

### A Transforming World: Big Data and AI

As part of our work on [A Transforming World](#), we introduce a new Innovation-focused theme in this [Primer](#) setting out the challenges and opportunities offered by Big Data and AI. We also publish a Primer Picks report.

### Big Data revolution: 44 zetabytes by 2020E

We are living in an exponential age where ubiquitous connectivity and decreasing costs are leading to the digitisation and datafication of most activities. The size of the digital universe is at yottabyte level with 90% of the world's data having been created in the past 2Y. With 30-50bn connected devices by 2020E and 1tn by 2035E, the size of data created is projected to double every 2-3Y, reaching 44ZB by 2020E and 180ZB by 2025E (vs. 12ZB in 2015). The untapped Big Data potential is huge given that only c.0.5-1% of data generated has ever been analysed. Smarter algorithms such as artificial intelligence (AI) will play a vital role in deriving new insights, and will help drive the scale-up stage of the new Big Data economy.

### Welcome to the 5<sup>th</sup> wave of growth: US\$15tn GDP boost

We see Big Data & AI as being as foundational as the internet and smartphones – and set to propel the 5<sup>th</sup> wave of IT-driven productivity. This has the potential to double the growth rates of DMs by 2035E, and add 0.8-1.4ppt to global productivity growth in the long run. AI can contribute up to US\$15.7tn to the global economy by the mid-2030Es. Open data can help unlock US\$3.2-5.4tn in economic value annually, including a reduction in emissions, increasing productivity, and improving healthcare.

### US\$210bn market by 2020E: winner-takes-most

We see the global Big Data market growing to US\$210bn by 2020E, and believe AI will be the single-largest driver of tech spend over the next decade. Digital leaders are productising and commoditising products and services in their wake, while entering new verticals and forging new business models. Platformisation and achieving a Big Data network effect are giving them a competitive digital moat. Winners are emerging with US tech giants accounting for 75% of all AI intellectual property, and China having 700mn+ internet users, giving it a natural Big Data advantage. Other companies face the risk of disintermediation, with only 1 in 4 beyond the Big Data & AI experimental phase, and only 8% having fully deployed machine learning.

### Non-covered stocks with exposure

We ran a screen in an attempt to identify companies that have exposure to Big Data and AI that are outside of BofA Merrill Lynch Global Research coverage universe. We took the full global investable equities universe and screened for companies whose core businesses are enablers of the data revolution. This report lists and describes the 350+ companies from our screen. Please refer to our Global Big Data and AI Primer Picks to see our analysis and investment opinion on BofA covered stocks for this theme.

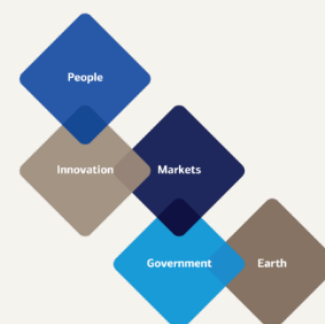
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### A Transforming World



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**Refer to important disclosures on page 19 to 20.**

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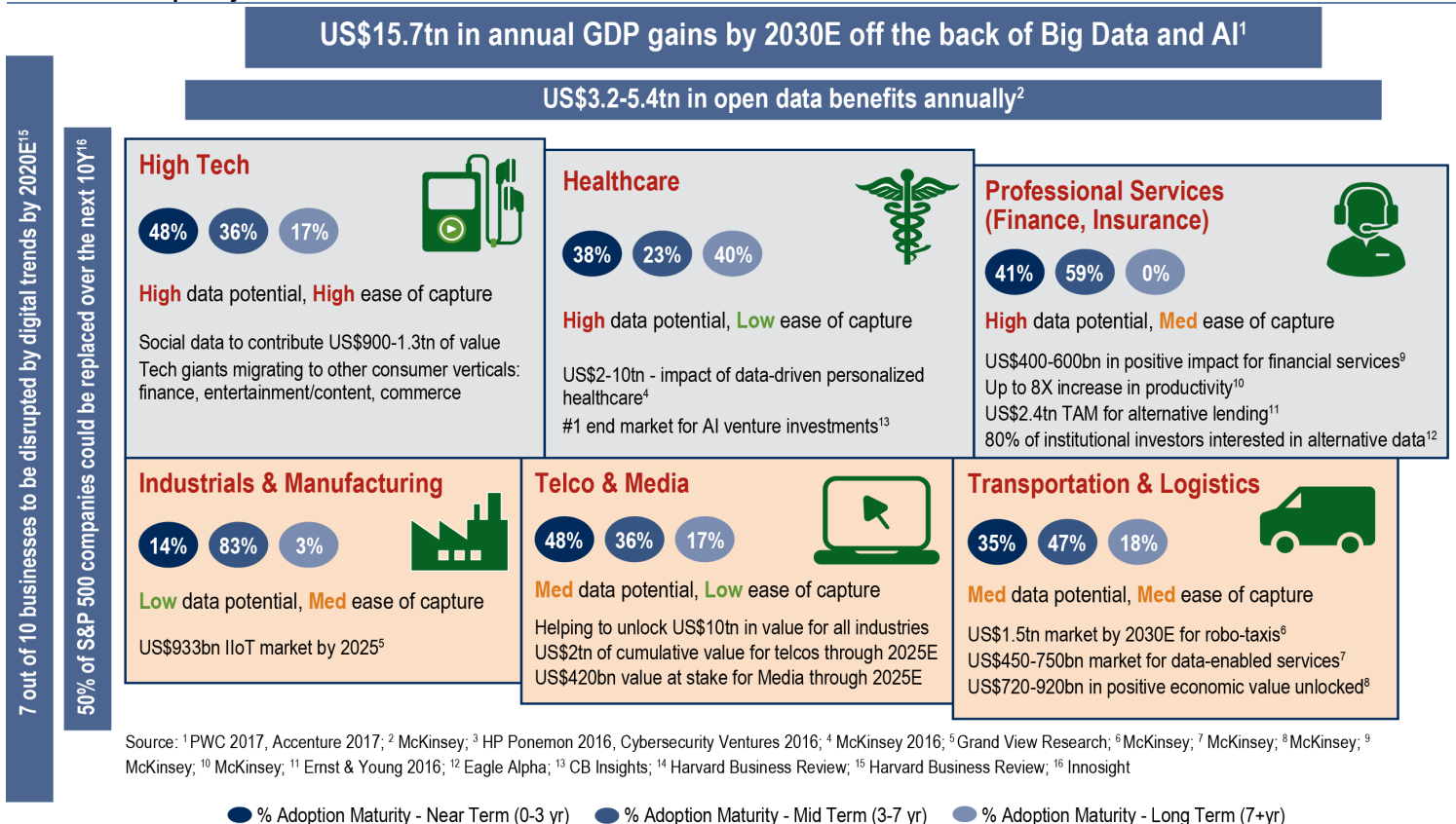
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# Data Capital – Global Big Data and AI

We are living in an exponential age where ubiquitous connectivity and decreasing costs are leading to the digitisation and datafication of most activities. 90% of the world's data has been created in the last 2Y, and with 30-50bn connected devices by 2020E and 1tn by 2035E – the size of data created is projected to double every 2-3Y. The untapped potential is huge given that only c0.5-1% of data generated has ever been analysed. Smarter algorithms such as artificial intelligence (AI) will play a vital role in deriving new insights, and will help drive the scale-up stage of the new Big Data economy.

We see Big Data & AI as being as foundational as the internet and smartphones – and set to propel the 5th wave of IT-driven productivity growth. This has the potential to double the growth rates of DMs by 2035E, and contribute up to US\$15.7tn to the global economy annually by the mid-2030Es. The Big Data market is set to reach US\$210bn by 2020E, and AI will be the single largest driver of tech spend over the next decade.

## Exhibit 1: Data Capital by the numbers



**Up to US\$121bn in cost per breach in extreme scenario**

**US\$6tn potential annual loss due to cybersecurity risk and data breaches by 2021E<sup>3</sup>**

**7 out of 10 businesses at risk of disruption by 2020E<sup>14</sup>**

Source: BofA Merrill Lynch Global Research based on disclosed sources

## Exposure to the Big Data and AI theme

We have screened the global equities market and identified 350+ companies, not covered by BofAML Global Research that appear to have exposure to the theme. The aim of our Global Big Data and AI Exposure screen and its underlying themes is to provide investors with information to identify company and sub-sector specific risks and opportunities that are inherent in the Big Data and AI theme.

# List of companies with exposure to Big Data and AI

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We outline the process by which we have screened companies with exposure to water below. None of these companies are covered by BofAML Global Research.

- Our starting point is Bloomberg EQS, a list of all active equity securities on Bloomberg.
- We then screened via Bloomberg using the following keywords: Analytics, Artificial intelligence, Big Data, Business Analytics, Computer vision, Cyber security, Cybersecurity, Data Analysis, Data Analytical, Data Collection, Data Foundation, Data Management, Data Marketplace, Data Optimization, Data Sharing, Data Warehouse, Data Warehousing, Machine learning, Machine vision, Neural networks, Voice recognition
- Company descriptions are populated from Bloomberg.

# Big Data and AI non-covered stock screen

None of these companies are covered by BofAML Global Research.

**Table 2: Big Data & AI non-covered stock list**

Keyword	Ticker	Name	GICS Sector	Description
Artificial intelligence	002230 CH Equity	IFLYTEK CO LTD-A	Information Technology	Iflytek Co.,Ltd specializes in speech intelligence and artificial intelligence technology. The Company also develops chip product, voice messaging software and e-government system integration software.
Artificial intelligence	RBOT LN Equity	ISH AUTOMTN& ROBO	#N/A N/A	iShares Automation & Robotics UCITS ETF USD (Acc) is an open-end investment fund incorporated in Ireland. The Fund tracks the iSTOXX® FactSet Automation & Robotics Index, which captures the performance of developed and emerging market companies focused on developing cutting edge technologies including robotics, driverless cars, 3D printing and artificial intelligence.
Artificial intelligence	VERI US Equity	VERITONE INC	Information Technology	Veritone, Inc. operates as a cloud-based artificial intelligence media technology company. The Company develops a cloud-based ecosystem that enables real-time audio and video processing, audience analytics, search, retrieval, replay, and share capabilities. Veritone offers visual and audio discovery applications.
Artificial intelligence	BOTZ US Equity	GLOBAL X ROBOTIC	#N/A N/A	Global X Robotics & Artificial Intelligence ETF is an exchange-traded fund incorporated in the USA. The Fund seeks to track the performance of the Indxx Global Robotics & Artificial Intelligence Thematic Index.
Artificial intelligence	MLS GA Equity	MLS INNOVATION I	Information Technology	MLS Innovation Inc develops interactive media technology. The Company produces smartphones, tablets, and navigators with voice recognition and artificial intelligence. MLS Innovation also offers navigation software for smartphones. MLS Innovation serves automotive and educational sectors in Europe.
Artificial intelligence	BTH AU Equity	BIGTINCAN HOLDIN	Information Technology	Bigtincan Holdings Limited provides enterprise mobility software. The Company offers an artificial intelligence powered sales enablement platform that allows sales and service organizations and their employees to engage with customers. Bigtincan Holdings operates worldwide.
Artificial intelligence	ARVV SP Equity	ARTIVISION TECH	Information Technology	Artivision Technologies Ltd provides visual intelligence and video management solutions to diverse market verticals using artificial intelligence.
Artificial intelligence	CR8 AU Equity	CRE8TEK LTD	Information Technology	Cre8tek Limited develops software technology solutions. Through its subsidiaries, the Company develops Artificial Intelligence technology and provides a Cognitive Virtual Sales Assistant and Intelligent Guided Selling platform, JourneyAssist products, designed for selling financial products online. Cre8tek Limited also serves international financial services firms.
Artificial intelligence	ADGO LN Equity	ADGORITHMS LTD	Information Technology	Albert Technologies Ltd provides digital marketing solutions. The Company offers services such as media buying, audience targeting, cross-channel execution, testing and optimization, campaigning, and analysis. Albert Technologies serves customers in the United States and Israel.
Artificial intelligence	AEYE US Equity	AUDIOEYE INC	Information Technology	AudioEye, Inc. creates voice driven technologies for Internet based content. The Company offers voice-controlled internet browsing, artificial intelligence engines and other audio interfaces.
Artificial intelligence	OPN AU Equity	OPENDNA LTD	Industrials	OpenDNA Limited operates as a digital analytics company. The Company develops and owns its proprietary artificial intelligence system, which uses bespoke algorithms and natural language processing tools. OpenDNA serves publishing, entertainment, health and fitness, finance, commerce, and travel industries worldwide.
Artificial intelligence	IRSB US Equity	IRIS BIOTECHNOLO	Health Care	Iris Biotechnologies, Inc. researches and develops a breast cancer diagnostic kit. The Company develops a nano-biochip gene expression kit and an artificial intelligence system that assist doctors in diagnosing breast cancer and then designing a treatment plan specific to the patient.
Artificial intelligence	CBUY LN Equity	CLOUDBUY PLC	Information Technology	Cloudbuy PLC develops software solutions to facilitate eprocurement and ecommerce. The Company develops software solutions including cloud platform systems and artificial intelligence technology for use in business to business ecommerce.
Artificial intelligence	ALIF US Equity	ARTIFICIAL LIFE	Information Technology	Artificial Life, Inc. develops, markets, and supports mobile applications and technology, specifically for 3G (third generation) services and networks. The Company focuses on mobile entertainment, games and business applications based on artificial intelligence. Artificial Life also offers a mobile technology and development platform.
Artificial intelligence	7505 TT Equity	LEADERG INC	#N/A N/A	Leaderg Inc. is an IT programming company. The Company designs and produces artificial intelligence robots, cloud controls, and automatic optical inspection platforms. Leaderg Inc serves customer around the world.
Machine learning	250060 KS Equity	MOBIIS CO LTD	#N/A N/A	Mobiis Co. Ltd. markets and supplies control function systems and equipments. The Company produces accelerators, nuclear fusion, machine learnings, and other products. Mobiis serves customers worldwide.
Machine learning	AT CN Equity	ACUITYADS HOLDIN	Information Technology	AcuityAds Holding Inc. is a holding company. The Company holds companies who provide targeted digital advertising solutions powered by machine learning technology. AcuityAds operates in the United States and Canada.
Machine vision	137940 KS Equity	NEXTEYE CO LTD	Information Technology	NextEye Co., Ltd. manufactures machine vision solutions in various phase of manufacturing process. The Company products include image processing H/W and S/W, vision system for semiconductors, electronics, automotive parts manufacturing, robot vision system, and educational vision system.
Machine vision	CGNX US Equity	COGNEX CORP	Information Technology	Cognex Corporation designs, develops, manufactures, and markets machine vision systems. The Company's systems are used to automate the manufacture of a variety of discrete items and to assure their quality. Cognex has regional offices located throughout North America, Japan, Europe, and Southeast Asia.
Machine vision	3563 TT Equity	MACHVISION N	Information Technology	MACHVISION Inc. develops and manufactures machine vision applications, from components, modules to systems.
Machine vision	VITRO MK Equity	VITROX CORP BHD	Information Technology	Vitrox Corporation Bhd, through its subsidiary, develops and produces automated vision inspection systems. The Company provides machine vision solutions for semiconductor integrated circuit inspection.
Machine vision	UNIBAP SS Equity	UNIBAP AB	Information Technology	Unibap AB commercializes and researches in the field of intelligent automation. The Company specializes in PC designing and manufacturing, robotics, distributed software, machine vision, aerospace avionics, sensor fusioning, and advanced embedded hardware. Unibap serves customers worldwide.
Machine vision	IVISYS SS Equity	IVISYS AB	Information Technology	IVISYS AB develops and sells advanced machine vision inspection systems. The Company's systems provide solutions for quality inspection, verification and machine guidance.
Machine vision	STKR US Equity	PROPHOTO NIX LTD	Information Technology	ProPhotonix Limited designs and manufactures LED systems and diode-based laser modules for industry leading OEMS, medical equipment, and defense/homeland security companies. The Company also distributes premium diodes from manufacturers.

**Table 2: Big Data & AI non-covered stock list**

Keyword	Ticker	Name	GICS Sector	Description
				ProPhotonix serves a range of markets including the machine vision, industrial inspection, defense, sensors, and medical markets.
Machine vision	INVI US Equity	INTEGRAL VISION	Information Technology	Integral Vision, Inc. offers machine vision-based inspection to industrial manufacturers. The Company supplies machine vision systems used to monitor or control the manufacturing process. Integral Vision's systems are used to supplement human inspection or provide quality assurance when production rates exceed human capability.
Machine vision	ESIO US Equity	ELECTRO SCI INDS	Information Technology	Electro Scientific Industries, Inc. designs and manufactures products used worldwide in electronics manufacturing. The Company's products are used in wireless telecommunications, computers, automotive electronics, and other electronic products. Electro Scientific Industries supplies laser and laser drilling systems, test and termination equipment, and machine vision systems.
Machine vision	ASTI SP Equity	ASTI HOLDINGS	Information Technology	Asti Holdings Limited designs, develops, manufactures, and markets semiconductor manufacturing equipment and machine vision system. The Company also manufactures and markets carrier tapes and plastic reels, provides semiconductor manufacturing services for surface mount technology components, and fabricates tooling, dies, and related molding of spare parts.
Neural networks	BRN AU Equity	BRAINCHIP HOLDIN	Information Technology	BrainChip Holdings Ltd operates as a holding company. The Company, through its subsidiaries, provides neural computing technology solutions. Brainchip Holdings offers artificial neural networks, software, and digital hardware solutions in Australia and the United States.
Neural networks	REMV US Equity	REMINGTON VENTUR	#N/A N/A	Remington Ventures, Inc. is a software company specializing in automated currency trading systems and artificial neural networks for the currency markets.
Voice recognition	4348 JP Equity	INFOCOM CORP	Information Technology	INFOCOM CORPORATION provides business solutions in information technology. The Company offers services in such fields as health care, mobile communications, network security, voice recognition, and enterprise resource planning (ERP) systems. Infocom also provides information distribution and systems management services.
Voice recognition	3773 JP Equity	ADVANCED MEDIA	Information Technology	Advanced Media, Inc. develops and sells voice recognition/voice verification system for Japanese language. The Company also provides consulting services. Advanced Media sells voice recognition middleware and packaged software.
Voice recognition	5211 TT Equity	PENPOWER TECH	Information Technology	PenPower Technology Ltd. specializes in Intelligent Human Computer Interface. The Company develops, manufactures, and markets the software for handwritten recognition, OCR (Optical Character Recognition), and voice recognition.
Voice recognition	TCH AU Equity	TOUCHCORP	Information Technology	Touchcorp Ltd. provides enterprise software services. The Company offers mobile payment applications, internet access, interactive voice recognition (IVR) systems, self-service kiosks, automated teller machine (ATMs), electronic cash register systems, and terminal payment systems.
Voice recognition	AVOI US Equity	ADVANCED VOICE	Information Technology	Advanced Voice Recognition Systems, Inc. provides speech recognition system for computerized transactions. The Company's products are used in businesses, military, law enforcement, and other network applications.
Voice recognition	PARRO FP Equity	PARROT SA	Information Technology	Parrot S.A. designs and markets embedded speech-based applications. The Company develops both the software and the components that are used in portable voice recognition devices, hands-free telephone kits for cars, and voice-activated personal digital assistants.
Big Data	263800 KS Equity	DATASOLUTION INC	Information Technology	Datasolution, Inc. provides data solutions. The Company offers big data, predictive analytics, marketing intelligence, and other solutions. Datasolution also provides system integration, system operations, and consulting services.
Big Data	3914 JP Equity	JIG-SAW INC	Information Technology	JIG-SAW INC provides auto management service by using IoT big data. The business also offers cloud service under the concept of auto sensing & auto direction.
Big Data	3984 JP Equity	USER LOCAL INC	Information Technology	User Local, Inc. designs and develops software solutions. The Company develops platforms that collect and analyze big data. User Local serves customers in Japan.
Big Data	6194 JP Equity	ATRAE	Information Technology	Atrae, Inc. is an IT service provider in Human Resources field. The company mainly offers the contingent fee typed job site which utilizes big data, as well as planning new business.
Big Data	3925 JP Equity	DOUBLE STANDARD	Information Technology	Double Standard Inc. provides web based marketing support and data content services using big data. The company also offers technology consulting services that focus on web marketing strategy and system development.
Big Data	3905 JP Equity	DATASECTION INC	Information Technology	DATASECTION INC provide social data analysis and social risk management services. The Company also provides consulting service for big data analytics and also builds analysis tools.
Big Data	600242 CH Equity	ZHONGCHANG BIG-A	Information Technology	Zhongchang Big Data Corp Ltd., provides big data application sales, information system services. They also provides marine freight transportation services and supporting services such as marine cargo handling, ship repair and maintenance, ship sales and leases, and assets management.
Big Data	300609 CH Equity	WINNER INFORMATION-A	Information Technology	Winner Information Technology Inc. operates as a retail intelligence and data business platform company. The Company provides data cultivation, analytics algorithms, and big data services.
Big Data	300608 CH Equity	SI-TECH INFORMAT	Information Technology	SI-TECH Information Technology Co., Ltd. is software service provider. The Company provides telecommunication companies customer management services, big data, cloud computing, and other services.
Big Data	985 HK Equity	NETMIND FINANCI	Materials	NetMind Financial Holdings Limited is a financial holding company with subsidiaries in e-logistics and mining. The Company utilizes internet and big data to connect shippers and truckers through its E-logistics platform in China.
Big Data	900901 CH Equity	INESA INTELLIG-B	Information Technology	INESA Intelligent Tech Inc. operates in the IT industry. The Company designs and manages cloud servers and big data applications for businesses. INESA Intelligent also manufactures electronic components.
Big Data	CXENSE NO Equity	CXENSE ASA	Information Technology	Cxense ASA is an information technology developer. The Company develops, operates, sells and licenses software solutions for analyzing big data into patterns and relationships for use in producing content and advertising strategies.
Big Data	EMCO IT Equity	E & M COMPUTING	Information Technology	E&M Computing Ltd is a IT solutions provider that offers integration solutions and projects including IT Infrastructure, Backup and high availability, Cloud, Big Data, Networking, Security and Data Storage which are based on Technologies from global IT leaders. The company also specializes in comprehensive Integrated OEM solutions for Israeli.
Big Data	RUBI US Equity	RUBICON PROJECT	Information Technology	The Rubicon Project, Inc. provides online advertising solutions. The Company offers real-time cloud and big data computing systems. The Rubicon Project serves customers worldwide.
Big Data	CNIT US Equity	CHINA INFORMATIO	Information Technology	China Information Technology, Inc. provides integrated cloud-based platform, exchange and big data solutions to the Chinese new media industry. The Company's Internet ecosystem enables brand promotion, knowledge dissemination and exchange of advertising resources through its proprietary Cloud-Application-Terminal technology.
Big Data	CLDRMF TB SS	CLOUDREPUBLIC AB	#N/A N/A	CloudRepublic AB develops a big data algorithm that shows current digital status and the digital potential of company business. The Company offers products and services, including digitalization index, transformation toolbox, cloud dictionary, search engine

**Table 2: Big Data & AI non-covered stock list**

Keyword	Ticker	Name	GICS Sector	Description
	Equity			optimization and marketing, customers insight testing, and social media advertising.
Big Data	WLKR US Equity	WALKER INNOVATIO	Industrials	Walker Innovation Inc. develops, licenses, and enforces patented technologies. The Company provides subscription-based service that uses proprietary big data software to connect the global stockpile of technology improvements and technical experts. Walker Innovation serves customers in the United States.
Big Data	RXH AU Equity	REWARDLE HOLDING	Information Technology	Rewardle Holdings Ltd is a digital customer engagement platform for local SME merchants. The Company provides mobile computing, cloud based software and big data analysis.
Big Data	M14 GR Equity	MICDATA AG	#N/A N/A	micData AG is a technology and solutions provider focused on Big Data applications to optimize data analysis and to process large amounts of data. The Company bundles its technologies and solutions in operative units or subsidiaries specialized in speeding up mass data processing. Following a buy-and-build strategy.
Big Data	BIGD US Equity	PUREFDS BIG DATA	#N/A N/A	PureFunds ISE Big Data ETF is an exchange-traded fund incorporated in the USA. The Fund seeks to provide investment results that, before fees and expenses, correspond generally to the price and yield performance of the ISE Big Data™ Index.
Business Analytics	DXC US Equity	DXC TECHNOLOGY C	Information Technology	DXC Technology Company provides information technology services. The Company offers analytics, applications, business process, cloud and workload, consulting, and security services and solutions. DXC Technology serves customers worldwide.
Business Analytics	CNDT US Equity	CONDUENT INC	Information Technology	Conduent Inc operates as a business process services company. The Company specializes in transaction-intensive processing, analytics, and automation. Conduent serves the commercial industries, healthcare, and public sectors.
Business Analytics	VIAV US Equity	VIAMI SOLUTIONS	Information Technology	Viavi Solutions Inc. provides network and service enabling solutions and optical products. The Company offers installation, commissioning, scripting, custom analytics, integration, business intelligence consulting, operational assistance, field and lab testing, technical training, maintenance, and support services. Viavi Solutions serves customers worldwide.
Business Analytics	PBG SJ Equity	PBT GROUP LTD	Information Technology	PBT Group Limited operates as a business intelligence company. The Company offers business intelligence solutions to a wide range of industries, including finance, insurance, telecommunications, retail, petroleum, and medical healthcare. PBT Group provides data warehouse implementation and revitalisation, information exploitation, and advanced analytics.
Business Analytics	III US Equity	INFORMATION SERV	Information Technology	Information Services Group, Inc. operates as a consulting company. The Company provides advisory, analytics, strategy, development, negotiation and implementation, enterprise resource planning, and business process transformation support services. Information Services Group conducts business worldwide.
Business Analytics	AFF1V FH Equity	AFFECTO OYJ	Information Technology	Affecto Oyj provides enterprise information management in Northern Europe. The Company's solutions for information management and business analytics help organisations to improve productivity and competitiveness with superior use of information in decision making and execution. Affecto also delivers operational solutions for improving and simplifying processes at customer organizations.
Business Analytics	LITI SS Equity	LITIUM AFFARSKO M	Information Technology	Litium AB provides website solutions. The Company offers web analytics, e-commerce analysis, SEO review, mobile web, and more website-related services. Litium serves e-commerce businesses in Sweden.
Business Analytics	EMMD US Equity	EMEDIA GROUP INC	#N/A N/A	eMedia Group Inc. operates as a holding company. The Company, through its subsidiaries, provides search optimization and social analytics software. eMedia Group offers services such as performing search engine optimization, managing paid listings at the search engines, submitting sites to directories, and developing online marketing strategies for businesses and organizations.
Business Analytics	RNVA US Equity	RENNOVA HEALTH I	Health Care	Rennova Health, Inc. operates as a healthcare holding company. The Company offers diagnostic laboratory testing and analytics, revenue cycle management, healthcare software solutions, medical billing, and financial services. Rennova Health conducts its business in the United States.
Computer vision	SEE LN Equity	SEEING MACHINES	Information Technology	Seeing machines Limited develops computer vision processing technologies that allow machines to see and track human faces and moving objects. These technologies can enable the development of new products and applications, ranging from devices that help improve road safety, to those that help detect eye disease.
Cyber security	136540 KS Equity	WINS CO LTD	Information Technology	Wins Co Ltd. provides security network services. The Company provides various security solutions to protect networks from cyber threats and viruses.
Cyber security	3692 JP Equity	FFRI INC	Information Technology	FFRI, Inc. develops and markets cyber security software. The Company also provides computer security consulting services.
Cyber security	HACK US Equity	ETFMG PRIME CYBE	#N/A N/A	ETFMG Prime Cyber Security ETF is an exchange traded fund incorporated in the USA. The Fund seeks to provide investment results that correspond to the performance of the Prime Cyber Defense Index. The Index tracks companies across the globe that are direct service providers or key drivers of the cyber security industry through hardware and software development.
Cyber security	1985 HK Equity	MICROWARE GROUP	Information Technology	Microware Group Limited operates as an information technology service provider. The Company designs, integrates, and maintains IT infrastructure solutions such as virtualization, cloud computing, collaboration tools, and cyber security system.
Cyber security	ADVE SS Equity	ADVENICA AB	Information Technology	Advenica AB is a cyber security company. The Company uses its products and technologies to protect the computer security of its customers based on their individual needs. Advenica provides its services to the military, government agencies, law enforcement, global corporations, and financial institutions.
Cyber security	ISPY LN Equity	ETF S ISE CYBER S	#N/A N/A	ETF S ISE Cyber Security GO UCITS ETF is a UCITS compliant exchange traded fund incorporated in Ireland. The Fund seeks to track the performance of ISE Cyber Security Index using full replication. The index is designed to track the performance of companies engaged primarily in cyber security business activities.
Cyber security	COGS SS Equity	COGNOSEC AB	Information Technology	Cognosec AB offers cyber security services. The Company provides compliance, audit, risk and security services to the online gaming, payment, communications, and e-commerce industries around the world.
Cyber security	ALLIX FP Equity	WALLIX GROUP	Information Technology	Wallix Group operates as a software company providing solutions for cyber security and governance of access to information systems. The Company specializes in the management of privileged accounts through its market software package Wallix AdminBastion. Wallix Group has offices in Paris and London.
Cyber security	SCRG SP Equity	SECURA GROUP LTD	Industrials	Secura Group Limited is a provider of security products, services, and solutions. The Company offers services in security printing, security guarding, cyber security, homeland security, and other security services. Secura Group is based in Singapore.
Cyber	ECSC LN	ECSC	Information	ECSC Group plc operates as an information and cyber security service provider. The Company offers a complete range of cyber

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Keyword	Ticker	Name	GICS Sector	Description
security	Equity	GROUP PLC	Technology	security solutions and services to all sectors, including education, retail, legal, financial, and local authorities. ECSC Group serves customers in the United Kingdom.
Cyber security	SWG LN Equity	SHEARWATER GROUP	Materials	Shearwater Group plc provides advanced digital resilience solutions. The Company cyber security solutions. Shearwater Group conducts business in the United Kingdom.
Cyber security	MGTI US Equity	MGT CAPITAL INVE	Consumer Discretionary	MGT Capital Investments, Inc. operates a portfolio of cyber security technologies. The Company addresses cyber threats through advanced protection technologies.
Cyber security	CNS LN Equity	CORERO NETWORK S	Information Technology	Corero Network Security PLC provides a First Line of Defense against DDoS (Distributed Denial of Service) attacks and cyber-threats. Corero's offerings provide online enterprises and service providers with an additional layer of security capable of inspecting Internet traffic and enforcing real-time access and monitoring policies which match the needs of the protected business.
Cyber security	STGG US Equity	STG GROUP INC	Industrials	STG Group, Inc. provides technology consultancy services. The Company offers cyber security, software development, network intrusion detection, identity management, access control, risk assessments, and system integration services. STG Group conducts its business in the United States.
Cyber security	CYBF US Equity	CYBERFORT SOFTWA	Information Technology	Cyberfort Software, Inc. designs and develops security software solutions. The Company specializes in the acquisition and development of cyber security. Cyberfort Software operates in the United States.
Cyber security	HAKK US Equity	DIREXION DAILY C	#N/A N/A	Direxion Daily Cyber & IT Security Bull 2X Shares is an exchange-traded fund incorporated in the USA. The Fund seeks to double (200%) the daily performance of the ISE Cyber Security Index. The Fund seeks daily leveraged investment results and does not seek to achieve its stated objective over a period of time greater than one day. The Fund is different and much riskier than most ETFs.
Cyber security	WOLV US Equity	WOLVERINE TECHNO	#N/A N/A	Wolverine Technologies Corp. engages in the cyber security business. The Company develops mobile security applications.
Cyber security	EXBX US Equity	EXOBX TECHNOLOG	Information Technology	Exobox Technologies Corporation provides network security with proprietary software to stop cyber threats. The Corporation provides software security to protect individuals, corporations, and government agencies.
Cyber security	CYPJ US Equity	CYBER OPERATIONS	#N/A N/A	Cyber Operations Inc. designs, markets, and distributes software based security solutions. The Company's products include network security, access control, biometric technologies, digital content management, and distribution solutions.
Cyber security	TCCB137 IT Equity	TCH ISE CBR SCRT	#N/A N/A	Tachlit ISE Cyber Security (NTR) (4Da) is an exchange-traded note incorporated in Israel. The product tracks the performance of the ISE Cyber Security Index.
Cyber security	HRCY204 IT Equity	HAREL SYBER 204	#N/A N/A	HAREL SYBER 204 is an exchange-traded note incorporated in Israel. The product tracks the ISE Cyber Security Index.
Cybersecurity	CIBR US Equity	FIRST TRUST NASD	#N/A N/A	First Trust Nasdaq Cybersecurity ETF is an exchange-traded fund incorporated in the USA. The ETF tracks the Nasdaq CTA Cybersecurity Index. The Index is designed to track the performance of companies engaged in the Cyber security segment of the technology and industrial sectors.
Cybersecurity	HIDDN NO Equity	HIDDN SOLUTIONS	Information Technology	Hiddn Solutions ASA provides cybersecurity IT services. The company provides hardware-based encryption products to clients such as the military, governments and related institutions.
Cybersecurity	RTNB US Equity	ROOT9B HOLDINGS	Industrials	root9B Holdings, Inc. provides cybersecurity and regulatory risk mitigation solutions. The Company offers vulnerability assessment, penetration testing, computer forensics, tool development, malware analysis and reverse engineering, due diligence, enterprise risk management, and litigation support services. root9B Holdings serves customers worldwide.
Cybersecurity	WYY US Equity	WIDEPOINT CORP	Information Technology	WidePoint Corp. provides technology solutions and services to the government sector and commercial markets in the U.S. The Company offers solutions for wireless expense management, cybersecurity, and other information technology consulting services. WidePoint's cybersecurity solutions include identity assurance, credential issuance, and public key infrastructure technology.
Cybersecurity	VAI CN Equity	VIRTUALARMOUR IN	#N/A N/A	VirtualArmour International Inc. operates as an information technology company that provides advance network and cybersecurity solutions. The Company focuses on the development of software security systems. VirtualArmour International serves customers worldwide.
Cybersecurity	HACK AU Equity	BETA GLB CYBERSE	#N/A N/A	Betashares Global Cybersecurity ETF is an exchange-traded fund incorporated in Australia. The investment objective of the Fund is to provide an investment return that aims to track the performance of the Nasdaq CTA Cybersecurity Index (the "Index"), before taking into account fees and expenses.
Cybersecurity	CYBG US Equity	CYBERGY HOLDINGS	Information Technology	Cybergy Holdings, Inc. is an operational-focused investment firm that offers advisory products and services to the federal government, state governments, and private clients. The Company focuses on investments in the clean energy, smart grid, energy resilience, cybersecurity, and business growth services. Cybergy is incorporated in Colorado.
Data Analysis	3902 JP Equity	MEDICAL DATA VIS	Health Care	Medical Data Vision Co.,Ltd. was founded in 2003. The company's line of business includes developing integrated medical information systems, analysis of medical information, and business consulting for medical institutions.
Data Analysis	HYP SJ Equity	HYPROP INVESTMEN	Real Estate	Hyprop Investments Limited is a property investment company. The Group's portfolio includes the Hyde Park Corner shopping center, as well as office buildings. The properties are located on the Northern Johannesburg-Sandton axis. 1370330D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	300033 CH Equity	HITHINK ROYALF-A	Information Technology	Hithink RoyalFlush Information Network Co Ltd provides online financial data, data analysis software, and other financial software system.
Data Analysis	MCO US Equity	MOODY'S CORP	Financials	Moody's Corporation is a credit rating, research, and risk analysis firm. The Company provides credit ratings and related research, data and analytical tools, quantitative credit risk measures, risk scoring software, and credit portfolio management solutions and securities pricing software and valuation models.
Data Analysis	064850 KS Equity	FNGUIDE INC	#N/A N/A	FnGuide Inc., offers financial market data and solution for user. The Company provides fixed income, equity, index, economic, and customized financial. FnGuide offers financial solution such as valuation model, risk management system, and asset management system for financial companies. FnGuide also publishes quarterly company analysis for listed companies in Korea.

**Table 2: Big Data & AI non-covered stock list**

Keyword	Ticker	Name	GICS Sector	Description
Data Analysis	VKE SJ Equity	VUKILE PROPERTY	Real Estate	Vukile Property Fund Limited is a property holding and investment company. The Company owns property throughout South Africa. 1370325D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	300347 CH Equity	HANGZHOU TIGER-A	Health Care	Hangzhou Tigermed Consulting Company Limited provides professional clinical research services for domestic and foreign pharmaceutical and health-related research and development. The Company's main services include clinical trial technology services, data management, and statistical analysis.
Data Analysis	3822 JP Equity	MINORI SOLUTIONS	Information Technology	Minori Solutions Co.,Ltd. mainly develops software and offers system management services. The Company also provides CAE and data analysis consulting services.
Data Analysis	199150 KS Equity	DATA STREAMS COR	#N/A N/A	Data Streams Corporation develops softwares and provides consulting services on data integration, data analysis platform, and data quality management.
Data Analysis	9466 JP Equity	AIDMA MARKETING	Consumer Discretionary	Aidma Marketing Communication Corporation supports sales promotion from planning to production for retail industry. The Company provides retail support proposal including marketing, data analysis, research, web promotion and production of paper advertisement.
Data Analysis	3674 JP Equity	AUCFAN CO LTD	Information Technology	Aucfan Co., Ltd. provides Internet auction and Web shopping statistics, and search site services for users of Internet auction and shopping in Japan. Services also cover media and data analysis.
Data Analysis	2342 JP Equity	TRANS GENIC INC	Health Care	TRANS GENIC INC. develops, produces, and sells specific idiotypic bearing antibody (bio reagent). The Company also develops mutant mice and sells mice' genetic function analysis data.
Data Analysis	AWA SJ Equity	ARROWHEAD PROP	Real Estate	Arrowhead Properties Ltd is a loan stock company holding a diverse portfolio of properties in secondary locations throughout South Africa. The Company mainly focuses on paying growing income returns to its investors. 1370332D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	601519 CH Equity	SHANGHAI DZH-A	Information Technology	Shanghai DZH Limited provides investors with financial data and data analysis which based on software terminal and internet. The Company is a provider of internet financial information services.
Data Analysis	300188 CH Equity	XIAMEN MEIYA -A	Information Technology	Xiamen Meiya Pico Information Company Limited develops, sells and provides services for digital forensic technology and network information security. The Company's main products are electronic data acquisition equipment, electronic data analysis systems, electronic data destruction equipment, internet content security search engines, online data protection etc.
Data Analysis	4762 JP Equity	XNET CORP	Information Technology	XNET Corporation provides information services for institutional investors including insurance, investment advisory, and investment trust companies. The Company also delivers various kinds of data including stock analysis from its database.
Data Analysis	REB SJ Equity	REBOSIS PROPERTY	Real Estate	Rebosis Property Fund Ltd. is a real estate investment fund. The fund owns and manages retail and office buildings in Gauteng and the Eastern Cape in South Africa. The office buildings are under long term lease at market rates to a government agency. The retail properties are shopping malls. 1370335D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	OCT SJ Equity	OCTODEC INVESTME	Real Estate	Octodec Investments Limited is a property loan company which enables individual and institutional investors to acquire a holding in property in the retail, commercial and industrial fields. 1370333D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	2796 JP Equity	PHARMARISE HOLDI	Consumer Staples	Pharmarise Holdings Corporation operates dispensing pharmacies that utilize computerized medical bill verification system. The Company also sells prescription data analysis reports through its affiliated company.
Data Analysis	189330 KS Equity	XIILAB CO LTD	#N/A N/A	XIILab Co., Ltd.develops social network platforms and provides geographical and social data analysis to smartphone users.
Data Analysis	DIA SJ Equity	DIPULA INCOME-A	Real Estate	Dipula Income Fund Limited is a property investment company which holds a portfolio of retail, commercial, and industrial properties concentrated in major non-metropolitan cities throughout South Africa. 1370337D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	MORN US Equity	MORNINGSTAR INC	Financials	Morningstar, Inc. is an investment information and services company providing data, research, and analysis of mutual funds, stocks, and variable annuities. The Company publishes a line of print, software, and Internet products for individual, financial advisors and institutional investors.
Data Analysis	DLX US Equity	DELUXE CORP	Industrials	Deluxe Corp. offers check printing and related business services. The Company provides customized checks and forms, website development and hosting, email marketing, search engine optimization, logo design, customer acquisition, fraud prevention, and data analysis services. Deluxe serves individual customers, small businesses, and financial institutions.
Data Analysis	NTCT US Equity	NETSCOUT SYSTEMS	Information Technology	NetScout Systems, Inc. designs, develops, manufactures, markets, and supports a family of products that enable businesses and service providers to manage the performance of computer networks and business software applications. The Company's application flow management solution consists of data collection devices and analysis and presentation software.
Data Analysis	TEX SJ Equity	TEXTON PROPERTY	Real Estate	Texton Property Fund Ltd is a property investment fund formed to invest directly in income producing properties that offer the additional potential for capital appreciation. The Company offers investors an opportunity to participate in a JSE property fund. 1370338D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	VRNT US Equity	VERINT SYSTEMS	Information Technology	Verint Systems Inc. provides analytic solutions for communications, interception, digital video security and surveillance, and enterprise business intelligence. The Company's software generates actionable intelligence through the collection, retention, and analysis of voice, fax, video, email, internet, and data transmission from various types of communications networks.
Data Analysis	MRCY US Equity	MERCURY SYSTEMS	Industrials	Mercury Systems, Inc. designs, manufactures, and markets real-time digital signal processing computer systems. The Company's systems transform sensor generated data into information which can be displayed as images for human interpretation or subjected to additional computer analysis. Products are marketed to the defense electronics and medical diagnostic imaging businesses.
Data Analysis	ASPIRE SS Equity	ASPIRE GLOBAL PL	Consumer Discretionary	Aspire Global plc provides online casino platform and solutions. The Company offers campaign management, data gathering, licensing, regulations and compliance, payment and risk, customers support, VIP management, and reporting and analysis services. Aspire Global serves customers globally.
Data Analysis	GFK GR Equity	GFK SE	Consumer Discretionary	GfK SE offers market research services internationally. The Company offers syndicated research services involving the regular collection of consumer data and retail audits customized to the specific requirements of clients. GfK provides data and analysis of consumer purchasing behavior, tracks retail sales data for consumer technology products, and conducts consumer response tests.
Data Analysis	FVT SJ	FAIRVEST	Real Estate	Fairvest Property Holdings Limited is a property investment company. The Company's property portfolio consists of retail, office, hotel,



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Keyword	Ticker	Name	GICS Sector	Description
	Equity	PPTY-UT		residential, and industrial properties located throughout the Gauteng, Cape Town, and Durban areas of South Africa. Fairvest also holds shares in listed property companies. 1370328D SJ Equity has pre-2012 Financial Analysis fundamental data.
Data Analysis	HLAN IT Equity	HILAN LTD	Information Technology	Hilan Ltd. offers human resources management services. The Company uses a proprietary computer software system to offer customers data compilation and analysis of employees' attendance, and payroll processing services. Hilan writes Lotus Notes and Domino programs and integrates them into their customers' networks. The Company also publishes the Telegraph daily newspaper.
Data Analysis	FDM LN Equity	FDM GROUP HOLDIN	Information Technology	FDM Group Holdings PLC offers IT services in the form of project management, business analysis, data operations, and product and employee support and development.
Data Analysis	RTEC US Equity	RUDOLPH TECHNOL	Information Technology	Rudolph Technologies, Inc. designs, develops, manufactures, and supports defect inspection, process control metrology, and data analysis systems and software used by semiconductor device manufacturers worldwide. The Company provides yield management solutions that are used in both the wafer processing and final manufacturing of ICs, as well as in emerging markets such as LED and Solar.
Data Analysis	FORR US Equity	FORRESTER RESEAR	Information Technology	Forrester Research, Inc. is an independent research firm that analyzes the future of technology change and its impact on businesses, consumers, and society. The Company's research products include internet commerce, corporate technology, and technographics data and analysis. Forrester advisory services include partnership programs, web site review, and strategy workshops.
Data Analysis	GBG LN Equity	GB GROUP PLC	Information Technology	GB Group plc develops, sells, and supports business application software. The Company also provides database management and analysis services, as well as licenses technology.
Data Analysis	BCART BB Equity	BIOCARTIS NV	Health Care	Biocartis NV develops molecular diagnostic testing solutions. The Company offers automated instruments for detection, data analysis, and reporting services. Biocartis serves clients from the pharmaceutical and healthcare industries worldwide.
Data Analysis	KEYW US Equity	KEYW HOLDING COR	Industrials	The KEYW Holding Corp. provides mission-critical cyber security and cyber superiority solutions to defense, intelligence, and national security agencies. The Company's solutions, services, and products support the collection, processing, analysis, and use of intelligence data and information in the domain of cyber space.
Data Analysis	FIRE SS Equity	FIREFLY AB	Industrials	Firefly AB supplies preventive protection systems against fire and explosions together with risk analysis and installation services. The Company sells detectors sensitive to sparks and heat, control units which collect data from the equipment, as well as water and gas fire extinguishers. Firefly's customers come from the wood, paper, energy, and food industries worldwide.
Data Analysis	RDCM US Equity	RADCOM LTD	Information Technology	RADCOM Ltd. designs, manufactures, markets, and supports internetworking test analysis equipment and quality management for data communications and telecommunications networks. The Company's products are used in the development and manufacturing of network equipment, installation of networks, and maintenance of operational networks to facilitate real-time identification.
Data Analysis	MOXC US Equity	MOXIAN INC	Information Technology	Moxian Inc provides a social marketing and promotion platform to merchants who desire to promote their businesses through online social media. The Company aims to build a one-stop comprehensive solution with a social customer relation management tool that ties with data analysis capabilities to allow business owners to engage in precision marketing. Moxian serves customers worldwide.
Data Analysis	ALUMS FP Equity	UMANIS - REG	Information Technology	Umanis SA offers computer consulting services. The Company offers business intelligence services involving data management and analysis to support corporate decisions. Umanis is involved in data warehouse, data mining, customer relationship management, intranet and knowledge management services.
Data Analysis	ALOT US Equity	ASTRONOV A INC	Information Technology	AstroNova, Inc. designs and develops data visualization solutions. The Company offers product identification, test, measurement, and analysis, as well as acquires, process, stores, prints, and presents data of different forms. AstroNova conducts its business worldwide.
Data Analysis	RWWI US Equity	RAND WORLDWID E I	Information Technology	Rand Worldwide, Inc. offers technology consulting, implementation, training, and support services to the engineering community, targeting the building, infrastructure, and manufacturing industries. The Company offers software customization, data migration, computer-aided design consulting, process workflow analysis, and implementation help for complex design environments.
Data Analysis	MGRC MK Equity	MALAYSIAN GENOMI	Health Care	Malaysian Genomics Resource Centre Bhd. provides contract genomics services to provide customized bioinformatics analysis solutions. The Company specializes in the bulk processing and complex analysis of large volumes of genomic data that are generated by its customers. Malaysian Genomics also has an online presence.
Data Analysis	CTG PW Equity	CUBE.ITG SA	Information Technology	Cube.ITG SA provides comprehensive automation systems. The Company's systems include measurement systems and circuits, control systems, data transmission systems and computerized master control systems including both SCADA, DCS and industrial database systems with data analysis tools.
Data Analysis	ISNS US Equity	IMAGE SENSING	Information Technology	Image Sensing Systems, Inc. manufactures and markets products using video image processing technology for use in traffic management systems and traffic data collection. The Company's Autoscope vehicle detection system converts video images of a traffic scene into digitized traffic data to be transmitted for real-time traffic management or stored for later analysis.
Data Analysis	FSG AU Equity	FIELD SOLUTIONS	Telecommuni cation Services	Field Solutions Holdings Limited operates as a holding company. The Company, through its subsidiaries, offers cloud computing, software and application development, data analysis, and other related services. Field Solutions Holdings serves customers in Australia.
Data Analysis	GTC LN Equity	GETECH GROUP PLC	Energy	GETECH Group plc specializes in oil services and the analysis of gravity and magnetic data to aid oil, gas and mining companies' exploration strategies.
Data Analysis	SVT AU Equity	SERVTECH GLOBAL	Information Technology	ServTech Global Holdings Ltd designs and develops application software. The Company operates software as a service (SaaS) for research and analysis, data entry, contract processing, and performance management solutions. ServTech Global Holdings serves retail, real estate, energy, finance, and legal sectors.
Data Analysis	FLXI US Equity	FLEXIINTL SOFTWA	#N/A N/A	FlexiInternational Software, Inc. designs, develops, markets, and supports the Flexi Financial Enterprise Suite of financial and accounting software applications and related tools. The Company's applications offer centralized processing and analysis of enterprise financial data.
Data Analysis	RACK US Equity	RACKWISE INC	Information Technology	Rackwise Inc. develops and markets software applications for IT infrastructure, data center monitoring, management and optimization, data center cost efficiency and green data centers. The Company's flagship product is used to track, manage, plan, optimize and provide cost analysis of IT infrastructure.
Data Analysis	LTX CN Equity	LABRADOR TECHNOL	Information Technology	Labrador Technologies Inc specializes in building connections between companies and the data they collect. The Company has developed data flow management and data retrieval reporting software, and analysis software for the oil and gas industry. Labrador's

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Keyword	Ticker	Name	GICS Sector	Description
				products can retrieve and deliver data at the same time.
Data Analysis	HTCO US Equity	HEMPTECH CORP	#N/A N/A	HempTech Corp provides solutions for hemp market and legal medical marijuana. The Company offers smart sensors and data analysis technology, radio frequency identification (RFID) tracking systems, communication networks, and surveillance security solutions. HempTech operates in the United States.
Data Analysis	LTWC US Equity	LTWC CORP	#N/A N/A	LTWC Corporation provides permission-based electronic mail marketing solutions and services. The Company's services allow its clients to build customer relationships and make real-time business decisions based on campaign results. The Company provides campaign strategy, creative development, customized database management, message distribution, and response analysis.
Data Analysis	RSIN RU Equity	RESOURCE INVEST	#N/A N/A	Resource invest is a Russian information services company. The Company serves the utility sector with its consumption control and analysis tools. Solutions include automated meters and readouts, data management and verification, and a billing and payment handling system.
Data Analysis	MLAUD FP Equity	AUDIENCE LABS	#N/A N/A	Audience Labs operates as a digital marketing agency. The Company provides performance analysis, data collection, lead generation, mobile traffic, app launching, and contest management. Audience Labs is incorporated in France.
Data Analysis	AFGR US Equity	AFFINION GROUP I	#N/A N/A	Affinion Group Holdings, Inc. operates as a holding company. The Company, through its subsidiaries, offers customer engagement and loyalty solutions, online marketing, database modeling and analysis, and product development services. Affinion Group Holdings serves customers worldwide.
Data Analytical	PAYC US Equity	PAYCOM SOFTWARE	Information Technology	Paycom Software, Inc. designs and develops software solutions. The Company provides data analytical software products to manage the employment life cycle from recruitment to retirement. Paycom Software serves customers in the United States.
Data Analytical	4736 JP Equity	NIPPON RAD INC	Information Technology	Nippon RAD Inc. develops computer software for client server and network-related systems. The Company also develops multi-screen systems, security system, OLAP (on-line analytical processing) software, and database software.
Data Analytical	VGL NZ Equity	VISTA GROUP INTE	Information Technology	Vista Group International Limited provides film industry software. The Company offers cinema, distribution and data analytical software to the global film industry.
Data Analytical	SEQ AU Equity	SEQUOIA FINANCIA	Financials	Sequoia Financial Group Limited provides financial market data, analytical tools and transaction capabilities to retail and professional investors.
Data Analytical	TRAC US Equity	TRACK DATA CORP	Information Technology	Track Data Corporation provides online investing services to individual investors through its myTrack service. The Company provides automated order placement and execution, real-time financial market data, personalized portfolio tracking, fundamental research, charting, and analytical services. Track's customers access its services through dedicated telecommunication lines and the Internet.
Data Analytical	PRIS IN Equity	PRITHVI INFO SOL	Information Technology	Prithvi Information Solutions Ltd. develops computer software and offers other computer services. The Company develops custom software on contract, and offers online analytical processing, data mining, help desk, and transaction processing services.
Data Analytical	RDT LN Equity	ROSSLYN DATA PLC	Information Technology	Rosslyn Data Technologies PLC provides analytical services, through its subsidiary, with a focus on data extraction; cleansing; enrichment; and visualisation through a single cloud platform.
Data Collection	TGS NO Equity	TGS NOPEC GEOPHY	Energy	TGS NOPEC Geophysical Company ASA offers geophysical consulting and contracting services. The Company also collects and processes magnetic and gravitational data. TGS focuses on planning, collection, processing, and sale of marine seismic data. The Company's customers are international oil and exploration companies.
Data Collection	002413 CH Equity	JIANGSU LEIKE -A	Industrials	Jiangsu Leike Defense Technology Co Ltd produces and markets refrigerators, air conditioning evaporator and condenser. The company is also involved in the development and productions of data collection / storage / processing, satellite navigation, radar systems and other relevant products.
Data Collection	300177 CH Equity	GUANGZHOU HI-A	Information Technology	Guangzhou Hi-Target Navigation Tech Company Limited develops, produces and sells high-precision GNSS software and hardware products. The Company's main products envelopes mapping measurement, GIS data collection, geological disaster monitoring, precision construction and machine control, marine exploration, forestry, urban resource management and national defense etc.
Data Collection	300360 CH Equity	HANGZHOU SUNRI-A	Information Technology	Hangzhou Sunrise Technology Company Limited develops, produces and sells energy metering instruments and power data collection system products. The Company's main products include smart energy meters, electronic energy meters, and power data collection system products.
Data Collection	MDA CN Equity	MACDONALD DETTWI	Industrials	MacDonald, Dettwiler and Associates Ltd. provides essential information from anywhere in the world for decision making in the workplace. The Company is active in data collection and information extraction and distribution. MacDonald generates products and delivers them via private networks, Internet, wireless networks, and digital media, or by traditional hardcopy methods.
Data Collection	DGI US Equity	DIGITALGLOBE INC	Industrials	DigitalGlobe Inc. is building a constellation of high-resolution earth imaging satellites and a geo-information product store web site. The Company's DigitalGlobe System facilitates the collection and archival of geospatial information data and ensures flexible distribution. DigitalGlobe also offers services for project specific requirements.
Data Collection	BRC US Equity	BRADY CORP - A	Industrials	Brady Corporation manufactures industrial identification solutions. The Company's products include labels, coated materials, signs, software, printing systems, and data-collection systems. Brady sells its products to a variety of industries around the world, including telecommunications, electrical, electronics, and manufacturing.
Data Collection	DAL IM Equity	DATALOGIC SPA	Information Technology	Datalogic S.p.A. manufactures bar code readers and portable data collection terminals. The Company's products include unattended scanning systems, hand-held readers, and portable data collection readers. Datalogic also offers solutions for customer specific marketing and customer relationship management (CRM).
Data Collection	SIMAT TB Equity	SIMAT TECHNO	Information Technology	Simat Technologies PCL supplies software and hardware for the automation of data collection and collation using bar coding and radio frequency technologies.
Data Collection	1149 HK Equity	ANXIN-CHINA HOLD	Information Technology	Anxin-China Holdings Ltd. offers systems integration services for high technology intelligent security warning systems. The Company provides real time remote monitoring of production safety; and develops safety alarm and disaster command and rescue systems, intelligent embedded data collection and transmitting terminals, and coal mine monitoring systems.
Data Collection	6160 TT Equity	CIPHERLAB	Information Technology	Cipherlab Co., Ltd. manufactures and markets automatic identifying scanners and terminals. The Company's products include closed circuit digital (CCD) scanners and laser scanners for the collection and distribution of bar code data, bar code decoders, and portable data collection terminals.

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Keyword	Ticker	Name	GICS Sector	Description
Data Collection	HILS LN Equity	HILL & SMITH HLD	Materials	Hill & Smith Holdings PLC manufactures products for the infrastructure, galvanizing, building, and construction industries. The Company produces traffic barriers, fencing, gantries, lighting columns, pipe supports, steel storage tanks, and variable message signs; plastic drainage pipe and pipe supports; powder coatings; and traffic counting data collection devices.
Data Collection	3652 TT Equity	UNITECH ELEC	Information Technology	Unitech Electronics Co Ltd. is focused on Automatic Identification and Data Collection products and services. The Company's products consists of Rugged PDAs, Rugged Handheld Terminals, Time & Access Terminals, Barcode Scanners and RFID Readers.
Data Collection	8007 HK Equity	GLOBALSTR AT	Industrials	Global Strategic Group Limited designs, integrates, and applies cyber security and data collection software to clients globally. The Company serves retail and government clients.
Data Collection	402 HK Equity	PEACE MAP HOLDIN	Information Technology	Peace Map Holding Ltd is a services provider for aerial sensing data in China. The Company's group businesses include the manufacturing and sale of aerial image extraction equipment, geographic imagery data collection and geographical imagery data processing. Peace Map's other core businesses involves exploration and mining.
Data Collection	IRI AU Equity	INTEGRATED RESEA	Information Technology	Integrated Research Limited develops, sells and supports system and application management software products. The Group's software is used by customers for a variety of services, including storage management, data collection, performance tracking, event automation, help desk applications, job scheduling and resource management.
Data Collection	RIDDHI IN Equity	RIDDHI CORP SERV	Information Technology	Riddhi Corporate Services Limited (RCSPL) provides business process outsourcing services. The Company offers collection of dues, bill delivery management, telephone calling, data entry, address and credit verification, document warehousing, filed credit investigation, and software development services. RCSPL serves customers in India and Canada.
Data Collection	IKF IN Equity	IKF TECHNOLOGIES	Information Technology	IKF Technologies Limited provides business outsourcing solutions. The Company provides back office processing for items like billing, accounting and mortgage, accounts payable, and insurance claims, collections, document collection, data entry.
Data Collection	SNEL IT Equity	SYNEL MLL PAYWAY	Information Technology	Synel MLL Payway LTD. manufactures workforce management and data collection systems. The Company produces time and attendance hardware and software products, time control systems, and shop floor control systems. Synel distributes its products in over 50 countries.
Data Collection	CGN SJ Equity	COGNITION HOLDIN	Telecommunication Services	Cognition Holdings Ltd provides a wide range of data collection, collation, and management solutions. The Group provides hardware and software services to clients in the security and consumer goods markets. Other services offered include telephone services outsourcing, multimedia marketing, retail market research, and electronic purchasing services for foodservice clients.
Data Collection	GFLO MK Equity	GRAND-FLO BHD	Information Technology	Grand-Flo Berhad is an investment holding company. The Company, through its subsidiaries, provides integrated EDCCS (Enterprise Data Collection and Collation System) solutions.
Data Collection	MCRNL IT Equity	MICRONET LTD	Information Technology	Micronet Ltd develops, manufactures, and markets mobile data collection and communication products. The Company also maintains in-house R&D, software and hardware, capabilities, and operates a manufacturing facility.
Data Collection	PFM CN Equity	PRONTOFO RMS CORP	Information Technology	ProntoForms Corporation develops Mobile Data Collection applications. The Company's technology allows non-technical customers to securely build, manage and deploy a wide variety of forms for mobile workforce management.
Data Collection	PYDS US Equity	PAYMENT DATA SYS	Information Technology	Payment Data Systems, Inc. offers payment processing solutions. The Company offers processing methods for accounts receivable conversion to returned check collection; credit card acceptance or merchant services, with connections to all processors whether taken over the web or at a counter point of sale; and solutions for web payments and e-checks.
Data Collection	GSPH US Equity	GEOSPATIAL CORP	Energy	Geospatial Corporation provides underground infrastructure location, mapping, and data collection and management solutions. The Company offers cloud-based solutions that enables users to view, edit, and share X, Y, and Z coordinates of buried pipelines, geo-referenced photos, and mapping applications. Geospatial serves customers in the United States.
Data Collection	EOS FP Equity	ACTEOS	Information Technology	Acteos designs and installs wireless local area networks. The Company produces a warehouse management system which includes handheld and vehicle mounted terminals and barcode data collection and application software. Its system is based on Unix and Oracle.
Data Collection	STT PW Equity	STANUSCH	Information Technology	Stanusch Technologies SA develops software for businesses using artificial intelligence technologies. The Company's software allows searches in all sources of information, such as databases, text collections, intranet, Internet or specially prepared knowledge databases.
Data Collection	TST LN Equity	TOUCHSTAR PLC	Information Technology	Touchstar PLC designs and develops enterprise mobile computing solutions. The Company offers turnkey data collection and mobile computing solutions for industrial and commercial applications. Touchstar serves customers worldwide.
Data Collection	NBFT US Equity	NABUFIT GLOBAL I	Information Technology	NABUfit Global Inc. develops an online fitness portal and a mobile application. The Company provides online training and advice on correct nutrition, as well as offers data collection, coaching, and teaching through mentor services. NABUfit Global operates worldwide.
Data Collection	LTTC US Equity	LATTICE INC	Information Technology	Lattice, Inc. develops and markets applications software for mobile computers. The software automates collection of medical samples, inspection of physical infrastructure, meter reading, equipment maintenance, inventory accounting, work order processing, sales force automation, and data collection.
Data Collection	HWSA GR Equity	METRIC MOBILITY	Information Technology	METRIC mobility solutions AG develops and markets coin-operated, and smart-card capable, automated ticketing equipment for use in the public transportation sector. The Company also produces specialized hand-held scanners for the collection and distribution of barcode data. Hoefft & Wessel also markets electronic payment systems.
Data Collection	MLGEO FP Equity	GEOREX SA	Energy	Georex SA offers a wide range of services on oil fields. The services range from exploration and engineering services to the collection and management of data related to the oil business.
Data Collection	GNLKQ US Equity	GENELINK INC	Health Care	GeneLink, Inc. operates a family centered DNA bank and hereditary genetic information service. The Company provides a do-it-yourself non-invasive DNA collection kit, which allows an individual to collect his or her DNA by rubbing the inside of the cheek with dacron swabs. The client then mails the swabs and data forms which are stored for 75 years.
Data Collection	RHSC US Equity	ROBERTSON GLOBAL	Health Care	Robertson Global Health Solutions Corp. offers a suite of medical software products. The Company's products are used for diagnosis, treatment, education, healthcare administration, data collection and case storage.
Data Collection	NEX PN Equity	NEXO	#N/A N/A	Nexo SAECA provides financial management services. The Company's SAECAs include financial consultancy, debt collection, mail distribution and data verification.
Data Collection	GTSS RU Equity	GEOTECH SEISMIC	#N/A N/A	Integra-Geophizika offers seismic data collection services for the oil and natural gas exploration industry.
Data Collection	JCDS US Equity	JC DATA	#N/A N/A	JC Data Solutions Inc., provides data collection and software integration services for various industries throughout the United States.

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Keyword	Ticker	Name	GICS Sector	Description
Collection	Equity	SOLUTION		
Data Foundation	ACXM US Equity	ACXIOM CORP	Information Technology	Axiom Corporation operates as a marketing technology and services company. The Company provides the data foundation for marketers around the world. Axiom offers products and services that enable people-based marketing.
Data Marketplace	ATTU US Equity	ATTUNITY LTD	Information Technology	Attunity Ltd. provides business-to-business software solutions. The Company's Attunity Connect product integrates applications and data sources through industry-standard interfaces. Attunity's solutions enables enterprises to create, share, automate, and manage business processes with partners, suppliers, customers, and electronic marketplaces over the Internet.
Data Marketplace	EETC US Equity	EMTEC INC	Information Technology	Emtec, Inc. is an electronic business solution provider that implements the highly integrated systems required for effective electronic business solutions. The Company offers services such as electronic business strategy consulting, Web self service solutions, business relationship management/marketplace connectivity, and enterprise data management.
Data Optimization	000063 CH Equity	ZTE CORP-A	Information Technology	ZTE Corporation develops and markets switches, access servers, videoconferencing systems, mobile communication systems, data communication devices, and optical communication devices. The Company also offers networking solutions for setup, refurbishment and optimization of networks.
Data Optimization	300467 CH Equity	SICHUAN XUN YO-A	Information Technology	Sichuan XunYou Network Technology Co. Ltd. develops online game server software. The Company provides online game accelerators and related services for the optimization of gaming data.
Data Optimization	CRTO US Equity	CRITEO SA-ADR	Information Technology	Criteo SA provides web advertising services. The Company offers clients a range of solutions such as click per cost, online banner displays, user optimization, data security, and search management tools to control campaign costs.
Data Optimization	SKY TB Equity	SKY ICT PCL	Information Technology	SKY ICT Public Company Limited operates as an information technology company. The Company offers network security, enterprise wireless, virtualization, data protection and recovery, data center facility, and network performance optimization solutions. SKY ICT also offer IT consulting and project management services. SKY ICT serves customers worldwide.
Data Optimization	PIL PW Equity	PILAB SA	Information Technology	piLAB SA develops software applications. The Company also offers information technology consulting, network systems implementation and consulting on security and data archiving and optimization of architecture and data access.
Data Optimization	QTE FP Equity	QUOTIUM TECHNOLO	Information Technology	Quotium Technologies develops Internet software. The Company develops website application load testing, database optimization, and database monitoring software.
Data Sharing	BIM SS Equity	BIMOBJECT AB	Information Technology	BIMobject AB develops and operates a business information model web portal. The Company offers its services to architects and consultants and provides collaboration and data sharing for the creation of design plans, models, sections and elevations.
Data Sharing	8159 HK Equity	GLORY MARK LTD	Information Technology	Glory Mark Hi-Tech (Holdings) Limited, through its subsidiaries, designs, develops, manufactures and sells connectivity products mainly for computers and computer peripheral products, including computer cables, telecommunication equipment cables, electronic connectors, data sharing devices, hubs and multimedia cables.
Data Sharing	QTM US Equity	QUANTUM CORP	Information Technology	Quantum Corporation sells scale-out storage, archive, and data protection solutions for capturing, sharing, and preserving digital assets in physical and virtual environments. The Company provides storage file systems, nearline storage systems, backup, and de-duplication appliances, tape libraries, and cloud services.
Data Sharing	VLDI US Equity	VALIDIAN CORP	Information Technology	Validian Corporation provides communication security technologies for networked environments. The Company's Application Security Infrastructure and the Secure Instant Messenger secure exchanges between mutually authenticated application processes over the Internet. This infrastructure enables organizations to develop and deploy applications for sharing data over distributed networks.
Data Sharing	COYN US Equity	COPSYNC INC	Information Technology	COPsync, Inc. provides database management and processing services. The Company focuses on developing software for the public safety community by developing a real-time, nationwide public safety information sharing network. COPsync operates in the United States.
Data Sharing	DGIF US Equity	DIGITAL INFO SEC	#N/A N/A	Digital Info Security Company provides software products. The Company develops and distributes security software, including file backup, online file sharing, and data encryption software. Digital Info Security serves customers in Colorado.
Data Warehouse	MFEC TB Equity	MFEC PUB CO LTD	Information Technology	MFEC Public Company Limited provides computer and information technology consulting services to industry and government. The Company's services include data warehouse solutions, e-commerce solutions, customized web-based applications, and mobile game content and commercial applications.
Data Warehousing	ITA VN Equity	ITACO	Industrials	Tan Tao Investment & Industrial JSC operates and manages an industrial park. The Company is also involved in supporting activities, such as space and land rental to corporate clients, construction and electricity works, warehousing and other telecommunication related services, including data transmission and Internet service provider (ISP).
Data Warehousing	DATA IN Equity	DATAMATIC S GLOBA	Information Technology	Datamatics Global Services Ltd. offers end-to-end solutions in publishing, finance, accounting, human resources, insurance and healthcare. The Company also offers consultancy services in the document management, workflow, and data warehousing space.
Data Warehousing	300380 CH Equity	SHANGHAI AMARS-A	Information Technology	Shanghai Amarsoft Information & Technology Company Limited develops, implements and maintains software, and provides consulting and related services. The Company's main products include credit management system, risk management systems, data warehousing and business intelligence systems, and other management systems.
Data Warehousing	7869 JP Equity	NIHON FORM SERV	Industrials	NIHON FORM SERVICE CO., LTD. manufactures and wholesales cabinets and racks to organize magnetic tapes, data cables, and telecommunications equipment. The Company also produces and sells storage robots for automatic warehousing systems.
Data Warehousing	EAHB MK Equity	EA HOLDINGS	Information Technology	EA Holdings BHD, through subsidiaries, develops computer software, researches and sells identification systems, and offers information and communications technology (ICT) services. The Company develops business intelligence, data warehousing and automated invoice processing software; researches radio frequency identification systems; and ICT system and infrastructure integration.
Data Warehousing	XPR IM Equity	EXPRIVIA SPA	Information Technology	Expriovia SpA develops and distributes computer software. The Company develops software for credit risk management, facilities management, trading room activities, clinical diagnostic processes integration, internet/intranet, and data warehousing. Expriovia SpA also invests in technology companies that create and supply solutions and services through the internet.
Data Warehousing	MHH US Equity	MASTECH DIGITAL	Industrials	Mastech Digital, Inc. provides information technology staffing and digital transformation services. The Company offers business intelligence, data warehousing, service oriented architecture, web, enterprise resource planning, and customer resource management services. Mastech Digital serves customers worldwide.
Data Warehousing	SFT FP Equity	SOFT COMPUTING	Information Technology	Soft Computing SA offers customer relationship management solutions. The Company provides data warehousing, data mining, systems integration, and data outsourcing services through its subsidiaries, Soft Computing, Soft Computing Ingenierie, and Soft Case.

**Table 2: Big Data & AI non-covered stock list**

Keyword	Ticker	Name	GICS Sector	Description
Data Warehousing	FSBM MK Equity	FSBM HOLDINGS BH	Information Technology	FSBM Holdings Berhad distributes computers, computer related products, education related products and provides installation and maintenance services. Through its subsidiaries, the Group develops software applications and systems integration, provides data warehousing systems, and smart community solutions. FSBM also has operations in multimedia production and communication services.
Data Warehousing	HITD US Equity	HOUSTON INTERWEB	#N/A N/A	Houston Interweb Design, Inc. specializes in software development, intellectual property, Web site development, hosting, and data warehousing. The Company focuses primarily on assisting start-up Internet companies that need management knowledge and technological expertise. Houston Interweb holds various interests in several companies and has several licensing agreements with other companies.
Data Warehousing	PMCM US Equity	PRIMCO MANAGEMEN	#N/A N/A	Primco Management Inc offers real estate management services. The Company is focused on cost-efficient operations and tenant retention on a range of properties including class A office space, industrial, manufacturing, and warehousing facilities as well as data centers and retail outlets for real estate users.
Data Warehousing	CPSV US Equity	CONSUMER PRODUCT	#N/A N/A	Consumer Products Services Group, Inc. contracts with consumer products manufacturers to manage their returned merchandise. The Company offers reverse logistics services, return product management, quality assurance inspection, defect data reporting, re-qualification services, warranty repair services, and warehousing and distribution of remanufactured products.
Data Warehousing	ALSF IN Equity	MASCON GLOBAL	#N/A N/A	Mascon Global Ltd. is a global information technology services company that develops applications software and provides highly specialized technology services. The Company's services include Enterprise Resource Planning, Enterprise Applications Integration, Communications Technologies, Business Intelligence & Data Warehousing and Quality Testing Services.
Data Warehousing	RNBL IN Equity	RNB INDUSTRIES	Real Estate	RNB Industries Limited provides IT solutions and software development services. The Company delivers products and services in infrastructure management, data warehousing, application development, quality assurance, and IT consulting.
Data Warehousing	TAKS IN Equity	TAKSHEEL SOLUTIO	Information Technology	Taksheel Solutions Limited is a comprehensive IT Solutions company focused on providing products and services for companies engaged in the financial services industry & Telecommunications. The Company's solutions include wealth management, telecommunications, application development and maintenance, data warehousing and business intelligence and offshore outsourcing.
Data Management	IRM US Equity	IRON MOUNTAIN	Real Estate	Iron Mountain Incorporated is a storage and information management company. The Company provides records management, data management solutions, and information destruction services.
Data Management	ICLR US Equity	ICON PLC	Health Care	ICON PLC provides contract clinical research services to the global pharmaceutical industry. The Company manages clinical studies in addition to providing data management, regulatory, and central laboratory services. ICON currently operates offices in multiple countries.
Data Management	CVLT US Equity	COMMVAULT SYSTEM	Information Technology	CommVault Systems, Inc. provides data management software applications and related services. The Company develops, markets, and sells a suite of data management software applications designed to protect and manage data throughout its lifecycle.
Data Management	300166 CH Equity	BEIJING ORIENT-A	Information Technology	Beijing Orient National Communication Science & Technology Company Limited develops and sells enterprise business system solution and provides related technical services. The Company's main product is data management software.
Data Management	300347 CH Equity	HANGZHOU TIGER-A	Health Care	Hangzhou Tigermed Consulting Company Limited provides professional clinical research services for domestic and foreign pharmaceutical and health-related research and development. The Company's main services include clinical trial technology services, data management, and statistical analysis.
Data Management	8366 JP Equity	SHIGA BANK LTD	Financials	THE SHIGA BANK, LTD. is a regional bank mainly operating in Shiga. The Bank also provides financial services including credit card and leasing as well as data management services.
Data Management	002279 CH Equity	BEIJING JOIN -A	Information Technology	Beijing Join-Cheer Software Co.,Ltd. develops software for data management, e-government, Enterprise Resource Planning (ERP), and business intelligence application.
Data Management	PSI CN Equity	PASON SYSTEMS	Energy	Pason Systems Inc. provides rental oilfield instrumentation systems that are designed and manufactured for use on land-based drilling and service rigs. The Company offers both wellsite rental services and Internet data management services.
Data Management	HDP US Equity	HORTONWORKS INC	Information Technology	Hortonworks Inc. provides enterprise data platform. The Company offers open source platform which provides data management infrastructures including vital management, monitoring, metadata, and data integration services. Hortonworks serves customers worldwide.
Data Management	VRNS US Equity	VARONIS SYSTEMS	Information Technology	Varonis Systems, Inc. designs and develops data security software solutions. The Company offers data management systems to organize, manage, and protect unstructured and semi-structured data such as documents, spreadsheets, presentations, media files, and other business data. Varonis Systems operates worldwide.
Data Management	300229 CH Equity	BEIJING TRS-A	Information Technology	Beijing TRS Information Technology Company Limited develops and markets software and technology services for unstructured data management. The Company provides software products that are enterprise search, content management and text mining.
Data Management	4282 JP Equity	EPS HOLDINGS INC	Health Care	EPS Holdings, Inc. provides clinical testing services to contract research organizations (CROs) who are in the pharmaceutical industry in Japan. The Company's services range from planning, monitoring, and analyzing study and clinical testing for development of new drugs. EPS also develops systems and provides data management as well as patent registration.
Data Management	INF FP Equity	INFOTEL	Information Technology	Infotel SA provides services related to computer software applications. These include data management software solutions for the MVS environment and solutions which allow DB2 sites to transfer data across different platforms and operating systems.
Data Management	SWP FP Equity	SWORD GROUP	Information Technology	Sword Group offers change management, enterprise content management, straight through processing, and consulting services. The Company analyzes, plans, and conducts training related to corporate changes, offers document storage, circulation, and access systems, offers intellectual property management software, designs data management systems, and offers message repair software.
Data Management	TAP LN Equity	TAPTICA INTERNAT	Consumer Discretionary	Taptica International Ltd provides digital advertising solutions. The Company offers services such as video production, application designing, data management, campaigning, and publishing. Taptica International conducts its business worldwide.
Data Management	2309 JP Equity	CMIC HOLDINGS CO	Health Care	CMIC Holdings Co., Ltd. is a Contract Research Organization (CRO) who provides medical research related services mainly to pharmaceuticals and medical organizations. Its service ranges from strategy and regulatory consulting, clinical monitoring, and data management.
Data	FORTH	FORTH	Information	Forth Corp PCL manufactures and sells telecommunications and electronic equipment. The Company also develop and install the data

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Keyword	Ticker	Name	GICS Sector	Description
Management	TB Equity	CORP PCL	Technology	management system, manufactures, sells, and installs traffic light system and equipment, manufactures and sells electronic signs, as well as distributes electronic parts.
Data Management	3915 JP Equity	TERRASKY CO LTD	Information Technology	TerraSky Co. Ltd. provides IT solution on cloud sourcing platform and develops various application software on cloud. The Company develops and offers enterprise resource planning software, sales force systems, data management software, and other cloud systems.
Data Management	ALUMS FP Equity	UMANIS - REG	Information Technology	Umanis SA offers computer consulting services. The Company offers business intelligence services involving data management and analysis to support corporate decisions. Umanis is involved in data warehouse, data mining, customer relationship management, intranet and knowledge management services.
Data Management	DWS AU Equity	DWS LTD	Information Technology	DWS Limited provides information technology solutions to corporation and government organizations. The Company offers strategy and architecture, program and project management, business analysis, application development, solution testing and quality management, system integration and data management, and business analytics and information management services.
Data Management	BUD AU Equity	BUDDY PLATFORM	Information Technology	Buddy Platform Limited operates a cloud-based data management platform. The Company offers a data management solution that delivers real-time data directly from connected devices. Buddy Platform operates in Australia and the United States.
Data Management	KAB MK Equity	KRONOLOGI ASIA B	Information Technology	Kronologi Asia Berhad provides enterprise data management (EDM) solutions. The Company's services comprise of backup, storage, recovery and restoration of enterprise data as well as periodic health checks, capacity planning, remote monitoring and disaster recovery service.
Data Management	NIXU FH Equity	NIXU OYJ	Information Technology	Nixu Oyj is a technology services company. The Company manages customers' cyber security internal data management, e-business, industrial areas of the internet solution, and project security
Data Management	ITS FP Equity	ITS GROUP	Information Technology	ITS Group is a computer consulting company that provides services in systems integration, network engineering and data management. The Company's clients are primarily from the computer and banking industries.
Data Management	PT TB Equity	PREMIER TECHNOLO	Information Technology	Premier Technology PCL, through its subsidiaries, provides enterprise IT solutions and services. The Company distributes, installs, and services hardware IT products such as servers, network infrastructure, and multimedia products, as well as offers system, data management, and application software. Premier Technology operates primarily throughout Thailand and Myanmar.
Data Management	ESCH LN Equity	ESCHER GROUP HOL	Information Technology	Escher Group Holdings PLC offers hardware and software for postal organizations. The Company produces systems for postal retail outlets and data centers. The system includes messaging, data management, and enterprise tools.
Data Management	VRS AU Equity	VERIS LTD	Industrials	Veris Limited provides construction services. The Company offers surveying, sensing, geospatial data management, civil construction and engineering, and town planning. Veris serves customers in Asia Pacific region.
Data Management	NCL TB Equity	NCL INTERNATIONAL	Industrials	NCL International Logistics Company Limited provides data management services logistics including, planning, management, and proposed solutions. The Company divides services between international transportation management services and domestic transportation services.
Data Management	3847 JP Equity	PACIFIC SYSTEMS	Information Technology	PACIFIC SYSTEMS CORPORATION provides system integration services. The Company provides consulting services, system design and computer software development. Pacific Systems also provides outsourcing service such as data management and computer system maintenance services.
Data Management	ATISHAY IN Equity	ATISHAY LTD	Information Technology	Atishay Infotech Limited operates as a data management enterprise company. The Company offers information technology database management and e-governance services. Atishay Infotech serves customers in India.
Data Management	3766 JP Equity	SYSTEMS DESIGN	Information Technology	Systems Design Co Ltd provides information system services for various industries including financial, manufacturing, sales, and university. The Company designs, develops, and maintains information system and delivers data entry, digital data creation, and data management services.
Data Management	MTEK IN Equity	MOLD-TEK TECH	Industrials	Mold-Tek Technologies Limited provides engineering and BPO services. The Company's services include designing, detailing and drafting. Mold-Tek Technologies also provides routine back office functions such as Data Management, Conversion and Tech Support.
Data Management	058970 KS Equity	EMRO	#N/A N/A	EMRO, Inc. is a software company that specializes in developing supply chain management (SCM) software for businesses. The Company also provides data management solutions and business consulting services.
Data Management	KYK AU Equity	KYCKR LTD	Information Technology	Kyckr Limited designs and develops cloud based data management software. The Company offers know your customer (KYC) data management solutions to government, banking, financial, and legal sectors. Kyckr serves customers in Australia and Ireland.
Data Management	TVVL IN Equity	TECHNVISION VENT	Information Technology	TechNvision Ventures Limited develops and markets computer software. The Company offers enterprise data management software that enables users to classify and manage structured, semi-structured and unstructured data, and implement tiered storage strategies while securing, managing and auditing confidential data for compliance and information governance.
Data Management	CCZ CN Equity	CRITICAL CONTROL	Information Technology	Critical Control Energy Services Corp. operates as an information management and business process outsourcing company. The Company offers document and data management services, which implements technology and provides outsourced solutions to enhance information intensive business functions of clients in the government, health care, financial, and retail industries.
Data Management	UNL AU Equity	UNITED NETWORKS	Telecommunication Services	United Networks Limited provides telecommunication services. The Company offers data management, broadband, network management, digital phone, and other services. United Networks conducts its business in Australia.
Data Management	PRD PW Equity	PROCAD	Consumer Discretionary	Procad S.A. is structured into four business divisions: architecture segment, offering software solutions for architects and constructors; mechanics segment, designed for mechanical engineers; geographic information system (GIS) and land engineering, offering hardware and software for civil engineers, and data management segment, featuring solutions such as Autodesk Design Review.
Data Management	ZSL IN Equity	ZYLOG SYSTEMS	Information Technology	Zylog Systems Ltd. offers computer services. The Company offers enterprise application development; enterprise reporting; enterprise data management and administration; enterprise application integration; and mobile, wireless and web application development.
Data Management	VDML IN Equity	VCU DATA MGMT L	Information Technology	VCU Data Management Limited operates in the communications industry. The Company provides audio/video live streaming hardware and software solutions.
Data Management	CBDEF US Equity	BLUENRGY GROUP L	Industrials	BlueNRGY Group Limited provides renewable energy solutions. The Company owns, operates, installs, monitors, and maintains solar power assets and wind farms for the generation of electricity. BlueNRGY Group also offers mechanical services, predictive analytics and preventive maintenance of photovoltaic systems, and data management systems.

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Keyword	Ticker	Name	GICS Sector	Description
Data Management	ADGL US Equity	ALLDIGITAL HOLDI	Information Technology	AllDigital Holdings, Inc. offers a digital data management platform to providers of digital services to mobile devices. The platform provides centralized data storage and application processing for digital services such as movies on demand, games, maps, real time weather, corporate communications and other services.
Data Management	MENBA TI Equity	MENBA HOLDING AS	#N/A N/A	Menba Holding A.S. manufactures medical equipment. The Company's products consist of EKGs, stress test systems, monitors, data management systems, and recorders.
Data Management	IDM IN Equity	INTL DATA MGMT	#N/A N/A	#N/A N/A
Data Management	ICTF IN Equity	INDO-CITY INFOTE	Information Technology	Indo-City Infotech Ltd. provides information technology solutions. The Company's services include ERP services, e-commerce and Internet services, data management, comprehensive systems integration solutions, CCTV, fire detection and multi-function applications.
Data Management	ARX GR Equity	TDMI AG	Information Technology	TDMI AG provides computer services. The Company offers computer data storage, server maintenance, and operation, engineering solutions, including computer-aided design, data management, as well as implementation, consulting, management, and systems automation.
Data Management	DIGI US Equity	DIGITILITI INC	Information Technology	Digitiliti, Inc. develops digital data storage solutions. The Company offers a unified data archiving solution to allow seamless access to data from multiple sources. Digitiliti also provides backup, recovery, and data assessment tools to facilitate data management and storage.
Data Management	LAXAF US Equity	LAXAI PHARMA LTD	Health Care	Laxai Pharma Ltd. is a clinical research company. The Company provides integrated services across the drug development spectrum, including biostatistics, data management (EDC, Hybrid and Paper), CDISC consulting, medical writing, monitoring, regulatory, drug safety, and training.
Data Management	GSNC US Equity	GLOBAL ESCIENCE	#N/A N/A	Global eScience Corp. provides full spectrum terrestrial and fixed wireless high speed connectivity, security, data management, and network consulting. The Company serves business class enterprises.
Data Management	ETEC US Equity	EMTEC INC	Information Technology	Emtec, Inc. is an electronic business solution provider that implements the highly integrated systems required for effective electronic business solutions. The Company offers services such as electronic business strategy consulting, Web self service solutions, business relationship management/marketplace connectivity, and enterprise data management.
Data Management	MLDIG FP Equity	DIGITECH	Information Technology	Digitech offers electronic data management services. The Company offers client/ server and Internet/intranet electronic data management, automatic form recognition, and services to municipalities. Digitech's services are sold to corporations and governmental administrations.
Data Management	SOFT US Equity	SOFTECH INC	Information Technology	SofTech, Inc. provides design through manufacturing technologies and services. The Company offers its own proprietary software technology to the 2D computer aided design (CAD) and computer aided manufacturing (CAM) markets and partners with 3D and product data management companies. Softech also provides hardware and a full array of service offerings.
Data Management	RASP BD Equity	RASPIT DATA MANA	#N/A N/A	Raspit Data Management and Telecommunications Ltd. provides internet services. The Company offers internet, telecommunication, and web hosting services in Bangladesh.
Data Management	PNT AU Equity	PRINT MAIL LOGIS	Industrials	Print Mail Logistics Ltd. offers logistics services. The Company offers programming and data management, digital printing, offset printing, and mail insertion and distribution services.
Data Management	RSIN RU Equity	RESOURCE INVEST	#N/A N/A	Resource invest is a Russian information services company. The Company serves the utility sector with its consumption control and analysis tools. Solutions include automated meters and readouts, data management and verification, and a billing and payment handling system.
Data Management	CETL IN Equity	CORE EDUCATION &	Information Technology	Core Education & Technologies Ltd. develops and markets education management software. The Company offers educational assessment, case management, financial data management, operations management, safety, registration, communications, consulting, and curriculum software.
Data Management	040100 KF Equity	KIT CO LTD	#N/A N/A	KIT Company Ltd. develops intelligent transportation system for transportation and logistics network solution. The Company designs factory automation systems also integrated data management system. KIT serves customers throughout Korea.
Data Management	GCTY US Equity	GAIN CITIES LTD	#N/A N/A	Gain Cities Limited operates as a sports arbitrage company. The Company arbitrage trading, betting, sports data management, and other services. Gain Cities conducts business in the United States and Seychelles.
Data Management	GGL NZ Equity	G3 GROUP	Industrials	G3 Group Limited operates as a holding company. The Company, through its subsidiaries, provides mail, document, and data management services.
Analytics	SPGI US Equity	S&P GLOBAL INC	Financials	S&P Global Inc. provides clients with financial information services. The Company offers information regarding ratings, benchmarks, and analytics in the global capital and commodity markets. S&P Global operates worldwide.
Analytics	DXC US Equity	DXC TECHNOLOGY C	Information Technology	DXC Technology Company provides information technology services. The Company offers analytics, applications, business process, cloud and workload, consulting, and security services and solutions. DXC Technology serves customers worldwide.
Analytics	INFO US Equity	IHS MARKIT LTD	Industrials	IHS Markit Ltd. is a global diversified provider of critical information, analytics, and solutions. The Company offers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights. IHS Markit serves business and government customers worldwide.
Analytics	ADS US Equity	ALLIANCE DATA	Information Technology	Alliance Data Systems Corporation provides data-driven and transaction-based marketing and customer loyalty solutions. The Company offers a portfolio of integrated outsourced marketing solutions, including customer loyalty programs, database marketing services, consulting, analytics and creative services, email marketing and private label and co-branded retail credit cards.
Analytics	MSCI US Equity	MSCI INC	Financials	MSCI Inc. provides investment decision support tools to investment institutions worldwide. The Company produces indices and risk and return portfolio analytics for use in managing investment portfolios.
Analytics	SQ US Equity	SQUARE INC - A	Information Technology	Square, Inc. provides mobile payment solutions. The Company develops point-of-sale software that helps in digital receipts, inventory, and sales reports, as well as offers analytics and feedback. Square also provides financial and marketing services.
Analytics	FICO US Equity	FAIR ISAAC CORP	Information Technology	Fair Isaac Corporation provides analytics, including predictive modeling, decision analysis, intelligence management, decision management systems, and consulting services. The Company helps companies in countries around the world acquire customers more efficiently, increase customer value, reduce fraud, lower operating expenses, and enter new markets more profitably.

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Keyword	Ticker	Name	GICS Sector	Description
Analytics	CLGX US Equity	CORELOGIC INC	Information Technology	CoreLogic, Inc. provides consumer, financial and property information, analytics and services to business and government. The Company combines public, contributory and proprietary data to develop predictive decision analytics. CoreLogic offers mortgage and automotive credit reporting, property tax, valuation, flood determination, and geospatial analytics and services.
Analytics	CNDT US Equity	CONDUENT INC	Information Technology	Conduent Inc operates as a business process services company. The Company specializes in transaction-intensive processing, analytics, and automation. Conduent serves the commercial industries, healthcare, and public sectors.
Analytics	VIAV US Equity	VIAMI SOLUTIONS	Information Technology	Viavi Solutions Inc. provides network and service enabling solutions and optical products. The Company offers installation, commissioning, scripting, custom analytics, integration, business intelligence consulting, operational assistance, field and lab testing, technical training, maintenance, and support services. Viavi Solutions serves customers worldwide.
Analytics	AYX US Equity	ALTERYX INC -A	Information Technology	Alteryx, Inc. designs and develops software. The Company provides data storage, retrieval, management, reporting, and analytics solutions. Alteryx serves customers worldwide.
Analytics	PSDO US Equity	PRESIDIO INC	Information Technology	Presidio, Inc. provides information technology services. The Company offers enterprise-class solutions, including advanced networking, data analytics and center modernization, hybrid and multi-cloud, cyber risk management, and enterprise mobility, as well as professional services, including strategy, consulting, design, and implementation.
Analytics	CYL IN Equity	CYIENT LTD	Information Technology	Cyient Limited provides engineering services, data analytics, and data, networks and operations solutions. The Company offers its services to the aerospace and defense, energy, heavy machinery, consumer, medical utility, communications, semiconductor, and transportation industries around the world.
Analytics	ECLX IN Equity	ECLERX SERVICES	Information Technology	eClerx Services Limited provides data analytics and solutions to global enterprise clients in the financial services, retail and manufacturing industries. The Company offers data analytics, operations management, data audits, metrics management and reporting services.
Analytics	ITG US Equity	INVESTMENT TECH	Financials	Investment Technology Group, Inc. offers electronic brokerage, securities trading platforms, analytics and investment research. The company offers pre-trade analysis, trade execution, data-driven investment research and post-trade evaluation services.
Analytics	300609 CH Equity	WINNER INFORMA-A	Information Technology	Winner Information Technology Inc. operates as a retail intelligence and data business platform company. The Company provides data cultivation, analytics algorithms, and big data services.
Analytics	AVO CN Equity	AVIGILON CORP	Information Technology	Avigilon Corporation manufactures and reinvents HD network video management software, megapixel cameras, access control and video analytics products. The Company serves customers in more than 120 countries, customizable to property and people across diverse locations. Avigilon products are designed and manufactures in North America.
Analytics	CSLT US Equity	CASTLIGHT HEAL-B	Health Care	Castlight Health, Inc. provides a set of applications and services that enables employers to deliver cost-effective benefits, medical professionals, and health plans. The Company offers dashboards, reports, and analytics to pinpoint opportunities that eliminate wasteful healthcare spending and poor-quality outcomes.
Analytics	UIS US Equity	UNISYS CORP	Information Technology	Unisys Corporation provides information technology consulting services. The Company offers data analytics, mobility, network, security, and outsourcing services. Unisys serves commercial, financial services, and government sectors globally.
Analytics	COGT US Equity	COGINT INC	Industrials	Cogint, Inc. provides data analytics products and services. The Company offers cloud-based mobile user and data acquisition, audience, risk management, and marketing solutions. Cogint serves customers in the United States.
Analytics	3962 JP Equity	CHANGE INC	Information Technology	Change Co., Ltd. provides IT and network security services and solutions. The company also delivers data analytics services and training related solutions.
Analytics	CAT AU Equity	CATAPULT GROUP I	Information Technology	Catapult Group International Limited provides sports analytics encompassing the collection and analysis of data on athlete performance. The Company's analysis consist of fitness and skill levels, responses to specific training techniques, tactical performance, risk of injury and safety and to assist with rehabilitation.
Analytics	VERI US Equity	VERITONE INC	Information Technology	Veritone, Inc. operates as a cloud-based artificial intelligence media technology company. The Company develops a cloud-based ecosystem that enables real-time audio and video processing, audience analytics, search, retrieval, replay, and share capabilities. Veritone offers visual and audio discovery applications.
Analytics	DWS AU Equity	DWS LTD	Information Technology	DWS Limited provides information technology solutions to corporation and government organizations. The Company offers strategy and architecture, program and project management, business analysis, application development, solution testing and quality management, system integration and data management, and business analytics and information management services.
Analytics	III US Equity	INFORMATION SERV	Information Technology	Information Services Group, Inc. operates as a consulting company. The Company provides advisory, analytics, strategy, development, negotiation and implementation, enterprise resource planning, and business process transformation support services. Information Services Group conducts business worldwide.
Analytics	PRGX US Equity	PRGX GLOBAL INC	Information Technology	PRGX Global, Inc. provides recovery audit services to clients by auditing data for errors and overpayments, analyzing data for trends, and client advisory on improving financial performance. The company's services include spend analytics, fraud monitoring, permission-based benchmarking, and analytic solutions.
Analytics	FUEL US Equity	ROCKET FUEL INC	Information Technology	Rocket Fuel Inc. provides artificial-intelligence digital advertising services. The Company offers data, media, security, insight, and analytics solutions. Rocket Fuel serves customers worldwide.
Analytics	SOG LN Equity	STATPRO PLC	Information Technology	StatPro Group PLC provides portfolio analytics for the global asset management industry. The Company offers applications and reports based around a data hub, as well as integrated reporting solutions to automate and improve portfolio report production. StatPro Group serves customers worldwide.
Analytics	AFE1V FH Equity	AFFECTO OYJ	Information Technology	Affecto Oyj provides enterprise information management in Northern Europe. The Company's solutions for information management and business analytics help organisations to improve productivity and competitiveness with superior use of information in decision making and execution. Affecto also delivers operational solutions for improving and simplifying processes at customer organizations.
Analytics	PCTI US Equity	PC-TEL INC	Information Technology	PCTEL, Inc., delivers telecom technology solutions to the wireless industry. The Company designs and manufactures antenna solutions for industrial IoT, carrier-class, and enterprise-class wireless networks. The RF Solutions group develops and provides test equipment, analytics, and engineering services for wireless networks.
Analytics	TUNG LN Equity	TUNGSTEN CORP PL	Information Technology	Tungsten Corporation PLC built on OB10, is a global B2B trading network. Through its e-Invoicing network, Tungsten automates the invoice-to-pay process and offers spend analytics solutions to multinational companies and governments. Organisations of all sizes, in



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Keyword	Ticker	Name	GICS Sector	Description
				particular SMEs, can get paid early with its supply chain finance services.
Analytics	OMG LN Equity	OXFORD METRICS P	Information Technology	Oxford Metrics PLC designs and develops analytics software. The Company offers solutions for motion measurement and infrastructure asset management. Oxford Metrics serves customers worldwide.
Analytics	D4T4 LN Equity	D4T4 SOLUTIONS P	Information Technology	D4t4 Solutions PLC provides data processing solutions. The Company offers data collection, management, and analytics services. D4t4 Solutions operates in the United Kingdom and India.
Analytics	3905 JP Equity	DATASECTION INC	Information Technology	DATASECTION INC provide social data analysis and social risk management services. The Company also provides consulting service for big data analytics and also builds analysis tools.
Analytics	263800 KS Equity	DATASOLUTION INC	Information Technology	Datasolution, Inc. provides data solutions. The Company offers big data, predictive analytics, marketing intelligence, and other solutions. Datasolution also provides system integration, system operations, and consulting services.
Analytics	MATR US Equity	MATTERSIGHT CORP	Information Technology	Mattersight Corp is a enterprise analytics managed services company. The Company builds technology that captures and analyzes unstructured conversations, emails, customer data, and employee desktop activity.
Analytics	KRONTI Equity	KRON TELEKOMUNIKASION	Information Technology	Kron Telekomunikasyon Hizmetleri AS is a software company. The Company provides proprietary software systems, access control, enterprise network analytics, data and real time data processing, and operations security. Kron offers its services to telecom service providers and other large scale global enterprises.
Analytics	EXSY IM Equity	EXPERT SYSTEM	Information Technology	Expert System S.p.A. designs and develops semantic technologies. The Company offers semantic analysis products and services which include semantic and natural language text searches, text analytics, development and management of taxonomies and ontologies, categorization, data and metadata extraction and natural language processing.
Analytics	FCT AU Equity	FIRSTWAVE CLOUD	Information Technology	Firstwave Cloud Technology Limited designs and develops cloud deployment solutions. The Company offers services in the areas of cloud content security, content analytics, and data loss prevention. Firstwave Cloud Technology operates in Australia.
Analytics	SPYR US Equity	SPYR INC	Consumer Discretionary	SPYR, Inc. is a data analytics consulting company. The Company provides data analysis, data exploration, and implementation strategy consulting for its clients.
Analytics	DUO US Equity	DUO WORLD INC	#N/A N/A	Duo World, Inc. operates as an information technology and software company. The Company specializes in subscription management, billing, data analytics, and customer life cycle management solutions. Duo World conducts business worldwide.
Analytics	HTGM US Equity	HTG MOLECULAR DIAGNOSTICS	Health Care	HTG Molecular Diagnostics, Inc. develops and markets a technology platform to facilitate the routine use of complex molecular profiling. The Company offers a platform consists of instrumentation, consumables, and software analytics that are used in sample profiling applications, including tumor profiling, molecular diagnostic testing, and biomarker development.
Analytics	HMNY US Equity	HELIOS AND MATHESON ANALYTICS	Information Technology	Helios and Matheson Analytics Inc. operates as an IT service management company. The Company provides IT infrastructure, social data aggregation, cognitive computing, application development, and map-tech innovation solutions. Helios & Matheson Analytics offers its services to financial, healthcare, retail, government, and educational sectors.
Analytics	PBG SJ Equity	PBT GROUP LTD	Information Technology	PBT Group Limited operates as a business intelligence company. The Company offers business intelligence solutions to a wide range of industries, including finance, insurance, telecommunications, retail, petroleum, and medical healthcare. PBT Group provides data warehouse implementation and revitalisation, information exploitation, and advanced analytics.
Analytics	6565 TT Equity	THROUGHTTEK	#N/A N/A	ThroughTek Co., Ltd. provides cloud connection solutions. The Company offers live streaming, video recording, data analytics, automation, and internet services. ThroughTek serves customers in Asia and the United Kingdom.
Analytics	MYND US Equity	MYND ANALYTICS INC	Health Care	MYnd Analytics, Inc. operates as a cloud-based predictive analytics company. The Company provides clinical decision support to mental healthcare providers for the treatment of behavioral disorders, including depression, anxiety, bipolar disorder, and post-traumatic stress disorder. MYnd Analytics serves the healthcare sector in the State of California.
Analytics	OPN AU Equity	OPENDNA LTD	Industrials	OpenDNA Limited operates as a digital analytics company. The Company develops and owns its proprietary artificial intelligence system, which uses bespoke algorithms and natural language processing tools. OpenDNA serves publishing, entertainment, health and fitness, finance, commerce, and travel industries worldwide.
Analytics	GSTL IN Equity	GLOBALSPACE TECHNOLOGIES	Information Technology	GlobalSpace Technologies Limited develops enterprise software. The Company offers enterprise mobility, analytics, cloud, application, and consulting services. GlobalSpace Technologies also provides accelerometer, gyroscope, compass, and other hardware products. GlobalSpace Technologies serves pharmaceutical and technology industries in India.
Analytics	BUZ US Equity	BUZZ US SENTIMENT	#N/A N/A	The BUZZ US Sentiment Leaders ETF is an exchange-traded fund incorporated in the USA. The fund seeks to track the BUZZ NextGen AI US Sentiment Leaders Index. The ETF invests in stocks that comprise the index in the same weights as the index, rebalancing monthly. The stocks are selected using a proprietary analytics system based on bullish perception and breadth of discussion.
Analytics	CRL CN Equity	CARL DATA SOLUTIONS	#N/A N/A	Carl Data Solutions, Inc. designs and develops software solutions. The Company offers data collection, storage, and analytics solutions. Carl Data Solutions serves customers to data-centric enterprises in industry and government in Canada.
Analytics	ORHB US Equity	ORHUB INC	#N/A N/A	ORHUB, Inc. develops health care software. The Company offers surgical resource management, information, analytics, data collection, and other related services. ORHUB serves customers in the United States.
Analytics	STGL SP Equity	STRATECH GROUP LTD	Information Technology	The Stratech Group Limited is principally engaged in proprietary real-time video and image-based intelligent Vision technology. The Company combines video analytics with advanced electro-optics sensor technology to provide surveillance and security solutions for the aerospace, land transport, and maritime surveillance and security industries.
Analytics	OLV AU Equity	OTHERLEVELS HOLDINGS	Information Technology	Otherlevels Holdings Limited provides mobile marketing platform. The Company specializes in analytics, marketing, mobile applications, push notifications, short message service (SMS), connects email, customer relationship management portal, cloud based software as a service platform, mobile web and desktop web, and tracking services.
Analytics	LITI SS Equity	LITIUM AFFARSKO M	Information Technology	Litium AB provides website solutions. The Company offers web analytics, e-commerce analysis, SEO review, mobile web, and more website-related services. Litium serves e-commerce businesses in Sweden.
Analytics	CLWD US Equity	CLOUDCOMMERCE INC	Information Technology	CloudCommerce, Inc. designs and develops cloud-driven e-commerce and mobile commerce solutions. The Company offers engaging frontend design, robust backend integration, and digital marketing and analytics solutions. CloudCommerce serves customers in the United States and United Kingdom.

**Table 2: Big Data & AI non-covered stock list**

Keyword	Ticker	Name	GICS Sector	Description
Analytics	FLGC CN Equity	FANLOGIC INTERAC	Information Technology	Fanlogic Interactive Inc. develops software. The Company offers campaigning, promotion, database, analytics, design, and consulting services. Fanlogic Interactive serves customers in Canada.
Analytics	DUOT US Equity	DUOS TECHNOLOGIE	#N/A N/A	Duos Technologies Group, Inc. designs and develops software solutions. The Company offers video surveillance, video analytics, physical security information systems, and custom security system hardware and software solutions. Duos Technologies Group serves customers in the United States.
Analytics	EMMD US Equity	EMEDIA GROUP INC	#N/A N/A	eMedia Group Inc. operates as a holding company. The Company, through its subsidiaries, provides search optimization and social analytics software. eMedia Group offers services such as performing search engine optimization, managing paid listings at the search engines, submitting sites to directories, and developing online marketing strategies for businesses and organizations.
Analytics	RNVA US Equity	RENNOVA HEALTH I	Health Care	Rennova Health, Inc. operates as a healthcare holding company. The Company offers diagnostic laboratory testing and analytics, revenue cycle management, healthcare software solutions, medical billing, and financial services. Rennova Health conducts its business in the United States.
Analytics	ES CN Equity	EIGHT SOLUTIONS	#N/A N/A	Eight Solutions Inc is a technology company. The Company's flagship product is a data analytics and visualization solution. Eight Solutions portfolio also includes a 3D technology licensed to the film industry; and a video-on-demand platform that allows filmmakers to distribute their content directly to users.
Analytics	BLR PW Equity	BLIRT SA	Health Care	BLIRT SA is a research and development company. The Company conducts research and provided contract services in the scope of biotechnology, microbiology, chemical synthesis and analytics. BLIRT SA specializes in proteins, analytics, chemical syntheses, and DNA gdansk.
Analytics	BIS CN Equity	BLACKICE ENTERPR	#N/A N/A	BlackIce Enterprise Risk Management Inc. operates as a global enterprise risk management technology company. The Company offers solutions in enterprise-wide aggregation & analytics and regulatory compliance.
Analytics	INPX US Equity	INPIXON	Information Technology	Inpixon operates as a technology product company. The Company provides indoor positioning and data analytics to improve security, manage assets, and discover opportunities by combining data from the physical and digital worlds. Inpixon serves the airports, shopping malls, office buildings, and government agencies worldwide.
Analytics	GFI CN Equity	GRAVITAS FINANCI	Industrials	Gravitas Financial Inc. operates as a financial services, research and analytics company. The Company provides capital markets services to private and public company clients.
Analytics	CBDEF US Equity	BLUENRGY GROUP L	Industrials	BlueNRGY Group Limited provides renewable energy solutions. The Company owns, operates, installs, monitors, and maintains solar power assets and wind farms for the generation of electricity. BlueNRGY Group also offers mechanical services, predictive analytics and preventive maintenance of photovoltaic systems, and data management systems.
Analytics	BCYP US Equity	BLUE CALYPSO INC	Information Technology	Blue Calypso, Inc. develops and delivers mobile shopper marketing and analytics solutions. The Company offers a technology platform that enables brands and retailers to engage with shoppers when they are on the path-to-purchase products and services. Blue Calypso engages in the development of technology and intellectual property focused on digital word-of-mouth marketing.
Analytics	9AU GR Equity	EDGE SEARCH AG	#N/A N/A	EdgeSearch AG provides e-marketing services. The Company offers reporting, analytics, metrics, research, and advertising services. EdgeSearch serves customers in Germany.
Analytics	INIX US Equity	IFINIX CORP	Financials	iFinix Corporation provides information technology services and solutions. The Company provides real-time market data, news, and analytics. iFinix sells its services to professionals and individual investors worldwide.
Analytics	HRAA US Equity	HEALTH REVENUE A	#N/A N/A	Health Revenue Assurance Holdings, Inc. provides revenue integrity technology, solutions and services for healthcare organizations. The Company offers a full suite of business intelligence products and consulting services including: data analytics and predictive modeling software applications, ICD-10 solutions, outsource coding, billing and coding audits, education and consulting.
Analytics	LIQDQ US Equity	LIQUID HOLDINGS	Information Technology	Liquid Holdings Group, Inc. provides a financial services software platform with a focus on providing technology to asset managers. The Company's platform includes multi-asset class trading technology, real-time risk analytics, accounting matrices, and a suite of asset management tools with brokerage and execution solutions.
Analytics	TITAF US Equity	TITAN TRADING	#N/A N/A	Titan Trading Analytics Inc. is a financial software developer of world currency, stock index, and stock trading software and systems. The Company's VirtualTrader is a software based stock day trading simulator.
Analytics	ECEZ US Equity	ECOSCIENCES INC	#N/A N/A	Ecosciences Inc. is a consulting and analytics company serving the sports and entertainment industry. The Company provides clients with measurement, valuation and analysis of on-air branded elements by merging technology, research and industry experience.
Analytics	DBMM US Equity	DIGITAL BRAND ME	Consumer Discretionary	Digital Brand Media & Marketing Group, Inc. offers turnkey media monetization solution to rights owners of music video content. The Company's solutions allows rights owners to define and tag media content in detail, set and enforce rights management and distribution rules, receive payment on distribution and obtain detailed analytics in real time.
Analytics	CBSC US Equity	CB SCIENTIFIC IN	Health Care	CB Scientific, Inc. provides laboratory testing and research services. The Company offers blood testing, analytics, and assurance services. CB Scientific serves clients in the United States.
Analytics	PMSO US Equity	PRIMAL SOLUTIONS	Information Technology	Primal Solutions, Inc. and its subsidiary develop, market, and support customer management and billing software, customer analytics software, and switch mediation software. The Company's Connect CCB, Access IM, and Outfront CRM form an integrated product suite which enables communications service providers to manage all aspects of the customer relationship from one system.
Analytics	1502039D NL Equity	CR SERVICES PLC	#N/A N/A	CR Services Plc operates as a credit bureau. The Company offers risk management solutions, portfolio monitoring and market insight report, predictive analytics, and credit monitoring services. CR Services serves lenders, consumers, and retailers.

Source: Bloomberg, BofA Merrill Lynch Global Research

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
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