Telekom, NTT Docomo and Telstra. DocuSign has developed an e-signature platform it claims has hundreds of millions of users, including some 370,000 businesses.

Electronics producer Apple acquired Shazam, a UK-based music identification app developer backed by a range of corporate investors, among them wireless telecoms company América Móvil which paid $40m for a 10.8% stake in 2013. Although the size of the deal was not disclosed, it was reported by sources to be about $400m. Shazam has developed an app capable of identifying background music through a mobile device's microphone.

Online food ordering service Grubhub purchased LevelUp, a US-based mobile payment app developer backed by corporates Deutsche Telekom, Alphabet, JPMorgan Chase and CentroCredit Bank, for $390m. Founded in 2008 as location-based mobile gaming platform Scvngr, LevelUp pivoted to its current business model in 2011 and rebranded in 2012. The company has built a mobile app that enables restaurant custumers to book tables, pre-order food and pay the bill. The restaurants can use the platform to offer loyalty schemes, launch customised marketing campaigns and track sales performance.

Enterprise security software provider Proofpoint agreed to acquire US-based cybersecurity technology developer Cloudmark for $110m, enabling Nokia and trading group Sumitomo to exit. Nokia participated in a $23m round for Cloudmark in 2010 through corporate venturing arm Nokia Growth Partners. Founded in 2001, Cloudmark provides messaging security software to protect communications service provider networks and their subscribers against a range of threats. Upon completion, Proofpoint will integrate Cloudmark's threat telemetry and intelligence data into its Nexus platform, which powers its product portfolio.

Game developer Nexon paid $80m for a 65.2% stake in Korbit, a South Korea-based cryptocurrency exchange, previously backed by SoftBank through its local corporate venturing unit, SoftBank Ventures Korea. The valuation of Korbit was reported at approximately $120m. Korbit operates an online platform that enables users to trade in cryptocurrencies such as Bitcoin, Ethereum and Ripple. It stores the majority of deposits in digital wallets unconnected to the internet to prevent cyberattacks.

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Top 10 exits by telecoms sector corporate investors over the past year

Company	Location	Sector	Exit type	Acquirer	Size	Investors
FlipKart	India	Consumer	Acquisition	Walmart	$16bn	Accel Partners | Baillie Gifford | Bennett Coleman & Company | DST Global | GIC | Greenoaks Capital | Iconiq Capital | International Data Group | Morgan Stanley | Naspers | Qatar Investment Authority | Sofina | SoftBank | Steadview Capital | T Rowe Price | Tiger Global Management
Xiaomi	China	Consumer	IPO	–	$4.72bn	All-Stars Investment | China Mobile | CICFH Entertainment | DST Global | GIC | Hopu Fund | International Data Group | Morningside | NGP | Qiming Venture Partners | Qualcomm | SF Express | Temasek | Yunfeng Capital
ZhongAn Online Property and Casualty Insurance	China	Financial services	IPO	–	$1.5bn	Ant Financial | CDH Investments | China International Capital Corporation | Keywise Capital Management | Morgan Stanley | Ping An Insurance | SoftBank | Tencent
DocuSign	US	IT	IPO	–	$629m	Accel Partners | Alphabet | Bain Capital | BBVA | Brookside Capital | ClearBridge Investments | Comcast | Cross Creek Advisors | Dell | Deutsche Telekom | EDBI | Frazier Technology Ventures | Generation Investment Management | Ignition Partners | Intel | Kleiner Perkins Caufield & Byers | Mitsui | NTT Docomo | Recruit Holdings | Salesforce | Samsung | Sands Capital | SAP (Sapphire Ventures) | Scale Venture Partners | Second Century Ventures | Sigma Partners | Telstra | Visa | Wasatch Advisors | Wellington Management | WestRiver Capital
Shazam	UK	Media	Acquisition	Apple	$400m	Acacia Capital Partners | Access Industries | America Movil | Buran Venture Capital | DN Capital | Institutional Venture Partners | International Data Group | Kleiner Perkins Caufield & Byers | Sony | Universal Music Group
LevelUp	US	Financial services	Acquisition	Grubhub	$390m	Alphabet | Balderton Capital | CentroCredit Bank | Continental Advisors | Deutsche Telekom | Highland Capital Partners | JPMorgan | Transmedia Capital | US Boston Capital
Cloudmark	US	IT	Acquisition	Proofpoint	$110m	Ignition Partners | Industry Ventures | Nokia | Sumitomo | Summit Partners
Korbit	South Korea	Financial services	Acquisition	Nexon	$80m	Bam Ventures | Pantera Capital | SoftBank | angel investors
Nominum	US	IT	Acquisition	Akamai	–	Advanced Technology Ventures | Bessemer | Globespan Capital PArtners | Innoven Capital | Juniper Networks | Morgenthaler Ventures | Verisign
August Home	US	Consumer	Acquisition	Assa Abloy	–	AGL Energy | Comcast | Creative Artists Agency | KDDI | Liberty Mutual | Qualcomm | Sandisk | Singtel (Innov8)

Cloud services provider Akamai Technologies agreed to acquire US-based telecoms software provider Nominum for an undisclosed sum in a deal that will provide an exit for network technology provider Juniper Networks. Founded in 1999, Nominum offers domain name system (DNS) software for telecoms providers focusing on network infrastructure and security. Akamai plans to add the company's security capabilities to its portfolio of cloud hosting and streaming services.

Lock manufactuer Assa Abloy agreed to acquire US-based smart lock producer August Home for an undisclosed amount, enabling a host of corporates to exit, among which telecoms group SingTel, via its Innov8 unit, alongside telecoms operator KDDI. Other corporate backers included energy supplier AGL, insurance firm Liberty Mutual, and Comcast Ventures and Qualcomm Ventures, respective subsidiaries of Comcast and Qualcomm, as well as SanDisk Ventures and CAA Ventures, the corporate venturing units of data storage provider SanDisk and talent agency CAA. Founded in 2013, August Home provides smart locks that allow users to control access to their homes through their mobile devices.

Global Corporate Venturing reported just three exits from emerging telecoms-related enterprises that involved corporate investors from other sectors.

Casa Systems, a US-based broadband software provider that counts telecoms and cable service provider Liberty Global as an investor, raised $78m in its IPO. The company issued 6 million shares at $13 each on the Nasdaq Global Select Market. It floated below the IPO's $15 to $17 range, despite the number of shares being cut from 8.4 million. Liberty Global's corporate venturing unit, Liberty Global Ventures, was an investor in Casa but has not disclosed when it provided funding. Founded in 2013, Casa produces software that helps cable, wireless and wireline broadband suppliers increase their bandwidth and expand the voice, video and data services they offer.

Virtualisation software producer VMWare agreed to acquire VeloCloud Networks, a US-based networking technology provider backed by networking equipment maker Cisco Systems and Telstra for an undisclosed sum. VeloCloud pro-

SECTOR FOCUS

Exits from telecoms enterprises over the past year

Company	Location	Exit type	Acquirer	Size	Investors
Casa Systems	US	IPO	–	$78m	Liberty Global | Summit Partners
VeloCloud Networks	US	Acquisition	VMWare	–	Cisco Systems | Hermes Growth Partners | Khazanah Nasional Berhad | March Capital Partners | New Enterprise Associates | Telstra | VenRock | VMWare
Luma	US	Acquisition	Newell Brands	–	500 Startups | Accel Partners | Alphabet | Amazon | Andreessen Horowitz | BIP Capital | Felicis Ventures | Independent | Relay Ventures | Webb Investment Network

vides cloud-delivered software-defined wide area network technology that enables organisations to build and maintain networks of computers significant distances from each other.

Luma, a US-based wifi hub manufacturer backed by Alphabet and e-commerce firm Amazon, was acquired by consumer group Newell Brands for an undisclosed amount. Founded in 2014, Luma developed a smart home wifi system intended to give better internet reception by using up to three routers to provide a surround effect. The system is compatible with Alexa, Amazon's voice-operated control system, and Luma added a subscription-based offering called Luma Guardian that includes cybersecurity, a virtual private network option and an enhanced support system.

Funds

Between August 2017 and July 2018, corporate venturers and corporate-backed VC firms investing in the telecoms sector secured over $2.39bn in capital via eight funding initiatives, which included five VC funds, two new venturing units and one accelerator.

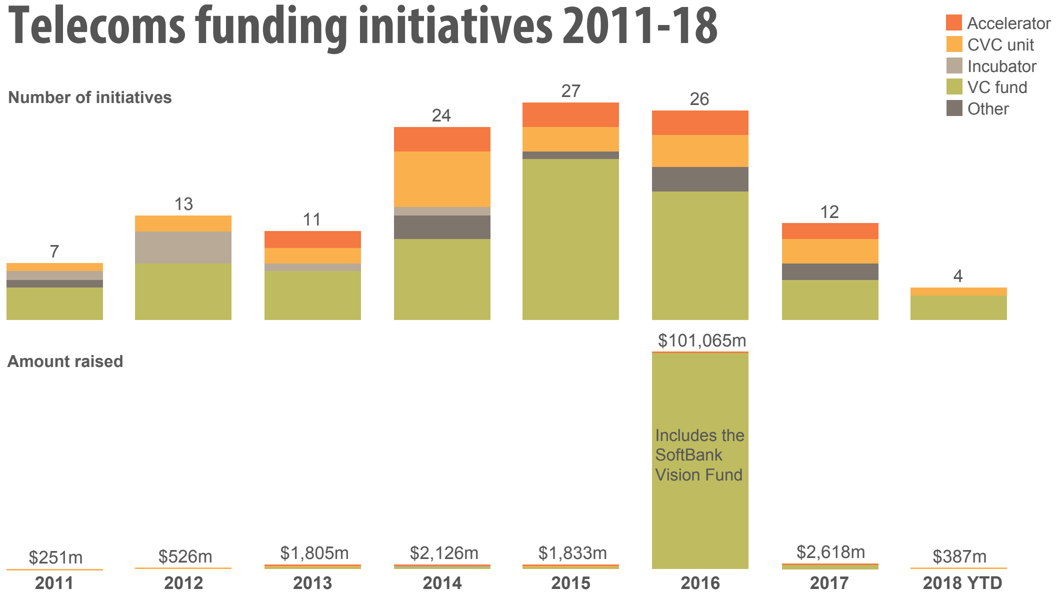
On a calendar year basis, funding initiatives decreased considerably from 26 in 2016 to 12 last year. Total estimated capital also went down from $101bn in 2016 – which included the $99.5bn SoftBank Vision Fund – to $2.61bn in 2017, but this was a significant increase over 2015.

Xiaomi announced it would invest $1bn in 100 India-based startups over the next five years. Xiaomi has joined forces with its venture capital affiliate Shunwei Capital as it seeks to build an ecosystem of mobile apps around its smartphones. Its investments will focus on manufacturing, entertainment content, fintech and hyperlocal services such as phone repairs. The corporate, which entered India in 2014, hopes the investments will help create more loyalty among Indian users who, research has indicated, have been driven by a desire to own the most up-to-date popular devices, regardless of brand.

KDDI formed a fund of funds in partnership with venture capital firm Global Brain that plans to invest ¥20bn ($180m) over the next five years. KDDI Open Innovation Fund 3 was established to back VC funds whose investments could achieve synergy with KDDI, as it prepares for the global rollout of 5G. Areas of interest for the fund include IoT and artificial intelligence technology, both of which would benefit from increased mobile speeds. The ¥20bn sum includes ¥5bn under the management of KDDI's first and second funds.

NTT Group announced it was looking to raise a ¥20bn ($180m) third corporate venturing fund, NTT Investment Part-

Telecoms funding initiatives 2011-18



Global Corporate Venturing

Telecoms sector funding initiatives over the past year

Funding initiative	Type	Funds raised	Location	Investors	Focus
Unnamed Xiaomi India fund	VC fund	$1bn	India	Xiaomi, Shunwei Capital	Manufacturing, entertainment content, fintech and hyperlocal services
Digital Transformation Fund	VC fund	$199m	Switzerland	Swisscom	Later-stage companies, with half the dealflow from Switzerland and the rest from the US, Europe and Israel
NTT Investment Partners (NIP) Fund III	VC fund	$188m	Japan	NTT Docomo Ventures, NTT Finance	Business-to-business-to-x, where a provider offers digital services to end users including consumers, enterprises, suppliers and partners
KDDI Open Innovation Fund 3	VC fund	–	Japan	KDDI, Global Brain Corporation	Internet of things and artificial intelligence technology
NGP Capital	CVC unit	–	Finland	Nokia	Unspecified
Telia Ventures	CVC unit	–	Sweden	Telia Company	Telecoms
Rakuten Accelerator, Powered by TechStars	Accelerator	–	Singapore	TechStars, Rakuten	Early-stage startups developing artificial intelligence, chatbots and chat-based commerce, cryptocurrency, virtual reality and augmented reality, advertising technology, and voice and image recognition

ners Fund III, to be managed by NTT Docomo Ventures, the corporate venturing unit operated by NTT Group's mobile network subsidiary, NTT Docomo. NTT Group and NTT Docomo Ventures will back the fund alongside the corporate's financial services arm, NTT Finance. Fund III will focus on sectors such as artificial intelligence, robotics and security. The fund will particularly aim to support NTT's business growth in an area known as business-to-business-to-x, where a provider offers digital services to a wide range of end users including consumers, enterprises, suppliers and partners.

Nokia Growth Partners, the corporate venturing arm of Finland-based Nokia, rebranded to NGP Capital. Formed by Nokia in 2005, NGP focuses on mobility, digital health and connected enterprise technology, and its portfolio currently includes on-demand food provider Deliveroo, Xiaomi and tourism booking platform GetYourGuide. Companies NGP has exited during that time include India-based media company Network18, online classified listings platform Ganji, LED lighting system producer Digital Lumens and mobile advertising technology provider Fyber.

Swisscom Ventures closed a Sfr200m ($199m) fund that included an oversubscribed offering to third-party investors. Swisscom has committed about $50m to the Digital Transformation Fund, with the rest contri buted by institutional investors. It will target early to later-stage companies, with half the dealflow expected to come from Switzerland and the rest from the US, Europe and Israel. Swisscom Ventures has already invested about $100m in about 50 startups, resulting in 20 exits.

Sweden-based telecoms and mobile network operator Telia launched its new Telia Ventures corporate venturing unit. Brendan Ives, managing director of Telia's new business opportunities unit, Telia X, said the decision to form a separate venture unit under Heikki Mäkijärvi *(see below)* followed the departure of his direct report, Nils Granath, to Swisscanto Invest by Zürcher Kantonalbank.

E-commerce firm Rakuten partnered accelerator operator Techstars to launch an accelerator in Singapore for companies developing social messaging technologies. Rakuten Accelerator, Powered by Techstars, will be particularly interested in companies working with Viber, an instant messaging and voice communication app Rakuten acquired for $900m in 2014. The initiative is open to early-stage startups developing a range of technologies including artificial intelligence, chatbots and chat-based commerce, cryptocurrency, virtual reality and augmented reality, advertising technology, and voice and image recognition. Participating startups will each receive a $120,000 investment.

People

Carlos Domingo, former chief new business and innovation officer for Dubai-based telecoms company Du, has co-founded Spice Venture Capital. Spice has launched an initial coin offering based on the Ethereum blockchain to secure investment funds. The virtual currency model means backers are not limited by fixed terms and can trade their position, with the owner accessing proceeds from exits. Domingo, who left last month to co-found Spice, joined Du in 2015 after a year at telecoms group Telefónica as CEO of new business and innovation.

Domingo

Heikki Mäkijärvi joined Sweden-based Telia as CEO of its new Telia Ventures corporate venturing unit. Mäkijärvi had spent nearly a year as a partner at Airbus Ventures, the corporate venturing subsidiary of Airbus, but left in mid-2016 to manage a portfolio of advisory and board positions. In addition to the Telia Ventures role, Mäkijärvi also recently joined the board of Finland-headquartered network equipment installer Teleste.

Nils Granath, former head of investments at Telia, became senior investment manager for private equity and venture capital at Swisscanto Invest, an investment unit owned by Switzerland-based Zürcher Kantonalbank. Granath had been responsible for the growth investment portfolio of Division X at Telia for three years. Brendan Ives remains managing director of Division X, while Rebecka Vredin and Johan af Sandeberg are venture investment managers.

SECTOR FOCUS

Arora

Misra

Nikesh Arora, who left SoftBank where he spearheaded its corporate venturing strategy as company president and chief operating officer in 2016, became CEO and chairman of cybersecurity company Palo Alto Networks. Arora replaced long-time executive Mark McLaughlin, who becomes vice-chairman of Palo Alto Networks. Arora joined SoftBank in late 2014 from Google where he was chief business officer, and directed SoftBank to lean more towards larger investments, notably in his home country of India.

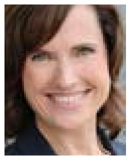
In the meantime, SoftBank promoted both chief operating officer Marcelo Claure and SoftBank Vision Fund head Rajeev Misra to executive vice-president. It added at least 10 executives to SoftBank Investment Advisors, which manages the Vision Fund, including Paul Davison, who was an associate at investment bank Rothschild & Co before moving to SoftBank. In addition, Lucio Di Ciaccio joined SoftBank from private equity firm Carlyle Group, where he was part of the special situations team. Both Davison and Di Ciaccio have joined SoftBank's London office, where Misra is also based.

The remaining eight executives have joined the fund's office in San Carlos in California. They include Justin Nam, former associate at private equity firm Gryphon Investors, and Denton Xu, former associate at private equity firm Francisco Partners. The identity of the others was not revealed.

SoftBank Ventures Korea appointed managing director Joon-pyo Lee as chief executive. Lee replaces Gyu-hak Moon, who has moved to the Vision Fund. Lee had joined SoftBank Ventures in 2015 and led investments in portfolio companies including MyMusicTaste, Balance Hero, Lunit and TwoXAR.

Andrew Kovacs left venture capital firm Sequoia Capital to become global head of communications at the Vision Fund. Sequoia appointed Kovacs in 2012 to be its first communications and policy lead, assigning him responsibilities that included marketing services for the firm's portfolio companies. Kovacs previously spent five years working communications and public affairs as a senior manager at internet technology provider Google, now part of the Alphabet holding company.

Ramzi Ramsey joined the Vision Fund as an investment director. SoftBank hired Ramsey from growth equity firm Technology Crossover Ventures (TCV), where he was a vice-president, having joined in 2014. He was a co-founder of children's Arabic book retailer Araboh in 2010. During his stint at TCV, Ramsey was a board observer at Avvo, the legal marketplace acquired by Internet Brands, event ticketing sales platform SeatGeek and online tutoring service Varsity Tutors.



Buckner

Laurel Buckner, formerly vice-president of corporate venture investments and mergers and acquisitions at US-based telecoms operator GCI Communications, was hired by peer ATN International. As senior vice-president at ATN, Buckner will be managing director of its new corporate venturing unit, ATN Ventures. ATN operates telecoms services in remote areas of the US and Caribbean as well as solar energy units for municipalities in the US and India. Buckner said ATN Ventures would be looking for deals in these areas, particularly around software and renewable energy storage. Buckner previously set up the corporate venture department group at GCI, Alaska's largest telecoms provider, at the beginning of 2014.

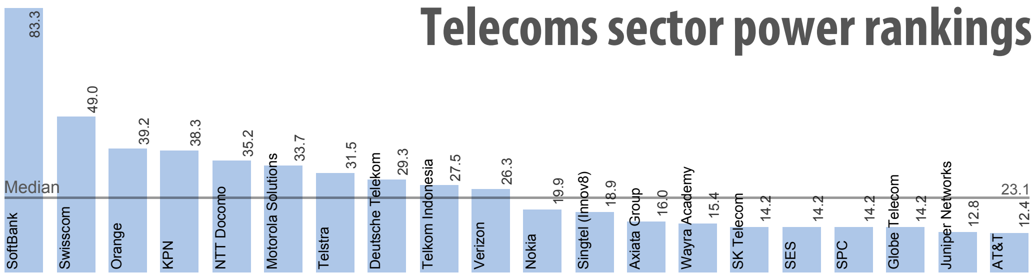
Rombaut

Frédéric Rombaut, formerly managing director of corporate venturing funds for Cisco and Qualcomm, joined UK-based venture capital firm Seraphim Capital as general partner. Seraphim has raised a \$95m fund focused on the \$350bn space technology market, and plans to launch accelerator Seraphim Space Camp and a new fund with a wider global scope. Investors include corporates SES, Airbus and Telespazio. Before joining Cisco in January 2012, Rombaut was managing director of Qualcomm's European investment unit, Qualcomm Ventures Europe, for six years.

Philippe Dewost, former head of the digital economy section of the investments of the future program at state-owned Groupe Caisse des Dépôts, was appointed director of Leonard, France-based construction company Vinci's innovation and foresight platform. Dewost is a co-founder of internet service provider Wanadoo and has also been CEO of ImSense, a UK-based startup was acquired by Apple in 2010.

Asif Giga left Experian Ventures, the strategic investment arm of credit information bureau Experian, to become an investment director at Ericsson's corporate venturing unit, Ericsson Ventures. Giga had been with Experian for about a year, assisting with its initial corporate venturing operations in financial technology-related areas such as security, data and analytics. Giga had worked as a venture investor at Singtel Innov8. He supported or led diligence on six investments during his time there. ◆

Telecoms sector power rankings



SECTOR FOCUS

University and government backing for telecoms businesses

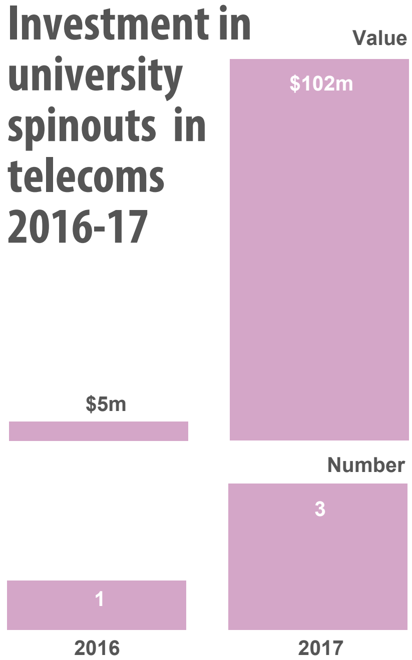
Over the past few years, there have been few commitments to university spinouts in the telecoms sector reported by our sister publication, Global University Venturing – one in 2016 and three in 2017. The level of estimated total capital deployed in those rounds was also correspondingly modest.

A good example of such a round was the $7m series A raised by GenXComm, a US-based communications technology spinout from University of Texas (UT) at Austin.

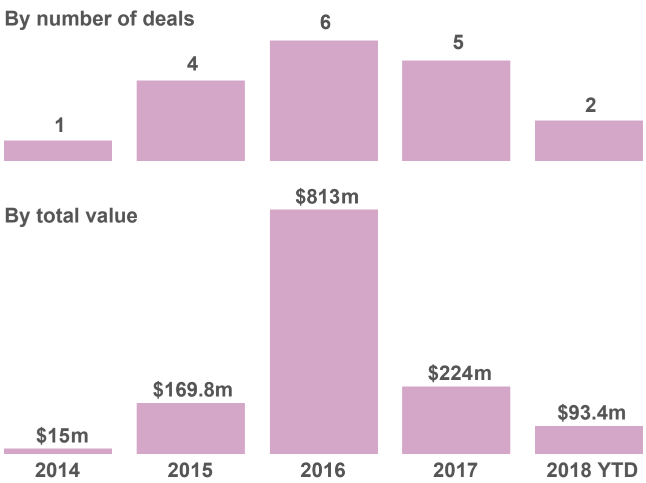
The transaction featured the university system's investment arm UT Horizon Fund. Intel Capital, the corporate venturing division of semiconductor producer Intel, led the round, which included WS Investment, the corporate venture capital fund of law firm Wilson Sonsini Goodrich & Rosati.

Founded in 2016, GenXComm has developed simultaneous self-interference cancellation technology, which can double the efficiency of the available wireless spectrum and boost network performance up to 30-fold in dense environments. The technology has applications for a range of telecoms services, including wifi, 5G, the internet of things and broadband services over existing cable TV infrastructure.

Investment in university spinouts in telecoms 2016-17



Government-backed investments in telecoms 2014-18



Government investments in telecoms enterprises, reported by our other publication Global Government Venturing, were also scarce in number and value – five worth an estimated $224m last year, down from the $813m in the six rounds tracked in 2016.

A good example of a government-backed round raised by a telecoms business was Community Fibre. The company, which installs internet connections in social housing in London, raised £25m ($32m) in a new funding round. The deal was supported by the UK government's new National Digital Infrastructure Fund as well as the railways pension fund Railpen.

Founded in 2010, Community Fibre provides broadband internet services throughout the UK. ◆

Interview: Marc Rennard, Orange Digital Ventures

Robin Brinkworth, reporter

Marc Rennard is the new man in charge of Orange Digital Ventures (ODV), Orange's corporate venturing unit. The fund represents Orange's commitment to innovation, both internally and externally, as well as securing capital returns. Rennard has been in post as the new CEO and chairman since May 2018, and as an Orange insider, is keen to coordinate ODV with other parts of the Orange Group.

ODV currently has a portfolio of 16 startups , including Monzo, the digital bank that raised £71m ($91m) in its series D last year. ODV has €150m ($170m) available for investment, including a dedicated African fund of €50m. The African fund was established before a partnership was forged with Google to allow the internet group to leverage ODV's sourcing of startups and enable them to explore co-investment opportunities in the Middle East and Africa *(see Innovative region)*.

Rennard said: "We have an interesting portfolio. We are very proud of it because it is well-balanced, with some very promising startups. My job is on one hand to invest in a company, but on the other hand to partner these with the various businesses within Orange."

Rennard is a consummate insider. Previously in charge of the expansion of mobile banking services, which included launching Orange Bank in France and the development and growth of African mobile money solution Orange Money, Rennard knows the innovation side of Orange well, which he believes will help Orange Digital Ventures differentiate itself from other European CVCs. Rennard is clear that trumpeting ODV's existing portfolio will not get them anywhere.

"I start with an interesting portfolio, one that is beautiful. But I can imagine that everybody can say that. Why are we so different?

"We believe we are different, because at Orange we have more than 5,000 people working in the innovation field. We are used to investing in startups, and on top of that, we are used to cooperating with startups. We have a lot of tools to leverage a startup. For example, we have a strong network of 15 accelerators – the Orange Fab – all around the world. We have training sessions, we have mentoring, we welcome startups to our premises, we have business partnerships, technological partnerships.

"Let me give you some examples. When we invested in Morphisec, a startup working in cybersecurity, it was a normal investment. But now we can include their product in our Orange business services portfolio, our corporate business side, in order to help the startup to reach scale."

ODV has also had success incorporating other portfolio companies into Orange's offerings. ODV invested in Famoco's €11m series B in February 2017, and has since used Famoco's technology in numerous Orange affiliates.

"Customer identification is a key question in Africa, because not everyone has identity papers or a passport. Famoco is providing the tools, especially in emerging countries, to help the operator identify a customer, to facilitate a scan of the ID, to take a photo, and so on and so forth."

Orange's key verticals are, for a major European telecom with a large presence in Africa, unsurprising. Like many other telecoms, network virtualisation is seen as a key technology for improving the company's main offering. Rennard is more straightforward.

"Network virtualisation is at the heart of Orange strategy and thus a key focus for ODV. When you want to optimise your capital expenditure, based on the size of the traffic at 10pm compared with 10am, you need to analyse big data. There are a lot of startups working in that field. The optimisation of the network will be key for 5G development, because 5G means a lot of sites, and if we want to optimise we will rely on our own forces, as well as partnerships with startups. It is key for us.

"The second pillar of our strategy is about new cybersecurity solutions, such as moving target defence. The third pillar is all about fintech and insurtech, for example fraud detection, authentication solutions and mobile payments."

These are technologies about which Rennard is enthusiastic, and while they comprise large parts of the portfolio, ODV does not limit itself there. Its investment focuses include enterprise software-as-a-service solutions, artificial intelligence, internet of things and new business models in Africa and the Middle East. New business models are intended to give African startups a more tailored approach, one suitable for different locations across the continent.

"When you want to evaluate startups in Africa, you need to know the environment, the ecosystem, the legal ecosystem of the country where you operate."

Compared with established European ecosystems, African markets can seem low-margin and tricky in which to operate. Rennard has the experience to overcome that, having spent over a decade handling Orange's African affairs, managing 20 affiliates, 110 million customers, including 25 million customers of Orange Money. There, he saw first-hand average smartphone penetration go from below 10% to individual countries, like Mauritius and Tunisia, currently having a penetration of 100%. Now a key growth market for ODV, Rennard is looking to capitalise.

"We are very well prepared because I know from experience what happens in Africa. Africa is one pillar of our approach, but we will be cautious."

"When you invest in a startup you always have the same approach. So on the one hand investing in Africa is the same, but on the other hand there are some specificities. We want to focus on startup compliance, because we need to be perfect, not just because of the economic risk, but also the reputational risk."

Rennard knows his turf, but he also knows his limits. Asked about which technologies he thinks might be overhyped, he demurs. "I am not the most famous technology specialist – we have a head of technology. 5G is very promising, cyber and fintech are very important for us. We are investing in the digital world, we are not investing too far away from our strategy."

"I have been appointed to establish a more important and independent ODV fund and make this grow"

That said, Rennard admits Orange could look to spread its net further in the future, with a view to biotech and medical technology in particular. He is justifiably cautious though, saying that, "five years ago, 5G, deep learning, blockchain, these terms were not even on the map".

He added: "In the future we will be very pragmatic. We need to be agile in order to appoint the right people, even in Orange Digital Ventures, to be able to identify the best possibilities. Every day, I ask myself: 'Marc, will you miss a unique opportunity because you are not clever enough, because you do not know the environment well enough?' I have to make a lot of effort to understand what startups propose, because they are very sharp."

Any doubts Rennard has about his own ability to stay on top of technology are assuaged by his team. At ODV Rennard has joined an existing team, and he is impressed with the quality.

"We have 12 people directly around me, and they are very young, motivated, with a lot of skills. They have not made a lot of mistakes, and I have huge respect for the quality of the job done."

Despite Orange having multiple investment arms, under its holding company Orange Digital Investments, including a partnership with Iris Capital Management that focuses on digital venture, Rennard is clear that ODV is the key for Orange.

"I have been appointed to establish a more important and independent ODV fund and make this grow, but it will remain a CVC with strong and permanent links with the rest of Orange Group."

Looking forward, Rennard has three priorities. The first is to set up the new ODV, with the administrative tools to manage portfolio companies properly. The second is to keep developing partnerships with other companies in the ecosystem. Rennard is proud of the recent deal with Google, but the work remains to turn it in to real value for all involved.

"We are working hard in order to have our first investment in a startup together, I hope by the end of this year or next year. It is a key point, because we create value for us, for the startup, and I hope also for Google."

Rennard also wants to improve ODV's ties with the rest of Orange. He intends to do that by improving the dealflow, getting to startups earlier, and looking for leverage within Orange's business units as soon as possible. As Rennard says: "It is not very easy to organise a relationship with a startup where you have between two and 20 people, and a big group such as Orange where we have 150,000 people. It is a huge job."

Having been across the African continent, and on the inside at Orange for well over a decade, as well as once managing a ski resort, and now alongside a staff with a strong investment track record, Marc Rennard sounds like he is ready for what the future brings. ◆

Spotlight: Low Earth orbits – opportunity or peril?

Callum Cyrus, reporter

New approaches to manufacturing have made it possible for high-speed high-detail satellite services to operate from low Earth orbits, though scepticism persists over how many technologies the market will support

Satellites no longer need to be so big. The industry is firing up its own rendition of Moore's Law, which made other technologies so prone to miniaturisation, though making similar progress in space is by no means straightforward.

The average launch mass of commercial communications satellites dipped to 2,494kg in 2014 from 4,293kg two years previously, according to Forecast International, before rebounding to a record 4,982kg in 2016, a sparse year for smaller vehicles.

Generally, communications satellites are large so that economies of scale can be realised by squeezing more from available transponder space. The world's largest highest-capacity comms satellite, Viasat-2, sprung into orbit with a mass of 6,400kg in June last year.

SECTOR FOCUS

But miniaturisation has put into the ascendancy a new generation of satellites weighing less than 500kg, known as smallsats or cubesats, which are gradually eroding the industry's most rigid precepts.

While operators typically bear expenditures of up to $300m for satellites built to last 15 years, according to Goldman Sachs, smallsats have far lower price tags and can be retired after approximately five years, making them easier to finance and replace.

A total of 328 smallsats were launched during 2017, up from more than 50 in 2012, according to the Small Satellite Market Intelligence report published by UK government-backed Catapult Satellite Applications.

With miniaturisation gathering momentum, there could be substantial implications for telecoms services such as internet provision. Progress often creates upheaval for incumbent technologies, and early warnings are already becoming apparent for vendors of traditional communications satellites.

Aerospace technology group Boeing, which builds satellites for clients including telecoms operators, told GCV it expected 11 or 12 of these traditional satellites to find buyers this year, down from the 13 to 17 projected in 2017, and 20 to 25 in previous years.

Low Earth orbit satellites

For reasons of physics and logistics, smallsats usually circle in low Earth orbits (Leo) at altitudes ranging from 161km to 2,000km, however these orbits offer potential gains for data transmission purposes.

Communications satellites usually operate much further afield, at an altitude of 36,000km. This is known as a geostationary Earth orbit (Geo). By appearing static in the sky, Geo satellites can be more easily tracked by antennae receivers, but the altitude also means data has more distance to travel.

While Leo's proximity helps solve latency issues, delivering comprehensive internet coverage would require constellations of hundreds of satellites so the user's connection can hop between nodes as line of sight changes.

Miniaturisation therefore feeds back into Leo's popularity by making development more feasible, but it also helps drive efficiencies by reducing costs for dispatching the satellites. Another ecosystem has formed around bespoke launching technologies which could spare the need to book smallsats aboard the payload of commercial rockets.

Dimitrios Stoimenou, an investment director at VC firm Bloc Ventures who previously worked at communications satellite operator Inmarsat, said: "Capital expenditure decisions of that magnitude obviously take a lot of thinking. So there has always been the whole notion of improving the economics – and moving from geostationary orbit into near orbit is one of the options available."

Future of the internet

As Steve Levy, editor of tech magazine site Backchannel, once put it, our homes may soon require the telecoms infrastructure of a "small city", in the same way the smartphone miniaturised the power of an old supercomputer.

A robust connection is becoming vital to service deep computing operations from the cloud and the needs of sundry internet-of-things (IoT) devices expected to come online over coming decades. Telecoms must deliver on improved infrastructure to meet the growing complexity of these tasks.

5G data standards and optic fibre broadband networks will take up some of the slack, but the picture is less clear cut in remote areas or developing countries, where capital expenditures are likely to be higher. Traditional networks may not reach these communities if operators choose instead to recoup their costs by upgrading existing infrastructures in built-up areas. Public funding could help plug the gap, though only in the wealthiest societies.

Today, only 54.4% of the world has internet access, according to Internet World Stats, creating a need for technologies that connect the others, with the global population forecast to top 8 billion by 2025.

Leos would be suitable if the technology can deliver high-speed communications services at a lower marginal cost than through traditional means. In this vein, Goldman Sachs believes satellites could one day provide half the world's internet coverage.

Being closer to Earth also enables Leo satellites to pick up more detailed imaging of the planet than available from Geo, affording potential for data gathering applications. In an age where data has become valuable currency in several industries, this gives Leo cross-sector relevance. Applications such as geospatial data analytics could find favour in such industries as insurance, disaster risk management and security.

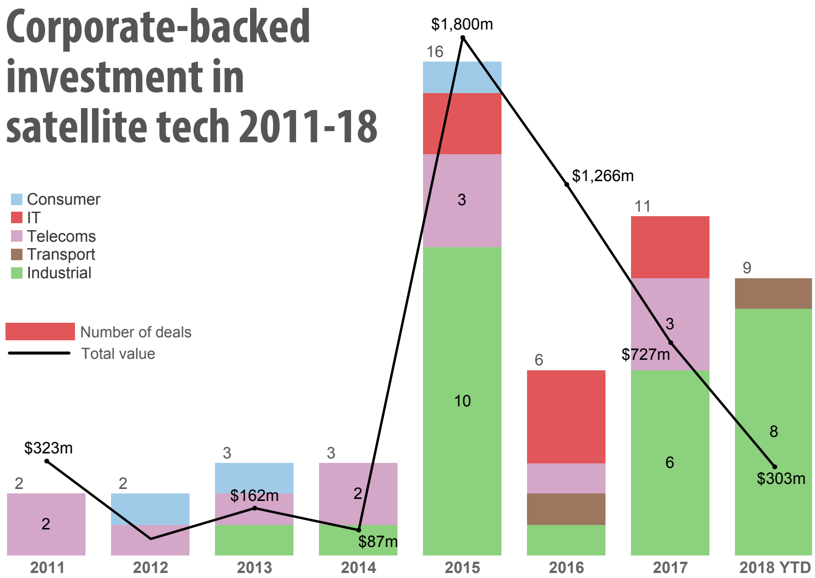
Cost efficiency

Leos and smallsats are emblematic of the "new space" trend, switching out manufacturing processes originating in the era of government-led space missions for private-sector designs which reflect technological milestones in other industries.

This field is gathering momentum, helmed by the efforts of entrepreneurs like Elon Musk at space exploration company SpaceX, which has one of Leo's front-runners in its Starlink internet constellation project.

In 2015, the value of corporate-backed deals for satellite tech firms soared to $1.8bn from $87m the previous year, according to GCV Analytics, a result largely down to a blockbuster $1bn round for SpaceX featuring internet company Google, now Alphabet, and financial services firm Fidelity.

Another front-runner in the space, Leo constellation developer OneWeb, raised $500m that year from a strategic consortium backed by mobile chip maker Qualcomm and diversified conglomerate Virgin Group, operators of SpaceX rivals Virgin Galactic and Virgin Orbit. OneWeb aims to launch a total of 1,980 satellites in a bid to "bridge the digital divide" completely by 2027.



The other corporate backers in OneWeb's 2015 round were aerospace firm Airbus, communications satellite operator Intelsat, beverage group Coca-Cola, conglomerates Bharti Enterprises and Grupo Salinas, respective owners of telecoms units Bharti Airtel and Totalplay, and Hughes Network Systems, a subsidiary of satellite service provider EchoStar.

OneWeb proceeded to book its own blockbuster $1.2bn round with telecoms and internet group SoftBank in December 2016, and SoftBank reportedly committed to providing another $500m the following year.

Stoimenou said: "It is about who will make the project real and, given the strategic investors behind OneWeb, there are a lot of technology players that can have a significant impact in making the product work and demand-side players that could actually use the product."

New space is now blossoming, with profit-led venture capitalists no longer so daunted by entrepreneurship beyond Earth. According to Goldman Sachs, more than 50 VC firms invested in space in 2015, injecting more funding than the preceding 15 years combined.

UK-based Seraphim Capital has pounced on the momentum with what was billed as the world's first space-focused VC initiative, the Seraphim Space Fund. It closed at $95m in September last year with limited partners including Airbus, communications satellite operator SES and satellite technology provider Surrey Satellites, industrial conglomerates Teledyne Technologies and Rolta, and spaceflight services provider Telespazio. Products and consultancy services firm

First Derivatives has also joined the fund, together with Catapult and the government-owned British Business Bank, and the intergovernmental European Space Agency.

Mark Boggett, chief executive of Seraphim Capital, said: "Technological advances are overturning traditional models for operating in space, as low-cost access to space becomes a reality. In addition, the use of ride-shares and launch-brokerage services has reduced the cost of access to space. As a result, smaller satellites, mostly targeting low Earth orbits, are being launched at a cost per satellite which is a fraction of the cost of older larger and more capable satellites.

"Fuelled by cloud-enabled data analytics and artificial intelligence, a new paradigm is emerging, where ubiquitous connectivity and omnipresent earth observation are creating a new source of near real-time data. To date the corporate partners engaged with Seraphim have been space-related but, looking forward, once Leo constellations are in place, corporates from a much broader range of industries, such as insurance, agriculture, construction, and oil and gas, will start to see the huge potential."

The Seraphim Space Fund currently has three Leo investments – including one in an unpublicised startup which, Boggett said, was working on quantum-encrypted communications. The others relate to data collection. Spire Global aggregates information from earth observation cubesats for purposes including weather, aviation or maritime tracking, while Iceye is developing synthetic-aperture radar imaging satellites that pick up fine detail from vast areas.

Following Seraphim into space is Italy-based VC firm Primomiglio, which is raising $93m fund Astra Ventures with the Italian Space Agency, ASI, as a cornerstone investor. Primomiglio is working to secure corporate partners for the fund, which could be launched by the end of this year. Gianluca Dettori, executive chairman of Primomiglio, said: "Our investment thesis is that given the improving scenario on cost of launching infrastructure, Leo constellations might be an interesting investment area for us. There are several interesting applications enabled in that space."

Potential to make a difference

> "Now you have microsatellites that can be constructed within an afternoon"

Governments maintain an interest in New Space having increasingly looked to the private sector to augment space budgets curtailed in the Cold War's aftermath. Leos host state-owned space facilities including the International Space Station and Hubble Space Telescope, providing additional rationale for government co-investment in Leo technologies.

State contributions feature in both the Primomiglio and Seraphim space funds, while in Japan the government has unveiled plans for a $940m space development backed by publicly-owned Development Bank of Japan and Industrial Innovation Organisation. With its potential to benefit developing countries and fulfil urgent societal objectives such as disaster risk management, the Leo ecosystem is also of interest to development finance institutions.

Nikunj Jinsi, global head of venture capital at the International Finance Corporation (IFC), an investment arm of the World Bank, said: "If anything, you are seeing the whole space tech sector moving towards private sector involvement – some are at the consumer level, but you also have XM Satellite Radio and many other privatisations that are happening in that space.

"Between all of the launching pads that are available, not just SpaceX but with those in India, Russia and China as well, there are now several platforms that allow for launching into space directly. The other part is if you look at satellites, the cost of making them has come down significantly too.

"Now you have microsatellites that can be constructed within an afternoon. And in the event that something with the launch goes wrong, it is not like it is the end of business. The failure is less insignificant as you have not got the whole business sunk into that particular launch."

The IFC previously invested in mid-earth orbit communications satellite operator O3B, started by OneWeb co-founder Greg Wyler in 2007 but now owned by SES. It has also backed Leo earth imaging provider Planet, which closed an $118m series D round in 2015 featuring media company O'Reilly Media. Together with Spire, Planet accounted for 81% of the earth observation and remote sensing smallsats launched in the third quarter of 2017, according to Catapult's report.

The IFC's interest in satellite communications and data is unsurprising, given that achieving universal internet access in the "least developed" countries forms part of the Global Goals for Sustainable Development to help foster inclusive innovation and industry. Online connectivity is increasingly regarded as a developmental priority to follow provision of basic necessities such as clean water.

Coca-Cola's involvement in OneWeb underscores the salience of this point. Coke has made internet access part of its offering to underserved communities, having partnered fellow OneWeb investor Intelsat to bring satellite-enabled wifi services to remote areas of Africa.

Challenges to overcome

But for all the promise of Leo, developers still face formidable challenges compared with those working on Earth-based projects. Testing is more time-intensive as technicians can communicate with their probes only while they have line of sight. Until the first Leo internet constellation has been launched, it is difficult to build a market case for communications

Top corporate-backed satellite tech deals 2018

Company	Location	Round	Size	Investors
Space Exploration Technologies	US	–	$214m	Undisclosed
SpaceFlight Industries	US	–	$150m	Mitsui| Space Alliance | undisclosed investors
Orbex	UK	–	$39.6m	Elecnor Deimos Space | European Commission | European Space Agency | High-Tech Gruenderfonds | Sunstone Technology Ventures | UK Space Agency
Reaction Engines	UK	–	$37.3m	BAE Systems | Boeing | Rolls-Royce
Terran Orbital	US	B	$36m	Beach Point Capital Management | Goldman Sachs | Lockheed Martin
SpinLaunch	US	A	$35m	Airbus SAS | Alphabet | ATW Partners | Bolt | Kleiner Perkins Caufield & Byers | Lauder Partners | Starlight Ventures
Beijing LandSpace	China	B	$31.8m	FounDream | Goldwind Science & Technology | Lun Capital | Penta Global | PGA Venture Partners | private investors
WorldView Enterprises	US	C	$26.5m	Accel Partners | Canaan Partners | Wells Fargo (Norwest Venture Partners)
Spacety	China	B	$22.2m	Dianke Xinghe Fund | Galaxy Holding Group | K2VC | Legend Holdings | Maintrend Capital | Matrix Partners
Myriota	Australia	A	$15m	Blue Sky Ventures | Boeing | Main Sequence Ventures | Right Click Capital | Singtel (Innov8)
LeoLabs	US	A	$13m	Airbus SAS | Horizons Ventures | Space Angels Network | Weru Investment
NSLComm	Israel	B	$6m	360 Capital Partners | Canaan Partners | iAngels | Manic Mobility | OG Tech Ventures | OurCrowd | Taya Media
Satsense	UK	Seed	$1m	Northern Powerhouse Investment Fund | Unipart Rail | University of Leeds
EarthNow	US	–	–	Airbus SAS | SoftBank | private investors

purposes. There is a plethora of designs for Leo antennas and of frequencies on which they can operate.

Stoimenou said: "It will be only a few of the hundred ideas currently in circulation that will actually materialise. And best guess would be that only four or five players get to testing and then one or two actually progress to launching the full constellation.

"The whole near orbit versus geostationary orbit question has been like a pendulum that has tended to swing one way and then swing the other. It is currently swinging towards Leos because technology has advanced to the degree where you can actually make it happen. However, it still does not change the fundamentals of satellite communications, like, for example: can you get the terminal design at the right economics for the proposed use cases?"

Designing a ground terminal for Leo transmissions is another crucial part of the puzzle. Such terminals could fulfil a function similar to internet modems, connecting end-users with Leo satellites transmitting internet and data services from space. Companies with potential solutions in this regard include array antenna developer Phasor, which is retooling its technology to support enterprise-grade Leo communications.

Stoimenou said: "Producing the terminals at a certain cost is to my mind fundamental in getting to the appropriate price point to ensure the attractiveness of any application. At the moment if we look at the cost of terminals in passenger aerospace or maritime shipping, the costs can be in the tens or hundreds of thousands of dollars."

Boggett predicted future Seraphim Space Fund investments would cluster around downstream Leo applications in light of doubts over how many smallsat constellations the market can support. He said: "While we are tracking a range of approximately 100 smallsat constellation startups and a further 100 smallsat launcher startups, we are sceptical as to how many such players the market can support.

"With the amount of data being collected and communicated from space growing exponentially with the advent of large constellations of smallsats, we see the downlink segment – getting data or communications back down to earth – as representing the next key bottleneck within the sector."

Dettori expects Astra Ventures also to invest a "significant" portion of its budget downstream, on applications for space technology rather than building infrastructure.

Perhaps driven by that sentiment, the value of upstream Leo deals featuring corporates has lagged benind that of CVC-backed rounds for other space techs so far this year. With the likes of OneWeb, SpaceX, Planet and Spire claiming first-mover advantage, the room for new entrants is less apparent, particularly for those targeting internet services.

Australia-based IoT nanosatellite technology developer Myriota received $15m in a March 2018 series A round backed by Boeing HorizonX Ventures and Singtel Innov8, respective venturing divisions of aerospace technology manufacturer Boeing and Singapore Telecommunications.

More recently, China-based microsatellite developer Spacety generated $22.2m in series B funding last July from investors led by Legend Capital, the VC firm launched by conglomerate Legend Holdings. There was also a $36m round for nano and microsatellite manufacturer Terran Orbital the following month backed by aerospace firm Lockheed Martin's corporate venturing arm, Lockheed Martin Ventures.

Put into context, GCV Analytics has so far tracked two CVC-backed deals related to satellite tech worth more than $100m in 2018. One of those was for SpaceX, a $214m round featuring undisclosed investors, however SpaceX's business extends beyond just Leo satellites. Like SpaceX, Spaceflight is also targeting the launch of a full Leo constellation, in its case for geospatial intelligence. However, its core business sells payload capacity on commercial space rockets.

The other was a $150m round for US-based space services provider Spaceflight in March featuring conglomerate Mitsui and Space Alliance, a partnership formed by Telespazio and satellite system producer Thales Alenia Space.

Pending evidence on the viability of Leo, risk-averse providers of conventional liquidity remain cautious, precluding an important alternative to venture capital. Banks have grappled with the rationale for funnelling debt into Leo operators.

A source from one governmental investment bank, who did not wish to be named, said: "The first thing is identifying a segment where a true commercial application for Leo can be proven – whether it is eventually a government agency taking up services or the private sector is to some extent indifferent, but the satellite constellation companies need to prove the market to start with.

"There is a perceived risk of sending stuff to space. Whether it is real or not is debatable, but a lot of these technologies – if they were purely on Earth – would be financed by debt. The fact they are in space and there is little understanding in some respects make these companies hardly financeable from a debt standpoint."

Fundamentally, it seems many investors are unconvinced more Leo internet constellations can stack up their costs. Even the biggest players admit delivering ubiquitous connectivity from outer space is highly ambitious.

Gwynne Shotwell, president and chief operating officer of SpaceX, has said Starlink is perhaps the company's most challenging project yet, with expenditures for full deployment likely to top $10bn.

Meanwhile, Boeing has shelved plans for its own Leo broadband constellation, handing back a US licence to operate between 1,396 and 2,956 satellites to US regulator the Federal Communications Commission (FCC) for "proprietary business reasons".

A spokesman for the company said: "We support the FCC's goal of increasing competition for broadband services and closing the digital divide. Boeing is always engaged in discussions and efforts regarding spectrum and regulatory matters that affect our current and future business, and to protect and increase satellite spectrum utilisation to benefit the industry."

All this makes it vital that Leo operators can demonstrate sufficient demand for the technology by reaching a sustainable price point. But Stoimenou argued Leo's utility for communications diminishes in regions already benefiting from quality terrestrial coverage, and the challenge then becomes whether prices would be low enough to drive adoption elsewhere.

He said: "There are applications where you could use Leos, but again there are competing technologies and they are getting the price points. So you would need to find the use cases where satellite communications would have a unique advantage which, combined with reducing the current price points, would make that use case work. There are great patches of this world which are not connected, but obviously they are not connected for a reason. Satellite could more be economical but you will also have to get the entire infrastructure cost low enough to actually connect these geographic areas."

"For a community in Africa to afford a satellite link, you need to get at a price point where the community can buy and operate a satellite link. The question becomes: can you also get the cost of the terminal to make it interesting?"

Conclusion

CVC investment will not necessarily be deterred by the challenge of Leo communications. There are surely manifold opportunities for strategic mergers and exits in the consolidation scenario Stoimenou envisages. Intelsat had started down this road with a proposed $13bn merger with OneWeb, and though the move came to nothing in June 2017, it does suggest there will be room for exits.

Nevertheless, communications smallsat manufacturers looking to join OneWeb are likely to find it more difficult in later-stage rounds. Nine-figure deals are less likely to materialise until Leo technology has a proven market case, and many of the businesses may instead opt for acquisition.

Capital is more likely to follow the infrastructure for providing Leo services, for instance launching technologies, or innovations that make operating Leo satellites easier.

CVC investment may also continue to track Leo companies pursuing data-gathering from low Earth orbits rather than internet provision. This is because specialised clients are more likely to pay for higher-quality information, if there is a tangible gain in performance that cannot be met from elsewhere. ◆

Interview: Michael Lohnert, Boeing HorizonX Ventures

Callum Cyrus, reporter

Lohnert, investment director at Boeing HorizonX Ventures, touted the potential of low earth orbit (Leo) satellite technologies but also expressed concern that some founders in the space have underestimated the difficulty of delivering solutions to market

What are the benefits the Leo satellite segment provides?

One thing is they reduce latency because of their proximity to Earth. So, where latency is concerned, say in autonomy or consumer communications, Leos have a lot of potential benefits versus existing options. Another is earth observation applications. Where satellites are closer to the earth they provide higher resolution. A third thing is cost – they are generally cheaper to build and launch..

And finally, it is changing the way that operators think about technology and the refresh cycles. Operators design satellites knowing they will become obsolete in a few years, but the operators will then replace them with improved satellites with better technology and possibly even a cheaper satellite four or five years down the road.

It is actually a really interesting business model. They are thinking about a graceful sunsetting of an existing platform and then replacing it with a new refreshed version.

How much has Boeing Horizon X Ventures invested in Leo satellite technologies to date?

We do not discuss publicly how much we invest. But what I will say is we have invested in "new space", or Space 2.0, and we are actively looking at additional investments in the space.

For example, Boeing HorizonX Ventures is averaging about an investment a month right now – we have over 16 investments in our portfolio. Coincidently, our first international investment was a company in Australia called Myriota, which is also a Leo play. Myriota is an internet-of-things (IoT) communications company that is connecting IoT devices directly to Leo satellites.

What we found interesting about their technology was they have very little power requirements, so they can run their system with a modem and everything for over a year on a couple of AA batteries.

It is scalable and, of course, the price point for the technology to the end consumer is very appealing. You cannot have a price point of thousands of dollars per IoT connection. So, very compelling capabilities. In addition, the founders came from the telecoms industry so they really understand how precious spectrum is and how low-cost the communications solution needs to be to get adoption.

What does Boeing HorizonX Ventures find interesting when it invests in emerging companies in this space?

What is interesting in the Leo space is you have a lot of new entrants entering the market, but they are competing against the legacy providers, the medium Earth orbit and geostationary Earth orbit satellite operators in many of the sectors.

When we think about investments, we think about them very much as a VC would. We ask whether the intellectual property is defendable, and what is the quality of the management team, what do the financials look like, and what does the adoption curve look like. Things along those lines. But unlike a VC, because we are a strategic investor, we are also looking at how the product can potentially enhance Boeing's own products or enable our customers to address some of their own needs.

We like to say we are as much VC as CVC, so we have that financial mindset as well as the strategic mindset about how we invest.

One thing we are seeing in new space startups is – while they are not breaking the laws of physics necessarily – for their business models to be successful it requires a fundamental rethink of the whole solution around the customer.

There is potential increased adoption and downstream risk, and then costs associated all along the value chain. I think some of the startups are maybe not appreciating the amount of redesign effort that is required or the costs, all along the value chain. They might not be thinking about it with a systems engineering or integrator mindset of having to deliver the whole solution to that end customer.

We also look at the broader value chain perspective, and, as you can imagine, as a leading aerospace company, I can provide a holistic perspective in the market and industry. For example, spectrum regulations is a big issue with the Leo constellations. What are the payloads they are going to use and how to integrate that into systems? How are they thinking about the ground segments? Also, how does their solution impact the design of other components in the system, or how customers actually use the solution. Those are the types of things we are looking for when thinking about emerging companies in this space.

So when we are looking at the Leo space, the benefit of working at a company like Boeing is I can pick up a phone and talk to an expert in any of these areas and get a good perspective on the technology, the startup's overall integration into the broader space ecosystem, and if the management team understands how they fit into the ecosystem.

"Some of the startups are maybe not appreciating the amount of redesign effort that is required or the costs"

Do you have any concerns about driving the adoption of Leo technology?

I have seen some naivety from some of the founders, who may be really excited about new space and providing innovative solutions and thinking about the industry differently, but do not necessarily have that broader understanding of the ecosystem.

You also see how some of these companies interact with regulators – one of the areas of debate within the industry is how regulators are going to engage with these new entrants. It is not just the ITU [global regulator the International Telecommunications Union] but it is also the national agencies. With some of these startups you get the impression they are in the mode of "I will just do it and ask for permission later", and do not necessarily appreciate all the intricacies and nuances – the reasons the regulations are there. So I am concerned this attitude might cause the agencies to be less forward-leaning about engaging the Leo market and the pendulum may go back the other way.

Another thing the Leo industry is concerned about is launch. You hear of delays in Leo satellites getting launched for six or nine months. When you are a startup with limited cash reserves, not getting a launch slot to get their bird up there so you can get the proof of concept started and start making money, this is a problem. You see that reflected in the number of launch companies being formed. They are all trying to address some of those bottlenecks on the launch side.

A third area which comes to mind is how the legacy providers are going to react. We are seeing some really innovative solutions out there, both from legacy providers as well as from startups trying to engage with the legacy providers.

For example, legacy providers are addressing the IoT market. The question is, if some of these legacy providers begin having broader success, will that scare off some investors from making investments in the space?

I would say the fourth concern that comes to mind is the mega-investors. They are creating an environment of haves and have-nots. How does it change the math for investors looking at a particular segment if one of these mega-funds has made a huge investment in one company? Will that scare away competition in that segment?

Are there other technologies you believe could provide similar functionality?

The way I think about the Leo market is we should take it application by application. For example, if you need a wide swath area [the technical term for ground covered] from a sensor then it is hard to beat a satellite-based sensor, but then you are also giving up resolution. This creates that trade-off between having a wide swath of data versus flying a drone close up to get high-resolution data.

Or if we want very low latency, for example, maybe 4G or the emerging 5G solutions will be better than some of the space-age communications solutions for a specific application.

Ultimately, I do not think we should look at whether one solution fits all applications. Rather it is about how each of the Leo solutions fits a particular customer pain point, whether there is a market, and how they fit into the whole ecosystem of delivering the solution. ◆

COMMENT

How the best corporate venturers keep getting better

Michael Brigl, Nico Dehnert, Stefan Gross-Selbeck, Alexander Roos, Florian Schmieg and Steffen Simon, Boston Consulting Group

Over the past couple of decades, corporate venturing has been characterised by its boom-and-bust cycles. Companies would increase their investments during frothy markets to boost financial performance and then pull back during economic downturns when the prospect of quick financial gains evaporated.

Today, corporate venturing is taking a different approach. Companies are still seeking financial returns, but as digitisation rapidly reshapes industries across the globe, leaders are using corporate venture capital (CVC) and other venturing tools, including innovation labs, incubators and accelerators, to gain access to new technologies and accelerate innovation. As a result, corporate venturing is becoming a well-established corporate development activity – one that is continually and increasingly funded alongside R&D and M&A.

CVC's rising importance may not be immediately evident if one looks at the percentage of global VC deals that included CVC investors. That number remained relatively steady, at 11%, from 2012 to 2016 and rose to only 12% in 2017. However, the percentage of CVC investments as a share of global VC investments grew from 20% in 2012 to 26% in 2017 as total global VC investments increased from €50bn ($58bn) to €147bn, according to PitchBook data. That gives CVC investments an impressive compound annual growth rate (CAGR) of 31%.

Fortunately, that stepped-up investment coincided with strong VC returns in all major markets. Returns in Asia led the way, with 22.9% over the past five years and 16% over the past 15 years. US returns came in second, with 13.7% over the past five years and 7.4% over the past 15. Europe's returns trailed US returns but were still strong – 11.2% and 5.4% respectively. CVC performance mirrored this overall VC success. More than 95% of CVC units reported positive returns in 2017, according to Global Corporate Venturing's 2018 survey.

It is worth noting that the five-year performance of VC returns was helped by the high valuations of so-called unicorns – startups valued at more than $1bn – and an active acquisition environment. The value of corporate acquisitions of venture-backed startups grew from €43bn in 2012 to €75bn in 2017. This represents a CAGR of 12% even though the value of acquisitions levelled off during 2016 and fell in 2017.

As companies' expectations for and funding of CVC investments have grown, so, too, have the stakes. To be successful, companies must further develop their CVC capabilities.

Leading companies apply best practices

The wind has been at the backs of CVC investments, but their strong performance is also due to companies getting better at this type of investing. Leading companies apply and redefine the following best practices:

- **Set a clear objective.** To start, a company must decide if the principal objective of its CVC unit is financial or strategic. This decision guides the optimal organisation structure, incentive scheme and people mix.
- **Define search fields.** A company must also determine where its CVC unit should look to find potential investments. Search fields serve as guardrails for the CVC unit, ensuring that prospective investments are relevant to the business, which in turn keeps senior managers engaged and supportive.
- **Select a leader from outside.** A company should tap an experienced outsider to lead its CVC organisation – someone who is connected to the right networks and has access to the best technical expertise.
- **Hire the right mix of talent.** Staffing a CVC organisation with talent from inside and outside the company is ideal. Internal talent can create a bridge between the unit and the company's business units and facilitate good working relationships. External talent can provide access to new networks as well as contribute valuation and contract expertise.
- **Ensure independence.** A CVC unit should be separate – physically and operationally – from the company's daily activities to give the unit room for innovative, disruptive thinking and activities.
- **Foster collaboration with the business units.** A CVC unit needs autonomy, but it may also need to draw on the company's expertise or other resources – and it should be encouraged to do so. The unit should not be walled off from the company.
- **Enable lean, agile and relevant governance.** A company should put lean and agile decision-making processes in place so its CVC unit can keep pace with startups. And by including key stakeholders from business units in the decision-making process, companies can ensure support from senior managers.
- **Ensure consistent financing.** It is imperative for a company to fund its CVC unit consistently throughout economic cycles – the downturns as well as the upturns – in order to retain talent and maintain credibility in the VC market.

COMMENT

Three ways to improve the impact of venturing

Corporate venturing has matured significantly over the past five years, but there is still much room for improvement. Many companies find that too few investments eventually lead to revenue-generating businesses for the corporate parent. And many companies that have given their CVC unit a strategic mandate do not do a good job of coordinating the unit with other in-house innovation activities, such as R&D and incubation. Companies can tackle these issues by scaling startups faster and evaluating potential acquisitions, as well as by integrating corporate venturing into the corporate framework. Companies can also benefit by using venturing activities to accelerate their digital transformation.

Scaling startups faster and evaluating potential acquisitions: Despite the strong returns of recent CVC investments, some senior leaders question their value – or even lose interest in them – because they rarely deliver meaningful top-line revenue or profits.

CVC units can address leaders' concerns in two ways. First, CVC units can partner startups to scale their businesses faster and potentially make future acquisitions of the scaled businesses. Second, CVC units can improve the way they identify more immediate acquisition targets for the corporate parent. Whether pursued separately or together, these actions can enable CVC units' investments to deliver measurable top-line growth and profits.

CVC units will find that taking these actions can address startups' concerns as well. Given the amount of VC that is available, getting funded is often not startups' biggest challenge. What startups often need – and what can set an investor apart – are the capabilities to scale the business fast. A CVC unit with access to a wide variety of expertise and resources has a clear advantage over traditional VC firms.

Boston Consulting Group (BCG) and Hello Tomorrow surveyed more than 400 deep-technology startups, inquiring about their needs and their preferred partners. Of the possible alliances, respondents preferred partnering corporations to gain market access (43%), technical knowledge and expertise (26%), and business knowledge and expertise (19%).

Scaling a startup can lead to an acquisition that delivers for the corporate parent

As a partner, it is critically important for a company to avoid hindering the startup's agility or crushing its creative spirit. Coca-Cola avoided this trap when it invested in, and subsequently acquired, Honest Tea.

In 2008, Coca-Cola acquired a 40% stake in the organic tea company, which was established in 1998. Despite a crowded market, Coca-Cola's venturing and emerging brands unit, which comprises the company's corporate venturing and incubation functions, leveraged its distribution network and scaled Honest Tea's business from $38m to $75m in three years.

That success led Coca-Cola to buy Honest Tea outright in 2011, and by 2015 revenues had more than doubled to $180m. Today, Honest Tea's products can be found in more than 100,000 stores across the US.

The takeaway – scaling a startup can lead to an acquisition that delivers for the corporate parent. To help companies assess potential startup partnerships and scale a business, we created a five-step scaling framework. CVC units can also use it to assess the scaling potential of companies that are already in their investment portfolio.

But even if scaling a startup does not lead to an acquisition, a CVC unit can glean insights into a startup's industry segment, the players, its business model, and the technologies it uses or develops. Such insights can help CVC units not only identify acquisition targets but also assess them, reducing investment risk.

Another way CVC units can improve the way they identify acquisition targets is by working closely with the company's business units to understand their technology and business needs and to exchange perspectives on potential acquisitions. Business units, with a strong command of their own industry's dynamics, can alert CVC units to smaller targets that might otherwise be overlooked.

The bottom line is that, by partnering startups and business units closely, CVC units can maintain the interest and support of senior leaders.

Integrating venturing into the corporate framework: CVC is not the only innovation tool that companies can use to complement internal R&D. Rather, it is one of several. Companies choose which tools to use depending on their innovation strategies or specific innovation goals.

CVC investing is increasingly popular though. BCG's research has found that 40% of the 30 largest companies, as measured by market capitalisation, in each of seven innovation-intensive industries were actively engaged in CVC investing in 2015, up from 27% in 2010.

Unfortunately, corporate venturing often occurs outside the established corporate framework. When that happens, R&D and other functions often perceive the effort – whether CVC investing, incubation or another endeavour – to be a pet project of the CEO or another senior leader that is competing with R&D efforts, not complementing them.

To be most effective, corporate venturing needs to be part of an overall corporate innovation approach that clarifies how innovation tools complement the traditional R&D function.

COMMENT

Each tool is geared towards one or more of the various types of innovation – process, product, service and business model – and for different effects – either disruptive or incremental – and can accelerate innovation faster than traditional corporate R&D.

The corporate innovation approach also needs to clarify how to use the tools to achieve the company's innovation goals.

For example, if an organisation wants to learn about disruptive or new opportunities, CVC is a good tool. But if it wants to tap quickly into a new revenue source, then M&A expertise is needed to acquire a controlling stake in the business. Or, if a company is looking for future revenue, an incubator is an excellent tool, given enough time – in most instances, it takes a newly-incubated business about six to eight years before measurable revenue or profit is realised. An organisation must also clarify when a combination of tools will best address specific innovation challenges.

Tencent's use of innovation vehicles

Tencent, a global provider of internet-related services and products, telecoms services and technology, has three innovation goals – to build up the ecosystems around social network platforms WeChat and Qzone by acquiring additional content, such as videos and games; to help every company become an internet company by giving businesses in various industries access to Tencent's customers; and to support regional expansion in Asia. To achieve its goals, Tencent is making use of several innovation vehicles. Along with its well-established R&D effort, the company leverages CVC and M&A investments, incubators, and innovation labs:

- **CVC and M&A Investments.** Tencent has a single investment team that is responsible for making both CVC (minority) and M&A (majority) investments. After acquiring a company – particularly a small, creative business, such as a gaming company – Tencent is careful not to stifle innovation by demanding close integration.
- **Incubators**. In exchange for an equity stake of 5% to 10%, startups are allowed to access Tencent's internet platform from more than 20 locations in China. In turn, Tencent's mobile internet group uses these startups to test ideas when it lacks in-house knowledge. If a startup reaches sufficient scale, the company considers making a more substantial CVC investment.
- **Innovation labs.** At its Shenzhen headquarters, Tencent has an artificial intelligence lab with 250 employees who work on innovations in the areas of machine learning, computer vision, speech recognition and natural language processing.

It takes a deliberate communications strategy to coordinate the innovation vehicles. Tencent's has informal and formal elements.

On the informal side, the company uses WeChat as a communications hub so business and investment teams can exchange ideas continually. Allowing information to flow easily enables innovation and deal-making ideas to emerge from the business side, which might identify a missing technology, or from the investment team, which might be exploring fields where Tencent has no presence.

The company's communications approach also has formal elements. For example, during quarterly offsite gatherings, the CVC team defines business priorities and new vertical markets to target.

Successfully integrating corporate venturing into the corporate framework requires considering if the goal is disruptive or incremental innovation in processes, products, services or business model. To enable disruptive innovation, the organisation structure needs to put distance between innovation development and the core business, particularly where vested interests might slow progress.

Corporate venturing also needs to be hardwired into the capital allocation process. Temporary innovation initiatives can always be funded on top of existing R&D budgets. However, companies also need to think long term about how to allocate capital among R&D and more disruptive innovation tools. To ensure that R&D and venturing tools complement one another, companies have to give R&D access to the innovation vehicles or even reward R&D departments for leveraging these vehicles to achieve clearly defined innovation objectives.

Even with adequate funding, however, corporate venturing will not live up to its potential unless there is a free flow of information between the business units and the CVC unit for agile decision-making. Some companies may favour an informal approach, such as creating a communications hub that brings various parts of the organisation together to discuss innovation and new technologies on an ongoing, fluid basis *(see box left)*.

Other companies may prefer a more formal approach, such as creating an innovation board to define the scope of each innovation effort, coordinate the work, exchange lessons learned, monitor and steer performance, allocate capital and make project-termination decisions. But every company needs to find an approach – formal, informal or something in between – that is best for its culture.

Daimler, for example, is using multiple innovation vehicles – CVC, an incubator, an accelerator, and partnerships – to tap into the startup world and become a leading mobility provider.

The company combined its CVC and M&A units to create M&A Tech Invest. It has made several acquisitions, including Mytaxi, a taxi-ordering app that serves more than 40 cities worldwide, 30 of which are in Germany. M&A Tech Invest also has made several investments in startups, including FlixBus and Blacklane. In addition, Daimler has an incubator and innovation lab called Lab1886. It gives internal employees the opportunity to pursue disruptive ideas using a stage-gate process – ideation, incubation and commercialisation – across its global network, which includes offices in Beijing, Berlin, Stuttgart and Sunnyvale, California.

The company has funded an accelerator called Startup Autobahn. It is powered by Plug and Play and provides external startups with infrastructure, capital and access to a global partner network. The accelerator's purpose is to assess and develop startups' ideas in order to enter into joint projects with Daimler's corporate partners in the areas of mobility, production and related topics. Additionally, Daimler is constantly on the lookout for ideas for its Startup Intelligence Centre, which is the central entry point for innovative startups seeking to partner and collaborate with Daimler Financial

Services' ventures in mobility, fintech and insurtech.

Daimler is well aware that some cultural change is necessary to embrace all these innovation vehicles. To this end, DigitalLife@Daimler drives cultural change in the company's core business to encourage employees to adopt startups' ways of working, such as using digital processes. DigitalLife@Daimler also sponsors activities, including employee networking, via a new social media platform, yearly digital events, such as DigitalLife Day, and opportunities to contribute to or scout for ideas through DigitalLife Innovation Camps and Crowd Ideas Platform.

Using venturing activities to accelerate a digital transformation: Capitalising on a corporate venturing unit's startup partnerships to accelerate a digital transformation is a frontier that few companies have yet attempted to cross, but it is one they should explore. A successful digital transformation requires employees to develop new skills, understand digital technologies, and learn new ways to work and make decisions. It also requires organisations to attract and develop digital talent. Tapping into startups' know-how in these areas can help a company accelerate its transformation and get more bang for its corporate venturing buck.

An incubator primer

Among innovation tools, incubators are particularly well suited for disruptive innovation. But to set an incubator on a firm foundation, companies should take several important steps and set expectations appropriately:

- **Create a legal subsidiary quickly.** When setting up an incubator, companies should not wait until the 11th hour to create the legal subsidiary, a process that often takes much longer than anticipated and can delay the testing of crucial new technologies in fast-moving markets. For example, it may not even be legally feasible to test or launch the incubator's website before the legal subsidiary is created.
- **Pick the right CEO.** Companies can choose an incubator CEO from inside or outside the company. Insiders often perform better when there is a strong sales focus, outsiders often perform better when specific technology or product expertise is required.
- **Think long term.** Mentoring a startup usually takes six to eight years – longer than the tenure of many corporate CEOs. Companies need to protect the incubator from shifting priorities by making a long-term commitment to supporting the innovation and growth strategy. Organisations should also secure buy-in from the business units, so that if a key person leaves, the incubator still has the unit's support.
- **Prioritise growth over profits.** Companies should refrain from putting pressure on startups to generate profits too soon. Most startups should focus on growth – rather than high margins – to achieve scale and build a leading market position.
- **Keep compliance basic.** Large companies should avoid extending all their compliance rules to startups. Although compliance is important for startups, management boards should waive rules where possible – such as for purchasing and recruiting – to keep the startups agile.
- **Ensure support from top managers.** Senior leaders are not typically involved in an incubator's day-to-day operations. But at certain times – to obtain exceptions from standard compliance rules, for example, or to access specific corporate resources – senior leaders' support will be essential.

The more employees learn, the more they can facilitate a digital transformation

Developing new skillsets: What skills does a startup have? What skills does a business unit need? And who should be trained? CVC units are already working with both startups and business units, so they are in the best position to assess the potential fit between a startup and a business unit and then connect and coordinate the respective parties to facilitate a two-way exchange of information and skills. For example, General Electric has a fellowship program that places employees in startups for specific projects. The employees learn lean and agile methods that they can bring back to the organisation.

Learning new technologies and ways of working: Corporate venturing units often fund incubators that offer corporate resources and mentoring to early-stage startups. Because these startups need help in a wide variety of areas, incubators can expose a critical mass of internal talent to digital technologies and lean and agile ways of working and decision making. The more employees learn, the more they can facilitate a digital transformation. CVC units that are not working with an internal incubator should consider starting one or use another innovation vehicle, such as an accelerator or innovation lab.

Recruiting and developing digital talent: People with digital skills are often not interested in working in a traditional corporate culture because of slow decision-making, strict processes and limited willingness to change or disrupt the status quo. This can make it difficult to recruit and train employees to help drive digital transformation. But by working with startups, companies can learn first hand what attracts this kind of talent and how to develop it, particularly with regard to how working conditions, culture and incentives all come into play. Companies can then make adjustments and tailor their recruitment to build a workforce with the right skills for a rapidly changing future.

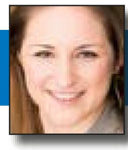
Until relatively recently, corporate venturing was a fringe activity often abandoned during economic downturns. But it is now well established, generating impressive investment returns over the past five years. Moreover, it is proving a critical way to tap into the kind of innovative thinking necessary to keep up with the rapid changes in the marketplace, particularly those associated with digital transformation. Even so, some CEOs and other senior leaders question the business relevance of corporate venturing, since these investments are usually in startups that do not contribute meaningfully to top and bottom-line growth.

CVC units need to begin to prove their business relevance by partnering startups more closely, to scale them faster and by improving the way they identify M&A targets. It is critical for CVC units to make the business case for corporate venturing forcefully and successfully. The future will belong to those who integrate corporate venturing into a broad innovation approach to drive growth and digital transformation. ◆

ANALYSIS

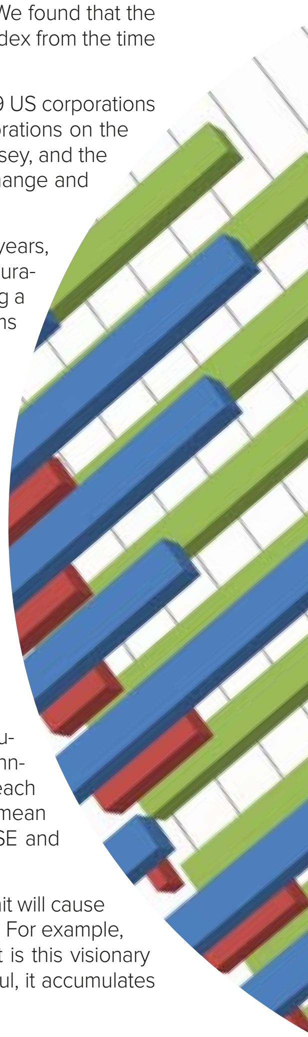
The corporate capital correlation – one year later

Selina Troesch, senior associate, Touchdown Ventures



Well-run corporate venturing units can deliver many benefits to their parent companies. A year ago, we hypothesised that corporate venture capital (CVC) efforts could positively impact corporate stock price because of the long-term benefits of venture capital investing.

Our analysis showed that the stock price of the median US corporation on the Global Corporate Venturing 2016 top 100 most active CVC list appreciated 30% more than the price of its listing index since the establishment of its venture capital program to the end of 2016. To monitor this result, we refreshed the data at the end of 2017. We found that the stock price of the median US.corporation studied appreciated 42% more than the price of its listing index from the time of CVC unit establishment to the end of 2017.



The top 100 most active CVC list consists of 77 public companies and 23 private entities. It includes 39 US corporations and 61 international businesses. In this refreshed piece, we analysed the 26 public US-based corporations on the list. Of the 26 publicly-traded companies, 12 are based in California, four in New York, four in New Jersey, and the remainder are distributed throughout the country. Of these, 14 are listed on the New York Stock Exchange and 12 are traded on Nasdaq.

The average age of the corporate venture groups in our analysis was 11 years, with a median age of 10 years, which we believe is enough time for a corporate venture capital program to demonstrate results. This duration also includes some business cycle fluctuations and some management turnover. Because keeping a CVC program during an executive transition can be a challenge, we believe the length of the programs studied also shows commitment by these organisations.

As of December 31 2017, the average compound annual growth rate (CAGR) of these 26 companies' stock prices – measured from the time each corporation launched its CVC operation – was 11.8% compared with a time-weighted average exchange growth – measuring the NYSE and Nasdaq – of 7.8% during the same period.

This four-point gross improvement represents an outperformance of 50.6%. Since the mean can be skewed by outliers, we also looked at median performance. The median gross CAGR differential was 3% – 10.1% stock price growth at the median versus 7.1% for the exchange – which represents a 42.1% outperformance.

Our methodology included determining the start date of each CVC via its website and its first investment recorded on Crunchbase. If the corporation started its CVC before going public, we analysed performance only from the time of the IPO. For stock performance, we used the December 31 2017 closing price on Yahoo Finance.

The NYSE or Nasdaq performance in this analysis is measured for each CVC separately and is calculated since the program's inception. The median compares the average of Citi's and Johnson & Johnson's stock performance – as they are median performing stocks in the study – with the NYSE since each company's first investments in 2010 and 2015 respectively. The mean difference is calculated as the mean performance of the individual CVC parent stocks less the weighted mean performance of the NYSE and Nasdaq since each program's inception.

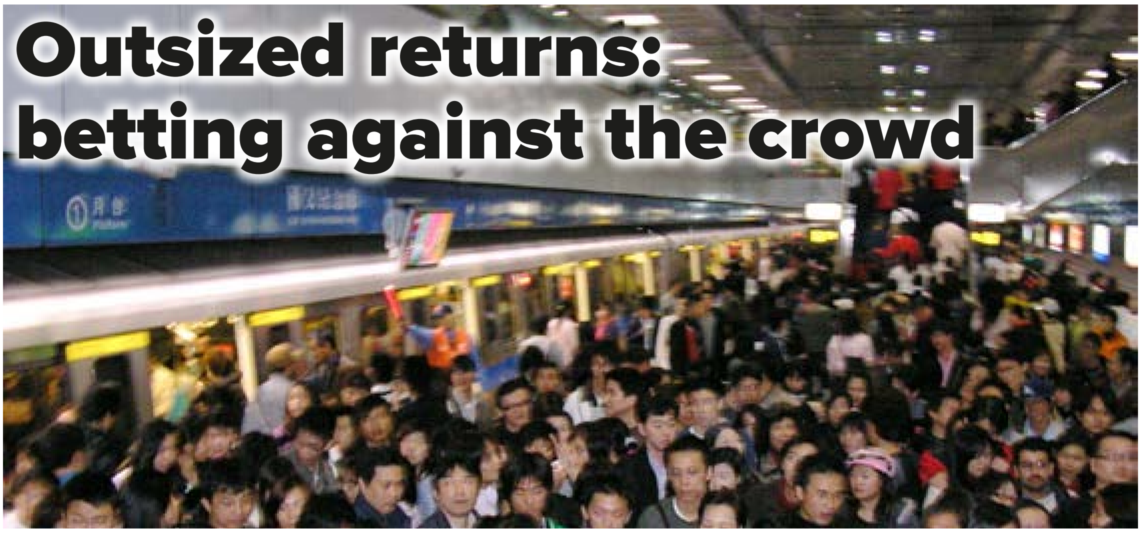
The correlation observed in this data set obviously does not prove that starting a corporate venture unit will cause a company's stock price to beat the market. The effect we noticed could be the result of other factors. For example, it is possible that companies form CVC units because they have forward-thinking executives, and it is this visionary leadership that is the cause of the stock performance. Or perhaps because the business is successful, it accumulates cash, has better-than-average stock performance, and also has the capital resources to form a CVC.

We plan to continue to expand and revisit this data to test how a corporate venture capital effort relates to other observable characteristics of publicly-traded businesses, like the earnings before interest, taxes, depreciation and amortisation margin or revenue growth. We hope to identify additional patterns that demonstrate the potential shareholder value of this essential innovation function. ◆

This is an edited version of an article first published on Medium

COMMENT

Outsized returns: betting against the crowd



Karthik Sivan, strategy director, Naspers

Increasingly, we are inundated with articles and research about the "best tech" of the previous year, as well as prophecies about prospective "shining stars". At Naspers, we keep a close eye on the technology landscape by identifying trends and evaluating how disruptive tech might evolve to impact businesses.

We recently set out to test our view on the next big tech trends against the view of external experts. To determine the latter, we performed a count of technology references from blue-chip tech prediction pieces. Here is an overview of our findings.

The ones we expected

I am sure it will come as no surprise that the majority of publications from the beginning of the year focused on the obvious candidates – artificial intelligence, blockchain, internet of things (IoT), and augmented and virtual reality, wrapped into a common theme of "disruption'". Some months into the year, the aforementioned trends have been covered in great detail.

The surprises – voice and blockchain tied

I found it fascinating that voice recognition was practically tied with blockchain for the number-two spot in terms of references. Perhaps the remainder of 2018 will be the time when voice recognition technology finally comes to fruition. The prospective launch of Google's Duplex voice assistant is a big step in this direction. Whether it lives up to the hype is something we need to wait to see.

Tech giants gain exponentially when paradigm shifts happen, be it Microsoft from the desktop computer or Apple from mobile devices. It would not surprise me if voice is the basis of the next shift as speech-to-text surpasses human transcription. The winner in this battle will have a platform that could disrupt the chat ecosystem, in the short term at least.

The surprises – in-email shopping, BIoT and MSOC

It was also interesting to note that there were some nascent other, arguably straightforward, but all ingenious ideas that few dared to call out as becoming mainstream in 2018, ranging from in-email shopping to exponential trends such as IoT transforming to BIoT (blockchain application to the internet of things) and massive simultaneous online communities (MSOC).

MSOC, for instance, goes beyond live-streaming and chat groups, instead offering an experience that has the potential to catalyse advances across a range of technologies, from social to augmented and virtual reality.

What now?

The greatest potential often comes from ideas that few recognise, or, at the very least, that polarise opinion. We form a view on which technologies we think will really work and we look for excellent people who can run with them – we build strong expertise in the areas where we invest.

So, while building capabilities further in areas like artificial intelligence and blockchain, at the same time we track technologies that are not yet mainstream and invest at the right time, with the right partner. It is part of the thrill and it is certainly what keeps us on our toes. ◆

COMMENT

Why we are in trouble if we don't change education

Erik Vermeulen, professor of business and financial law, Tilburg University

"Developers will be at the centre of solving the world's most pressing challenges."

I used this quote from Satya Nadella, CEO of Microsoft, in my presentation at the Digital Frontrunners event. A similar thought was expressed by a number of other participants. The logic is obvious. In a digital age, there are more and more devices containing more and more code. They have to in order to offer the convenient and connected user experience that consumers now expect and demand. And this reliance on code puts developers at the centre of everything.

A modern high-end car, for instance, currently features around 100 million lines of code. And this number is expected to double or treble in the near future, as the push towards greater vehicle autonomy continues. Our experience of driving is increasingly structured by the possibilities the code gives us.

More generally, we are moving towards a world in which code dominates our decision-making processes. Algorithms, for example, will decide what we buy, who gets hired, where we eat, where we go on vacation, and who to connect with. Code is everywhere. It provides the unseen and unnoticed architecture structuring our digital existence. The result? Developers are the architects of a new social infrastructure that organises and determines how we all now live.

The future of work

Digital Frontrunners event focused on what this change means for the future of work and what we need to do now to prepare for this fast-emerging reality. There was one thought that I heard several times. It is fairly straightforward and based on the idea that the digital revolution is not so different from previous periods of technological change:

- First, we need more programmers and software engineers to develop better programs and apps. We need to make sure that education focuses on attracting and training more technologists.
- Second, we need to make sure that everybody is able to use these new programs and apps. Non-technologists need to be given the necessary technological literacy to function effectively in a digital world.
- Finally, government, business, and other organisations all need to embrace the opportunities of a digital age. For instance, they must make use of social media, become more transparent, and build cloud-based systems for shared services.

In this way, everyone stands to reap the rewards of digital technologies.

As I sat listening to this kind of thinking, I became more and more convinced that something was missing in this argument. Things are different this time and we need a radically different approach if we want to avoid creating enormous social problems.

A new digital divide

Of course, I agree that technology should be high on any educational agenda in this increasingly digital world. That is obvious. In fact, mathematics is probably the best subject to study these days. Also, we should focus on developing the information and communcations technology knowledge and skills of all students. It is a constant source of surprise to me how many millennial students are still not really computer literate.

But a more fundamental change in education is also necessary. In fact, the event I attended reminded me of Alibaba co-founder Jack Ma's comments at the 2018 World Economic Forum in Davos: "If we do not change the way we teach, 30 years from now we will be in trouble. The things we teach our children are things from the past 200 years – it is knowledge-based. And we cannot teach our kids to compete with machines, they are smarter."

If we focus on only creating more technologists and more users of digital technologies, we will create a new digital divide that could hurt us.

The risk is that, on the one hand, the non-technologists simply will not understand the technology at a deep enough level. Being a competent user is not enough when every aspect of our lives is built around and structured by code. In order to be fully-informed and responsible citizens, we need to know much more about the underlying technologies and mathematics driving our world.

And, on the other hand, the technologists – the coders, programmers and other developers – will not have the necessary understanding of the current economic, social or legal environment for which the digital technology – the lines of code – is being developed.

It does not need much imagination to see that an uncoordinated, fragmented and disconnected development of new technologies could lead to unwanted and unforeseen results. The risks are obvious already – think lack of privacy, cybersecurity issues, digital stress, cryptocurrency scams, algorithm bias, human cloning ethics and so on.

Sometimes, I attend events where one tries to solve this disconnect by arguing that the current economic, social and legal environment acts as a "natural" barrier to the adverse effects of digital technologies. These events discuss, for instance, the legal implications of blockchain or artificial intelligence, arguing that regulations and legal practices may prohibit certain tech applications.

However, these events tend to ignore the speed of digital innovation, the continuously increasing tech adoption rates, the fact that digital technologies accelerate each other, and the disruptive potential of these technologies. New markets and organisations are being created and the current economic, social and legal models will simply not work in our new digital world.

In the current – fourth – technological revolution, we have to listen to Jack Ma and radically change the way we think about education in a digital age.

What should we teach?

In Davos, Jack Ma was asked the same question. This was his answer: "We should teach our kids sports, music, painting – the arts – to make sure that they are different. Everything we teach should make them different from machines."

His focus was on "soft skills" – such as creative thinking, creative problem-solving, assertiveness, resourcefulness, resilience, empathy, to name a few. In this, he is correct. But we have to put this into context to avoid us practising only public speaking, communication and interpersonal skills.

This year, I have experimented with what could be called a "universal digital training." This training consists of three parts:

- **Understanding how digital technologies work:** This part of the training could be compared to applied mathematics. The focus is on giving everyone – including non-technologists – a much better understanding of the mathematics behind digital technologies, such as machine learning, deep learning, and blockchain.
- **Applying digital technologies to social problems, both old and new:** The second part of the training is about teaching students a new way of thinking in a digital age. The focus is on developing, implementing and applying new theories and models to the social problems of a digital society. Students assess and analyse whether and how new technologies can solve societal problems. They also ask to what extent and how rules and regulations can be embedded in the technologies themselves.
- **Soft skills:** The final part of the training is on developing soft skills. What is the best way to communicate in a digital age? What does big-data analytics tell you about the expectations of consumers? This part focuses on storytelling skills and is also about developing human skills that enable humans to live and work with each other and machines.

The key takeaway

Discussions about the future of work quickly turn into discussions about the future of education. In the current digital environment, we need a transformation from knowledge-based education to skills-based training.

I have experimented with universal digital training, and the first results are very promising. Students learn how to connect, collaborate and co-create. I have written before about how these are the capacities and processes that maximise opportunities for socially-responsible technological innovation.

Having a shared universal digital understanding of this kind is a necessary condition to build the powerful communities between technologists and non-technologists that will design the future. And it is in these communities that we can see the future of work. ◆

This is an edited version of an article first published on Medium

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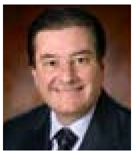
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INNOVATIVE REGION

Emerging African opportunities struggle for funding

Robin Brinkworth, reporter

Corporate venturing is nascent in Africa. Relatively few countries have hosted a corporate venture capital deal, and those that do tend to be concentrated in Kenya, Ivory Coast, Nigeria, Ghana, and South Africa – "Kings". While capital markets and private equity are well established across Africa, corporate venture capital has lagged behind, despite having in South Africa-based media group Naspers one of the world's largest and most successful venturing units, having backed Chinese internet group Tencent.

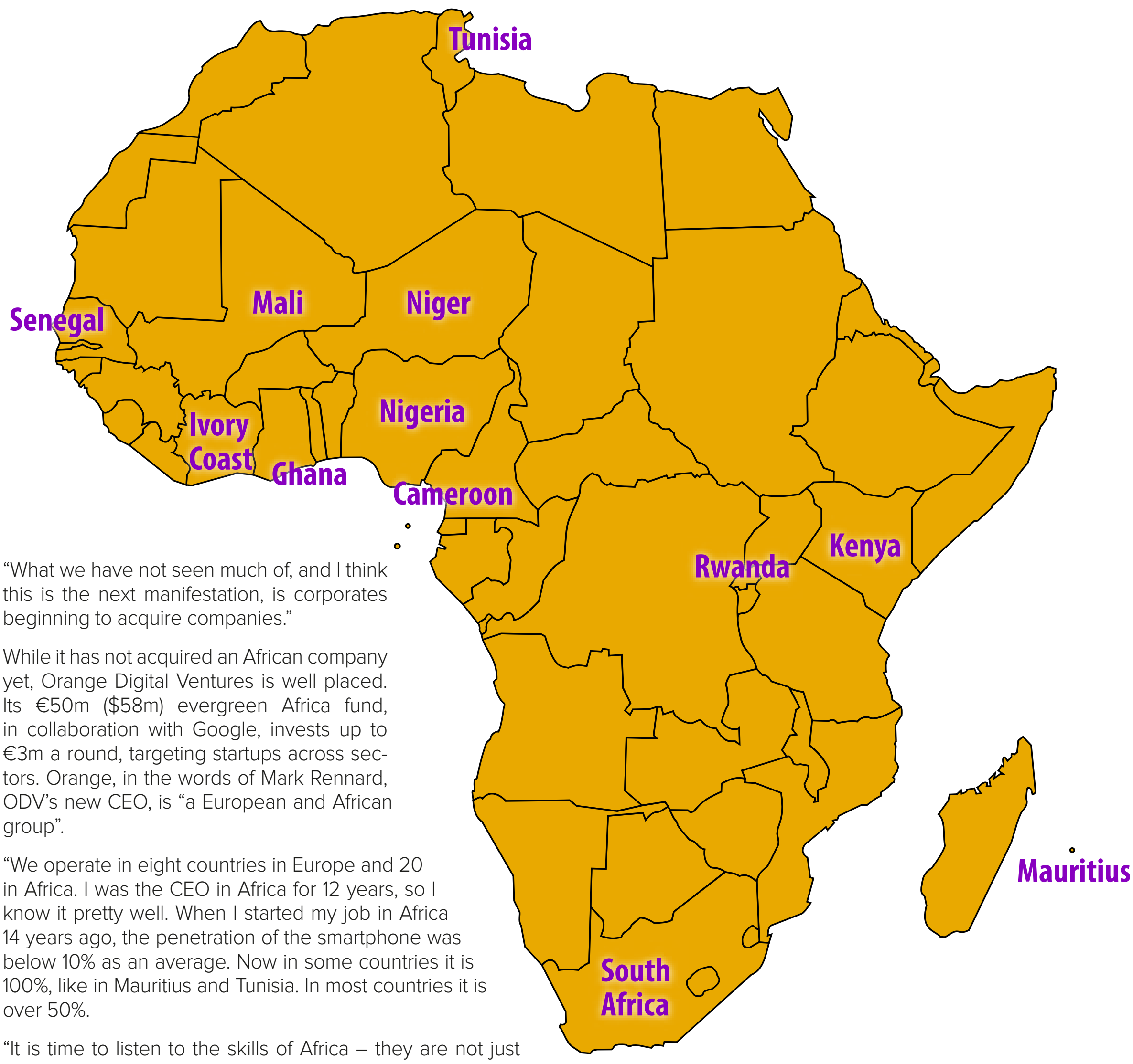
"Corporate venture capital is still at an early stage. Even venture capital is still at an early stage. Angel investment is still at an early stage," according to Eric Osiakwan, who spoke at this year's GCV Symposium and is the man behind the Kings concept. He knows Africa better than most. During his career he has crossed the continent, setting up internet service providers and tech startups in 32 countries. He now runs Chanzo Capital, a growth capital firm. Chanzo operates a "mentor financing" model, working with its portfolio companies.

Osiakwan has seen the technological development of African countries first hand, and the attendant efforts towards getting financing for that development. Putting aside state aid and state investment, which focuses on infrastructure, private equity has dominated compared with venture capital. According to the African Venture Capital Association, there were 167 private equity deals between 2010 and 2016 in anglophone east Africa alone.

Osiakwan added: "Private equity is much more advanced. It has been happening for almost two decades now. Corporate venturing is the new kid on the block, and we have seen this in two manifestations. The first manifestation is that a lot of the corporates are venturing by supporting the ecosystem. You see a lot of the corporates having accelerator programs, incubators, hackathons, and providing resources to help the tech ecosystem.

"We are beginning to see a second manifestation, where some of them are beginning to set up their own corporate venturing arms. Orange has Orange Digital Ventures (ODV), and the ODV Africa fund, Safaricom has Spark, and there are a few more, [such as telecoms operator MTN backing Amadeus Capital Partners' $75m fund in 2014].

INNOVATIVE REGION



> “It is time to listen to the skills of Africa – they are not just rural, not just about agriculture, it is about fintech, about cyber, it is about connectivity”

“What we have not seen much of, and I think this is the next manifestation, is corporates beginning to acquire companies.”

While it has not acquired an African company yet, Orange Digital Ventures is well placed. Its €50m ($58m) evergreen Africa fund, in collaboration with Google, invests up to €3m a round, targeting startups across sectors. Orange, in the words of Mark Rennard, ODV’s new CEO, is “a European and African group”.

“We operate in eight countries in Europe and 20 in Africa. I was the CEO in Africa for 12 years, so I know it pretty well. When I started my job in Africa 14 years ago, the penetration of the smartphone was below 10% as an average. Now in some countries it is 100%, like in Mauritius and Tunisia. In most countries it is over 50%.

“It is time to listen to the skills of Africa – they are not just rural, not just about agriculture, it is about fintech, about cyber, it is about connectivity.”

ODV has a dedicated team in Dakar, Senegal. Grégoire de Padirac is one of them, regularly flying out to other areas of Africa. Orange is a French company, but has a presence in both anglophone and francophone Africa.

Being able to operate in both lexicons gives ODV a significant competitive advantage. There have been much higher levels of investment in the English-speaking parts of Africa, due to closer connections with the US and the UK. According to Partech Ventures, the Europe and US-based VC firm, Nigeria, South Africa and Kenya raised a collective $299m for startups in 2016. Rwanda, next on the list, raised $16m. Ivory Coast and Senegal, the top-performing francophone nations, raised $13m and $6.5m respectively.

For de Padirac, the 350 million people in francophone Africa have been underserved.

He said of English-speaking nations: “Those countries are key because they manage to raise funds more easily than other countries. There are a lot of connections between Kenya and Nigeria and the US. You had a generation of startups with support from Y Combinator or elsewhere. Seed investment was key to starting the ecosystem. In francophone countries, they did not have the same capacity to get funds from American tech hubs. They key issue for me is seed investment, access to business contacts and an international network.

“Most of the startups have come from anglophone countries, so they were not able to benefit francophone areas. I think there will be a huge race between startups on two sides of the market, so we will see many things changing. It is the next place to be.”

Partech Ventures also realised the francophone markets were underserved. It launched a new African fund focused on francophone countries this year, backed by Orange, alongside other corporates and institutional investors.

Yet Parminder Vir, CEO of the Tony Elumelu Foundation (TEF) and its attendant entrepreneurship program, which welcomes tens of thousands of applicants each year, thinks there is still a difference at the ground level.

INNOVATIVE REGION

She said: "In the anglophone countries there is a much greater hunger and entrepreneurial drive then there is in the francophone countries. When I travel to Mali or Senegal, they are trying to shed the shadow of France. A lot more needs to happen – more investment from the government in infrastructure, in changing the mindset, and making entrepreneurship sexy across the francophone countries.

"There are some very innovative solutions and business ideas that come from francophone Africa, but the reality is that francophone entrepreneurs still look to anglophone African entrepreneurs for validation."

Eric Osiakwan

Parminder Vir

Adeyinka Adewale

Yet while their entrepreneurial mindset may still be developing, the markets themselves are there. Osiakwan is typically focused on anglophone markets, but Ivory Coast is French-speaking. He said: "You need to have a different approach to francophone markets. Most of central and west Africa are predominantly francophone. You cannot ignore that market."

He cited the example of a merger involving a travel tech company in Senegal, a Norwegian-run Nigeria-based firm and a Polish-run Kenya-based company doing the same things. The resulting entity could take advantage of two distinct language markets.

"This is what I call roll-up. Take three companies that do the same things in different markets, roll them up into a bigger entity, and now suddenly it has become the preferred partner for Booking.com, Expedia, you name it."

Beyond language differences, investing in Africa has other specificities. Emerging startups seek to address what might be seen as fundamental problems in a western country, particularly lack of infrastructure. That might explain why investors have been slow to arrive, but are now seeing opportunity, with more than enough talent on the continent.

For de Padirac, investing in Africa is not just a hype-based activity. The talent is there, now backed by rapidly growing investment.

"In 2015, Africa raised $270m, and last year $560m. There is huge traction, and more investors are based in Africa. This is good news, as the sustainable VC activity is growing. It is a long trend, and we believe that it is not just hype. It is not because there is too much money. It is because there are a lot of really good entrepreneurs.

"Comparing Africa and India, which is difficult, shows interesting things. They have the same number of inhabitants, 1.2 billion to 1.3 billion in India. The GDP is the same, but in India they have raised something like $10bn, compared with $560m in Africa. The multiple [of Indian investment to African investment] is around 17 to one. There is huge potential to grow. The entrepreneurs are already there. It is an untapped market, and they are digitising payments."

Digitising payments is important, providing the payments infrastructure that other businesses can build on, particularly given that relatively few people on the continent have access to a traditional bank account.

Someone who knows that well is Adeyinka Adewale, who runs Kudi, a Nigeria-based fintech. Kudi recently graduated from Y Combinator and has found a successful model by solving the main issue – cash.

He said: "Most payments today in Nigeria happen in cash. For people to be able to make their payments, there has to be a way for cash to move to digital money. Most of the population in Nigeria today are unbanked. Banks do not have enough distribution. There are only about 5,000 bank branches in a country of about 56 million adults.

"Kudi partners corner shops. A customer could walk into those stores to make digital payments – peer-to-peer transfers, or they could transfer money to their own wallet and make payments through our mobile app. We have about 2,000 stores already partnering, and we are doing about $15m in payments monthly."

Having launched in 2017, and already close to being the largest payments platform in Nigeria, Kudi is looking to expand in that country before spreading across Africa. The advantage for Adewale is that the rest of Africa is still largely a cash economy. There are rivals, but Kudi has a host of advantages. It is pre-series A, and flexible, having already shifted its business model once – previously using a chatbot – with a proven cash-to-digital payments model, and as a Y Combinator grad, has the connections to expand quickly.

Yet while a lack of infrastructure is something that Kudi can build on, it is also something that frustrates Adewale. Distinguishing the Nigerian startup scene from those in more developed countries, infrastructure becomes the differentiating factor.

"If you are building a digital payments startup in the US, or the UK, you see the challenger banks, where you have people with new banking products offered by fintechs. The difference in Nigeria is that most people do not even have a bank account yet. They have not used the legacy banks, so it is very difficult to convince that person to use a purely digital bank. There is a huge trust problem.

"There is also the basic infrastructure problem. Even something as basic as mailing a prepaid card to someone can be challenging. Over the next few years we have to build that infrastructure."

This plays out in different ways in different sectors. One of the most obvious is e-commerce, where Adewale is unflinchingly honest.

"E-commerce struggled in Nigeria. Six or seven years ago, e-commerce companies came to Nigeria, mostly founded by Nigerians who had lived in the US, who understood how Amazon worked. The difference was that when they came to Nigeria, there were no online payments systems that worked. There was no logistics network that you could tap into. A lot of these guys spend the bulk of their early years building payments, building logistics – that slowed them down, that was expensive. A few of them failed, and some of them are still struggling. The infrastructure has to be built, then other things can happen."

Even Jumia, which African Internet Group earmarked to receive the bulk of the funds from its recent $326m funding round, and is seen as a leader in African e-commerce, was described by TechCrunch as "a tent pole". The idea is to stake a claim early as a market leader, regardless of infrastructure issues. Jumia is reportedly exploring expansion into financial products to serve its main commerce platform.

While de Padirac has a different take on the issue, the same fundamental problem remains.

He said: "When you digitise payments, you can build a lot of business on top of this, which is why fintechs are so hot in Africa. They can leapfrog infrastructure. More and more, startups will be able to build new products on top of this first generation. For instance, we invested in Africa's Talking, which is an aggregator of telecoms application programming interfaces, which is the first level of technology that startups need to leverage SMS, USSD (a communications protocol for mobiles), and so on."

> "Where you see infrastructure gaps, we look for entrepreneurs using software to bridge that gap"

Osiakwan puts things more simply. "In Africa today, online is a lifestyle, and by online, it is mobile." That said, he knows that getting everyone there is not as simple as one might hope.

"The next step is that a lot of offline businesses will go online, but there is a big constraint there. The infrastructure is not existent. We believe that you can use software as infrastructure. That means that where you see infrastructure gaps, we look for entrepreneurs using software to bridge that gap. We see the lack of infrastructure as an opportunity.

"We invested in a company in Kenya called FinAccess, which built a credit-scoring system. One of the infrastructures lacking in Africa is that there is no credit-scoring system. There is no address system, so it is hard to find people and hard to lend to them. Most people do collateralised lending – 'Bring me something that is worth double what you want from me, and I will give you the money.' That is not lending. The primary reason that credit scores do not exist is that people do not have addresses. Two, there is no credit history on people, so it is difficult to determine how to give credit.

"Now [FinAccess] has said: 'People use mobile money, people use their phones to prepay their airtime. We can use that data point to create a credit score.' FinAccess built that system, and then on the back of that built a lending platform. Before I invested, there was 98% repayment. They were picking the right data points and making the right assessment.

"This is a clear opportunity where you are using software infrastructure to fix an existing infrastructure gap."

The opportunities are there. The talent is there too, as expatriates and repatriates are coming to Africa. De Padirac and Osiakwan both see the advantages, with de Padirac focusing on the ambition they bring.

"There are many expat entrepreneurs in Africa, but there is a mix of expats and repats, which is very good news for Africa. People want to stay on the continent and to build big businesses on an African scale, not just local entrepreneurs who are more focused on a national scale. We have seen more and more dealflow pitching pan-African ambition. That is quite new, so I believe we are going to see this boom and growth continue."

Osiakwan believes local founders can have their visions clouded by western influence, yet restored by co-founders with western experience.

"We are seeing two sets of entrepreneurs. We have entrepreneurs who are coming from the west. They see a problem in Africa and they are coming up with a solution to that problem. Some of them have the added challenge of not realising that copying a western solution for an African problem is not the way to go. In that regard, you begin to see co-founders where one is a foreigner and one is a local, and they can balance each other nicely.

"Then you have the other scenario, where you have a local entrepreneur who is providing a solution to a local problem, but he or she does not have the experience of building a company. We are beginning to see some of those local entrepreneurs partnering expats and repats. I think that is a very nice dynamic. As a fund we like that, as there is a leveraging of strengths that plays down on each other's weaknesses. That is good for the ecosystem, because we want to back companies that can solve African problems, but we also want to back companies that can go global."

Part of the benefit that expats and repats bring is that they have better access to capital. De Padirac brings the capital, and likes to see the familiar – the technology and innovation ecosystem that has worked so well elsewhere. He said:

INNOVATIVE REGION

"Most of the first generation of entrepreneurs who managed to raise funds are repats. That is normal because they are building the ecosystem. They are bringing their experience from Silicon Valley, from London, from Paris.

"The next generation will be former employees of the startup. The ecosystem is like that. The first generation creates a generation of kids."

Parminder Vir knows African entrepreneurs better than most. As CEO of the Tony Elumelu Foundation, she set up an annual entrepreneurship program in 2014, providing a 12-week online course that includes mentoring and basic business skills. Most importantly, the program provides seed funding – $5,000 to 1,000 entrepreneurs each year. Available to all 54 countries in Africa, but not the African diaspora, there is huge demand – 63,000 applications were submitted this year.

"It is proof-of-concept capital. The word that I use is non-returnable. Instead of someone going to their family and friends and saying 'I need $5,000 to get this thing to do whatever' in terms of their business, it is more of an angel investment. The return we expect from that is that the entrepreneur goes off, creates jobs, and generates revenue.

"Funding and access to capital is one of the biggest challenges for entrepreneurs the world over, but particularly on the African continent. You would be stupid to go to the bank because the interest rates are so high. It takes much longer to grow because you are generating revenue only to be ploughing whatever profits you make into the business to keep it sustainable."

Adewale has his own experience of this. A local entrepreneur originally, he founded a startup to solve a payments issue at his university in Nigeria. It struggled until Adewale shut it down. He eventually founded Kudi, which was picked up by Y Combinator. So he understands the relationship between African founders and funding.

He added: "External capital is a lot more difficult to access as a local startup in Nigeria, and that is because you need credibility. You cannot just walk into Silicon Valley as some Nigerian dude. That is why incubators help, because they help answer that credibility question. You are a Y Combinator startup, talking to a VC.

"It is a lot tougher to get outside funding if you do not have either some level of schooling abroad – for example, you went to Harvard – or you went to Y Combinator. All of the founders in Nigeria I have seen who have raised external funds either went to Ivy League schools or they went to one accelerator or another.

"From what I have seen, most startups raise venture capital funds from the US or from China. There are very few startups who raise money locally. There are a few funds that focus on emerging markets like Africa, but the challenge is that because there are not many of them, they can only do so much each year. It is very difficult for local companies to get funds from them, and since most of them do not do seed investment, they focus on series A or B. Most startups will not get to series A if they cannot get seed, and most of the seed I see tends to come from the US."

Adewale believes the capital will come, but that investors are still dragging their feet for a big exit before they will throw themselves in at the deep end. “For me, most investments still have to go into getting one or two companies to get to scale, in terms of the digital economy, digital payments, or e-commerce. Once one or two companies grow, become a $100m business or a unicorn of some sort [worth at least $1bn], that could potentially bring an exit to the market, which would make more VCs invest in Africa.

“For example, exits have been very difficult in Nigeria. No startup has been able to exit for anything like $1bn. Most VC funds, even in the US, would not consider doing an African deal except the very large funds that are willing to take the risk.”

Osiakwan agrees that venture capitalists are hanging around, waiting for a major exit. “That is accurate, but I shall give you one or two examples of exits that speak to the point. African Internet Group had a billion-dollar valuation – making it Africa’s first unicorn – that brought in quite a few strategics, Goldman Sachs, MTN, Orange. That is one of the biggest new examples in the market in terms of potential. It is looking to go public, we do not know when yet, but there is speculation.

“The other example is 2U, a public company in the US, which bought GetSmarter, a South African educational startup, for $103m. One of the investors was called DiGame, which we actually do quite a lot of work with. We believe this is going to be the pattern for the next five to 10 years. As more corporates come into Africa, they will be looking for acquisition opportunities. That is why our fund is focused on investing and scaling companies so that they are big enough to be acquired. There have not been a lot of exits, but I would caution that there will be a lot in years to come.”

For Rennard, the man in charge of a major European CVC, exits are as important as you would expect. Speaking specifically about Nigeria, he noted how easy it was to invest there, but the exit remains an open question. He said: “The question is, how do you manage the exit? How do you manage the potential conflict? What is the legal ecosystem like?

> “If you do not understand the business culture in Nigeria, you may copy your model from South Africa, and it will not work”

The person left at a loose end is the startup founder. As Adewale has said, although not a problem for Kudi, accessing venture capital is hard enough, even in Nigeria. If founders in Nigeria are finding it tough to access capital, it is prohibitively hard to access it elsewhere. According to de Padirac, 70% of investment in Africa is located in just three cities – Lagos, Nairobi, and Cape Town.

Rennard believes Nigeria is a centre of investment just by virtue of its population. “Nigeria is the biggest country on the continent. Nigeria is probably bigger than all our other countries where we operate in west Africa. Senegal plus Ivory Coast, plus Niger, plus Cameroon is roughly the size of Nigeria in terms of total population.”

Vir sees this too, with Nigeria providing the largest single-nation contingent to the foundation’s program each year. She said: “We receive most of our applications from Nigeria, not because the foundation is based in Nigeria, but because Nigeria has the largest population – 200 million. It has the youngest population. It has the most highly-educated entrepreneurial population. Everybody feels that they can set up and run a business.”

Population is a key driver of investment, both in terms of individual countries, but also for Africa as a whole. “Africa Rising” has long been a narrative going beyond investment circles, into politics and broader society too. It is a narrative complicated by Africa’s relationship with the west and former colonial powers, but one thing is very straightforward. As Osiakwan puts it: “In the next 20 to 30 years, one in every four people in the world is going to be African. There is no doubt that Africa is going to be the market of the 21st century.”

Orange is one of the first major European CVCs working in Africa, and African CVC units are still relatively thin on the ground. A certain level of trepidation remains, perhaps unnecessarily. Investing in Africa is, as Rennard says, much like investing in other countries, but with certain specificities. “When you want to evaluate companies, you need to know the environment, the ecosystem, the legal ecosystem of the country where you operate.”

Rennard knows the continent well, and Osiakwan is one of the few better placed to comment, given his experience. Osiakwan points to high levels of diversity as one potential stumbling block.

He said: “The global south is very different from the global north, and when you look at Africa, there is a difference between west, east, south and even north Africa. And then when you get to west Africa there is a lot of difference between Accra and Lagos, Abidjan and Dakar. Africa is very heterogeneous, but the challenges these markets face are very similar. The dynamic is that you can have a business model that solves a problem in South Africa, but you cannot copy the same model and just stick it in Ghana. You have to tweak it and adapt it to the Ghanaian environment. The devil is in that detail.

“We believe this is where the biggest success trigger comes from, because if you do not understand the business culture in Nigeria, you may copy your model from South Africa, and it will not work. The cultural context is different, the business climate is very different, and the approach to customer engagement is different.

“I have had 15 years in a previous life of building about 15 companies in 32 African countries. We believe we bring really strong experience and exposure to the markets to entrepreneurs. There are a lot of funds trying to look at Africa, from

Europe especially, and some of them are learning the ropes, but it is just one of those things that you gain by experience."

If VCs and CVCs can learn only by experience, they have to enter the market at some point. Osiakwan offers a couple of options – go there yourself, or work with an African partner. "There are two ways to go. One is to go and set up your corporate structure and begin to deliver your product or your services in a market. You have a lot of learning to do. On the corporate venture side, one of the ways is to partner people like us – Chanzo Capital – who have a track record of building companies in Africa. We can also help you with your corporate setup. That is what our core business is – to be able to leverage not only capital but our resources to be able to go and venture."

While that process is happening, it still leaves founders in the lurch. Africa is not a core market. Investment teams are being built in Asian and European markets. Africa is different. It is a litany familiar to Adewale. He said: "After Y Combinator, while we were trying to raise funds I spoke to a lot of VCs. That was the response I got as well: 'We do not understand what is happening in Africa.' I remember talking to a VC and saying: 'What do I have to show you for you to make an investment in Nigeria?' He said: 'There is nothing you can show me. I do not understand what the regulatory landscape looks like, I do not understand the risks.' There is still a long way to go."

Adewale posits a solution, not so different from Osiakwan's own. "A VC fund could invest in some of the smaller African VC funds that show traction and have good portfolio companies. The [African VCs] can then invest in the actual Kenyan or Nigerian companies because they understand the risk and they understand the market."

Part of the problem is that Adewale is still encountering misconceptions about Africa more broadly, ridiculous as they are.

"I have had people ask me: 'Do people use internet? How are people going to use your app? Do people have smartphones?' Some people think everywhere in Africa is rural, people are farmers, and they do not go to school. It is wrong.

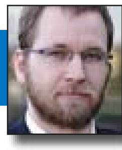
"We have a very young population. We have a lot of young people in Nigeria who are technology-savvy. We have a thriving economy. The government is stable, and infrastructure is being put in place. A lot of growth is going to happen in the next decade."

The message to venture capitalists is clear – be cautious, be prepared to learn, but the opportunities have already arrived. Africa may not yet be risen, but founders like Adeyinka Adewale and funders like Eric Osiakwan are making it a reality. ◆

UNIVERSITY CORNER

How to lose the innovation arms race

Thierry Heles, editor



Brazil, China, Singapore, Israel and India have been hailed as the most effective patenting nations between 2005 and 2015. The US-based Centre for Advancing Innovation, a non-profit that aims to accelerate tech transfer, and intellectual property analytics and management platform PatSnap have produced The Innovation Arms Race 2018 report – but it is bad news for the US and the EU, which both appear to be losing the game.

The US had already lost its leadership in global patenting metrics and the report predicted that the country would lose its leadership across all key performance indicators by 2029. Ray Chohan, senior vice-president for corporate strategy at PatSnap, said: "Despite recent obstacles to globalisation, innovation continues to become more relevant to technological progress and, in return, economic progress.

"While the west has – to a significant extent – pioneered technological breakthroughs in the past, it is being held back by legacy processes and technology when it comes to innovation and turning it into economic gain. Much of the growth and efficiency we are seeing in R&D in Asia-Pacific is being supported by companies leveraging new technologies and processes with the aim of streamlining their R&D investment."

Indeed, the money going to research and development activities across the world continued to increase. As Rob Lowe, chief executive of innovation management software producer Wellspring Worldwide, recently noted in a keynote speech at the UIDP26 conference, the global annual market for R&D dwarfed everything else, with even alcohol and tobacco accounting for only $120bn. The Innovation Arms Race 2018 report put the figure for R&D at $2.19 trillion in 2018.

It is worrying that so much R&D spend has no economic value whatsoever

Yet money does not equate to success. The returns on R&D expenditure, the report stated, had actually decreased by about 65% over the past three decades. While not all research and development can lead to a usable product or service, it is worrying that so much of it has no economic value whatsoever.

Part of the problem was a declining ability in the western world to turn R&D into effective patents. Although the number of applications remained high, the US and the EU had both been struggling to turn these applications into granted patents. Both sides of the Atlantic had experienced negative or zero growth rate in this aspect over the past two decades – getting left behind by the five nations cited above.

The report looked at the UK separately from the other EU countries, but it was similarly bad news. In 2015, the UK and the US produced only 576 and 611 patents respectively per $1bn of research expenditure. The rest of the EU (872) was slightly ahead, being more cost-effective than China (812) but less than Russia (1,032). If you combine UK and EU figures, Europe makes it into third place.

Despite the bad news for its European neighbours, Switzerland led the pack with 1,977 patents granted per $1bn of expenditure. South Korea recorded 1,562 and landed in second place. China and Singapore were catching up fast – they achieved respective compound annual growth rates of 10% and 18%. China, the report forecast, would outpace the US for R&D expenditure and patent grants by 2025, with India, Israel and Singapore expected to experience the highest growth in patents granted through 2035.

This, too, proves that more money does not guarantee better outcomes. The US was spending twice as much as the UK and the remainder of the EU on research relative to gross domestic product (GDP), but was failing to generate any GDP growth from its investment.

The report said policy dynamics in the western world were not to blame, but claimed the US and the EU were unwittingly prioritising quantity over quality, incentivising scientists to apply for patents even if their research may not be of a high enough quality. The patents that were granted were often not commercialised due to a lack of resources, and failed research was not publicised, meaning the same mistakes were made over and over again. Gross domestic expenditure on R&D needed to be spent more efficiently to generate more innovation.

How that could be done was beyond the scope of the report, but some statements hinted at a possible solution – increasing commercialisation resources. There is hardly a point in producing patents when inventions are left to gather dust in an archive.

Rosemarie Truman, founder and chief executive of the Centre for Advancing Innovation concluded: "The US licenses out only 0.3% of federally-funded inventions. If we could get 1% more inventions out a year, the value at stake is $1.5 trillion to the US economy alone."

And you could justify a lot of commercialisation activities with a $1.5 trillion return. It seems almost incomprehensible that decision-makers in the west are not bouncing on such numbers. ◆

Rosemarie Truman will be speaking at the GCV/GUV Venture Houston conference on November 8-9. *See details*

GOVERNMENT HOUSE

US foreign investment bill's impact on venture and startups

Jeff Farrah, general counsel, National Venture Capital Association

If you are a US venture capital (VC) firm with a foreign limited partner (LP) or have foreign co-investors, then you should know the law is about to change. Last month, Congress passed legislation that will impact foreign investment to the venture and startup ecosystem in new ways.

President Trump signed the Foreign Investment Risk Review Modernisation Act (Firrma), as he chose to back the bill rather than move forward with China-specific restrictions. The NVCA is pleased to see key changes in the final bill, but it still stands to affect VC funds with foreign limited partners or co-investors.

The purpose of Firrma is to expand the power of the Committee on Foreign Investment in the US (CFIUS) to scrutinise foreign investments in "critical technology" for their national security implications. Firrma was born out of US government concerns that China is leveraging minority investments in startups to obtain sensitive information, like intellectual property, source code and know-how. Currently, the committee reviews foreign investments for national security considerations when the investment results in foreign control of a US entity. But minority investments used to obtain sensitive information about a company are outside the scope of the committee because those investments generally do not deliver control to the investor. Firrma is intended to address this blind spot.

The bill was introduced in November 2017. It gave the committee authority to review, and potentially to reject, a minority foreign investment in a critical technology company, unless it was a "passive investment". The initial version of Firrma defined passive investment narrowly, raising serious concerns that even foreign commitments to a venture fund might not qualify for the passive investment exemption. This would have resulted in a government filing, delay and expense. And that expense is no small sum, as Firrma sets the filing fee at 1% of the value of the transaction, or $300,000, whichever is less. And that does not include legal fees.

The NVCA actively engaged during Firrma's consideration, including testimony before the Senate Banking Committee and a formal submission to the House Financial Services Committee. Ultimately, significant changes were made to Firrma that go a long way to protecting passive investment in venture funds and directly into startups. Yet even with these changes, Firrma may change investment patterns and deal structures.

While the initial version of the law exempted passive investment, the NVCA's goal was for venture firms or their foreign LPs to avoid a filing every time capital is raised, since these are passive investments by their nature. During Firrma's consideration, several key changes were made to how passive foreign investment is treated, including language that clarifies that indirect investments via a fund qualify for exemption, and removal of language that deemed an investment non-passive if the investor had access to any non-public non-technical information.

Under the final bill, the CFIUS has jurisdiction over any investment by a foreign entity in a critical technology company that gives the foreign entity:

- Access to any material non-public technical information of the company.
- Membership or observer rights on the company's board or equivalent governing body.
- Any involvement in substantive decision-making of the company, other than through voting of shares.

VCs, LPs and startups raising capital should be cognisant of these three factors because if any of these factors is triggered then a CFIUS filing is likely to be necessary.

"Material non-public technical information" is defined in the statute, and importantly does not include financial information regarding the performance of a business such as that provided to LPs on a quarterly basis. A CFIUS filing can be triggered by a being on a company board or the "equivalent governing body", raising questions as to whether this included foreign LPs who sit on LP advisory committees. Therefore, the final legislation includes a "special clarification for investment funds" specifying that foreign LP membership on an advisory committee is not included if:

- The fund is managed by a general partner (GP) that is not a foreign person.
- The advisory committee cannot approve, disapprove or otherwise control investment decisions of the fund or the decisions of the GP.
- The foreign person cannot otherwise control the fund.

A common criticism of Firrma has been that its definition of "critical technology" was too nebulous – a "we'll know it when we see it" definition would harm innovation. The act now defines critical technology within a limited set of categories which are mostly related to the export control regime. This includes "emerging and foundational technologies" that are controlled pursuant to the expanded export control regime under the bill. Importantly, the CFIUS no longer has discretion independently to identify other categories of technology that would constitute critical technology. In practice, this means an agency that wants something designated as critical technology for CFIUS purposes must first navigate the new export control process. This is an important check that will guard against critical technology becoming everything under the sun.

The scope of countries affected by Firrma was heavily debated. The Senate favoured a whitelist, applying the rules globally unless a country was exempted. The House of Representatives favored a blacklist, applying rules to a small group of countries. The final product found a third way, creating a "country specification" section that directs the CFIUS to "specify criteria to limit the application of [Firrma] to the investments of certain categories of foreign persons". The section goes on to say the criteria "shall take into consideration how a foreign person is connected to a foreign country or foreign government, and whether the connection may affect the national security of the US".

Our understanding is the goal of this provision is to allow the CFIUS to exempt certain entities rather than entire countries. It is too soon to tell how this provision will work in practice. On the one hand, knowing an entire country is excluded would have provided certainty for investors. On the other hand, the CFIUS would probably have been reluctant to exclude entire countries, and the final Firrma provision allows the CFIUS to exclude specific entities that may be large LPs or co-investors.

It is imperative the NVCA and the venture industry remain vigilant on Firrma, as its passage kicks off a rulemaking process that will decide major issues and define terms in ways that affect the thrust of the bill. In the coming weeks and months, the NVCA will engage with its board and broader membership to ensure the concerns of the VC industry are heard during Firrma's rulemaking.

We will also continue to educate our membership on how Firrma will alter the landscape of foreign investment into US growth companies. This includes events to educate venture capitalists and policymakers on the nexus of national security and emerging technology.

This is an edited version of an article first published by the NVCA

Chinese investment to the US 'in decline'

The drop in Chinese foreign direct investment (FDI) in the US is real and persistent. In the first half of this year, Chinese companies completed acquisitions and greenfield investments worth only $1.8bn – a drop of more than 90% from the first half of 2017 and the lowest level in seven years. The pace of newly-announced transactions remained similarly depressed.

Cumulative 2018 net Chinese FDI in the US is negative if one includes asset divestitures. Chinese investors sold $9.6bn of US assets in the first five months of 2018, mostly driven by deleveraging pressures from Beijing. With these divestitures, China's net US direct investment is negative to the tune of $7.8bn so far this year.

After a record $46bn of completed Chinese foreign direct investment (FDI) in the US in 2016, Chinese investment dropped sharply to just $29bn in 2017 due to greater scrutiny in Beijing over outbound flows as well as tougher US regulatory reviews of inbound acquisitions.

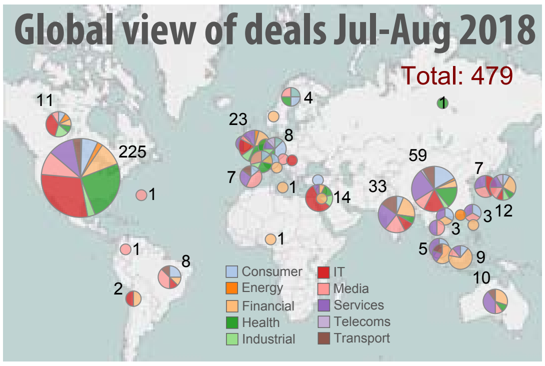
This is an edited extract from an article first published by Rhodium Group

MONTHLY ANALYSIS

This is our data snapshot based on the past two months' investment activity. The charts and tables have been generated by our data platform GCV Analytics.

Deal temperature rises in July and August

Kaloyan Andonov, reporter, GCV Analytics



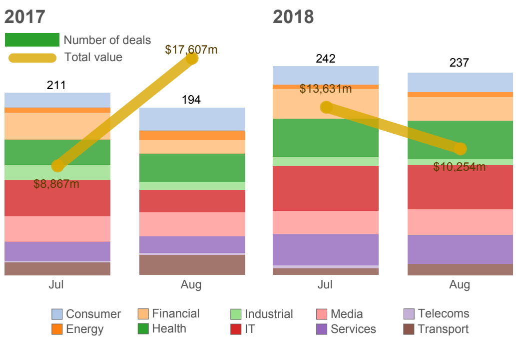
There were 242 corporate-backed rounds reported in July, and 237 in August, considerably higher than those recorded in the same months last year – 211 and 194. Investment value was higher in July at $13.63bn, up from $8.8bn in July last year. August's investment value, however, at $10.25bn, was considerably lower than last August's $17.61bn.

Deal volume, compared with other months this year, was lower than June's 269 but more on a par with April and May – 243 and 225 respectively. However, June set a record for estimated total capital invested this year at $27.29bn.

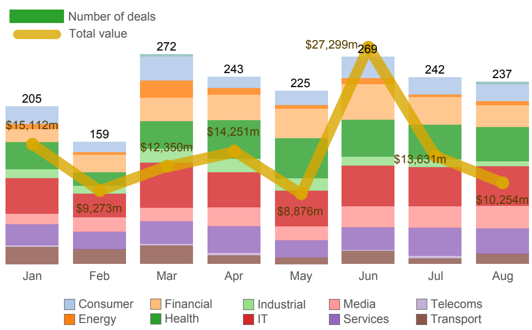
The US hosted the greatest number of corporate-backed deals with 225 rounds, China was second with 59 transactions, India third with 33 and the UK fourth with 23.

The leading corporate investors by number of deals were diversified conglomerate Alphabet, investment banking firm Goldman Sachs and e-commerce firms Rakuten and Alibaba. In terms of involvement in the largest deals, Alibaba, Goldman Sachs and Alphabet topped the ranking with telecoms firm SoftBank.

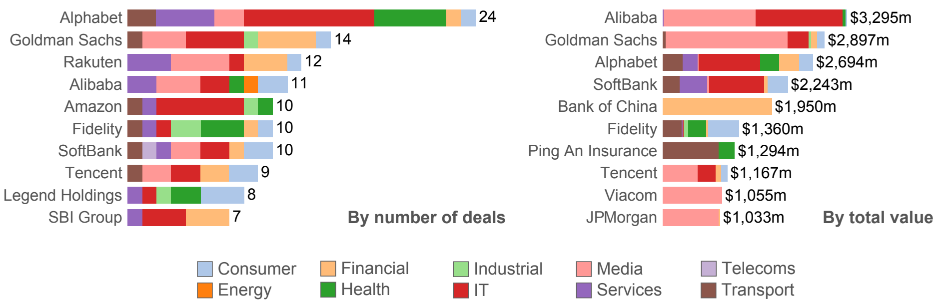
Deals Jul-Aug 2017 vs Jul-Aug 2018



Deals by month 2018



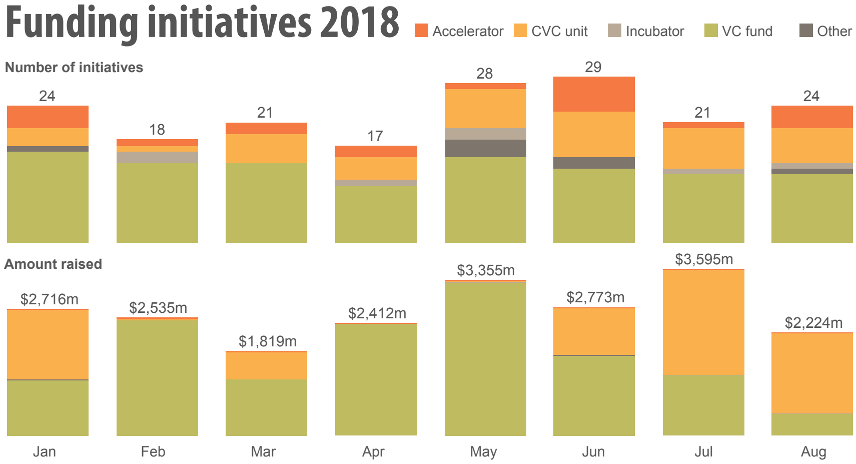
Top investors Jul-Aug 2018



MONTHLY ANALYSIS

GCV Analytics reported 21 and 24 corporate-backed funding initiatives in July and August respectively. They included VC funds, new venturing units, incubators, accel-erators and other. This fund count suggested a slight decrease over May and June, which registered 28 and 29 such initiatives. The estimated capital raised in those initiatives for July amounted to $3.59bn and to $2.22bn in August.

Funding initiatives 2018

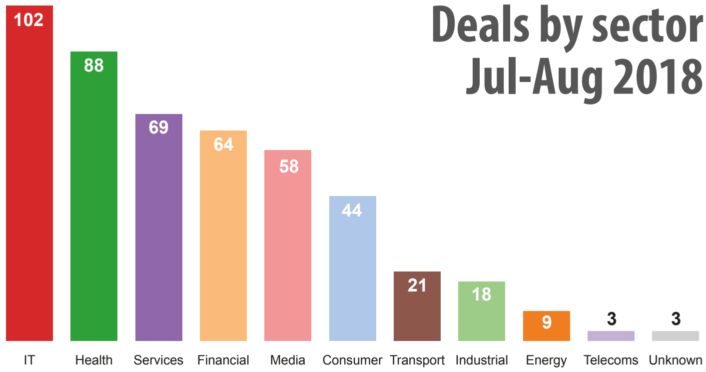


Deals

Emerging businesses from the IT, health, services and financial services sectors raised the largest number of deals in July and August. The most active corporate venturers were from the financial services, IT, media and consumer sectors. Four of the the top 10 deals were above $1bn.

JD Finance, the financial services pro-vider spun off from e-commerce firm JD.com, reportedly secured "at least" RMB13bn ($1.95bn) at an $18bn valua-tion. The cash came from BOCGI and CICC Capital, respective subsidiar-ies of financial services firms Bank of China and China International Capital Corp. Other investors were private equity group Citic Capital and broker-age firm China Securities. JD Finance provides a range of financial services including consumer loans, supply chain financing, payment services, crowdfunding and microfinance, insurance, asset management and securities.

Deals by sector Jul-Aug 2018



Deals heatmap Jul-Aug 2018

	Financial services	IT	Media	Consumer	Health	Services	Industrial	Telecoms	Transport	Energy
North America	68	58	39	24	45	18	19	17	8	10
Asia	49	26	28	28	6	21	7	13	8	1
Europe	20	3	8	12	12	2	7	2	1	4
Middle East	4	3	2	2	1	2	4			
South America	3	1	2	1				5		
Australia / NZ	5	2	1		1	2	1		1	
Africa	1	1								
Eastern Europe		1								

SoftBank invested almost $1bn in China-based image recognition technology provider SenseTime through the SoftBank Vision Fund, at an undisclosed valuation. SenseTime was valued at $4.5bn at its previous funding, a $620m series C-plus round. Founded in 2014, SenseTime produces artificial intelligence technology capable of recognising faces, vehicles and objects on a large scale. The company is increasingly moving into augmented reality and autonomous driving but its technology is used most in mass surveillance systems.

US-based video production company NewTV raised $1bn, $200m of which came from a range of entertainment and media providers, including Walt Disney, 21st Century Fox, Warner Bros and Entertainment One. The rest came from institutional investors, largely from the US and China. NewTV is pursuing a business model based on the production of dramatic video content with budgets comparable to high-end content from streaming outlets like Netflix or Amazon Prime but divided into episodes that are about five to 10 minutes long.

Singapore-based ride-hailing platform Grab raised a $2bn funding round featuring automotive manufacturer Toyota, insurance group Ping An and internet company Naver. Toyota had already provided the first $1bn of funding, and the second tranche featured Ping An's unit Ping An Capital and Mirae Asset–Naver Asia Growth Fund, the joint venture set up by Naver and investment bank Mirae Asset Daewoo, The round reportedly valued Grab at $11bn post-money and included other institutional as well as traditional venture investors. Founded in 2012 as GrabTaxi, Grab started out with

MONTHLY ANALYSIS

Top 10 investments Jul-Aug 2018					
Company	**Location**	**Sector**	**Round**	**Size**	**Investors**
JD Finance	China	Financial services	–	$1.95bn	Bank of China | China International Capital Corporation | China Securities | Citic
SenseTime	China	IT	–	$1bn	SoftBank
Grab	Singapore	Transport	E and beyond	$1bn	All-Stars Investment | China Cinda Asset Management | Lightspeed Venture Partners | Macquarie Capital | Mirae Asset Ventures | Oppenheimer Funds | Ping An Insurance | Vulcan | undisclosed investors
NewTV	US	Media	A	$1bn	21st Century Fox | Alibaba | Entertainment One | Goldman Sachs | ITV | JPMorgan | Liberty Global | Lionsgate | Madrone Capital Partners | Metro-Goldwyn-Mayer Studios | NBC Universal | Sony | Viacom | Walt Disney | Warner Media
Magic Leap	US	IT	D	$963m	Alibaba | Alphabet | AT&T | Axel Springer | Grupo Globo | Saudi Arabia's Public Investment Fund
Suning Sports	China	Media	A	$600m	ABC International | Alibaba | CCB International | China Minsheng Bank | Evergrande Group | Goldman Sachs | Jiangsu Province | SenseTime | Sports Industrial Fund of Zhejiang Province
Megvii Technology	China	IT	D	$600m	Alibaba | Boyu Capital
Ximalaya	China	Media	E and beyond	$580m	General Atlantic | Goldman Sachs | Tencent
Peloton Cycle	US	Consumer	E and beyond	$550m	Balyasny Asset Management | Comcast | Fidelity | Kleiner Perkins Caufield & Byers | TCV | True Ventures | Wellington Management
WeWork China	China	Services	B	$500m	Hony Capital | SoftBank | Temasek | TrustBridge Partners

a taxi-booking platform called MyTeksi but has since grown to offer a range of ride-hailing services, including a chauffeuring and carpooling.

Telecoms firm AT&T invested an undisclosed amount in US-based augmented reality technology developer Magic Leap as part of a $963m series D round, which also featured media companies Axel Springer and Grupo Globo, Alibaba, Alphabet and Saudi Arabia's Public Investment Fund. Magic Leap is developing an augmented reality headset with a dedicated operating system and is in talks with prospective content producers. Its technology – Mixed Reality Lightfield – can superimpose ultra-realistic moving light sculptures on real-life settings.

Suning Sports, the sports broadcasting offshoot of China-based retail and commerce conglomerate Suning, closed a $600m series A round, which reportedly valued it at $2.6bn. The round was co-led by Alibaba and Goldman Sachs. It included artificial intelligence technology provider SenseTime, property developer Evergrande Group and subsidiaries of banks CCB International. Suning Sports owns the broadcasting rights to several large sporting competitions, particularly in football, where it holds the rights for China's domestic league, England's Premier League, Spain's La Liga, Germany's Bundesliga and the Asian Champions League.

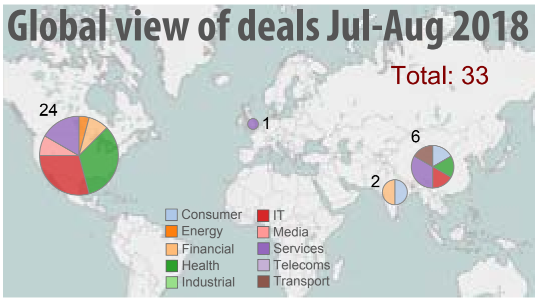
China-based facial recognition software provider Megvii reportedly raised "at least" $600m in a funding round, featuring Alibaba. The corporate was joined by investment firm Boyu Capital. Founded in 2011 and also known as Face-plus-plus, Mergvii provides artificial intelligence-based facial recognition technology that incorporates image data on 1.3 billion citizens taken from the Chinese Ministry of Public Security's database. The technology helps consumer and service-based products incorporate facial recognition, but Megvii has also worked with law enforcement to identify suspects.

China-based online audio-streaming platform Ximalaya completed a RMB4bn funding round featuring internet group Tencent. The transaction included Goldman Sachs and growth equity firm General Atlantic. It valued Ximalaya at about $3.5bn post-money. Founded in 2012, Ximalaya operates an online repository for audio content such as podcasts and radio shows covering music and information. It reportedly has more than 40 million registered users, of which 6 million are daily users. The company has partnerships with carmakers BMW and Ford, which offer the service as part of their in-vehicle entertainment systems, and with smart device producers Haier, Skyworth and Midea, which use it in their home devices.

US-based home fitness service Peloton Interactive raised $550m in a series F round backed by media group Comcast NBCUniversal, which reportedly valued it at $4.15bn. The round was led by growth equity firm TCV with a $150m investment and included financial services and investment group Fidelity. Peloton sells exercise bikes with high-definition touchscreens, allowing customers to stream live workout videos in addition to on-demand fitness classes. The bikes cost nearly $2,000 each and are displayed through a range of bricks-and-mortar showrooms while the classes are available through a monthly subscription service.

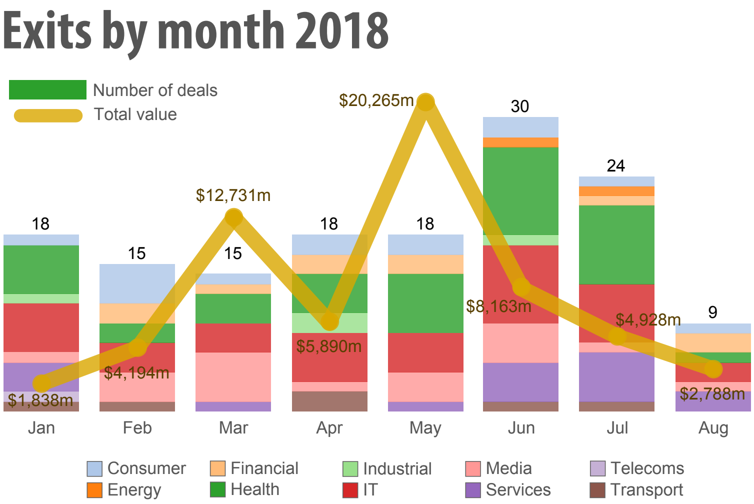
SoftBank and the SofBank Vision Fund were among the investors co-leading a $500m series B round for WeWork China, co-working space provider WeWork's Chinese offshoot. Temasek, the investment firm owned by the Singaporean government, co-led the round, which valued the company at $5bn. WeWork China has built a network of 40 locations in three Chinese cities with a total membership of about 20,000, providing working spaces with facilities such as meeting rooms, printers, office supplies and free coffee.

Exits



In July and August, GCV Analytics tracked 33 exits – 24 in July and nine in August – involving corporate venturers as either acquirers or exiting investors. The transactions included 18 acquisitions, 11 initial public offerings (IPOs), two mergers as well as two stakes sales.

The number of exits was lower than the peak registered in June (30). The total estimated exited capital amounted to $4.93bn in July and $2.79bn in August, both significantly below the $8.16bn estimated for June.



Networking equipment manufacturer Cisco agreed to acquire Duo Security, a US-based authentication software provider previously backed by human resources software producer Workday and Alphabet. Cisco will pay $2.35bn in cash and assumed equity awards for Duo's outstanding shares, warrants and equity incentives on a fully-diluted basis. Founded in 2009, Duo Security operates a cloud-based user verification platform that uses two-factor authentication, where a user has to enter a unique, time-limited code in addition to a password.

Pinduoduo, a China-based group buying platform backed by Tencent, raised about $1.63bn when it floated in the US. The company priced its IPO at the top of its $16 to $19 range, issing 85.6 million American depositary shares on the Nasdaq Global Select Market. The IPO reportedly valued Pinduoduo at $23.8bn including all outstanding share options. The IPO was oversubscribed 20-fold. Buyers included Fidelity Investments and Abu Dhabi-owned sovereign wealth funds. Founded in 2015, Pinduoduo's platform allows users to club together to receive discounts on certain items, using either the app or social media platforms to form buying groups.

Treasure Data, a US-based real-time data management platform backed by marketing firm Dentsu, was acquired by Arm, the semiconductor subsidiary of SoftBank. The transaction was reported to be worth about $600m, though this has not been officially confirmed. The deal is thought to form part of a push by Arm into the internet-of-things sector. Founded in 2011, Treasure Data has created an enterprise customer data platform that uses machine learning and artificial intelligence to extract real-time insights into users across channels such as apps and phone calls. The company targets the internet of things, automotive, entertainment and retail industries.

Otsuka Pharmaceutical, a pharmaceutical subsidiary of healthcare and nutrition group Otsuka Holdings, agreed to acquire US-based antibody developer Visterra for $430m, allowing drug producer Merck & Co to exit. Visterra is developing precision antibody-based therapeutics designed to modulate disease targets not currently treatable by other antibody-based drugs. Its candidates are based on the company's Hierotope platform, and its pipeline includes prospective treatments for kidney diseases, cancer, chronic pain and infectious diseases.

Avnera, a US-based fabless semiconductor producer, was acquired for $405m by semiconductor company Skyworks Solutions. Avner was previously backed by semiconductor manufacturer Intel, electronics producer Panasonic, retailer Best Buy, video conferencing provider Polycom and audio equipment producer Onkyo. Skyworks agreed to pay $405m up front, with up to $20m in additional capital contingent on milestones. Founded in 2004, Avnera designs chips for the production of consumer products such as wireless home cinema systems or gaming headsets that require low power consumption. The company's technology will enhance Skyworks products in fields such as smart voice assistants and in-vehicle systems.

Ascletis, a China-based drug developer backed by pharmaceutical company Tasly Pharmaceuticals, raised $400m in an IPO in Hong Kong. The company sold 224 million shares equating to 20% of its overall share capital at HK$14 ($1.78) a share, in the middle of the IPO's HK$12 to HK$16 range. Singaporean sovereign wealth fund GIC committed to buying $75m of shares as a cornerstone investor. Founded in 2011, Ascletis is developing treatments for hepatitis C. It has already received approval from Chinese regulators for an anti-viral treatment.

Online food ordering service Grubhub agreed to acquire US-based mobile payment app developer LevelUp for $390m.

MONTHLY ANALYSIS

Top 10 exits Jul-Aug 2018

Company	Location	Sector	Type	Acquirer	Size	Exiting investors
Duo Security	US	IT	Acquisition	Cisco Systems	$2.35bn	Alphabet | Benchmark | Geodesic Capital | Index Ventures | Lead Edge Capital | Meritech Capital | Radar Partners | Redpoint Ventures | Resonant | True Ventures | Workday
Pinduoduo	China	Consumer	IPO	-	$1.63bn	Cathay Capital | Gaorong Capital | International Data Group | Lightspeed Venture Partners | Sequoia Capital | Sky Royal Trading | Sun Vantage Investment | Tencent
Treasure Data	US	IT	Acquisition	Arm	$600m	AME Cloud Ventures | Dentsu | Heavybit | Innovation Network Corporation of Japan | IT-Farm Corporation | private investors | SBI Group | Scale Venture Partners | Sierra Ventures
Visterra	US	Health	Acquisition	Otsuka Pharmaceutical	$430m	Alexandria | Allegheny Financial Group | Bill & Melinda Gates Foundation | CTI Life Sciences Fund | Cycad Group | Flagship Ventures | Merck & Co | Omega Funds | Polaris Venture Partners | Serum Institute of India | Vertex Ventures
Avnera	US	IT	Acquisition	Skyworks Solutions	$405m	Altien Ventures | Bessemer | Best Buy | DAG Ventures | Icon Ventures | Intel | Panasonic | Polycom | Redpoint Ventures
Ascletis	China	Health	IPO	–	$400m	C-Bridge Capital | Focus Media | Goldman Sachs | Hangzhou Binjiang Investment | Pavilion Capital | QianHai Equity Investment FOF | Tasly Pharmaceutical | WTT Investment
LevelUp	US	Financial services	Acquisition	Grubhub	$390m	Alphabet | Balderton Capital | CentroCredit Bank | Continental Advisors | Deutsche Telekom | Highland Capital Partners | JPMorgan | Transmedia Capital | US Boston Capital
Bloom Energy	US	Energy	IPO	–	$270m	Advanced Equities | Alberta Investment Management Corporation | Apex Venture Partners | Credit Suisse | DAG Ventures | Eon | Goldman Sachs | GSV Capital | Kleiner Perkins Caufield & Byers | Madrone Capital Partners | Mobius Venture Capital | Morgan Stanley | New Enterprise Associates | New Zealand Superannuation Fund | SunBridge | undisclosed investors
MetaPack	UK	Services	Acquisition	Stamps.com	$230m	Brainspark | Index Ventures | WPP
Shyft Analytics	US	Health	Acquisition	Medidata	$195m	Health Enterprise Partners | McKesson Corporation | Medidata | Milestone Venture Partners | UnitedHealth Group

The company had previously received funding from telecoms firm Deutsche Telekom, Alphabet and financial services firms JPMorgan Chase and CentroCredit Bank. Founded in 2008 as a mobile gaming platform, LevelUp pivoted to its current business model in 2011. It has built a mobile app that enables restaurant costumers to book tables, pre-order food and pay the bill. The restaurants can use the platform to offer loyalty schemes, launch customised marketing campaigns and track sales performance.

Bloom Energy, a US-based fuel cell energy system producer backed by energy utility Eon, raised $270m in its IPO on the New York Stock Exchange. The company issued 18 million shares priced at the top of its $13 to $15 range. Founded in 2001 as Ion America, Bloom Energy produces a power generator, the Bloom Energy Server, which uses flexible lithium-ion batteries. The systems are normally used to supplement renewable energy systems at corporate buildings, and Bloom often partners utilities.

Logistics software producer Stamps.com agreed to acquire MetaPack, a UK-based e-commerce delivery services provider backed by marketing and public relations group WPP, for £175m ($230m) . Founded in 1999, MetaPack operates an online platform for e-commerce businesses to organise logistics. The company is responsible for the deliveries of more than 550 million packages each year. It relies on a network of some 450 mail carriers and 5,000 logistics services worldwide.

Medical research technology provider Medidata agreed to acquire US-based life sciences analytics platform Shyft Analytics for $195m, having already invested in the company in 2016. Medidata owned a 6% stake in Shyft before the acquisition. Pharmaceuticals distributor McKesson had previously backed the company and exited. Shyft Analytics has developed a cloud-based platform that enables pharmaceutical and biotech researchers to mine large amounts of complex data. ◆

Note: Monthly data can fluctuate as additional data are reported after GCV goes to press