

ARTIFICIAL INTELLIGENCE

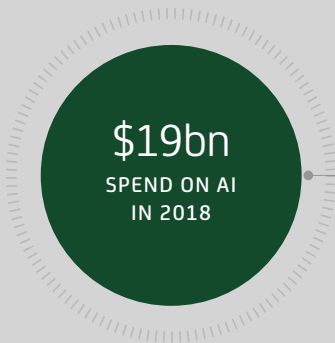
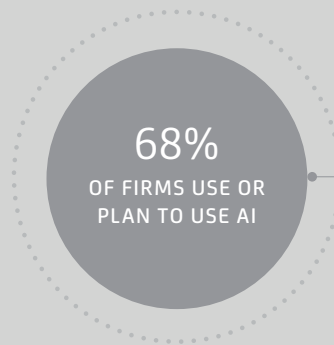


ALANTRA

Artificial Intelligence, the emerging global cross- sector growth driver



We are on the edge of an Artificial Intelligence (AI) mega trend that will drive global productivity and corporate profitability across multiple sectors. Companies that effectively embrace AI will be able to increase their competitive advantage and enhance equity value.



1 AI is defined as "The theory and development of computer systems able to perform tasks normally requiring human intelligence"

2 MITSloan: Reshaping Business with Artificial Intelligence, 2017

3 IDC, 2018

4 Accenture: How AI Boosts Industry Profits and Innovation, 2017

5 The chart shows how AI could impact both sector growth between a "Baseline" (excluding AI) and an AI steady state and what share of the profit increase can be attributed to AI. Workforce heavy sectors such as education, construction, accommodation & food services, and retail would yield the most profit growth from AI driven efficiency gains

Artificial intelligence¹ is, often without our general awareness, already an existing part of our everyday lives. However, we are at an inflexion point where AI's influence will increasingly shape our world due to a number of converging enablers, especially data availability and connectivity, hardware advances, cloud-based and open source software, investment and awareness.

Although only 5% of organisations are extensively incorporating AI into their processes and offerings, some 68% of companies already incorporate AI to a degree or plan to do so, with larger companies being more likely adopters². Global AI spend is in parallel increasing: \$12.3bn in 2017, \$19bn in 2018 (+54%) and \$52bn (+422%) expected by 2021³.

This expected widespread adoption has the potential to increase global profitability by an estimated \$14trn, some 38% across 16 industries and 12 economies by 2035, (see Figure 1), with the UK expected to gain the most behind the USA and Finland⁴.

Pure play AI companies are still relatively few in number and typically earlier stage. M&A trends to date reflect this, with activity largely consisting of increasing venture capital (VC) investment and large technology companies acquiring earlier stage ventures (sometimes at high prices) or developing technologies themselves.

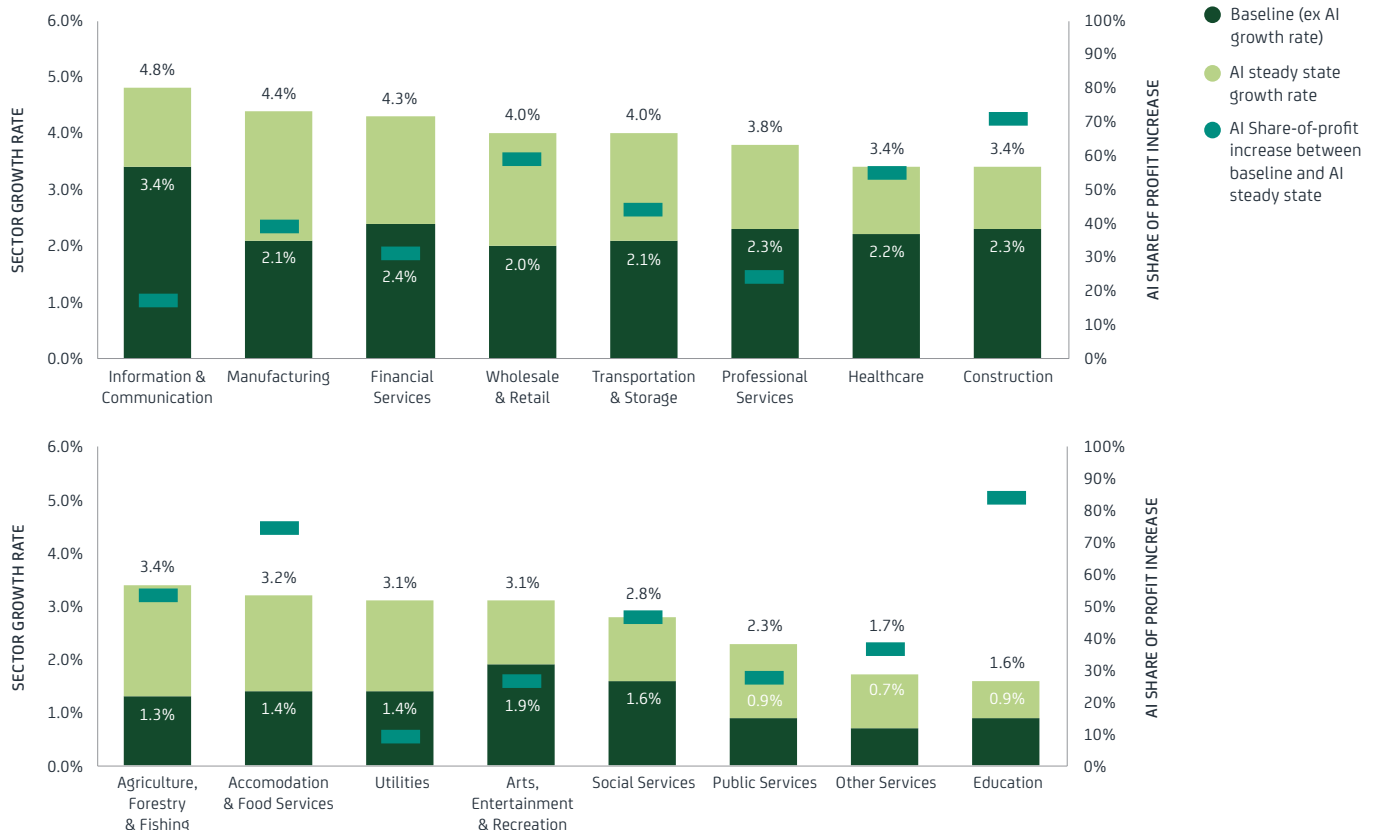
Whilst still relatively nascent in the mid-market, we expect to see a step change in the frequency of AI-driven companies across multiple sectors.

Companies that effectively develop (or adopt) AI capability will enhance their competitive advantage, increase sales and improve margins. Stakeholders should increasingly invest resources in exploring and adopting AI to capitalise on the mega trend that has started in order to enhance value.



PAUL VANSTONE
DIRECTOR, TMT

Figure 1 – Expected economic impact of AI⁵



AI, the here and now

AI is already here and around us, with notable consumer-facing examples including Google search, Apple's Siri, Amazon's Alexa, phone voice automation and online customer service chat bots.

However, as with many emerging and potentially disruptive technologies and practices, adoption conflicts exist (see Figure 2). Obtaining a competitive advantage, targeting new business, and keeping up with competitors

(existing and new) are primary AI drivers versus skills shortages, lack of defined AI strategy and identifying the case for AI the top three challenges. Workforce impact is also a consideration (on both sides). Nevertheless, AI is beginning to have a significant impact on certain business sectors; early adopters are, unsurprisingly, those that are already heavy embracers of technology (see Figure 3 opposite).

Figure 2. AI adoption, competing tensions

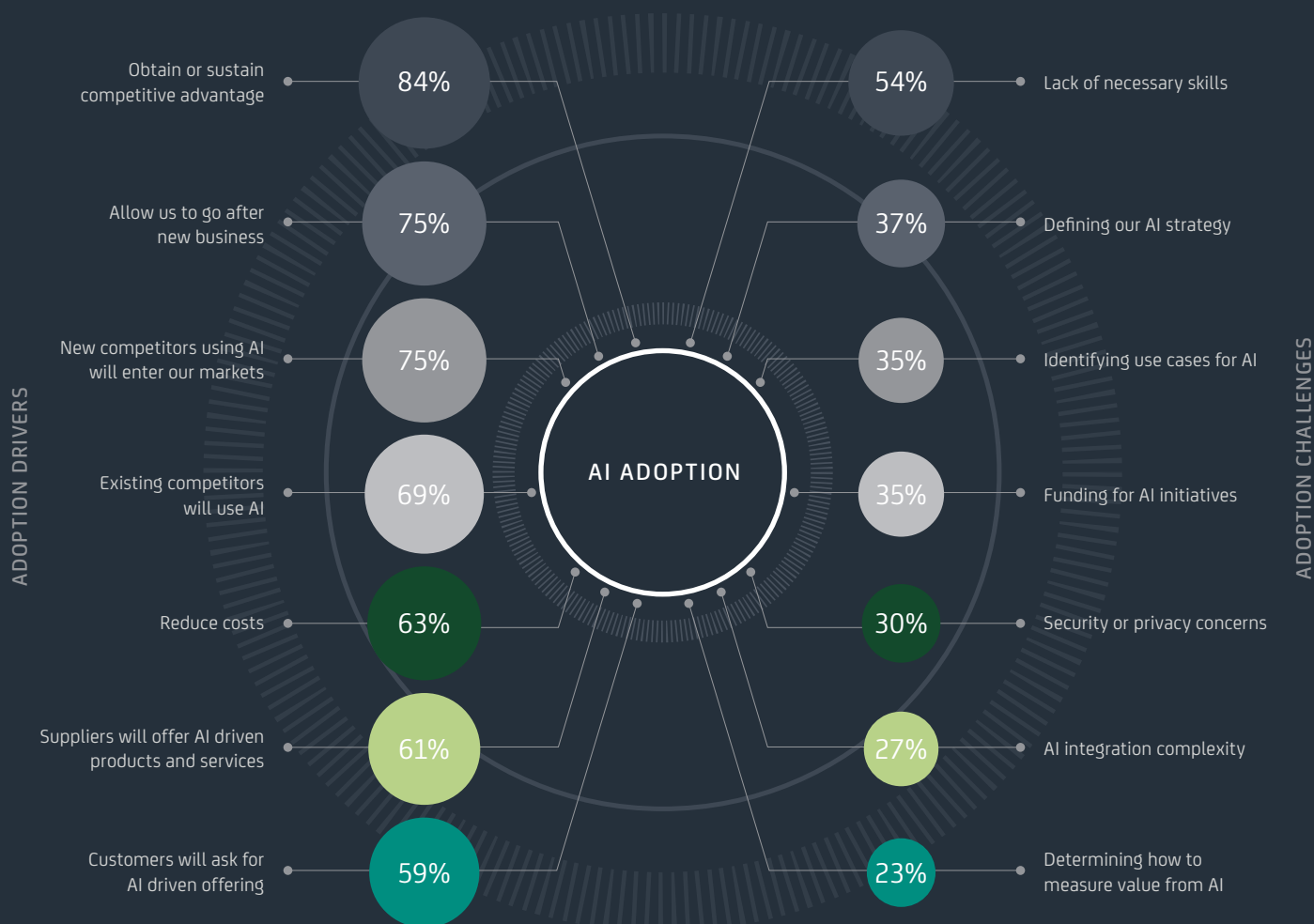
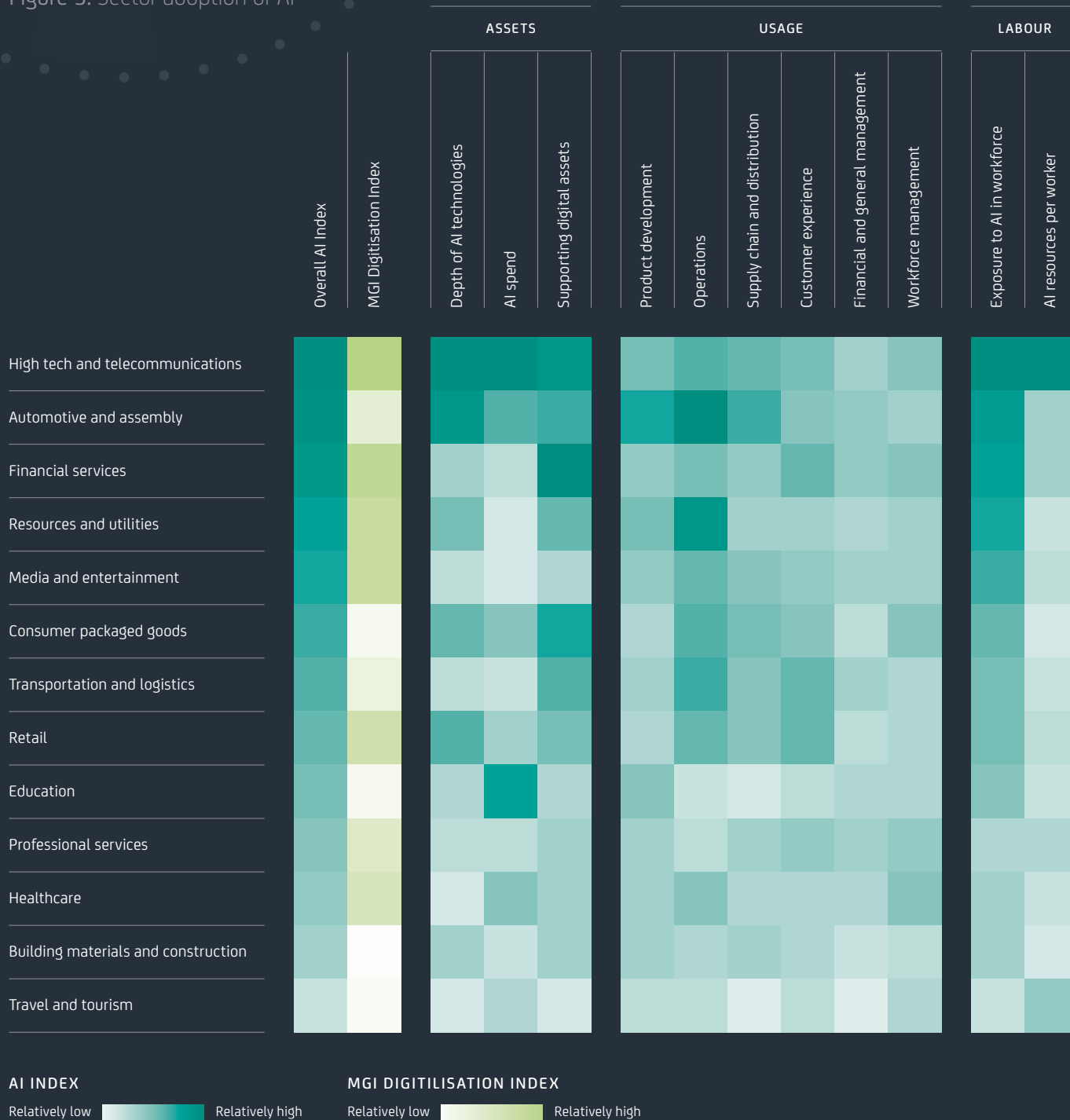


Figure 3. Sector adoption of AI



How selected sectors can use AI

AI applications are typically B2B (90%) and vertically (91%)¹ focused

MANUFACTURING AND INDUSTRIAL

Advanced manufacturing reliance on machinery and the increased prevalence of the internet of things (IoT) primes the space for AI adoption

- Improve product design
- Manufacturing yield enhancement
- Efficient component stocking
- Automated production lines and robotics
- Supply chain management
- Predictive maintenance
- Refine production planning to match sales
- Energy management

RETAIL AND CONSUMER

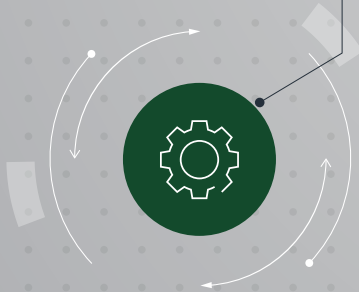
Deliver an immersive experience to the consumer whilst streamlining the in-store environment to deliver sales increases and margin enhancement in this rapidly changing sector

- “Conversational commerce” and personal assistants
- Personalise promotions and tailor websites in real time
- Consumer chatbots and automated customer services with voice recognition
- Demand trend planning and price optimisation
- Store planning and automated checkout
- Enhanced delivery options

SALES, MARKETING AND ADVERTISING

Optimising audience targeting across the B2B and B2C spaces through content and time relevant material delivered across increasingly advanced platforms

- Sales targeting
- Customer support personalisation
- Marketing automation
- Digitally targeted consumer advertising - geolocation, programmatic, and, in particular, hyper-targeted and real-time adverts delivered across increasingly advanced platforms (handheld and in-home smart devices, digital advertising platforms)





TRANSPORTATION AND LOGISTICS

Increasingly complex logistics and potentially game-changing autonomous vehicles in the near to mid-term create a significant opportunity for disruption

- Warehouse optimisation and adaptability
- Stocking, sorting, picking and packing
- Demand planning
- Shortened supply chain
- Fleet management
- Autonomous vehicles (in-building and on-road)
- Infrastructure optimisation

HEALTHCARE AND EDUCATION

Significant healthcare cost savings to society, particularly in ageing developed economies

- Speed up and reduce cost of clinical trials
- Increase accuracy and reduce cost of diagnosis and monitoring
- Autonomous testing
- Improved health insurance
- Organ design and printing
- Virtual teaching and marking



BUSINESS APPLICATIONS AND SERVICES

AI particularly benefits services where there are a large number of data points, repetitive tasks or multiple decisions required

- Data analytics
- Process automation
- Security – cyber and physical
- Legal and compliance
- Financial services e.g. customer interaction, financial advice and loan approval, insurance, back office functions
- IT management



M&A and investment

AI global transaction volumes have increased significantly with VC investments rising from 310 in 2013 to 1,349 by 2017 and M&A, which naturally lags behind, rising from 22 to 115 deals over the same period (see Figure 4). China accounted for some 48% of start-up funding with the US accounting for 38% and RoW 13% in 2017¹. The UK VC market is still relatively nascent (estimated at c.400 companies), with 66% of fund raisings being either Angel or Seed rounds².

The large big data technology companies are, unsurprisingly, the serial acquirers and investors in the space (see Figure 5) with the likes of Fujitsu and Siemens also holding a significant number of AI patents.

Prominent deals include Cisco's acquisition of MindMeld (conversation interface, \$125m); Genpact's acquisition of Rage Frameworks (financial services data analytics, \$125m); Intel's acquisition of Nervana Systems (deep learning software, \$400m); ARM'S acquisition of Apical (imaging machine learning, \$350m); IBM Watson Health's acquisition of Truven (healthcare data analytics, \$2.6bn), Merge Healthcare (medical imaging processing, \$904m) and Phytel (healthcare management, \$232m); the sale of Caspida to Splunk (cyber security, \$190m); the acquisition of RelateIQ by Salesforce (CRM, \$352m); and, of course, Google's acquisition of DeepMind (broad AI development, \$600m).

Driverless cars have also been a notable AI investment theme with Ford, Volvo, BMW, Tesla, UBER, Google and others all developing their own applications.

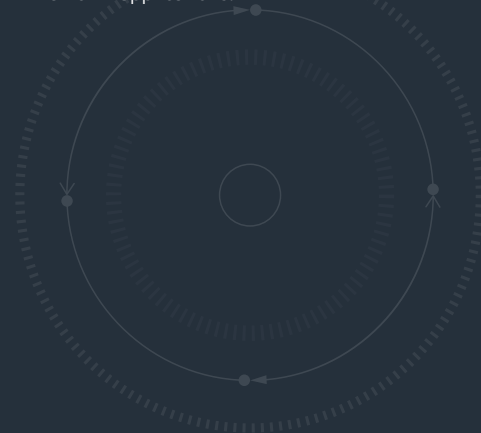
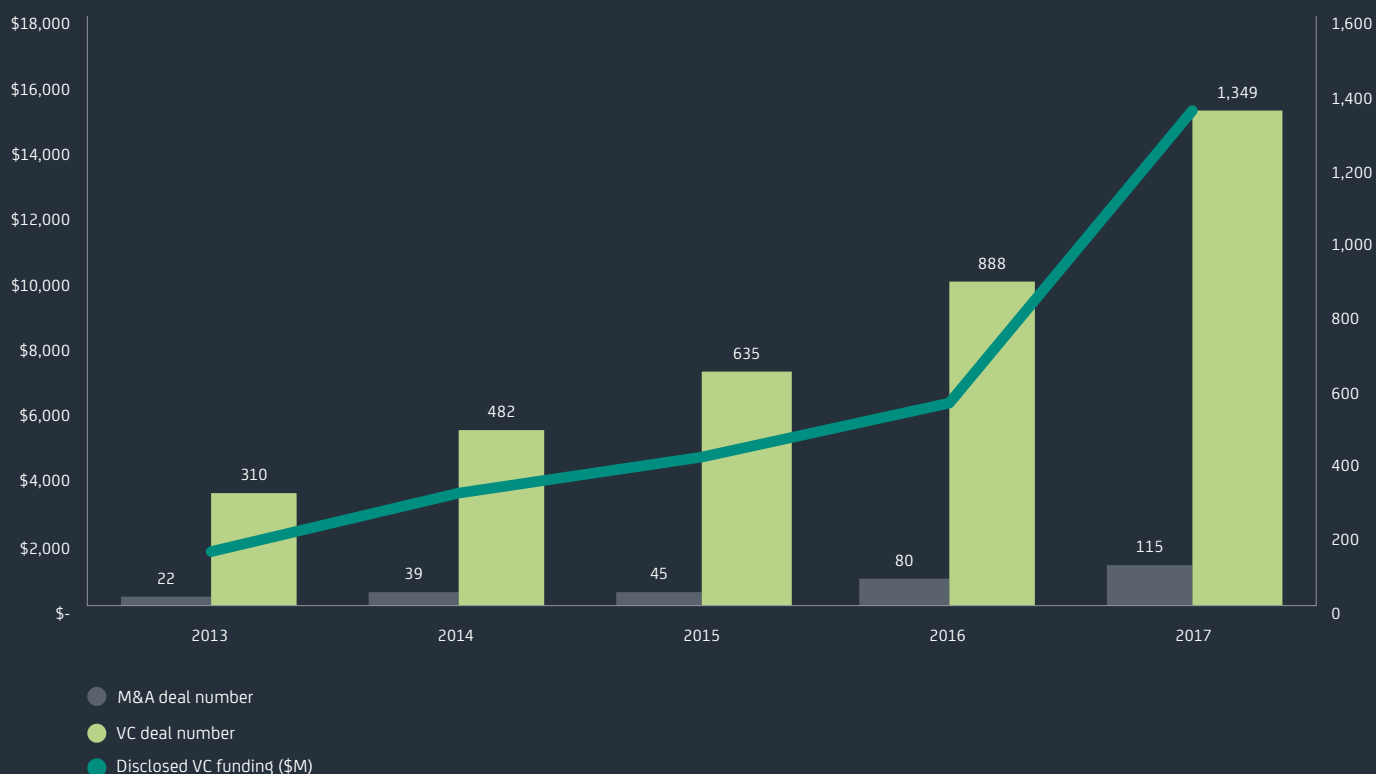








































































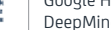








































































Figure 4. Global AI equity funding and M&A



1 CBI Insights: Top AI Trends to Watch in 2018
2 Beauhurst, Crunchbase, Tracxn, MMC Ventures

Figure 5. Big tech company AI M&A and investment

























COMPANY	INVESTMENTS 2012 – 2017 YTD	ACQUISITIONS 2012 – 2017	SELECT INTERNAL PROJECTS
	 	   	A9 Amazon Lex (powers Alexa) Apache MXNet Amazon Polly Amazon Rekognition Amazon Go
		         	Siri Core ML Neural Engine Project Titan
	    		The Network Intuitive
		     	M Big Basic Caffe2 DeepMask/SharpMask
	            	 	Predix.io
	                   	            	Google Home DeepMind Google Brain TensorFlow, TPU Quantum AI Waymo
	  	     	Watson TrueNorth PowerAI
	                        	    	Loihi Intel Nervana (powers next generation Intel chips like Knights Mill)
	          	    	Cortana Azure ML platform Cognitive Toolkit Project Brainwave Microsoft Pix 2nd generation Holographic Processing Unit
		 	Adaptive Intelligent Apps Oracle Autonomous Database Cloud

Technology, Media & Telecoms

The Alantra Technology, Media & Telecoms team combines deep sector expertise with access to strategic global buyers and investors.

Examples of our Technology, Media & Telecoms deals

COMPANY SALES

  ACQUIRED BY  	  SALE TO  	  SALE TO  
  SALE TO  	  SALE TO  	  SALE TO  

PRIVATE EQUITY TRANSACTIONS

  GROWTH CAPITAL INVESTMENT BY  	  INVESTMENT FUNDING  	  MBO  
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ACQUISITIONS

  ACQUISITION OF  
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DEBT CAPITAL ADVICE

  ACQUISITION FINANCE  	  DEBT-FUNDED MBO  CAPITAL PARTNERS 
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ALANTRA

Alantra is a global investment banking and asset management firm focusing on the mid-market with offices across Europe, the US, Asia and Latin America.

FULL ADVISORY SERVICE

Alantra advises business owners, management teams and financial investors on:

- M&A transactions
- Private equity
- Equity capital markets
- Debt capital markets

GLOBAL REACH

Our team of 300 corporate finance professionals are present in over 20 countries:

- Advised on over 700 deals worth more than €100bn
- Over 50% of our deals are cross-border
- Quoted partnership with over 100 partners leading deals

SECTOR EXPERTISE

Deep coverage of chosen niches:

- Over 250 businesses sold to strategic trade acquirers
- Cross-border relationships with strategic acquirers and capital providers

CONTACT US

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