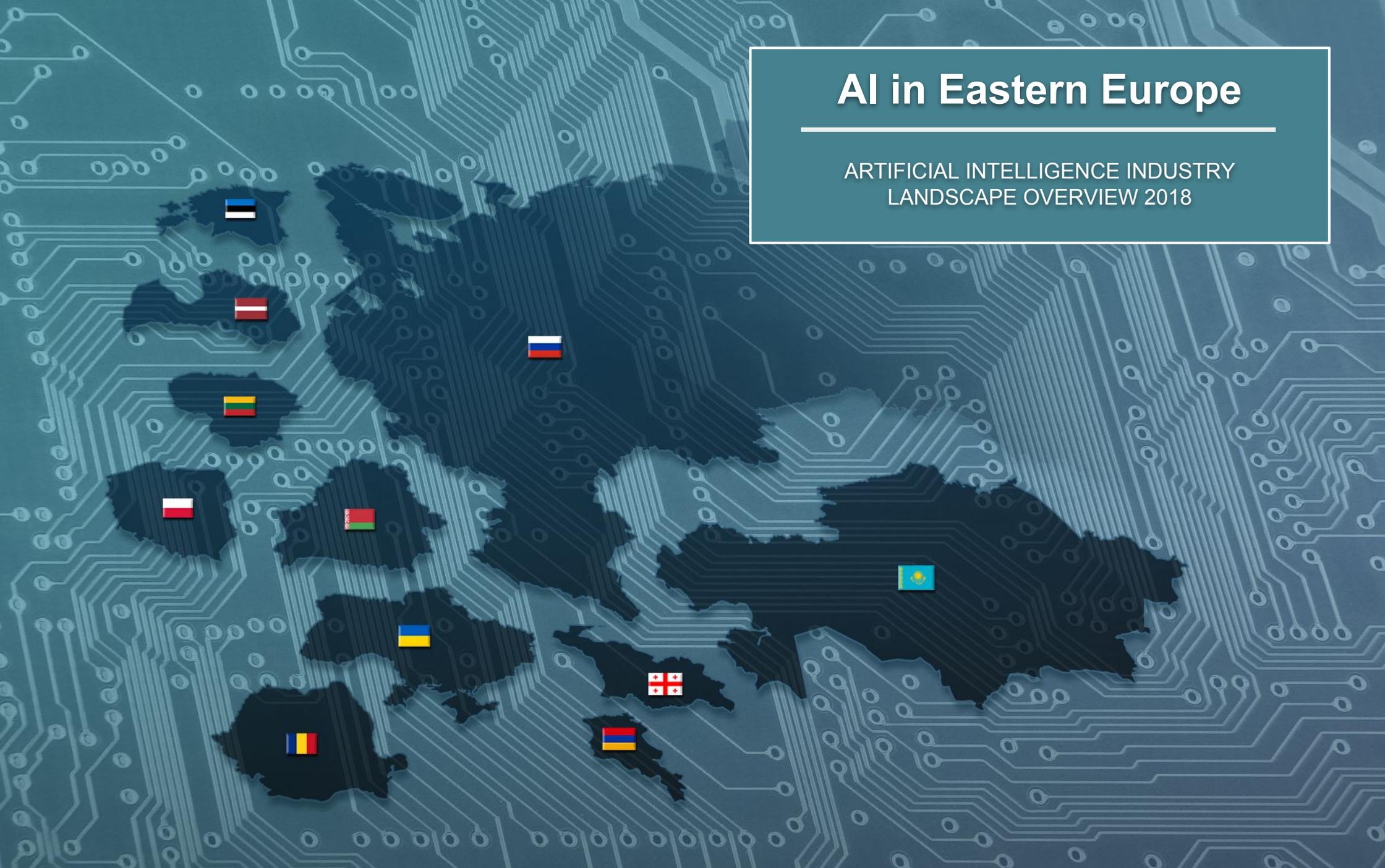


# AI in Eastern Europe

ARTIFICIAL INTELLIGENCE INDUSTRY  
LANDSCAPE OVERVIEW 2018





# AI in Eastern Europe

## ARTIFICIAL INTELLIGENCE INDUSTRY LANDSCAPE OVERVIEW

AI in Eastern Europe Industry Landscape Mind Maps	3
Executive Summary	8
<b>Volume I: Current State of AI in Eastern Europe</b>	
<b>Chapter I:</b> AI in Eastern Europe Industry Landscape Overview	16
<b>Chapter II:</b> Current AI Initiatives in Eastern Europe	30
<b>Chapter III:</b> The State of AI in Eastern Europe	40
<b>Volume II: Profiles</b>	
30 AI Tech Hubs	87
15 AI Conferences in Eastern Europe	117
60 AI Influencers in Eastern Europe	135
Disclaimer	200

# AI in Eastern Europe Industry Landscape 2018

# 500 AI Companies

Russia

Poland

Belarus

Ukraine

Kazakhstan

Estonia

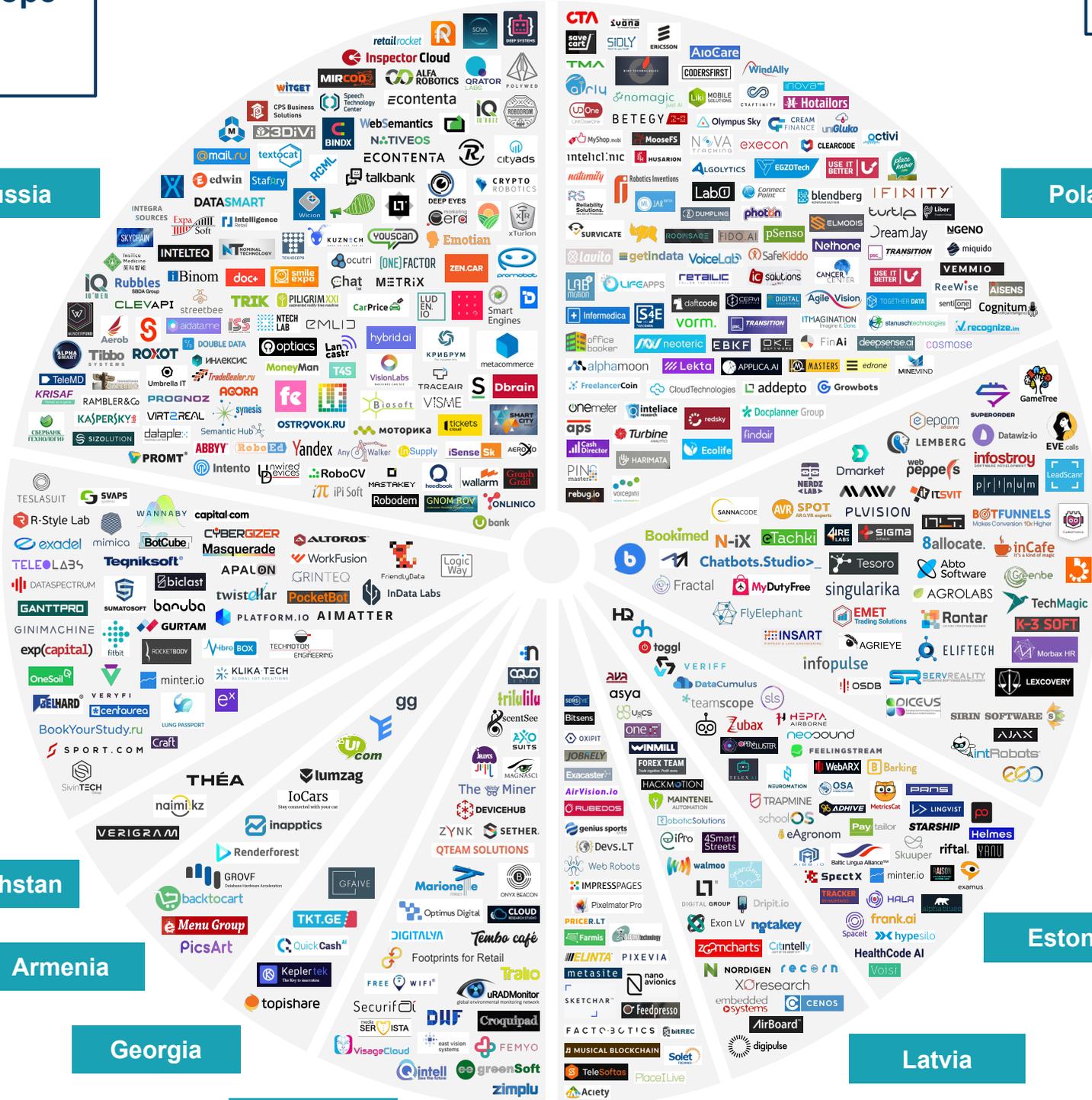
Armenia

Latvia

Georgia

Lithuania

Romania



## Machine Learning



## Computer Vision



## Search Engines and Language Processing



## Robotic



## Recommendation systems



## AI in Eastern Europe Technology Landscape

### Others



## Internet of things



## Intelligent data analysis



Marketing & Advertising



Chatbots & AI Assistants



Entertainment



Security



Healthcare



Transport & Infrastructure



AI in Eastern Europe Industrial Landscape

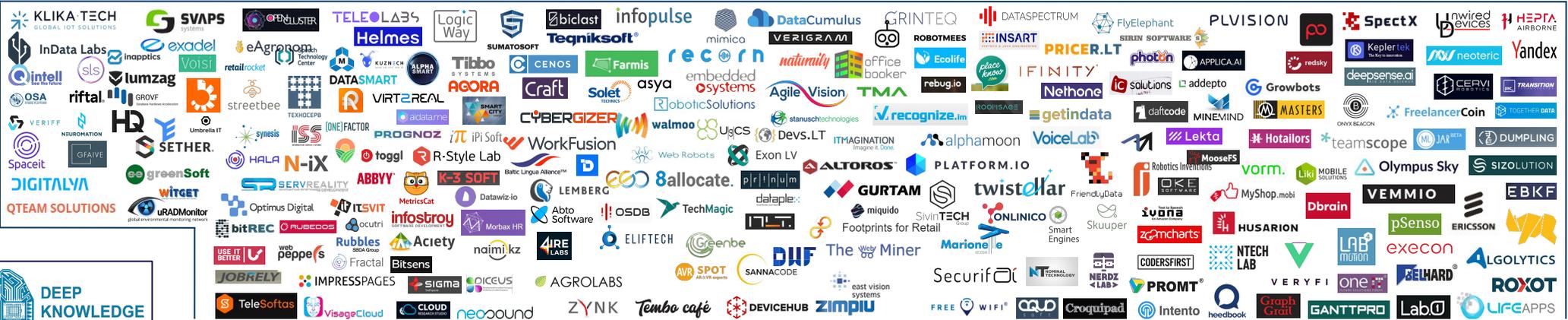
Education & Research



Fintech & Finance



Others



# AI in Eastern Europe Industry Landscape 2018

230 - Investors



Transport & Infrastructure

Logos for investors in Transport & Infrastructure: SHASTA VENTURES, HAXUS, VTB Capital, ENGEO, PIK vc, kima ventures, AlmazCapital, corrot, startobaza, matrix PARTNERS, IZBF, DEIMOS CAPITAL, fastlane ventures, SOL, PLAYFAIR Capital, SET Ventures, MORPHEUS, boostVC, GVA.CAPITAL, Granatus VENTURES, intel Capital, GRISHIN ROBOTICS, SISTEMA\_VC, Katapult Accelerator, ARTKB, :b, letta CAPITAL, TA VENTURES, HOF CAPITAL, ALTAIR CAPITAL, DAIMLER, Starta Accelerator NEW YORK.

Chatbots & AI Assistants

Logos for investors in Chatbots & AI Assistants: Buran Venture Capital, FLIGHT VENTURES, MAXFIELD CAPITAL PARTNERS, Starta Capital, ONE WAY VENTURES, lighter capital, VENTURESOUQ.

Fintech & Finance

Logos for investors in Fintech & Finance: ELEMENS, DATAVENTURES, Seedcamp, SIMILE VENTURE PARTNERS, INVENTURE, IMPRIMATUR CAPITAL, CHANGE VENTURES, Life.SREDA, CAPITEC BANK, FLINT CAPITAL, MOSCOW SEED FUND, Artsofte, Luma Investment, inventure partners, EMERY CAPITAL.

Security

Logos for investors in Security: СБЕРБАНК, Runa Capital, ZILLIONIZE, partech, Fusion Fund, GENERAL ATLANTIC, SMRK VC FUND, PLUGANDPLAY, space3ac, Accelerator, European Commission, iDeal Machine.

Entertainment

Logos for investors in Entertainment: vertical, SEQUOIA, STARTUP HIGHWAY, GENERAL, CATALYST, SH, Kite Ventures, STARTUP YARD SEED ACCELERATOR, PANTERA, SLEEPZ AG, NEXTURY VENTURES, ExpoCapital, imi, Startup Network, U, BAVP, Alibaba Group, Actions on Google, SIGULER & GUFF, rotolab, cabra.vc, INSIGHT VENTURE PARTNERS, TBC PAY, NASPERS.

Marketing & Advertising

Logos for investors in Marketing & Advertising: THE WORLD BANK, FOUNDERS FACTORY, MOHR DAVIDOW VENTURES, NYFTL FASHION TECH LAB, LARNABEL VENTURES, TELLURIDE VENTURE ACCELERATOR, TRIGON, satus, MOMENTA PARTNERS, augere, ФОНД СОДЕЙСТВИЯ ИННОВАЦИЯМ, AINOT, GLOBAL TECHNOLOGY FOUNDATION, the Untitled, openfund, ARIA, experior venture fund, 500, oib, KINNEVIK, Zeroth.

AI in Eastern Europe Industrial Landscape

Education & Research

Logos for investors in Education & Research: BlackPine, BSV, iDeal Machine, SVAROG CAPITAL ADVISORS, Rakuten, techstars, KICKSTARTER, Funduz, Zalgizkowy KPT.

Healthcare

Logos for investors in Healthcare: IMG, SAPHIRE VENTURES, UNCORK CAPITAL, GHG, POCHAHO, AVENTURES, NORDIC MAKERS, SoftBank Group, QUALCOMM VENTURES, pifon, Universe.vc, ONE PEAK PARTNERS, SIMPACT, Point Nine THE ANGEL VC, TARGET GLOBAL, trueventures, RTA, Primer Capital, Berkeley SKYDECK, Felicis Ventures, hubraum, Baring Vostok, VENTURE INC, FOUNDRY GROUP, FJ LABS, nipa, European Bank for Reconstruction and Development, PROTOS VC, HardGamma VENTURES, TEAM EUROPE, MCI, bpiFrance, S&C, GIZA POLISH VENTURES, Yandex, META, Market One Capital, TechnoStart, Joint Polish Investment Fund Financing Innovation in Healthcare and Life Sciences.

Others

Logos for investors in Others: GROWTH UP, ZGI CAPITAL, Georgian Partners, ngp capital, Downning Ventures, ACE Company, Berkeley SkyDeck Fund, ValueTech, XEVIN INVESTMENTS, Sk Сколково, QUAKE CAPITAL, Alpha Intelligence Capital, rto VENTURES, SpeedUp VENTURE CAPITAL GROUP, ENVESTNET YODLEE, Practica Capital, RTP Global, PEAK OPPORTUNITY PARTNERS, TRIND, Venturebot, Mosaic Ventures, LCIF LONDON CO-INVESTMENT FUND, CORFO, DIGITAL FUTURE, NGENO, mastercard, start path, europe.eu, HIVE, VP CAPITAL, WISE GUYS, BITFURY, PLATINUMSEED, innovation nest, RWM capital, prototron, inovia, GREYCROFT, BITFURY, PLATINUMSEED, innovation nest, FOM, ABC ACCELERATOR, karna.vc, ST>RT-UPCHILE, AceVentures, BlackPearls.vc, codilime, rockstart., European Commission, G2H2 Capital, ID cee, IMPULSE INCUBATOR.



# Executive summary



## Introduction to AI in Eastern Europe

Artificial Intelligence is without a doubt a technology of the present and the future. The advancement and development of AI has an enormous impact on many of the social challenges that we face today, such as food security, sustainable agriculture, demographic change and climate change.

Many Eastern European governments are focused on investing and developing AI within their territories. These countries see investment in education and startups as a priority to support the growth of the AI industry as part of the country's economic development.

According to Hovhannes Avoyan, co-founder and CEO of PicsArt: *"The best AI schools outside of Silicon Valley are considered the Russian, the Ukrainian, and the Belarusian"*. Together these countries are a global source of innovation in AI and related technologies, with a great many tech companies established there.

Russia, Belarus and Ukraine are the countries gaining the most in international grants for AI development, winning contests and acquiring huge investments. For example, the Ukrainian startup UniExo won Robot Launch 2017, the international contest for innovations in robotics, and was awarded the chance to take part in the Silicon Valley Robotics accelerator program.

Investors from other regions are also keen to support the growth of this industry within Eastern Europe. For instance Mr. Li Dongsheng, the chairman and chief executive officer of TCL Corporation, a Chinese multinational electronics company, mentioned to chinadaily.com.cn:

*"We plan to establish a R&D center in Eastern Europe as there are excellent talents engaged in mathematics research, and the foundation of AI lies in mathematics, big data and calculation"*.

When it comes to sectors, most Central and Eastern European countries are using cognitive computing and AI systems in banking, retail and process manufacturing. According to IDC Trend Spotter, from 2016 to 2021 the target from investors is expected to start shifting more towards the healthcare sector through the application of cognitive computing or AI on diagnosis and treatment of systems.

## An overview of AI in Eastern Europe.

The aim of this report is to present the best tech companies from Eastern Europe that are either using artificial intelligence for their business, or developing products based on AI. This document also contains an in-depth study of the 2018 Eastern Europe artificial intelligence ecosystem. The countries included in the report are: Belarus, Georgia, Armenia, Kazakhstan, the Baltic states, Poland, Russia, Romania and Ukraine.

The country that has the most clout when it comes to AI is -- unsurprisingly given its size and population -- Russia. Russian society is generally amenable to progress in AI, as demonstrated by a IPSOS poll to which 40% of respondents answered that they trusted artificial intelligence, 27% that they were distrustful, and 33% were neutral as to whether they could trust the technology.

What was surprising was that Poland, despite being a country with a GDP 3 times smaller than Russia's, has almost the same share of the AI ecosystem, with 133 companies and 76 investors (mentioned in the report), while Poland has 110 companies and 59 investors. Our statistics show that 18.7% of the Russian startups analyzed in the report are using machine learning, 18.7% are working on robotics, and 13.4% on computer vision. In comparison to Russia, 21% of the Polish startups work with machine learning, 12% on robotics and only 4% on computer vision. Polish Prime Minister, Mateusz Morawiecki, during his speech at Polish-French Economic Forum, has said: *"The Internet of Things, machine learning and electric vehicles were areas of industry that Poland and France could invest in over the coming decades."* It is worth adding that not only are government officials very positive towards AI but the general population also. According to a survey conducted by IPSOS, almost half (40%) of respondents in Poland answered that they trust artificial intelligence.

Another country with huge potential is Estonia. The AI ecosystem map shows that there are AI-related 46 companies and 27 investors in the country.

According to the information that was gathered for this report, 8.7% of Estonian startups use robot-related technologies, while 17.4% of the companies are involved with intellectual data. The other technologies that are used in this industry are machine learning with 26.1%, followed by search engines, 17.4% and internet of things with 10.9%.

## Investor cooperation with Eastern European countries.

There are countries like Russia, Romania, Ukraine, Poland, Lithuania, Estonia, Latvia that have huge potential for investment due to lots of opportunities found within each country, opportunities such as:

- **Fastest internet in the world:** Apart from many other countries mentioned in the top 23 countries around the world, Lithuania, Estonia and Latvia are also part of the list, with with highest speed of 27.417, 27.91 and 28.63 megabits per second. The Internet is a source of information technology that contributes highly to the development and growth of artificial intelligence Industry.
- **Large number of emerging startups:** This report mentioned around 500 startups. This is just a fraction of potential investment opportunities. There are many startups in Eastern Europe using artificial intelligence in their daily activities. Most of these startups are based on facial recognition, marketing activities and machinery processing. Such companies contribute hugely towards the growth of the country's GDP and the rise of the economy.
- **Government investments and support.** The governments of Russia, Poland and Estonia are the few governments from Eastern Europe to introduce acts and strategies for developing the AI industry. These include acts of law, provision of grants and funds to the startups, as well as allowing investors from other countries to invest in their states.
- **English Language proficiency:** After Chinese and Spanish, English is the third most spoken language in the World. It is used by many people in Eastern European countries for official purposes. Most investors would prefer to do business in a common language. English gives an opportunity for non-native investors to collaborate with companies and countries within Eastern Europe. English is the language of AI, with most AI output being generated in English.

## Geography of initiatives

Based on our research, the main types of government initiatives towards AI development were found as following:

1. **National government initiatives.** Governments are developing their own strategies for supporting AI-based startups and applications in various industries. These strategies can be presented as a separate documents or be as part of national strategies.

The Russian Ministry of Defence has presented 10 policies as a result of the conference that was held in March 2018 with the title: “*Artificial Intelligence: Problems and Solutions—2018*”. These recommended policies included creating a state system for AI education and talent retainment, establishing a national center for AI, and hosting war games to study the impact of AI on military operations.

2. **Supranational initiatives.** Eastern European countries that are part of the EU are involved in developing EU policies supporting AI research.

Poland’s Digitization Minister, Mr. Marek Zagórski, declared that “*work on the Polish strategy for artificial intelligence was launched in 2018*”. According to Zagórski “*after the strategy is developed, businesses could obtain state and EU funding easier, and more entrepreneurs would be encouraged to invest in AI*”. During the 28th Economic Forum in Krynica-Zdrój, the Minister said that “*the European Commission “has reserved several billion euro” for the “Digital Europe” programme, allocated for developing technology, part of which could be used to develop Artificial Intelligence*”.

3. **Intercountry initiatives.** AI initiatives are also supported and proliferated by a consortium of other countries.

In May 2018 the ministers responsible for digital development from Denmark, Estonia, Finland, the Faroe Islands, Iceland, Latvia, Lithuania, Norway, Sweden, and the Åland Islands released the ‘Declaration on AI’ in the Nordic-Baltic Region. The collaboration is due to the fact that these countries have the same goal to “*develop and promote the use of artificial intelligence to serve humans.*”

## **Purpose of this Report: Mapping the artificial intelligence landscape in Eastern Europe**

The present report is organized into 2 volumes spanning over nearly 200 pages. The report is structured so as to make plain the development of Artificial Intelligence in Eastern Europe, including following countries Armenia, Belarus, Estonia, Georgia, Kazakhstan, Latvia, Lithuania, Poland, Romania, Russia and Ukraine.

**Volume I** presents a broad overview of the artificial intelligence industry in Eastern Europe, and the strategic management and government plans for artificial intelligence. It also describes the past, present and future of the industry, and current technological and media trends. The volume is organized in such chapters:

- **Chapter I: AI in Eastern Europe Industry Landscape Overview** provides a broad overview of the current Eastern Europe-based Artificial Intelligence landscape, considering both private sector as well as nonprofit and government-led projects and initiatives, with specific focus on the current state of the industry.
- **Chapter II: Current AI Initiatives in Eastern Europe** presents the current situation and analysis of the AI initiatives undertaken in Eastern Europe.
- **Chapter III: The State of AI in Eastern Europe** outlines report findings, statistics, statements by various actors from the region.

**Volume II** lists information regarding chapter I in the form of profiles collected from different sources related to artificial intelligence investment in the Eastern Europe.

- 15 Conferences
- 60 Influencers
- 30 Hubs & Accelerators
- 500 Companies
- 230 Investors

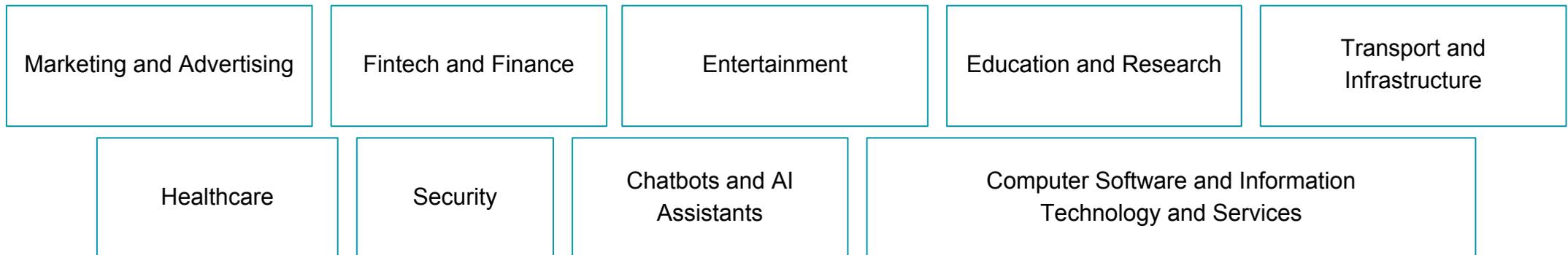


The report will make it clear what types of technology exist on the market today, as well as their purpose. This will include all types of services that AI can provide for business, focusing especially on the challenges that large corporations have recently been having.

The main technologies covered in the report are:

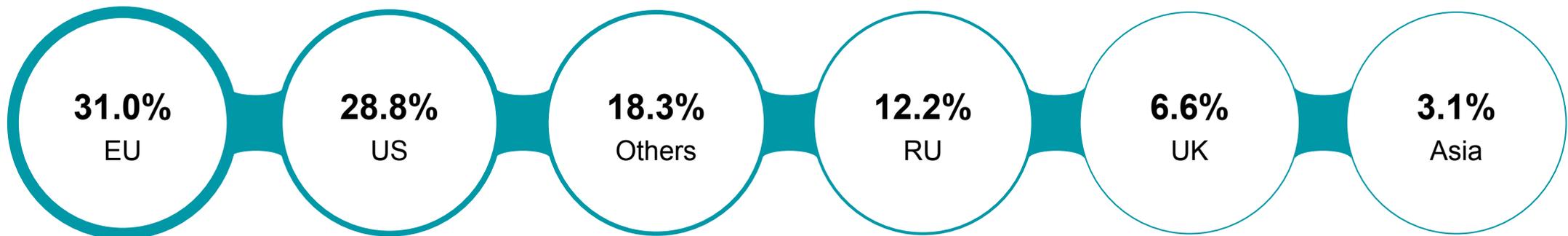


The main market sectors covered by artificial intelligence are:



- **Evolution of AI in EE:** Russia, around 5 years ago, was a leader in AI technology due to the fact that under the Soviet Union the country had very strong math-based schools. Unfortunately, this is not the case anymore. When it comes to top notch talent, some of the EU countries are overtaking Russia as the main influencer in the region. Countries like Poland, Romania, Estonia and Lithuania are rising with innovative ideas and development strategies. Even though Russia is still leading in this Industry, with the help of the EU, the mentioned countries obtained astonishing results in a very short time.
- **EU and national strategies:** Besides national strategies coming from the countries within Eastern Europe, there is also a lot of support for AI development coming from EU officials in Brussels. It is also worth mentioning that countries are cooperating with each other via different initiatives, such as, for example, the Baltic-Nordic AI Cluster.
- **AI and EE Companies:** Both EU and non-EU parts of Eastern Europe, AI companies are mainly oriented towards the EU or the US (except Russia). Western countries are usually seen as a primary source of investment. However, the situation might soon change. Asia, mainly China, has become a new leader in AI technology. The socio-economic situation in Eastern Europe is changing and it is highly probable that China will become a new source of investments in AI startups.

### Where investors are based



# Volume I: Current State of AI in Eastern Europe

## Chapter I: Landscape Overview



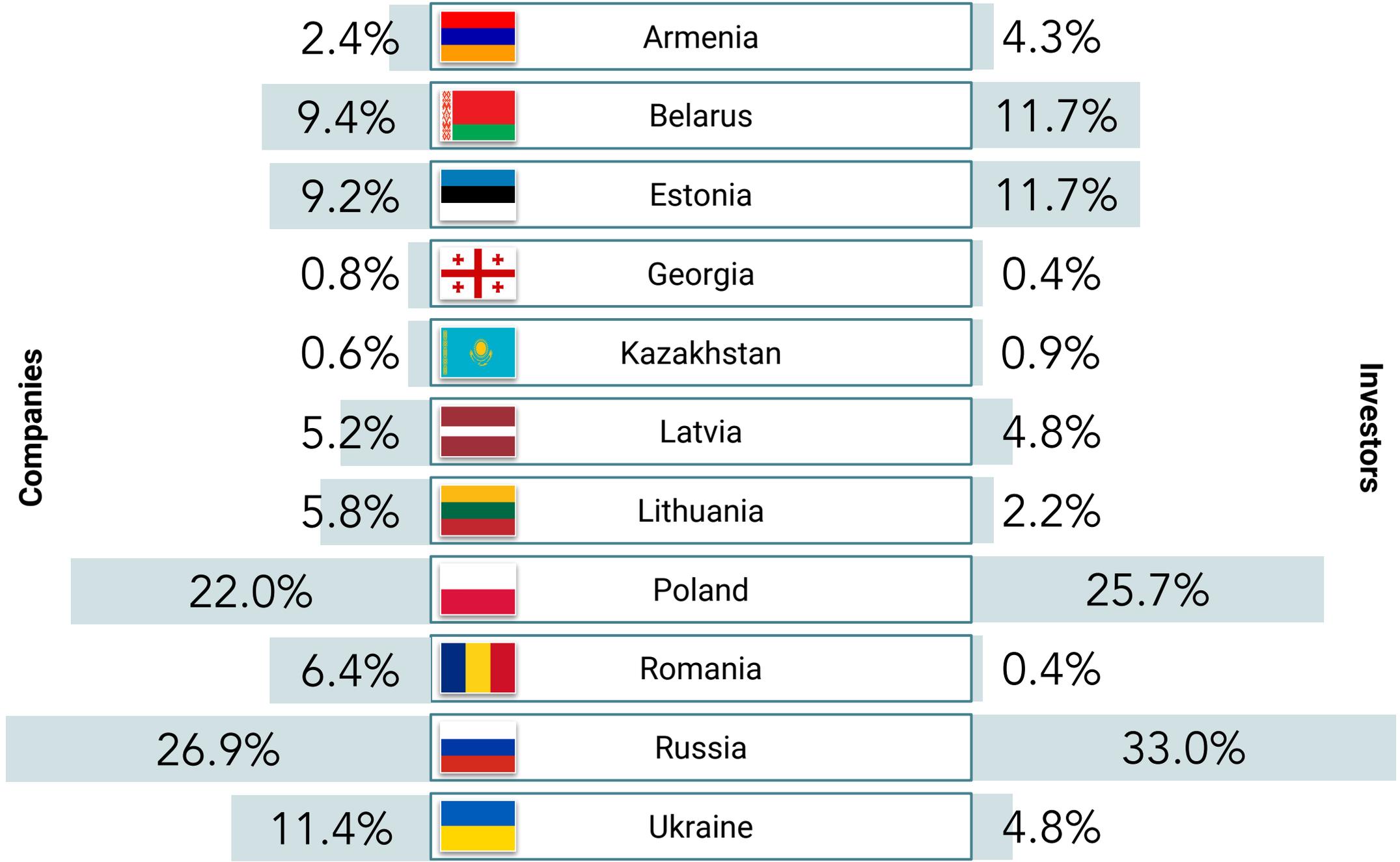
# Number of AI-Companies and Investors in Eastern Europe

Companies			Investors
12		Armenia	10
47		Belarus	27
46		Estonia	27
4		Georgia	1
4		Kazakhstan	2
26		Latvia	11
29		Lithuania	5
110		Poland	59
32		Romania	1
133		Russia	76
57		Ukraine	11

# Number of AI-Companies and Investors in Eastern Europe

Companies

Investors



# 60 AI Influencers in Eastern Europe



# 30 Tech Hubs in Eastern Europe



Foundation for Armenian Science and Technology (FAST)



Microsoft Innovation Center Armenia



Belarus Hi Tech Park



Imaguru Startup Hub



Buildit Accelerator



TechHub Warsaw



Prototron



Startup Wise Guys



Baltic Sandbox



iHUB



Founder Institute Warsaw



Startup Estonia



Gamma Rebels



Huge Thing



StartUp HUB Poland



Skolkovo



GrowthUP (Bay View Innovations)



LIFT99



Innovation Labs



UVCA



iPavlov.ai



IIDF



Eastlabs



Vilnius Tech Park



Eclass



School of Data Analysis (Yandex)



Risky Business Ventures



Happy Farm



WannaBiz



e-Lithuania

# 15 AI Conferences in Eastern Europe 2018-2019



14th International Conference on Electronics Computer and Computation



23rd World Congress on Information Technology



2nd International Conference on Recent Advances in Artificial Intelligence (RAAI) 2018



4th International Conference on Engineering Technology and Applied Sciences (ICETAS)



AI CONFERENCE 2018



AIME 2019 conference



Big Data Conference 2018



CyCon 2018 - Cyber Security Conference



OpenTalks.AI conference



Science and Technology Convergence Forum



TAPOST 2019



The 18th International Conference on AI and Soft computing



The 70th ICAISC



The Artificial Intelligence Conference



The Fifth International Conference on Artificial Intelligence and Pattern Recognition (AIPR2018)

1. 3DiVi, Inc.
2. 4IRE labs
3. 4SmartStreets
4. 7WebPages
5. 8allocate
6. ABBYY
7. Abto Software
8. Aciety
9. Addepto
10. AdHive
11. Advanced Protection Systems
12. Advanced Vector Analytics
13. Aerob
14. Aeroxo
15. AgileVision.io
16. AGORA
17. Agrieye
18. Agrolabs
19. Agrosputnik
20. AiBB
21. Aidata
22. AIMatter
23. Airboard
24. Airly
25. Aisens
26. Ajax Systems
27. Alfa Robotics
28. Algolytics
29. Alpha Smart Systems
30. AlphaBlues
31. Alphamoon
32. Altoros
33. AnyWalker
34. Apalon
35. APPLICA.AI
36. AQUASoft
37. asya
38. AVRspot
39. Axosuits
40. Backtocart
41. Baltic Lingua Alliance
42. Banuba
43. Barking
44. Belhard Group
45. BETEGY
46. BiClast
47. BINDX.AI
48. Biosoft
49. bitREC
50. BITSENS
51. BlendBerg
52. Bookimed
53. BookYourStudy
54. BotCube
55. BotFunnels
56. BotsCrew
57. Cancer Center Ltd
58. Capital.Com
59. CarPrice.ru
60. CashDirector
61. Cenos Platform
62. Centaurea
63. Cera Marketing
64. Cervi Robotics
65. Chatbots.Studio
66. ChatFirst
67. Citintelly
68. CityAds Media
69. CJSC Iqmen
70. Clearcode
71. Clevapi
72. Cloud Research Studio
73. Cloud Technologies S.A.
74. CodersFirst
75. Cognitum
76. ConnectPoint
77. Cosmose Inc
78. CPS LAB
79. Craft
80. Craftinity
81. Creamfinance
82. Croquipad
83. Crypto Brokers OÜ
84. Crypto Robotics
85. CTAdventure
86. Cubomania
87. cybergizer.ai
88. Daftcode
89. DataCumulus
90. DataHawk Technologies
91. Dataplex
92. Datarino
93. DataSmart
94. DATASPECTRUM
95. Datawiz.io
96. Dbrain
97. Deep Systems
98. DeepEyes
99. deepsense.ai
100. DeviceHub

101.	Devs.LT	134.	Escape Reality	167.	GameTree
102.	Diceus	135.	Etachki	168.	GanttPRO
103.	DigiPulse	136.	EVE.calls	169.	GetInData
104.	Digital Fingerprints	137.	Exacaster	170.	GFAIVE
105.	Digital Workforce	138.	Exadel	171.	ggTaxi
106.	Digitalya OPS	139.	Examus	172.	GiniMachine
107.	Directual	140.	Execon	173.	Go4price
108.	DMarket	141.	ExoAtlet	174.	GRANDMA
109.	DOC+	142.	Exon LV	175.	GraphGrail Ai
110.	DocPlanner	143.	exp(capital)	176.	GreenBe
111.	DOOH ADS	144.	Exasoft	177.	GreenSoft
112.	Double Data	145.	Expert & Consulting	178.	Grinteq
113.	DreamJay	146.	Exponenta	179.	Grovf
114.	Dripit.io	147.	Factobotics	180.	Growbots
115.	Dumpling	148.	Farmis	181.	HackMotion
116.	eAgronom	149.	Feedpresso	182.	Hala
117.	east vision systems	150.	FeelingStream	183.	Harimata
118.	EBKF	151.	Femyo	184.	Hashtago
119.	EcoLife	152.	Fetchee	185.	HealthCode AI
120.	Econtenta	153.	Fido Intelligence	186.	Healthy Networks
121.	edrone	154.	FinAi	187.	Heedbook
122.	Edwin.ai	155.	FindAir	188.	Heex Technologies
123.	EGO CREATIVE MEDIA SOLUTIONS	156.	FitBit	189.	Helmes
124.	EGZOTech	157.	Flespi (Gurtam)	190.	Hepta Airborne
125.	ElifTech	158.	Flocktory	191.	Hotailors.com
126.	Elinta Motors	159.	FlyElephant	192.	HQSoftware
127.	Elmodis	160.	Footprints for Retail	193.	Husarion
128.	Embedded Systems SIA	161.	Forex Team	194.	Hybrid
129.	Emet Trading Solutions	162.	Fractal	195.	HypeSilo
130.	Emlid	163.	Frank.ai	196.	iBinom
131.	Emotian	164.	Free WiFi	197.	IC Solutions
132.	Epom Ad Server	165.	FreelancerCoin ICO	198.	ImpressPages
133.	Ericpol	166.	FriendlyData	199.	Inapptics
				200.	Insilico Medicine

201.	InData Labs	234.	Kuznech	267.	MetricsCat
202.	Indel-Partner	235.	Lab1	268.	Metrix.AI
203.	Infermedica	236.	Lab4motion Solutions Ltd	269.	Mimicaa
204.	Infopulse	237.	Lancastr	270.	MineMind
205.	Infostroy	238.	Lavito	271.	Minter
206.	Inleksys	239.	LeadScanr	272.	Minter.io
207.	Inovamed	240.	Lekta	273.	Miquido
208.	Insilico Medicine Russia	241.	Lemberg Solutions Limited	274.	Mircod
209.	Inspector Cloud	242.	Lexcovery	275.	MLJAR
210.	InSupply	243.	Liber Finance Group	276.	Mobiliuz
211.	Integra Sources	244.	Life.Film	277.	MoneyMan
212.	Inteliace Research	245.	LifeApps	278.	MooseFS Pro
213.	Inteliclinic	246.	Liki Mobile Solutions	279.	Morbax HR
214.	Intelligence Retail	247.	Lingvist	280.	Motorica
215.	INTELTEQ	248.	Linkprofit	281.	Musical Blockchain
216.	Intento	249.	Logic Way	282.	Mycroft Business Solutions
217.	IntRobots	250.	LT Digital Group	283.	MyDutyFree
218.	iocars	251.	Luden.io	284.	MyShop.mobi
219.	iPi Soft	252.	Lumzag Inc	285.	Myspiroo
220.	iqbuzz	253.	Magma Solutions	286.	N-iX
221.	iSense-SK	254.	Magnasci SRL	287.	Naimi.kz
222.	ISS Art, LLC	255.	Mail.Ru	288.	NanoAvionics
223.	IT Svit	256.	Maintenel Automation	289.	NativeOS
224.	ITMAGINATION	257.	Marionette Studio	290.	Naturaily
225.	IVONA	258.	Masquerade	291.	NeoSound
226.	Jellycs	259.	Mastakey	292.	Neoteric
227.	JobRely	260.	Masters	293.	NerdzLab
228.	K-3 Soft	261.	Mawi Solutions	294.	Nethone
229.	Kaspersky Lab	262.	MBT	295.	Neuromation
230.	Kepler Technologies	263.	MediaServista	296.	Neurotechnology
231.	Klika Tech, LLC	264.	Menu Group (UK) Limited	297.	New Line Technologies
232.	Kribrum	265.	Metacommerce	298.	nGeno
233.	Krisaf	266.	Metasite	299.	NoMagic
				300.	Nominal Technology

301.	Nordigen	334.	PocketBot	367.	Robotics Inventions
302.	Notakey	335.	polisens.io	368.	Robotmees
303.	Nova Tracking Ltd	336.	Polywed	369.	Robotronica
304.	NTechLab	337.	Precision Navigation Systems	370.	Rocket Body
305.	Nurss	338.	PriNum	371.	Rontar
306.	Octivi	339.	Prognoz	372.	RoomSage
307.	Ocutri	340.	Promobot	373.	Roxot
308.	OfficeBooker	341.	Prompt	374.	Rubbles
309.	OKE	342.	Q-intell	375.	Rubedo Sistemas
310.	Olympus Sky Technologies	343.	Qrator Labs	376.	S4E
311.	oneFactor	344.	QTeam Solutions	377.	SafeKiddo
312.	OneMeter	345.	QuickCash	378.	SANNACODE
313.	OneSoil	346.	R-Style Lab	379.	SaveCart
314.	ONLINICO	347.	RAISON	380.	Sberbank Technologies
315.	OnyxBeacon	348.	Rambler & Co	381.	ScentSee
316.	Opencluster.io	349.	rebug.io	382.	School OS
317.	Optiacs	350.	RecFaces	383.	Scorista
318.	Optimus Digital	351.	Recognize.im	384.	SecurifAI
319.	OSA Hybrid Platform	352.	Recorn	385.	Segmento
320.	OSDB	353.	Red Sky	386.	Semantic Hub
321.	Ostrovok.ru	354.	ReeWise	387.	SEMSEYE
322.	Oxipit	355.	Reliability Solutions	388.	SentiOne
323.	Paytailor	356.	Renderforest	389.	ServReality
324.	Photon Entertainment	357.	Retail Rocket	390.	Sether
325.	PicsArt	358.	Retailic	391.	SIA Ipro
326.	Pilgrim XXI	359.	Riftal	392.	SiDLY
327.	PINmaster	360.	Rightech	393.	Sigma Software
328.	Pixelmator	361.	RIOT Technologies	394.	Singularika
329.	PIXEVIA	362.	RoadAR	395.	Sirin Software
330.	Placellive.com	363.	RoboCV	396.	SivinTech Group
331.	PlaceKnow	364.	Robodem	397.	Sizolution
332.	Platform.io	365.	RoboEd	398.	SKETCHAR
333.	PLVision	366.	Robotic Solutions	399.	Skuuper
				400.	Skychain Global

401.	Smart Engines	434.	Test4Startup	467.	VibroBox
402.	Smart Load Solutions	435.	Textocat	468.	Virt2Real
403.	Smile-Expo	436.	TheWebMiner	469.	VisageCloud
404.	Solet Technics	437.	Tibbo Systems	470.	Vision Labs
405.	SOVA.AI	438.	Tickets Cloud	471.	VISME
406.	Spaceit	439.	TKT.GE	472.	VoiceLab
407.	SpectX	440.	TMA Automation	473.	VoicePIN.com
408.	Speech Technology Center	441.	TogetherData	474.	Voisi
409.	SPH Engineering	442.	Toggl	475.	VORM
410.	Sport.com	443.	Toytemic Inventions	476.	Wallarm
411.	Staforj	444.	TraceAir	477.	Walmoo
412.	Stanusch Technologies	445.	TradeDealer.ru	478.	WANNABY
413.	Starship Technologies	446.	Tralio	479.	Web Robots
414.	Stream Networks SIA	447.	Transition Technologies	480.	Web-Peppers
415.	Streetbee	448.	TRAPMINE	481.	WebARX
416.	SumatoSoft	449.	TRIK	482.	WebDNA.io
417.	Superorder	450.	Trilulilu	483.	WebSemantics
418.	Survicate	451.	Turbine Analytics S.A.	484.	Wicron
419.	SVAPS Systems LLC	452.	Turtle Rover	485.	WindAlly
420.	Synesis	453.	Twistellar	486.	Winmill
421.	Syntech Software	454.	uBank	487.	Witget
422.	Talkbank	455.	UBS Zurich	488.	WorkFusion
423.	Teamscope	456.	UCom LLC	489.	Wunder Fund
424.	TechMagic	457.	Umbrella	490.	XOresearch
425.	Technoton Engineering	458.	Unigluko	491.	xTurion
426.	Tehnoserv	459.	UNILIGHT	492.	Yandex
427.	TeleMD	460.	UnitDoseOne	493.	Yanu
428.	Teleolabs	461.	Unwired Devices	494.	YE US Inc
429.	Telesoftas	462.	uRADMonitor	495.	Youscan
430.	Tembo café	463.	VEMMIO	496.	ZEN.CAR
431.	Teqniksoft	464.	Veriff	497.	Zimplu CRM
432.	Teslasuit	465.	VeriGram	498.	ZoomCharts
433.	Tesoro LTD	466.	Veryfi	499.	Zubax Robotics
				500.	ZYNK

1. 500 Startups
2. ABC Accelerator
3. ACE & Company
4. Ace Ventures
5. Akcelerator Innowacji NOT
6. Alibaba Group
7. Almaz Capital
8. Alpha Intelligence Capital
9. AltaIR Capital
10. AngelVest
11. ARIA Fund
12. ARTKB
13. Artsofte IT Company
14. Augere Business Angels Network
15. AVentures Capital
16. Barclays Accelerator (Powered by Techstars)
17. Baring Vostok Capital Partners
18. BAUR
19. Berkeley SkyDeck
20. Berkeley SkyDeck Fund
21. BIT
22. Bitfury Group
23. Black Pearls VC
24. BlackPine Private Equity Partners
25. Boost VC
26. Bpifrance
27. Bulba Ventures
28. Buran Venture Capital
29. CABRA.VC
30. Capitec Bank
31. Carrot
32. Change Ventures
33. CodiLime, Inc.
34. CORFO
35. Daimler
36. Data Ventures
37. Deep Knowledge Ventures
38. Deimos Capital
39. Digital Future
40. Downing Ventures
41. e.ventures
42. EASME - EU Executive Agency for SMEs
43. Elbrus Capital
44. Emery Capital
45. ENERN Investments
46. ENGEO
47. Envestnet Yodlee Incubator
48. European Bank for Reconstruction and Development (EBRD)
49. European Commission
50. European Union
51. Experior Venture Fund
52. ExpoCapital
53. FASIE
54. Fastlane Ventures
55. Felicis Ventures
56. FJ Labs
57. Flight Ventures
58. Flint Capital
59. Force Over Mass Capital
60. Founders Factory
61. Foundry Group
62. Fusion Fund
63. FZKPT
64. G2H2 Capital
65. General Atlantic
66. General Catalyst
67. Georgian Partners
68. Giza Polish Ventures (GPV)
69. Global Technology Foundation
70. Google
71. Google Assistant Investments
72. Granatus Ventures
73. Greycroft
74. Grishin Robotics
75. GrowthUP
76. GVA Capital
77. HardGamma Ventures
78. Haxus
79. HIVE Ventures
80. HOF Capital

81.	Horizon 2020	106.	Kite Ventures	132.	Nextury Ventures
82.	Hub:raum	107.	Klever Internet	133.	nGeno
83.	I2BF Global Ventures	108.	Larnabel Ventures	134.	NGP Capital
84.	IDCEE	109.	LETA Capital	135.	Nordic Makers - Peace, love and seed funding
85.	iDealMachine	110.	Life.SREDA	136.	NUMA
86.	iDealMachine	111.	Lighter Capital	137.	One Peak Partners
87.	IMG Worldwide	112.	London Co-Investment Fund	138.	One Way Ventures
88.	IMI.VC	113.	Luma Ventures	139.	Openfund
89.	Imperious Group VC	114.	LUXNOVA	140.	OTB Ventures
90.	Imprimatur Capital Fund Management	115.	mAccelerator	141.	Pantera Capital
91.	Impulse VC	116.	Market One Capital	142.	Partech
92.	Indiegogo	117.	Mastercard Start Path	143.	Peak Opportunity Partners
93.	Innovation Nest	118.	Matrix Partners	144.	PIKvc
94.	iNovia Capital	119.	Maxfield Capital	145.	Piton Capital
95.	Insight Venture Partners	120.	MCI Capital SA	146.	Platinum Seed
96.	Intel Capital	121.	META	147.	Playfair Capital
97.	Internet Initiatives Development Fund (IIDF)	122.	Mohr Davidow Ventures	148.	Plug and Play
98.	Inventure	123.	Momenta Partners	149.	Point Nine Capital
99.	Inventure Partners	124.	Monarq Incubator	150.	Practica Capital
100.	Joint Polish Investment Fund	125.	Morpheus Ventures	151.	Primer Capital
101.	Karma Ventures	126.	Mosaic Ventures	152.	Protos Venture Capital
102.	Katapult Accelerator	127.	Moscow Seed Fund	153.	Prototron
103.	Kickstarter	128.	Naspers	154.	Quake Capital Partners
104.	Kima Ventures	129.	National Center for Research & Development	155.	Qualcomm Ventures
105.	Kinnevik AB	130.	National IT Industry Promotion Agency - NIPA	156.	Rakuten
		131.	New York Fashion Tech Lab	157.	Rockstart Accelerator
				158.	Rotolab

159.	RSV Venture Partners	183.	Space3ac	207.	Threesixty Elements S.A.
160.	RTAventures VC	184.	SpeedUp Venture Capital Group	208.	TMT Investments
161.	RTP Global	185.	Start-Up Chile	209.	Trigon TFI SA
162.	RTP Ventures	186.	Starta Accelerator	210.	Trind Ventures
163.	Runa Capital	187.	Starta Capital	211.	True Ventures
164.	RUSNANO	188.	Startobaza	212.	Uncork Capital
165.	RWM Capital	189.	Startup UA	213.	Universe Ventures
166.	Sapphire Ventures	190.	Startup Wise Guys	214.	UUI Ventures
167.	SATUS	191.	Startupbootcamp	215.	ValueTech Seed
168.	Sberbank	192.	StartupHighway	216.	Venture Inc S.A.
169.	Seedcamp	193.	StartupYard	217.	VentureBot
170.	Sequoia Capital	194.	Superangel	218.	VentureSouq
171.	SET Ventures	195.	Superhero Capital	219.	Vertical accelerator
172.	Shasta Ventures	196.	SV Angel	220.	Vostok New Ventures
173.	Siguler Guff & Company	197.	Svarog Capital Advisors	221.	VP Capital
174.	Simile Venture Partners	198.	TA Ventures	222.	VTB Capital Investment Management
175.	Simpact VC	199.	Target Global	223.	Xevin Investments
176.	Sistema Venture Capital	200.	TBC Pay	224.	XLHEALTH
177.	Skolkovo Foundation	201.	Team Europe	225.	Y Combinator
178.	SLEEPZ AG	202.	TechnoStart	226.	Yandex
179.	SmartHub	203.	Techstars London Accelerator	227.	Zeroth
180.	SMRK VC Fund	204.	Telluride Venture Accelerator	228.	ZGI Capital
181.	SoftBank Capital	205.	The Untitled Venture Company	229.	Zillionize Angel
182.	SOL ventures	206.	THE WORLD BANK GROUP	230.	ZX Ventures

# Chapter II

## Current AI Initiatives in Eastern Europe



According to a new update to the Worldwide Semiannual Cognitive Artificial Intelligence Systems Spending Guide from International Data Corporation (IDC), CEE spending on AI solutions will grow significantly. It forecast a compound annual growth rate (CAGR) of 44.2% over the next five years, with revenues reaching more than \$247.2 million by the end of 2021. Previously AI systems in Central and Eastern Europe (CEE) were expected to reach \$83.9 million in 2018, representing an annual increase of 41.2%.

The top three AI use cases in terms of investment levels in CEE in 2018:

- **Automated threat detection and prevention** systems: \$12.21 million, present mainly in banking, government, telecommunications and utilities industries.
- **Fraud analysis** and investigation: \$8.88 million, stemming mainly from banking, securities, and investment services.
- **Supply and logistics**: \$7.40 million, leading industry users are manufacturing and retail.

Combined, the use cases will represent over one third of all cognitive/AI systems spending in 2018. The use cases that will post the highest CAGRs over the 2016-2021 forecast period are automated claims processing (57.2%), diagnosis and treatment systems (54.4%), and automated customer service agents (49.9%).

The biggest Central and East European industries investing in AI systems are banking, retail and process manufacturing. However, the greatest spending growth over the 2016-2021 forecast period is expected to come from the healthcare sector, where investments related to AI will be applied to diagnosis and treatment. Technology investments by organizations in this area are expected to record a CAGR of 55% or more.

Organizations in Central and Eastern Europe plan to invest mainly in AI software throughout the forecast period, and spending for this technology is expected to retain a market share exceeding 50% over the coming years.

AI-related services such as business and IT consulting represent the second-largest investment category, while spending on servers and storage will account for the smallest share .

The talent of East European engineers in solving such an array of technological challenges has something to do with the education traditions that go back to the Soviet past. After all, for all its moral and economic failures, communism did demonstrate a rare capacity to raise generations of brilliant scientists and engineers in several domains.

**Alexander (Sasha) Galitsky**, a prominent Russo-Ukrainian investor who invests globally through the Almaz Capital fund notes that:

*“In the field of machine intelligence, the Markov chains, Markov random field and Markov models, are the very basis of deep learning, while the Hidden Markov Model (by Ruslan Stratonovich) is the main model for speech recognition. Alexey Ivakhnenko, who was a prominent a Soviet and Ukrainian mathematician, is still referred to as the father of Deep Learning”.*

While the Soviet regime collapsed, the local mathematics education system was preserved to a large extent. *“The transformation went gradually, in an evolutionary way,”* says **Alexander Kurbatsky**, professor of the computer programming department of the Belarusian State University in Minsk.

*“Thus, good math education created a nurturing environment for today’s digital transformation, which goes beyond the territory of the former Soviet Union,”* he adds, in reference to the dozens of thousands IT engineers and entrepreneurs who have moved to Silicon Valley, Berlin, Israel or even Asia over the past 20 years.

Eastern Europe is late in receiving information on cognitive technologies, but it has a rapid development anyway.

AI and automation will have a greater impact on jobs in smaller cities, which becomes especially important in the Eastern Europe and Central Asia region where 61 percent of cities are facing population decline.

According to **Hovhannes Avoyan**, co-founder and CEO of PicsArt (which is a leading photo editor, collage maker and drawing app with a social network of more than 300 million users):

*“The best AI schools outside of Silicon Valley are considered the Russian, the Ukrainian, and the Belarusian”.*

The development of AI technology in Eastern Europe has attracted external investors to invest and develop their companies in the region. A Chinese Multinational electronic company (TCL) has established a research and development center in Poland that focuses on artificial intelligence as a part of its expansion and penetration to the European market.

The general manager of TCL's European R&D Center Mr. **Bartosz Biskupski**, said that: " *The R&D center will focus on AI-related sectors based on deep learning, such as computer vision, natural language processing and big data analysis, as well as carrying out cooperation with Warsaw University of Technology and the University of Warsaw to introduce top scientific research talent and strengthen the application of technical achievements in related industries,*"

**Yan Xiaolin**, the Chief Technology Officer of TCL and President of TCL Corporate Research said that " *the center will be mainly engaged in three sectors: AI and big data, next-generation semiconductor display technology and new materials, and intelligent manufacturing and the industrial internet. Adding that this is of strategic significance in TCL's global expansion and will further enhance TCL's capacity in technology innovation.*"

Yan Xiaolin said: " *We plan to recruit about 100 to 150 employees for the R&D center within the next two or three years, and use the R&D resources not only in Poland, but also in Eastern Europe.*"

The general manager at Beijing consultancy All View Cloud, Mr. **Dong Min** said: " *TCL has put an emphasis on the European market, and it is necessary to establish an R&D center and manufacturing bases in overseas markets to boost local sales.*"



**Yan Xiaolin**

Judging by the number of startups with roots in Eastern Europe that have made the news over the past few years, Russian, Belarusian and Ukrainian in particular, they have topped international contests, received sizable investments, struck up partnerships or even been acquired by international tech giants.

Google, for example, opened a campus in Warsaw in 2014, which it saw as a way to develop a rallying point for entrepreneurs and tech talent in the wider region. Google chose Warsaw for Campus's next location as Poland has world-class software engineers and programmers, an extremely vibrant startup community, and a Google office. As a result, the Campus will benefit from the direct support of Google office employees – six of them will become experts and will directly cooperate with entrepreneurs.

In September 2015, the Ukrainian startup community and technology media went into a frenzy after the announcement of Snapchat acquiring **Lookserly**, an Odessa-based image processing startup.

In early 2016, Facebook bought **Masquerade**, a Minsk-based developer of a video filter app, which at one point was one of the most popular apps in the App Store.

**Banuba**, a startup born in Belarus but operating worldwide from its Hong Kong and Cyprus offices, recently developed an AR mobile software development kit for app developers and publishers worldwide. To a large extent, this technology relies on AI algorithms to recognise people's faces and bodies, understand their emotions, facial expressions, postures and gestures, and estimate race, age and gender.

In early 2017, **Banuba** secured \$5 million from Prokopenya and his investment partners. Following this, the startup launched a "technology-for-equity" program to enroll app developers and publishers across the world. Viktor Prokopenya, a serial entrepreneur with Belarusian roots launched, jointly with a Russian billionaire, a \$100 million investment programme for AI startups.

In the summer of 2017 **AIMatter**, was acquired by Google, just months after raising \$2 million from local investors. AIMatter is a startup founded in Belarus that has built both a neural network-based AI platform and SDK to detect and process images quickly on mobile devices, and a photo and video editing app that has served as a proof-of-concept of the tech called Fabby.

A face recognition software has been developed by Russian startup **VisionLabs**. The solution, dubbed '**Face\_IS**', allows retailers to make personalised offers to customers whose faces have been recognised. The technology may also be applied to ad personalisation, user identification in Internet-of-Things projects, medicine, transportation, virtual and augmented reality.

Another VisionLabs solution, '**Luna**', allows businesses to “*verify and identify customers instantly*” based on photo or video images, thanks to a “*unique quality and performance pattern recognition technology*.” This award-winning technology has attracted the attention of Google and Facebook. These companies have supported VisionLabs' efforts to develop professional communities in the fields of computer vision and neural networks.

**FindFace** was launched in 2015 by Moscow startup **NTechLab**, which presented it as “*the world's most accurate facial recognition technology for face detection, verification and identification*.” FindFace is built on deep learning and a neural network-based architecture. In November 2015, NTechLab won the MegaFace Benchmark, a world championship in face recognition held in the US. The challenge was to recognise the largest number of people in a database of more than a million photos. The Russian startup bypassed more than 100 competitors, including Google with its programme FaceNet. The app is mainly being used for dating purposes, but it has also allowed police to identify criminals, and ill-intentioned users to harass young women. Nevertheless, the startup raised \$1.5 million in a round led by Impulse VC, a venture fund that is reportedly affiliated with Russian billionaire Roman Abramovich.

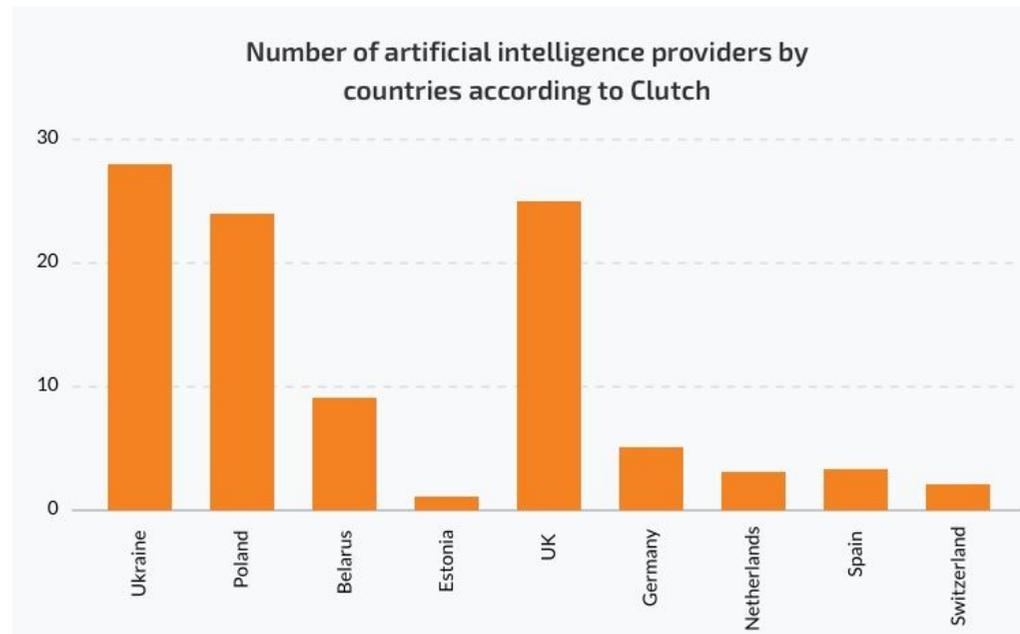
In 2017 two major investors from Russia and Belarus have injected \$25 million in **Capital.com**, a trading app that is similar to Robinhood in the US or Trading212 in Europe — but with a specific AI-powered function that provides users with tailored content based on behavioral analysis. Dubbed 'Smart Feed' and scheduled for launch next month, this AI function analyzes user activity in real time to provide personalized news feeds, analysis, educational and research materials.

**Larnabel Ventures**, a Moscow-based company founded by the Gutseriev family to invest in IT, and VP Capital have teamed up to invest \$2 million in Read2play, as reported by VentureBeat in June 2018. Similar to other apps of this category, Read2play offers “*scheduling, location-tracking, social activity monitoring, call-tracking, as well as tracking via the tablet's camera, looking for body and eye movements*.” However, the app does not store the acquired data: it uses “*the greatest innovation AI offers, which is the ability to utilize only the conclusions that AI makes, without storing the core data itself*.”

Eastern European countries offer an additional talent pool and lower development costs. There are many established IT outsourcing companies that have developed solid AI expertise in the region.

Some IT providers offer a vast variety of software development services including machine learning and artificial intelligence (e.g., N-iX, one of the leading software development companies in Eastern Europe).

Others have a narrow focus on AI, machine learning, and related technologies (e.g., BotsCrew, a software development company specializing primarily in chatbot development).



Therefore, Eastern Europe is becoming more and more attractive to those who outsource their software development. It has a good business climate, talented developers, rapid IT market growth, and cultural proximity to Western Europe and the USA.

Moreover, the number of artificial intelligence solution providers in this region is growing rapidly. The Clutch data shows that such countries as Ukraine and Poland have leading positions by the number of AI providers even compared to the Western European countries.

There are many companies which outsource their artificial intelligence development to IT vendors in Eastern Europe and gained benefits from such cooperation. N-iX, besides AI and Machine Learning expertise, has considerable experience in Data Science, Big Data, Business Intelligence, fraud detection, intelligent cybersecurity, and more.

Software development market in Ukraine is evolving rapidly and so does artificial intelligence. There are more and more vendors offering different AI solutions for businesses.

According to Clutch, 28 Ukrainian companies deliver artificial intelligence solutions compared to 226 vendors worldwide. Meanwhile, LinkedIn shows that there are over 2,000 software developers in Ukraine specializing in artificial intelligence.

The community of AI engineers in Ukraine is growing year by year. There are many conferences devoted to artificial intelligence and machine learning such as AI & Big Data Day, AI Ukraine – International conference on artificial intelligence, BotCamp Kyiv, etc. Their increasing number shows the interest in the technology and growth of the AI development community. Moreover, several renowned Ukrainian startups actively use AI in their solutions. For instance, the US-Ukrainian startup Grammarly has Natural Language Processing technology at its core. It has one of the leading positions worldwide as a writing-enhancement tool. Also, Petcube, a highly crowdfunded Ukrainian startup, uses machine learning and artificial intelligence for its pet detection technology.

In Poland, AI investment is mainly driven by venture capital and grants. It reached 11 million euro in 2016 that is almost equal to AI seed and venture-capital investment in Sweden, a well-known tech hub. Also, there is a number of Polish startups present internationally. One of them is IVONA. Acquired by Amazon in 2013, it develops high-quality text to speech technology and the voice guide. Also, there is Nethone – a Poland-based startup offering fraud prevention.

Clutch database contains 24 software development companies offering AI-based solutions in Poland. Meanwhile, according to LinkedIn, there are around 3,350 artificial intelligence developers in Poland.

The Polish AI community is developing actively so there are many conferences and events in Poland on AI. They include International Conference on Artificial Intelligence and Soft Computing (ICAISC), International Conference on Artificial Intelligence and Pattern Recognition, International Symposium Advances in Artificial Intelligence and Applications, to name a few.

The Prime Minister of Kazakhstan Mr. Bakytzhan Sagintayev, has chaired the sixth international Expert council meeting that was held on 31st of January 2019. The theme of the meeting was “*Digitization in the Innovation Ecosystem*”

At the meeting, current issues of digitalization development and the results of the implementation of the Digital Kazakhstan State Program were discussed. Particular attention was paid to the impact of innovation on the development of human capital. In a free discussion format, an exchange of views took place on the world experience of digital development, the role of e-government, nurturing and educating young talents, the importance of developing a culture of investing in start-up projects, improving financial sustainability in developing modern technological systems, and on the impact of the innovation ecosystem on improving quality education and employment.

Following the meeting, Prime Minister Bakytzhan Sagintayev noted that the digitalization process should, first of all, be aimed at improving the lives of citizens. In addition, it is indicated that in the conditions of constant technological updating, digital innovations should be implemented promptly. In this regard, suggestions and recommendations voiced by experts will be worked out in detail.

On 1th day of February 2019, Digital Agenda into the globalization 2.0. II-Forum will be held in Almaty. The organizer of the Forum is the Ministry of Information and Communications of the Republic of Kazakhstan. Heads of governments of the countries-members of the EAEU, international IT-specialists, representatives of international organizations, politicians, scientists and businessmen will take part in the Forum. They will gather at one platform to discuss the creation and development of single innovation ecosystem of Eurasia, aimed at realizing technological potential of countries.

This year the speakers of the Forum will be the founders of the largest IT companies, heads of international IT technology parks and more than 50 representatives of the technological industry in the USA, Great Britain, Germany, France, Singapore, Switzerland and the CIS countries. Participants will discuss the prospects of integration of Eurasian technology parks, creation of joint innovative projects, share best practices on promotion and support of start-up companies and young IT-specialists.

Birgitte Andersen, CEO and Co Creator of the Big Innovation Centre, expressed her excitement via Twitter saying:

*“Totally excited to join 5 prime ministers of Eurasia - Kazakhstan, Russia, Kyrgyz Republic, Armenia, Belarus - in exclusive round panel conversation for audience on Digital Agenda into the Globalisation 2.0. From the Heart of Eurasia to the World!”*

- The growth and development of AI startups in Eastern Europe has attracted most of the big and multinational companies around the world. Big Tech companies like Google, Facebook, Snapchat are the few companies which have bought and invested in AI startups from EE due to their performance and great technological advancement. Example of these companies are: **Masquerade**, **Almatter** and **Lookserly** few to mention.
- Ukraine has huge talents on AI technology due to a big number of specialists graduating from universities and working from companies and startups with background in this Industry. Most of these talents are hired by big companies and countries outside of Ukraine. The same case is happening in Poland and Romania. Eastern European governments do not prioritize much this industry, thus most of its talents are wasted outside the countries and then hired by International companies for their personal gains. This results into poor development of AI technology within Eastern Europe.
- From our research observation we have classified the Eastern European countries into 4 main groups based on AI technology development:
  1. **Strong AI Tech Background.** The Government of Russia is involving its companies and people on AI technology development. It has created different strategies to improve and implement new ideas on the industry, but it does not share its opportunities with other countries on the Eastern Europe. If any of the softwares or technological tools are created, the government is ready either to buy or invest in them.
  2. **Developing AI Tech Countries.** Countries like Poland, Ukraine, Belarus, and the Baltic nations are falling under this category. Their governments are not prioritising enough the development of AI technology. There is a huge gap between the developers within the communities and the government. The talents produced from these countries are mostly used by the Multinational companies of startups in the country.
  3. **Emerging AI Tech Countries.** Armenia and Kazakhstan are the emerging countries that are involving AI technologies in their administrations as well as supporting the companies and startups on their operations. For example Kazakhstan has introduced laws that will support the AI technology development within their country.
  4. **Stagnant AI Tech Countries.** For a period of time now, due to political and internal issues, Georgia and Romania are not progressing on the AI Industries. There is no proper strategies mentioned or presented to support the AI technology. Most of the companies and startups from Romania and Georgia are working under the support from investors or External governments supports.

# Chapter III

## The State of AI in Eastern Europe



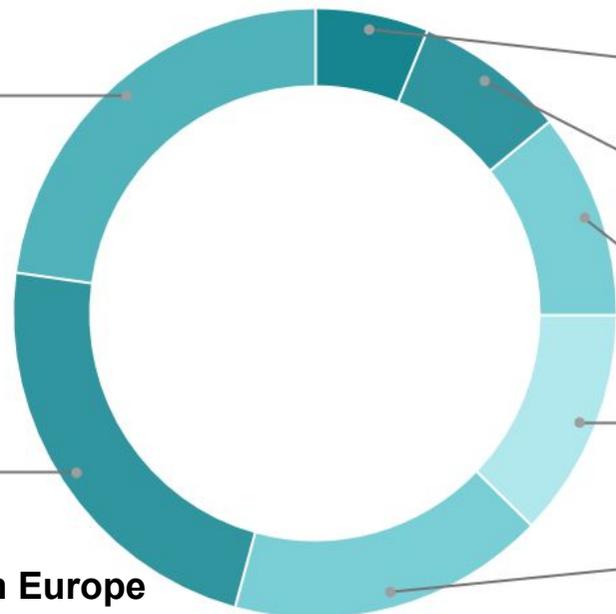
## AI-Industry Breakdown in Eastern Europe

Intelligent Data Analysis

22.9%

Machine Learning

22.9%



Recommender systems

6.1%

Computer Vision

8.1%

Robotics

10.9%

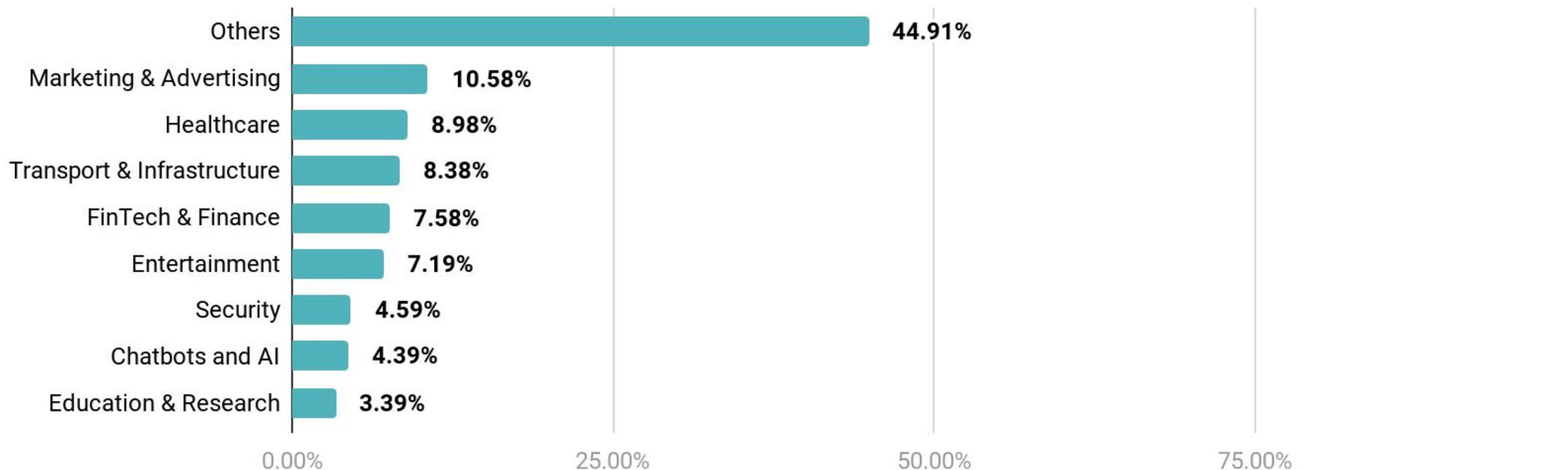
Search Engines and Language Processing

12.1%

Internet of Things

17.0%

## AI-Technology Distribution in Eastern Europe



Canada, China, France, India, Japan, the Nordic-Baltic region, Singapore, South Korea, Sweden, Taiwan, the UAE, and the UK are few of the countries which have been racing to become the leading global artificial intelligence power around the world for the past two years. They all have released their strategies to promote the use and development of AI.

On May 2018 the Ministers responsible for digital development from Denmark, Estonia, Finland, the Faroe Islands, Iceland, Latvia, Lithuania, Norway, Sweden, and the Åland Islands have released a Declaration on AI in the Nordic-Baltic Region. The collaboration between these countries is due to the fact that they all want to “*develop and promote the use of artificial intelligence to serve humans.*” They came to this agreement because of the following reasons: “(1) *improving opportunities for skills development, (2) enhancing access to data, (3) developing ethical and transparent guidelines, standards, principles, and values, (4) developing standards for hardware and software that enable privacy, security, and trust, (5) ensuring AI gets a prominent role in European discussions of the Digital Single Market, (6) avoiding unnecessary regulations, and (7) using the Nordic Council of Ministries to facilitate policy cooperation*”.

In May 2018 the Vice President of the Council of Ministers was present on the Poland's first government roundtable on the advancement of a Polish AI strategies. The other participants of the meeting were: Mr Jarosław Gowin - the Minister of Science and Higher Education, Mr. Karol Okoński - the Deputy Minister of Digital Affairs and the scientific community and related institutions representatives. This roundtable meeting concentrated on the actions and guidelines that are needed to uphold the conducive environment on the creation of AI technologies in the country.

President Putin's assertion that “*whoever becomes the leader in this sphere will become the ruler of the world*” is frequently used by observers as evidence of a global AI arms race. Speaking to students during a national “open lesson” on the first day of the school year in September 2017, Putin was asked a question about AI. He responded with the above quote, but also stated that “*it would not be very desirable that this monopoly be concentrated in someone's specific hands. That's why, if we become leaders in this area, we will share this know-how with the entire world.*” As Samuel Bendett reports for Defense One, “*Russia's annual domestic investment in AI is probably around 700 million rubles (\$12.5 million)—a paltry sum next to the billions being spent by American and Chinese companies.*”

There are 10 policies that has been presented by the Ministry of Defence in Russia as a result of the conference that was held in March 2018 with the title: “*Artificial Intelligence: Problems and Solutions—2018*”. These recommended policies include creating a state system for AI education and talent retainment, establishing a national center for AI, and hosting war games to study the impact of AI on military operations. Apart from the Defence Ministry the other departments that attended the conference were the Ministry of Education and Science and the Russian Academy of Sciences which were the main hosts of the conference.

# Armenia

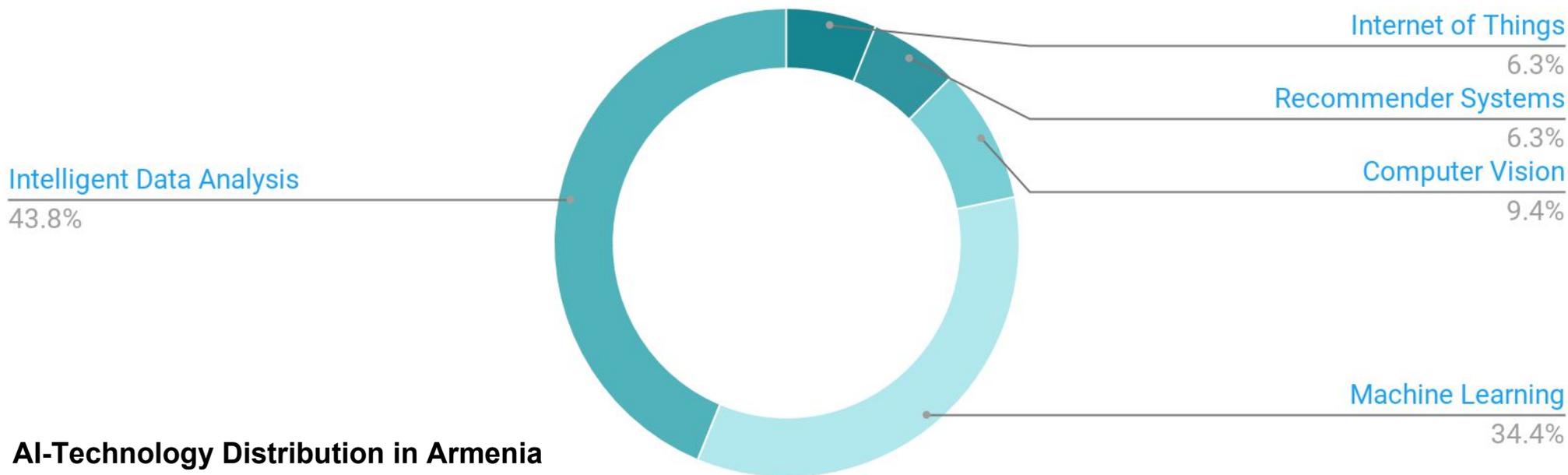


DEEP  
KNOWLEDGE  
ANALYTICS

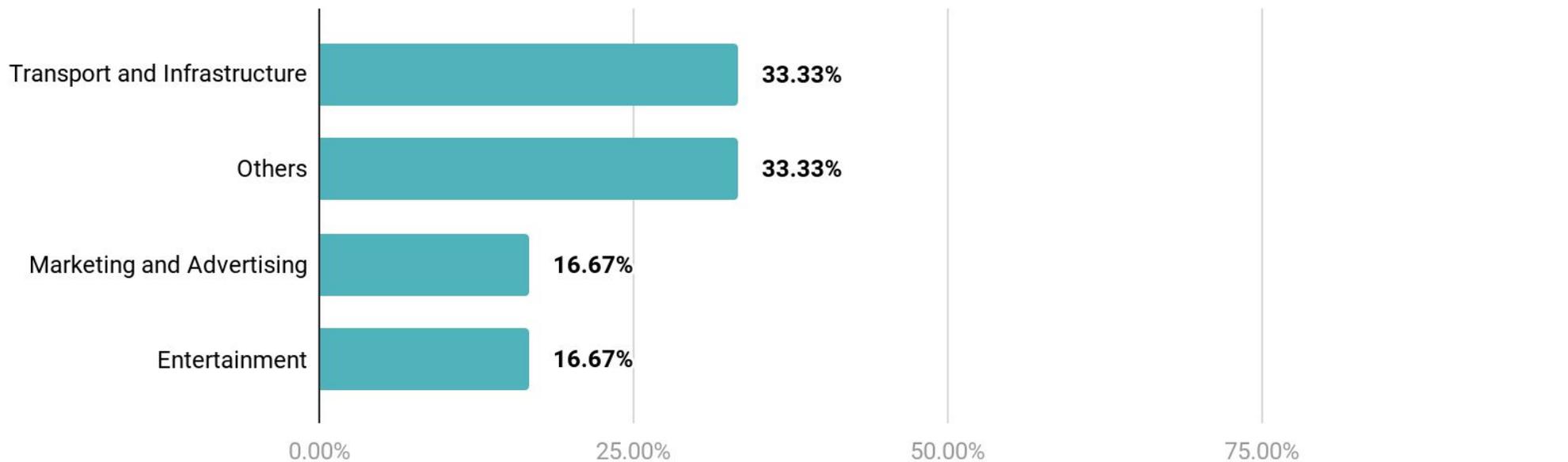


# Industry and Technology Distribution in Armenia (12 Companies)

## AI-Industry Breakdown in Armenia



## AI-Technology Distribution in Armenia



# Armenia: AI in the Ministry of Justice



Through the 2018-2030 Digital Transformation Agenda of Armenia (DTAA 2018-2030), the Government affirms its intentions to prioritize the deployment of new technologies in the development of Armenia, in modernizing its institutions and providing 21st century public services.

The Government intends to become fully digital and to serve as a basis for sound regulation and seamless provision of public services. By supporting the deployment of digital services throughout the society and economy, Armenia will have a unique chance to increase productivity, without endangering the environment. The Government will spearhead this transformation with the active engagement of all national stakeholders.

During this process, the Government aims at accelerating the growth of the emerging tech industry, promoting innovation through Research and Development (R&D) spending and purposeful actions to develop and improve the digital skills necessary for economic growth and the long-term prosperity and sustainability of a digital economy and society.

In December 2018 the Minister of Justice of Armenia, Mr. **Artak Zeinalyan** has said that:



*“The Ministry of Justice is considering the possibility of introducing artificial intelligence in the judiciary to increase its accessibility for citizens and reduce the costs. After inputting a case into the electronic system, the computer will immediately present the most optimal verdict that the judge can accept with one click and send upon request. This will reduce the burden on judges and shorten the time for consideration of cases.”*

Mr. Zeinalyan also said that *“the work is underway to introduce and expand the features of the electronic notary. But also another system of unified verification of state documents or certificates issued anywhere in the world will also be introduced.”* Also the Minister stated that *“from January 1st 2019, the system of anonymous informants and an electronic platform for citizens to report corruption crimes will be launched.”*

The electronic system will change the flow of work and make it very easy by reducing the load of the work to the judges.

On 30 May 2017 over 200 representatives of the Armenian tech and science community gathered for the **Unleash The Future** forum in Yerevan. Messages from keynote speakers were that:

- *Armenia has a unique opportunity to acquire knowledge from the Artificial Intelligence (AI) community in Europe and the US, while attracting talent from Russia, Ukraine & Belarus;*
- *Armenian hardware is already targeting 5G mobile communications, working with oil/gas and car manufacturers in Russian/Eurasian markets;*
- *Huge growth in the number of IoT devices means cybersecurity will be crucial in the future;*
- *Research funding should be directed to cutting-edge, long-term and open-source projects, and;*
- *Armenia can become a global tech education hub.*

Also, in June 2017 Armenian Ucom and PicsArt companies initiated a roundtable discussion, entitled “*The Development of Artificial Intelligence in Armenia and the Use Thereof in Business*”, during which, the participants spoke of the top trending topic worldwide, stating that the development of artificial intelligence in Armenia is still in its embryonic stage. Ideas were expressed that along with machine learning, provided by higher education institutions preparing specialists of the sector, it is also necessary to invite professionals, who are capable of not only providing theoretical knowledge, but also boosting the development of practical skills among students.

Speaking of cooperation between Armenia and the United States, worth mentioning is the Innovative Solutions and Technologies Center, or ISTC (a joint project of the Government of Armenia, the Enterprise Incubator Foundation, IBM, USAID, and Yerevan State University), which has been supporting the development of Armenia’s information technology sector, including artificial intelligence, since 2014. It recently opened a new 1,000 square-meter state-of-the-art premises on the Yerevan State University campus. ISTC will help develop and strengthen the education and research potential of Armenian universities in the areas of IT and hi-tech.

**Grigor Hakobyan**, in his article “*Armenia: Priorities for the Next Sixteen Years*” (Armenian News Network / Groong; November 6, 2016) says: “*greater efforts need to be made to attract non-Armenian scientists and scientific projects to Armenia, so that Armenia can benefit from such research as alternative sources of energy, quantum computing, artificial intelligence, stem cell research and genetic therapy*”.

On 5th February 2018 was announced that more than a dozen of angel investors will invest in Armenian IT and science startups. The informal network of science and technology investors united 18 businessmen from the US, UK, Russia and Cyprus, who are planning to also give consultations, act as mentors and guide in establishing ties. The angels will focus on data science, artificial intelligence, machine learning, biotechnology and microelectronics startups. Foundation for Armenian Science and Technology (FAST) co-founder Armen Orujyan says 3-5 businesses will get assistance yearly, and they hope to raise this number in the upcoming years.

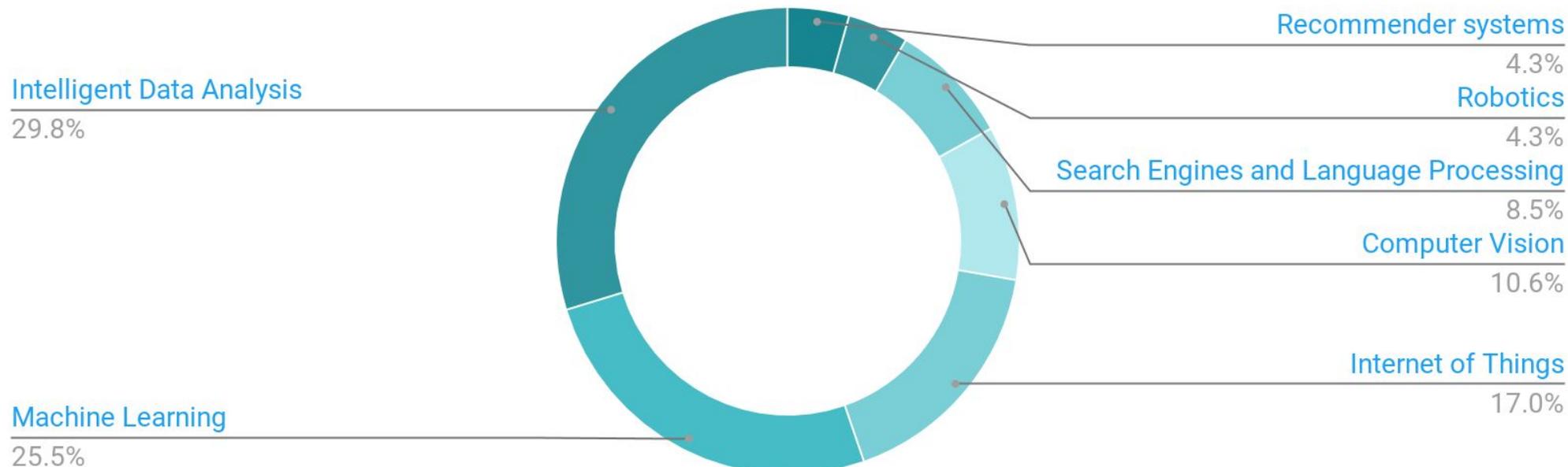
# Belarus



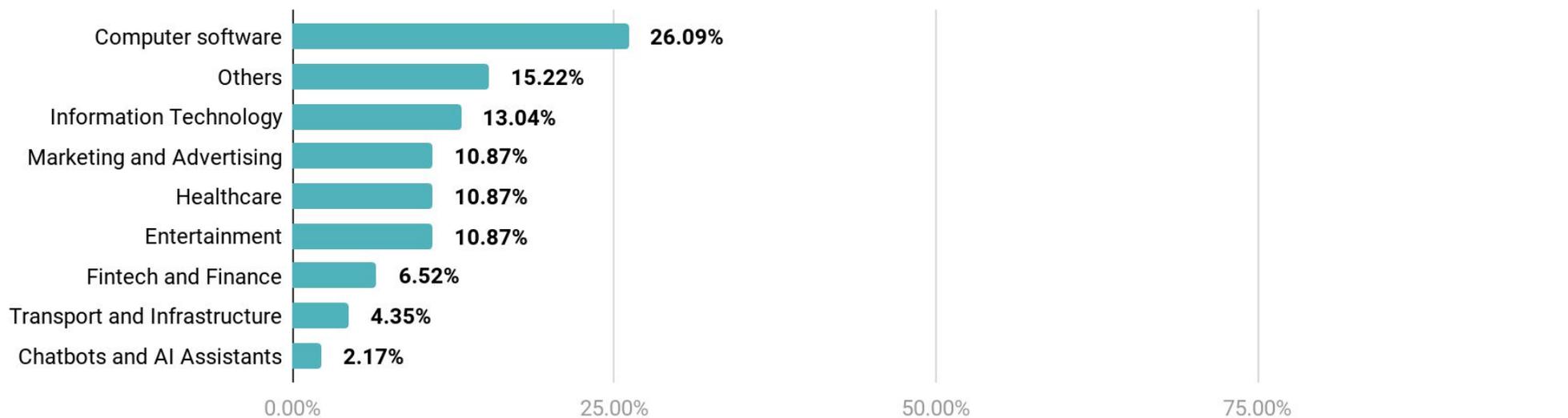


# Industry and Technology Distribution in Belarus (47 Companies)

## AI-Industry Breakdown in Belarus



## AI-Technology Distribution in Belarus



# Belarus: The Decree On the Development of the Digital Economy



The president of Republic of Belarus Mr. Alexander Lukashenko has on December 21st 2017 signed a no.8 law “*On the Development of the Digital Economy* “ as mentioned on JURIST. This Law aims at creating conditions that will be used to develop the IT sector and government competing benefits on a digital economy of 21st century. This law will also examine all the duties related to Artificial intelligence and establish an advanced vehicle control system.

After the introduction of this law, the director of the Park of High Technologies Mr. Vsevolod Yanchevsky has also said that “*The decree developed by the President's instruction really turns Belarus into one of the most comfortable places in the world for conducting IT business, and not only the IT sphere, but the whole economy of the country, and every Belarusian citizen will also feel a powerful positive effect of the decree,*” this has been presented by the National agency of investment and privatization of republic of Belarus.

The National agency of investment and privatization of republic of Belarus has presented that the application of this law (“Decree”) will serve the following important functions:

- *Create favorable conditions for the development of domestic goods IT companies, as well as open up Belarus for investment from foreign IT capital;*
- *Create conditions for the gradual transformation of Belarus into a regional leader in Eastern Europe in building a digital economy;*
- *Receive unique knowledge and experience in the use of blocking technology, the turnover of cryptocurrencies. Practically all the norms of the decree will come into force 3 months after its official publication.*

The Law (“Decree”) is providing a rightful opportunity for HTP residents to have a financial support that will help them on the educational institutions for any activities that will be performed under specified agreements, including the grants for students or teachers. This opportunity will allow the HTP residents not only to develop biotechnology, medical, aviation and space technologies, e-sports but also a chance to create and produce different High-tech science-intensive products. The HTP residents will also be allowed to market their software products that they produced with full access to advertising and promoting their services, business process outsourcing, and others. The New Law (“Decree”) did not create any kind of conditions from the amount of revenue from additional activities (consulting, testing)

In September 2018 when leading his delegation to the fifth ROK-Belarus Joint Committee on Economy, Science and Technology in Seoul, South Korea, the Belarusi Deputy Minister of Foreign Affairs, Mr. Andrei Dapkiunas, stated that: “*Belarus was open to Korean investors focused on blockchain, artificial intelligence (AI) and other innovative technologies*”. Also in October 2018 the Belarusi Minister of Foreign Affairs, Mr Vladimir Makei, noted during the international conference on preventing and fighting terrorism in the digital age that “*Artificial intelligence can potentially be used to fight terrorism*”.

In the recent years, the market of AI in Belarus has grown significantly. In 2018, there are already more than 90 companies in this market that are engaged in developments in the field of AI, machine and in-depth training, computer vision, the Internet of things, etc.

**Roman Merkulov**, a data scientist at InData Lab, notes that there is still a need for specialists in the AI field, as well as for new and improved technologies that will help the companies to grow and move towards a better technological future. After 2015, there's a higher need in data scientists, ML engineers, DL engineers, and so on. At the same time, various thematic events were popping up: ODS and Big Data User Group meetings, Datafest, AI Day, AI hackathons, Datatons. At the same time, a few IT companies started up the student laboratories, speeding up the diffusion of knowledge within the community.

Furthermore over the past few years the ICT sector of Belarus has received a serious volume of the state support and has become one of the main priorities of the country's economy. Back in 2005, High Tech Park was established. It was created to provide favorable conditions for the development of software and information and communication oriented companies in Belarus which will help the country to compete on the international market.

The main point is that the results of the IT sector prioritisation can already be seen. In the first half of 2018, the exports of the HTP companies grew by 40% (without taking into account the companies which joined HTP earlier this year). That is even more than in 2017, which also became a record-breaking year for HTP (for the first time in history, exports broke the billion dollar level and grew by 25%).

In 2018 Forbes published an article in which it called Belarus "the center for development of artificial intelligence". The publication gives an example of the growth of HTP residents from among the participants of the projects of the Silicon Valley and such countries as China, Cyprus, Great Britain, Austria. The so-called AI-products developed in Belarus are used in the field of health care, the automotive industry, agriculture around the world. Perhaps, the Belarusian IT sphere can serve as an example of how the state can help start-ups in order to give them an opportunity to grow, and also to get a return from them.

In the context of AI research, it is necessary to mention the High Tech Park, which now counts more than 100 companies working on AI and Machine Learning.

In 2017 Google had snapped up computer vision startup AIMatter, the Belarusian company behind the popular funky photo-effects app Fabby. While Fabby continues today under Google's guidance, the app was really a public-facing showcase for AIMatter's underlying technology, which is basically a neural network-powered platform and SDK for detecting and processing images. And that is what Google was really buying into as it battles it out with other major technology companies to secure the most promising AI brain power.

Another big deal is FaceMetrics, a Belarus-founded startup working on an AI-powered parental app Nicola for the iPad, has raised \$2 million from Belarusian VP Capital and Russian Larnabel Ventures. *"The app is not a supervisor but a friend,"* said FaceMetrics CEO **Mikhail Boyko**. *"If you ban games, it will simply make them more appealing to kids. But with artificial intelligence, a trade-off like 'read an hour and play for an hour' is actually possible to implement and track. After all, it's not just about getting kids to read, but making sure they do it regularly and mindfully."*

The main AI trend is computer vision. Computer vision is popular in Belarus due to the fact that *"first of all it is a global trend"*, **Alexey Melnichek** says. IT in the healthcare field is also growing, together with marketing, agriculture. We should note that the serious success of Minsk specialists in computer vision and tasks of recognizing a traffic situation on a video stream. These technologies are implemented in deep learning by the engineers of MapData, Minsk RnD office of MapBox.

Engineers at Yandex office in Minsk are developing the solutions in the field of self-propelled cars, speech recognition, search technologies for the company.

While talking about the field of agriculture OneSoil startup can be noted with its technology helping farmers increase the effectiveness of the use of acreage.

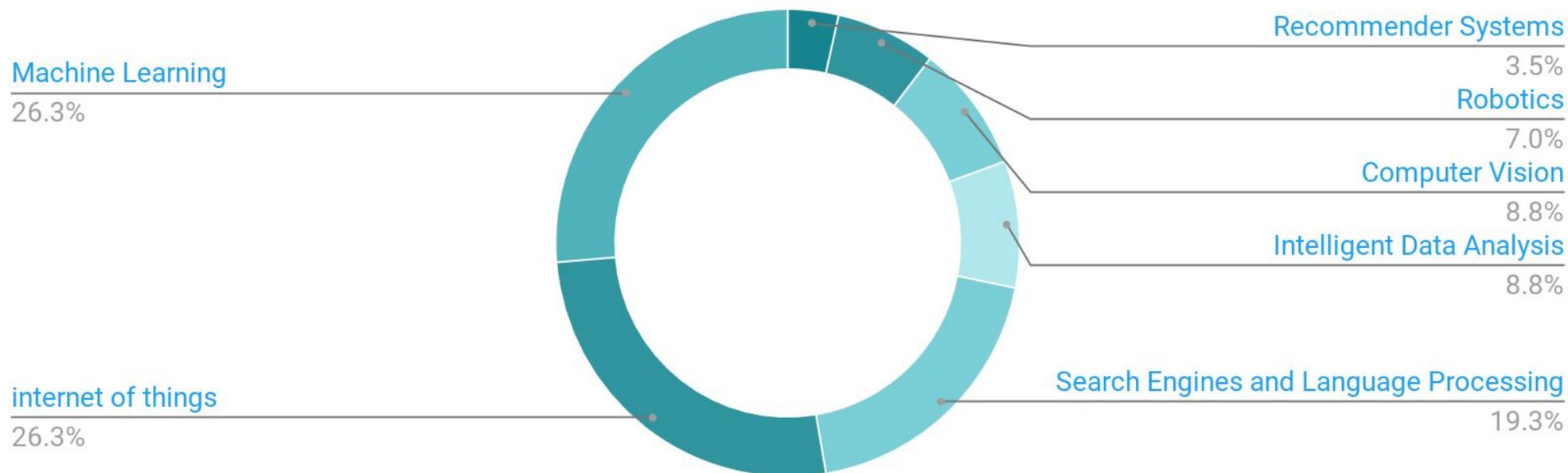
# Ukraine



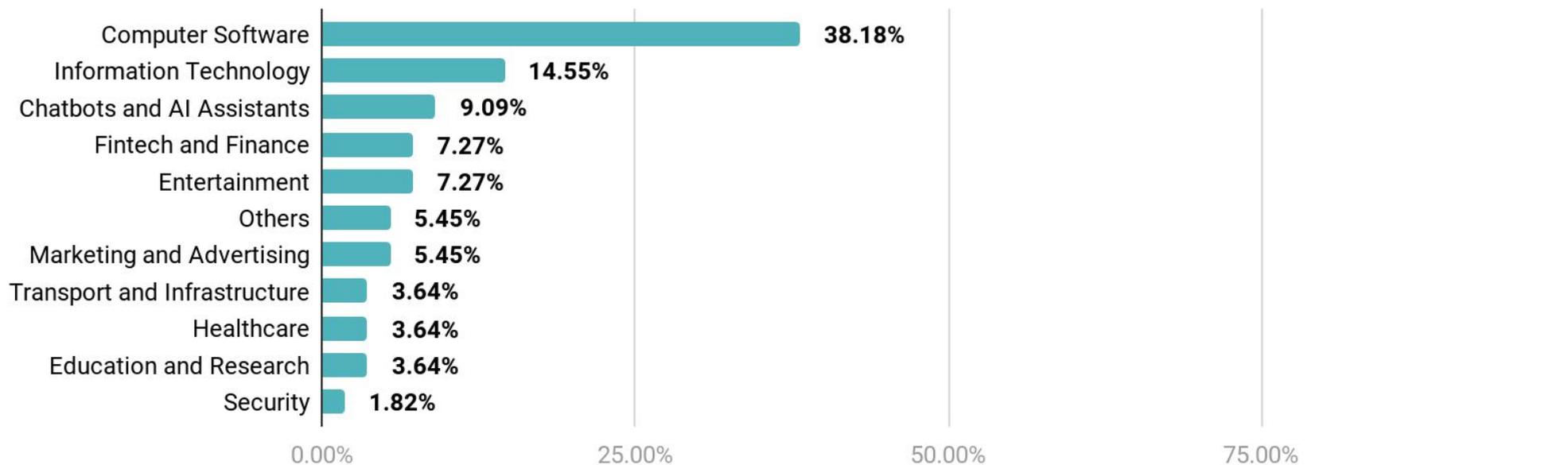


# Industry and Technology Distribution in Ukraine (57 Companies)

## AI-Industry Breakdown in Ukraine



## AI-Technology Distribution in Ukraine





On 17th January 2018, the Cabinet of Ministers of Ukraine, during its regular meeting, approved a development concept for the digital economy and society of Ukraine for 2018-2020.

Volodymyr Omelyan, the Minister of Infrastructure of Ukraine, noted that all proposals offered by the Ministry of Infrastructure were taken into account in the final edition of the Concept for the Development of the Digital Economy and Society of Ukraine for 2018-2020 and the Plan of Measures for its Implementation.

The Ukrainian government presented a roadmap for developing the digital economy and society in Ukraine over the coming years. According to the six-page presentation, the new strategy envisions a transition from a resource-based economy to one of high-tech production with efficient processes and higher GDP growth through the introduction of ICT.

The short presentation focuses on two aspects:

- the development of digital infrastructure (broadband Internet);
- the digitization of education and stimulation of digital transformations in education, medicine, ecology, cashless economy, infrastructure, transportation, public security, etc.

According to Volodymyr Omelyan, Ukraine is an important player in the global digital market, but unfortunately, solely as an exporter of IT services and brains:

*"At the moment, we are developing the digital economy of other states, those who order our outsourcing services. I believe that the key role of the adoption of the Concept is to stop the brain drain and to create conditions for the development of our own digital economy - the knowledge economy."*

*"An important step we have made and already can show the leadership in the world is Open Data. The next step should be Big Data, and then, although it may seem fantasy, it's artificial intelligence, which should also be implemented in Ukraine"* added Mr. Omelyan.



**Volodymyr Omelyan**

Local entrepreneurs from Lviv in Ukraine believe that investing in AI and Robotic technologies in Ukraine can help combat corruption and political instability, develop their agricultural sector and even the cultural innovations that will contribute to the growth of the Ukrainian economy. AI technology has changed the how people see the future of the country. Many now believe that it will bring transparency between the administration and its people and the Ukrainian way of life.

Many other countries are using IT services from Lviv, due to the city's specialisation in IT and its chosen role as a center for low-cost IT outsourcing. Their services include data mining, real-time data science and integrated deep learning, delivered through robotics and AI technologies.

In an interview Lviv entrepreneur Evgeni Utkin stated that, *“one of the most promising applications of AI and robotics within Ukraine is considered to be in the advancement of agriculture”*. The Field Actions Science Reports journal states that *“agricultural technology projects with AI, such as precision agriculture, use data analytics about water levels, soil acidities, weather, and fertilizer utilization to assist the farmer in maximizing crop yields”*. There are various technologies produced in Ukraine by companies such as BioSens, KrayTechnologies, and WattCMS, used to check the produced chemicals, crops, treatment drones, and sensors for checking the surrounding environments. These are partly the result of political efforts to improve the economy and living conditions of Ukraine and its people, and achieve an extra measure of economic independence from .

AI and robotics have stimulated the development of the cities in and around the towns of Ukraine, transforming lives, setting an example of the technology's potential. Engineers and other employees related to the AI and robotic industry are receiving a greater salary than most people living in the city of Lviv. The Field Actions Science Reports states that: *“the city, in partnership with IT entrepreneurs is supporting the opening of trendy wifi-outfitted cafes, restoring and modernizing its historic public spaces according to Western models, growing its educational institutions (especially for training technologists and entrepreneurs as well as the promotion of Ukrainian arts and culture), and building high-end housing”*.

Technology pioneers such as Utkin have wrought big change by combining cultural and technological innovation in the development of cities, influencing the infrastructure. For instance, the Report described *“a project to build an innovation center in Lviv's old tram station aims to give locals the physical, material and intellectual resources and skills they need to develop new technologies as well as to sustain their livelihoods in the city. AI and robotics technologies figure prominently in the priorities of this innovation center (Matsekh 2017).”*



**Zenoviy Veres**, co-founder of AI Program, Solution Architect at Softserve, the lecturer at Lviv Polytechnic National University and Education Director at Lviv IT Cluster believes there is a lack of Artificial Intelligence professionals in Ukraine.

To solve this problem at Lviv Polytechnic National University (Lviv being the biggest city in Western Ukraine and one of the largest IT hubs in the country) in September 2018 has launched a new degree program in Artificial Intelligence.

*“There are perfect conditions now to start such a program in Ukraine” says Veres, “AI will be the trendiest field in the next few years. After graduating from this program in four years, the students will start working in the field immediately, making Ukraine closer to the world’s leaders in this technology”.*

Lviv region has huge potential for AI development with great technical schools, vibrant IT community, many tech startups, and high-profile enterprises.

Every year in Ukraine is held international conference on Artificial Intelligence, Data Science, and Big Data analysis, called AI Ukraine. This full-scale event is gathering leading companies in the field, offers the ground to discuss topics dedicated to the practical application of Big Data analytics, Machine Learning, Natural Language Processing, Computer Vision, Digital Signal Processing, Deep Neural Networks, etc. Organizer of this event is AltexSoft - a company, which co-builds technology products to help companies accelerate growth.

Also, in Kiev is held annual “IT weekend”, which brought together 1000+ attendees in 2017.

According to the IT Ukraine Association, an advocacy group, the nation has the world’s fourth-largest number of certified tech professionals (those who are specially trained to work with custom software). With around 100,000 specialists and more than 1,000 IT service firms across the country, the industry generated a whopping \$3.2 billion in revenue last year, according to Oleksandr Kubrakov, the director of IT Ukraine. *“It’s growing faster than all other industries,”* he says.



**Zenoviy Veres**

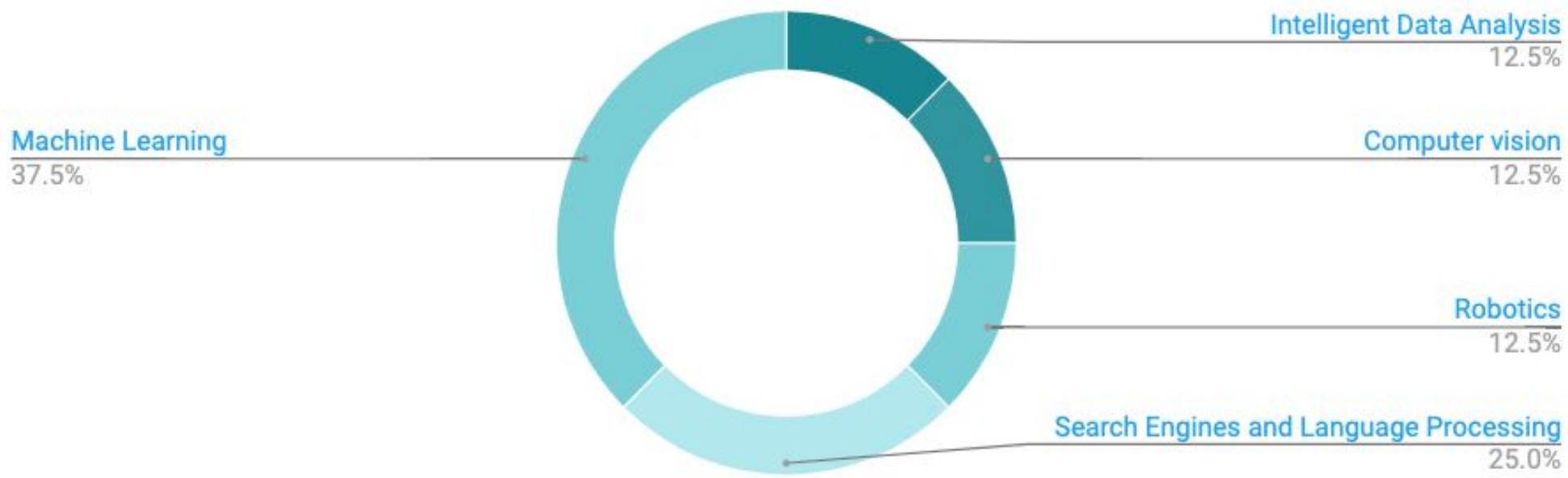
# Kazakhstan



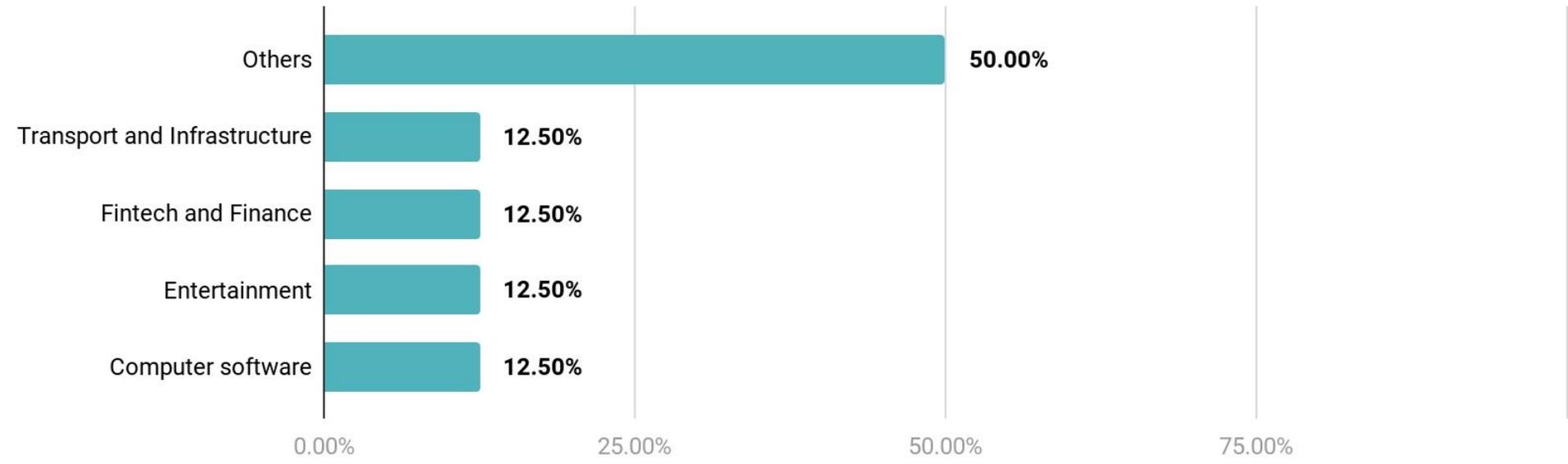


# Industry and Technology Distribution in Georgia and Kazakhstan (8 Companies)

## AI-Industry Breakdown in Georgia and Kazakhstan



## AI-Technology Distribution in Georgia and Kazakhstan





Kazakhstan has introduced the use of Artificial intelligence and Big Data on the healthcare sector. This was followed by the agreement signed in 2017 between the Ministry of Healthcare and IBM under a memorandum of cooperation between the two parties. This made Kazakhstan the 16th country in the world to introduce and implement the Artificial intelligence technology on monitoring and provision of public services and state corporations.

In July 2018 the Artificial intelligence (AI) techniques in cancer treatment have been tested in Almaty. Kazakh Healthcare Vice Minister, Olzhas Abishev took part in the working meeting on implementation of this project. As stated there, the system helps doctors design the best treatment plan, identify cancer treatment options specifying duration of therapy and frequency of radiation therapy and chemotherapy.

According to the director of the Kazakh Scientific Research Institute of Oncology and Radiology Dilyara Kaidarova: *"This system is used currently in 25 states of the world. The AI helps find the necessary information in 2 to 3 minutes. The system gives recommendations on how to treat the cancer patient on the ground of the world research data and shows the percent of treatment success"*.

As the Vice Minister Abishev stated, the system is not proposed to replace a doctor, it is called to help doctors save their time, analyze thousands of articles published. It can sift through billions of experimental results, identify patterns and make useful predictions about diagnoses, outcomes and responses to treatment.

The other initiative done by Kazakhstan is to use robots to develop regulatory and legal acts. This was mentioned by the Minister of Justice of Kazakhstan, Marat Beketayev, when he was speaking on the improvement of law-making activity during the government hour in the Senate of the Parliament of Kazakhstan. He also stated about his intentions related to the act that *"It is planned to connect an artificial intelligence – a robot to this system in the future"*.

Also Artificial intelligence components will be implemented in eGov.kz portal of Kazakhstan, Minister of Information and Communications Dauren Abayev announced at the Governmental meeting in January 2019. The Minister said: *"Kazakhstan ranks the 39th in the UN E-Government Development Index in 2018. Meanwhile, by the level of maturity, our e-government system stands at eGov2.0 stage. Under the Digital Kazakhstan programme we are now taking measures to move to eGov3.0 level which has already been reached by the Republic of Korea, Australia, Singapore, Great Britain, Denmark, and Sweden. What does characterize eGov3.0 system? First of all, the implementation of elements of artificial intelligence, pro-active services, the internet of things etc. Kazakhstan will fully transit to eGov3.0 by 2021"*.

So far, the impact of AI on life in the country is barely noticeable, but the changes are gradually integrated into various sectors of the Kazakhstan market. Today Kazakhstan has the 33rd place in the world in terms of the e-government development, while many government services have already been automated. The automation of the government is planned to reach the volume 80% by 2020. Kazakhstan government has developed an innovative program “Digital Kazakhstan 2022”, defining the budget for innovative projects implementation in 2018. A total amount of 26 million rubles will be allocated for the implementation of the program.

Anyway, the AI development in various sectors of the market is slow. Business community representatives openly declare that they need innovations in their sector, while the government does not provide the necessary data to work with using new technologies.

The technological community is already being developed in Kazakhstan. The largest community can be found in Astana hub. Currently, their community includes 942 people, 31 investors and 19 experts. The hub already has 127 technology projects, including projects that work with VR / AR technologies (OAR platform, Game Of Drones game), artificial intelligence (Quosil, Smart Colledge, Inframine), digital automation (Bowwow!, Favorite, Scootshar). There are also several projects working on robotics (a robot on the VEX and Arduino platforms) and the Internet of things (Thea, LoloApp, SBURG). Many of these projects need investment in order to grow. Astana Hub regularly hosts events such as the Yessenov Data Lab summer schools, CVT Academy, nFactorial, Data Mining Boot Camp, as well as hackathons (Open Data Hackathon), conferences (Fail Up Night, Digital Arena) and meetings (Digital Kazakhstan, KAG & JAG).

At Nazarbayev University (the largest technical university in the country) the faculty of computer science also has programs focusing on working with Big Data and new technologies. For example, the Master of Science in Computer Science program. The university also holds business data analytics workshops and various educational activities for students. This shows Kazakhstan’s movements in order to increase the level of technological literacy of young people.

Kazakhstan's Evotech Central Asia invested around \$130,000 in the localization of the neuroplatform, becoming one of the region’s leaders in the AI implementation in the corporate segment. Total investments in the DAR Bazar marketplace amounted to 220 million Kazakhstani tenges.

The popular cloud mining service Genesis Mining signed a contract with Kazakhstan company KZ systems for the construction of data centres in Pavlodar. As reported by the companies to ForkLog (transaction magazine), the volume of investments amounted to about 1 million euros.

The companies' mostly used technologies are the following: AI, augmented & virtual reality, the Internet of things and cloud computing. But there are very few companies that are involved in the implementation of AI in Kazakhstan: there is a lot more AI startups, but they are in great need of funding.

Most of all, AI is used in such market sectors as finance, telecommunications, and e-government.

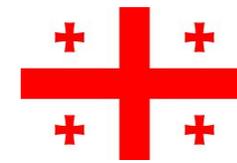
According to Nurlan Sadykov, the head of Dell EMC office in Kazakhstan and Central Asia, if you take sectors such as oil and gas, media and entertainment, construction and engineering, healthcare, security, banking and financial services, currently AI (as well as virtual and augmented reality) helps Kazakhstan's business to improve the customer service quality, train employees, work on product design and speed up the time needed to deliver products to the market. Kazakhstan's telecommunications companies are happy to experiment with AI and Deep Learning and use them for chatbots applications to find ways to have meaningful conversations with people. Or, for example, Kazakhstan developer Berik Tursynbek created Makeup AI application (iOS and Android), which allows you to apply photo-realistic makeups while taking selfies.

In addition to this, developments are being made in the field of medicine. In the Kazakh Research Institute of Oncology and Radiology of the Ministry of Health of the Republic of Kazakhstan (KazNIIOiR) a pilot project was launched - IBM AI, which tested 30 types of various oncological diseases. In the future, the AI will be used to curate the treatment. In order to run an AI in medicine, the Ministry of Health needs to collect medical data throughout the country. And that is not possible at the moment.

The least percentage of AI use is currently in construction and power engineering sectors. Some respondents either do not understand what AI means or they said that they do not need such technologies. This indicates that AI is being developed locally and only in a few sectors of the market.

# Georgia





Adoption of AI in Georgia remains low. Georgian authorities are being advised to focus on the development of AI, which is the future of economic growth.

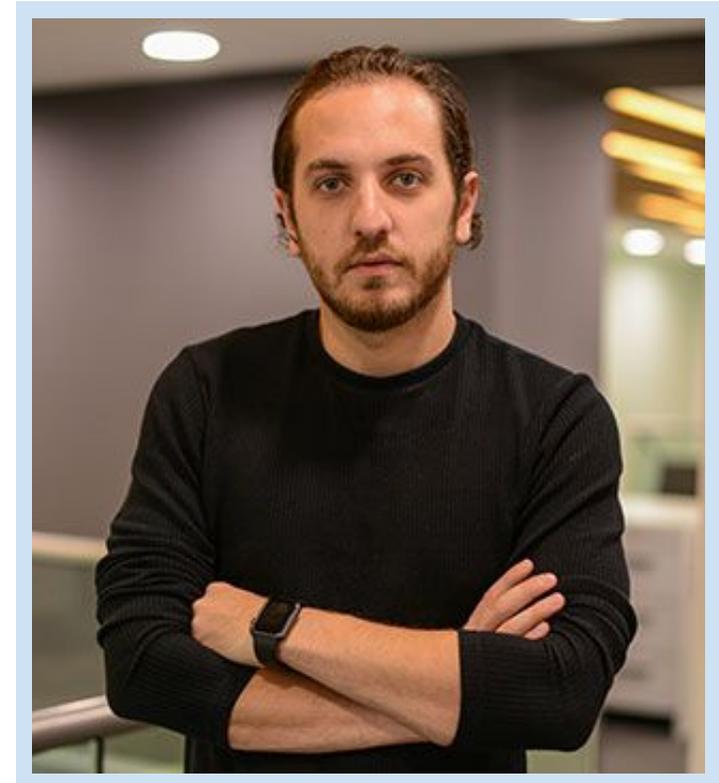
*“AI-related proposals should be included in governmental digital strategy onboarding. Investments and funding in AI and Robotics should be given to researchers and universities, because it will definitely drive enormous growth for the economy, create jobs, foster new skills and positively transform each and every industry”* **Dachi Choladze**, Co-Founder and CEO at Pulsar AI, told The FINANCIAL. According to Choladze, government support in commercializing AI breakthroughs in Georgia is crucial for the further development and advancement of AI.

In his opinion, 2016 was a significant year for artificial intelligence: China, the United States, Japan, Russia, and the UK led the way. These are the countries with strong computer science knowledge. Georgia’s presence among those giants is barely visible, but they are doing their best to move forward and reach new competitive levels.

Georgian authorities should acknowledge that AI in developing countries is likely to have a more significant impact than industrialized ones, he says. It is vital that infrastructure for tech enthusiasts should be in place in order to take advantage of advancement in the technology. Georgia is definitely trying to adopt technology and embrace the digital era.

There are almost no experienced professionals in this field, but there are people with strong mathematical backgrounds, together with some other crucial skills needed in the hi-tech sector.

In January 2019 the Strategy of Georgia towards the development of Artificial Intelligence (AI) and prospects of cooperation in this area was discussed by Mamuka Bakhtadze, Prime Minister of Georgia and Anand Rao, Executive Director of PricewaterhouseCoopers (PwC) within the World Economic Forum (WEF) in Davos. The potential of global development of AI and significance of innovations was discussed at the meeting, along with the role to be played by Georgia in this area. Focus was made on the elements of AI, sector-specific policies and training with an aim of development and specific steps to advance Georgia towards this end.



# Russia

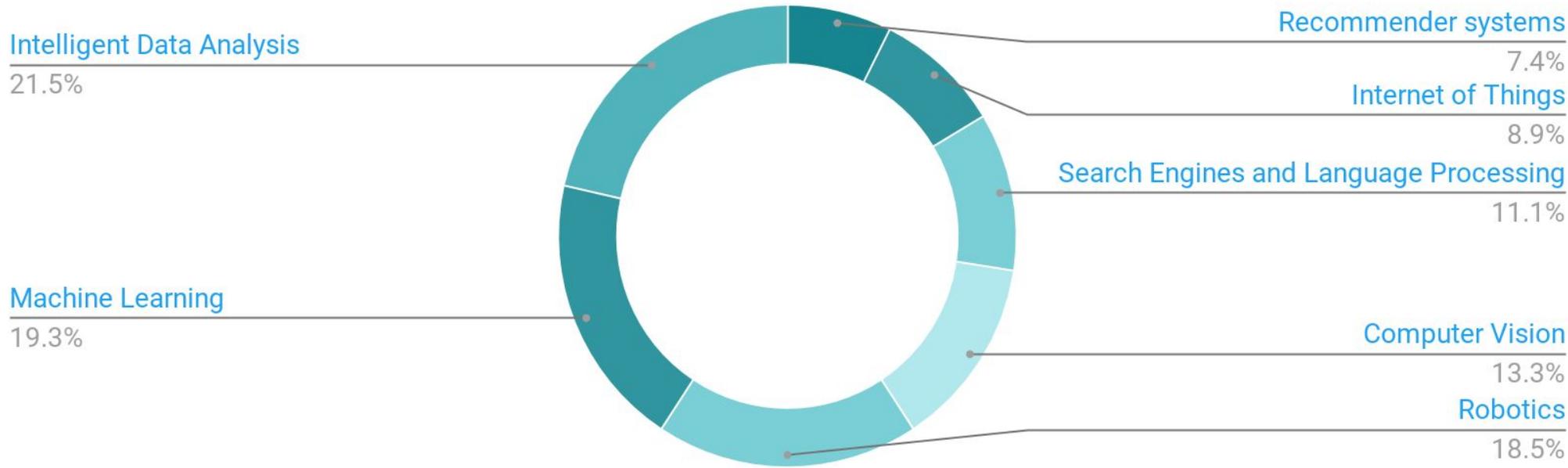


DEEP  
KNOWLEDGE  
ANALYTICS

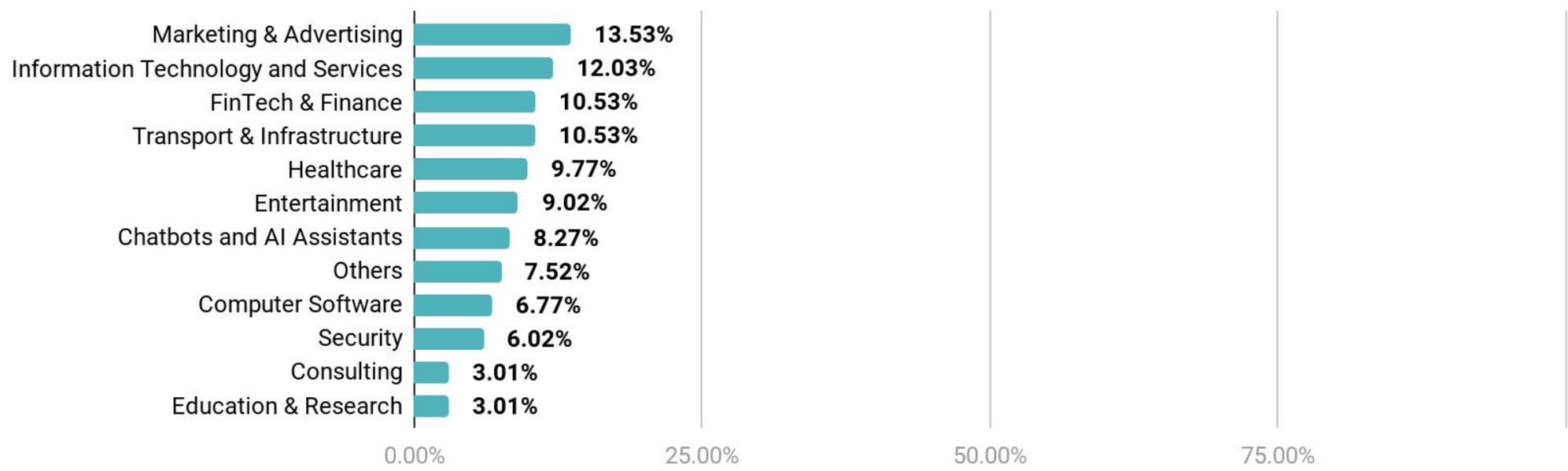


# Industry and Technology Distribution in Russia (133 Companies)

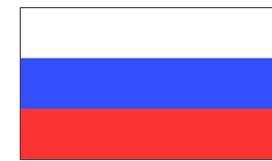
## AI-Industry Breakdown in Russia



## AI-Technology Distribution in Russia



# Russia: 10 Point Plan for AI Development



In May 2018 the Russian Ministry of Communications and Mass Media became the end-responsible ministry for bringing the digital economy, and AI as part of this, to a new level. Since July 2017 the main policy framework for digitalization is the Program “*Digital Economy of the Russian Federation till 2024*”. In 2018 about 40 MEUR were allocated for its implementation.

According to SAP research, in the past 10 years in Russia some 1400 AI scientific projects were carried out. Most of them (1200) were non-profit. The private sector did not show much interest in the development and use of AI. AI was mostly driven by the state and state (owned) business. About 311 MEUR were allocated for R&D in AI. Public funding for AI-related projects were primarily targeted at the public sector, transport, defense and security. Projects mostly concerned the development of data analysis, decision support systems and image and video recognition, in areas where results were expected to be quickly applied in practice (e.g., data analysis and various recognition systems help to optimize logistics and transport problems). In comparison with global trends, in Russia the private sector is slowly picking up on AI and machine learning trends and developments. Universities and scientific institutes produce a large portion of AI-related research and technologies.

In March 2018, The Russian Ministry of Defense, Ministry of Education and Science, and Academy of Sciences held a conference on AI problems and solutions, and later released a 10-point plan for AI development in Russia. The plan includes forming an AI and big data consortium across educational and industrial organizations; developing a fund to help provide expertise on automated systems; increasing state support of AI training and education; building an AI lab at a top technology university; establishing a national AI R&D center; monitoring technical and social trends in AI; organizing AI wargames; discussing AI proposals at domestic military forums; and holding an annual AI conference. The points include:

1. Form an AI and Big Data consortium.
2. Gain automation expertise.
3. Create a state system for AI training and education.
4. Build an AI lab at the Era technopolis.
5. Establish a National Center for Artificial Intelligence.
6. Monitor global AI development.
7. Hold AI wargames.
8. Check for AI compliance.
9. Discuss AI proposals at domestic military forums.
10. Hold an annual AI conference.

In Russia, artificial intelligence is being developed dynamically. According to ZYFRA research, the AI-based systems market in Russia already reached the cost of 20 billion rubles, and the economic effect from the introduction of such models in the Russian industry can be up to 200 billion rubles in the coming year.

In March 2018, Russia's Ministry of Defence, the Ministry of Education and Science, and the Russian Academy of Sciences hosted a conference titled, "*Artificial Intelligence: Problems and Solutions — 2018*". Key recommendations include creating a state system for AI education and talent retainment and establishing a national center for AI.

An innovations cluster is to be established in Moscow, with the president of the Skolkovo Foundation named as one of its curators under a decree signed by Russian President Vladimir Putin. The cluster will coordinate interaction between industry, science, education, communications and other spheres with the aim of developing the Russian capital's innovative potential, according to the presidential order, which was published on the government website devoted to legal information. It will also coordinate support for small and medium-sized enterprises.

More than hundred of AI-themed conferences were held in Russia in 2018 featuring both Russian and international speakers. In the best technical universities of Russia, such as MIPT, Bauman Moscow State Technical University, Moscow State University, NRU HSE, PFUR, a large number of areas with a bias in Machine Learning are opened. Also, there are many online courses in Data Science, such as Coursera, SkillBox, Geek Brains, Netology, etc.

Russia boasts one of the world's largest high-tech communities. According to this indicator, the country is number four in the research platform Kaggle rating. Open Data Science (ODS), founded in 2015, is one of the most significant Russian communities in the context of AI research. In September 2017, the community size was 4,700 people. According to Alexander Natekin, CEO of Open Data Science, as for 2018 ODS community counts 14,000 members, which indicates a strong growth of the Russian AI community.

It is also worth mentioning that the scientific and technological innovation is one of the main points for the development and monetization of Skolkovo technologies, which is often called The Russian Silicon Valley. Skolkovo is the first science city in the post-Soviet era to be built from scratch. The creation of the innovative complex is ran by the Development Fund of the Center for the Development and Commercialization of New Technologies (Skolkovo Foundation).

The purpose of the Skolkovo Foundation is to create a self-governing and self-developing ecosystem conducive to the development of entrepreneurship and research. Such an ecosystem contributes to the creation of companies that succeed in the global market. Several large industries are also developing their AI solutions.

Russian companies are increasingly looking for international market expansion, where such technologies have been researched and tested for a longer time. Large companies are expecting ready-made solutions from Western vendors backed up by successful business cases. At the same time, Western companies order AI development solutions from small technology companies from Russia for their high quality services and cheap pricing. Russian programming engineers have been considered among the most powerful in the world for a long time.

Most of the large retailers and banks already have their own R&D departments using Machine Learning. The absence of such departments in other companies is usually due to the lack of proper data collection policies, as well as the lack of necessary production capacity.

The main trends in AI technologies are:

- *computer vision,*
- *natural language processing,*
- *machine learning*
- *deep learning (self-learning models)*

Online legal advice service Pravoved.ru (a legal consultant bot) raised \$1 million from Addventure and Target Global venture funds which have Russian roots. Also telemedicine service Doc+ (the resident of the Skolkovo Foundation IT cluster) has attracted investments of \$9 million from the Swedish venture fund Vostok New Ventures.

At the moment, most of the AI-startups and technology companies operate in the areas finance, healthcare, e-commerce. AI and ML are mostly used in the bots creation and speech recognition systems.

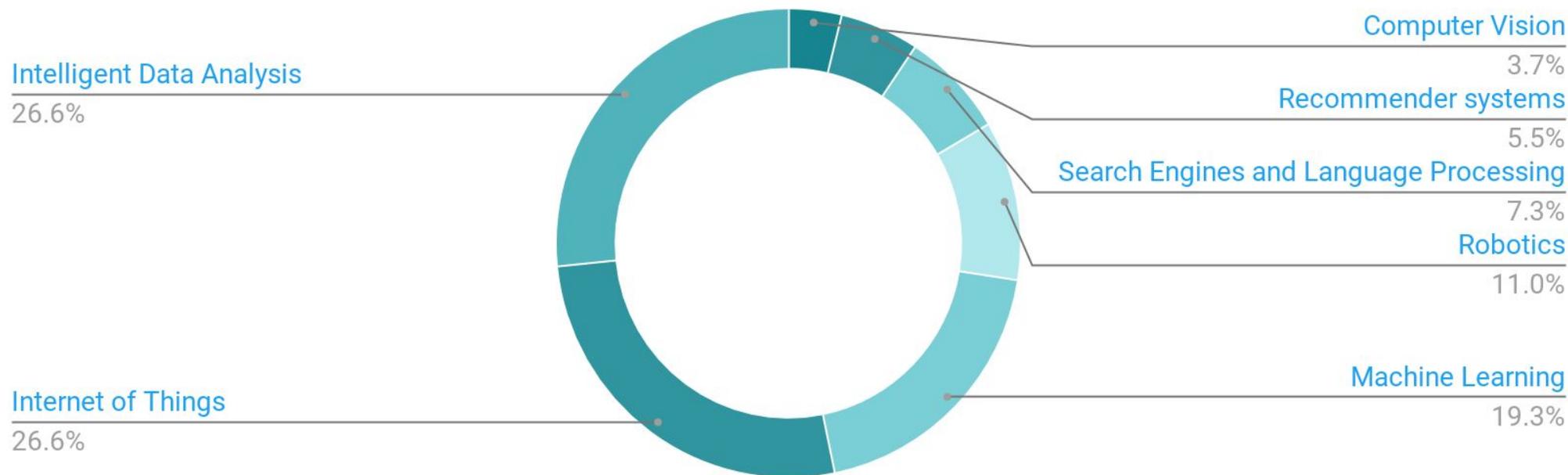
# Poland



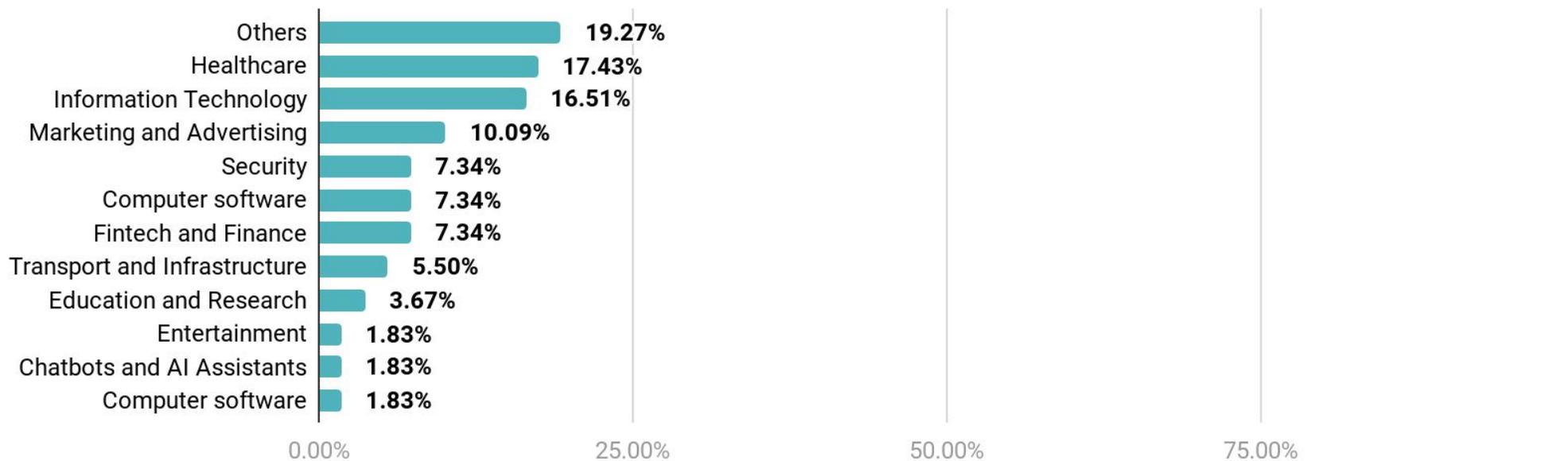


# Industry and Technology Distribution in Poland (110 Companies)

## AI-Industry Breakdown in Poland



## AI-Technology Distribution in Poland



# Poland: The Strategy for the Development of Artificial Intelligence



In May 2018 Poland's government held its first roundtable on the development of a Polish AI strategy. The roundtable focused on the policies and tools needed to foster an environment conducive to the creation of AI technologies in Poland. The participants discussed how to develop good policies and what tools to use to create optimal conditions and climate for the dynamic development of artificial intelligence.

The participants of the discussion unanimously stated that the "*Polish Strategy for the Development of Artificial Intelligence*" is a must: without its implementation, Poland may not be among the most technologically advanced countries. In order to remain a significant country in the European Union and in the world, Poland must create its own thriving ecosystem of institutions and the entities supporting the development of artificial intelligence. The Polish government administration in cooperation with enterprises and non-governmental organizations should create conditions and incentives enabling quick implementation and commercialization of solutions based on artificial intelligence.

Prime Minister Jarosław Gowin stressed that government is aware of the need to create a strategy and that Poland's plan will include AI solutions for the future of healthcare, public administration, education and cybersecurity. According to the Prime Minister, such a strategy is necessary because - as he said during the meeting: "*We need modern solutions in: functioning of health care, public administration, in education or building security in cyberspace*".

Deputy Minister of Digital Affairs Karol Okoński emphasized that Poland is at the beginning of the path to creating the right conditions for the development and use of artificial intelligence.

The key role is the education system, in particular academic centers and their cooperation with business, to educate relevant specialists and experts. However, without strong business support and appropriate incentives, it will be difficult to create an innovative economy using highly advanced tools based on artificial intelligence.

Professor Maciej Chorowski, director of the National Centre for Research and Development (NCBR) said in May 2018 that Poland "can allocate" EUR 100 million a year to develop artificial intelligence (AI). The professor said the top Polish R&D centre was spending money to the tune of EUR 1 billion a year on various research projects, and budget allocated for AI projects could reach 10 percent of this sum.

In May 2018 Prime Minister Jarosław Gowin stressed that government is aware of the need to create a strategy and that Poland's plan will include AI solutions for the future of healthcare, public administration, education and cybersecurity. Also Internet of Things, machine learning and electric vehicles were areas of industry that Poland could invest in over the coming decades.

During the 28th Economic Forum in Krynica-Zdrój, southern Poland, the officials declared that works on the Polish strategy on Artificial Intelligence have already begun.

The works on the strategy will include representatives of businesses which operate in Poland.

After the strategy is developed, businesses could obtain state and EU funding more easily, and more entrepreneurs would be encouraged to invest in AI.

In Poland, as in most European countries, AI investment is at an early stage of development. It is mostly driven by grants and venture capital, amounting to around €11 million in 2016. This was roughly the same level as seed and venture-capital investment in AI in Sweden, a globally recognized technology hub.

Globally, among AI technology systems, machine learning attracts almost 60 percent of external investment. This is most likely because it is an enabler for so many other technologies and applications, such as robotics and speech recognition. In addition, investors are drawn to machine learning because, as has long been the case, it is quicker and easier to install new code than to rebuild a robot or other machine that runs the software.

The investment split is similar in Poland. Among the Polish startups in the field of AI that received funds in 2016, over 80 percent are developing machine-learning technology.

There are four leading industry groups where most of AI technologies develops:

1. **Healthcare**, where AI algorithms help analyze medical records and images. A number of companies are also developing AI-powered robots for patient rehabilitation.

One example of such a company in this group is Cancer Center Ltd. It is a company that applies deep learning techniques to the field of oncology/radiology. It has amassed a huge training set of medical images along with categorization technology that will allow computers to predict multiple diseases with better-than-human accuracy.

2. **Media and entertainment**, consist mostly of game developers that use machine learning to create virtual reality.

BETEGY is a sports data technology company which provides football predictions and betting tips by using a self-learning algorithm based on statistical data. The team behind BETEGY believes that data-driven decisions beat subjective opinions. That is why they invented the algorithm which is powered by statistical data.

3. **Transportation and infrastructure**, consists of companies working specifically on operational management systems and autonomous robots.

Transition Technologies PSC specializes in creation IT solutions for the manufacturing industry, especially Connected Product Lifecycle Management software and industrial exploitation of the newest Internet of Things (IoT) and Augmented Reality (AR) technologies, allowing their customers to implement the consent of Industry of the Future (also called Industry 4.0).

4. **Information Technology and Services and Computer Software**, where solutions for sales and marketing, especially recommendation systems and chatbots for client support, are developed.

OKE was established to improve and create user friendly IT solutions. They continue to evolve into areas of technology such as hybrid TV, big data in business and other tech solutions which make life more enjoyable, productive and interesting.

Expert opinion on the artificial intelligence industry is vary varied. The *DigitalPoland* report reveals the statements analyses from various figures. Moreover the penetration of giant tech companies has stimulated the growth of the industry. This can be witnessed by the resulting growth of AI technology in Poland as reported by data and information shared from diverse sources:



**Piotr Pietrzak**

The CTO at IBM Poland **Mr. Piotr Pietrzak** states that *“Generally, investments in AI can be categorised into three groups: (1) Solutions dedicated to specific sector and use-case, (2) analytical platforms, (3) R&D companies which develop the latest AI technologies for commercialisation in the future. The latter two are the domain of mostly foreign funds which usually operate in USA, Israel or China. It comes from the fact that these two areas are capital intensive and require much more time for commercialisation. In Poland, VC funds invest rather mostly in proven and tested solutions, dedicated to particular sectors or aimed at solving very specific problems.”* From his statements we can see that there is less investment from governments than from external investors who focus mainly on specific AI-related business needs.

The other statement can be drawn from **Mr. Wojciech Walniczek**, The Senior Investment Director at MCI Capital who said that *“It is surprising that so many Polish AI companies fund growth with their own funds. This may either be because these companies are sufficiently profitable or that AI solutions are developed by companies that are already established on the market”*. In his presentation he explained how these companies have been growing by investing in new areas. The businesses that they have established in previous years help them to start new ideas and work on different sectors, and hence the development of AI within Poland without the help or support of government.



**Wojciech Walniczek**

Miss Katarzyna Ludka, AI Director at Ringier Axel Springer Polska, has a different perspective on investors coming to Poland. She states that: *“The outcomes of the survey present a relative immaturity of the Polish market. The number of AI companies is growing but the majority of their revenue come from foreign clients. This may indicate that domestic companies do not understand the benefits which come from introduction of AI solutions.”* She also explains the main hindrance to the entire industry is, as she sees: *“The key issue is the education of CEOs, business managers and the market as a whole.”*

The bottleneck of AI technology on Polish Companies.

The research done by digitalpoland reports that about 41% of the companies in Poland do not understand well the need of their firms related to the AI Technology. Thus do not invest enough on the technology that could bring a huge benefits to the company. The high Management and most stuffs have small understanding of the technology itself, Its estimated to be between 22% to 23% percent of the management and stuff who has low level of education on this industry, while only 9% of the specialists have better experience and understanding of the technology in this industry.

### **Booming number of companies:**

- There are companies which introduced AI as early as in the late 90's. However, this technology was more widely introduced in business only after 2010. In recent years, there has been a clear AI boom – half of Polish AI companies have introduced the technology over the last two years.
- AI is clearly the domain of large metropolitan areas in Poland. 85% of AI companies which participated in the survey are located in six major urban areas. Warsaw accounts for 43% of AI companies.
- In terms of financing, two out of three companies (66%) declare that they rely fully on their own funds to fuel development, but 23% have received VC funding.

### **Technology:**

- The trends in Poland regarding the technical aspects of AI reflect global trends. The most widely used language is Python, with 87% of companies using it. 38% use R language, but its popularity is low among companies which introduced AI over the last two years.
- AI companies also use other popular languages, such as C/C++ and C# (50%) and Java (30%), which is a sign that many of them build complete solutions around AI capabilities.
- Polish companies use popular frameworks – TensorFlow (69%), Keras (49%) or PyTorch (38%).

# Baltic Countries

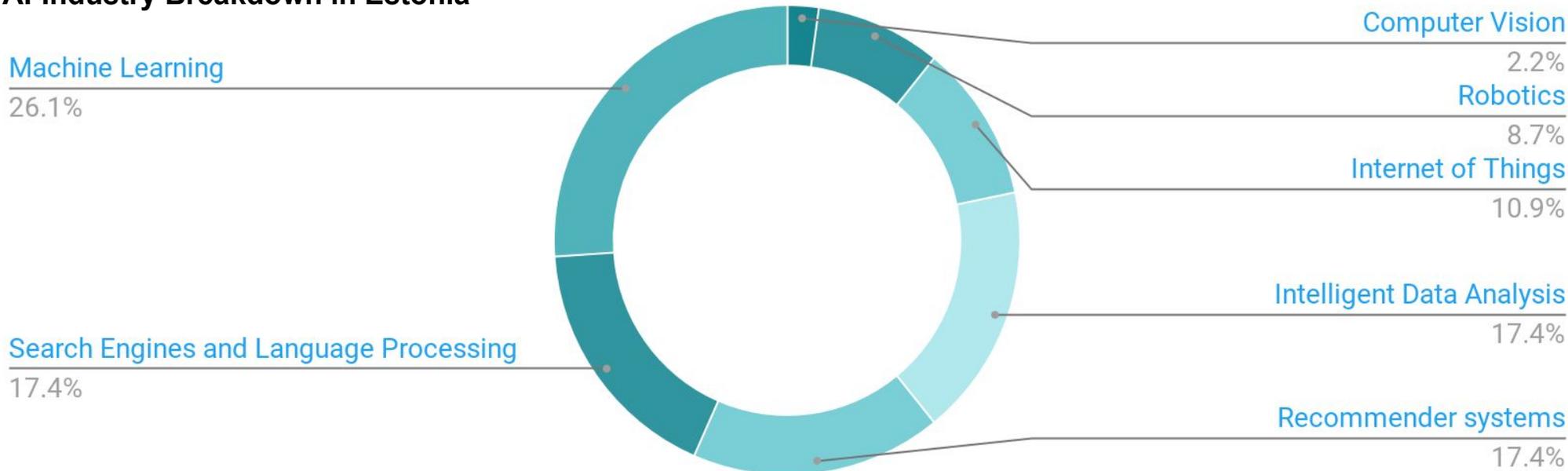


DEEP  
KNOWLEDGE  
ANALYTICS

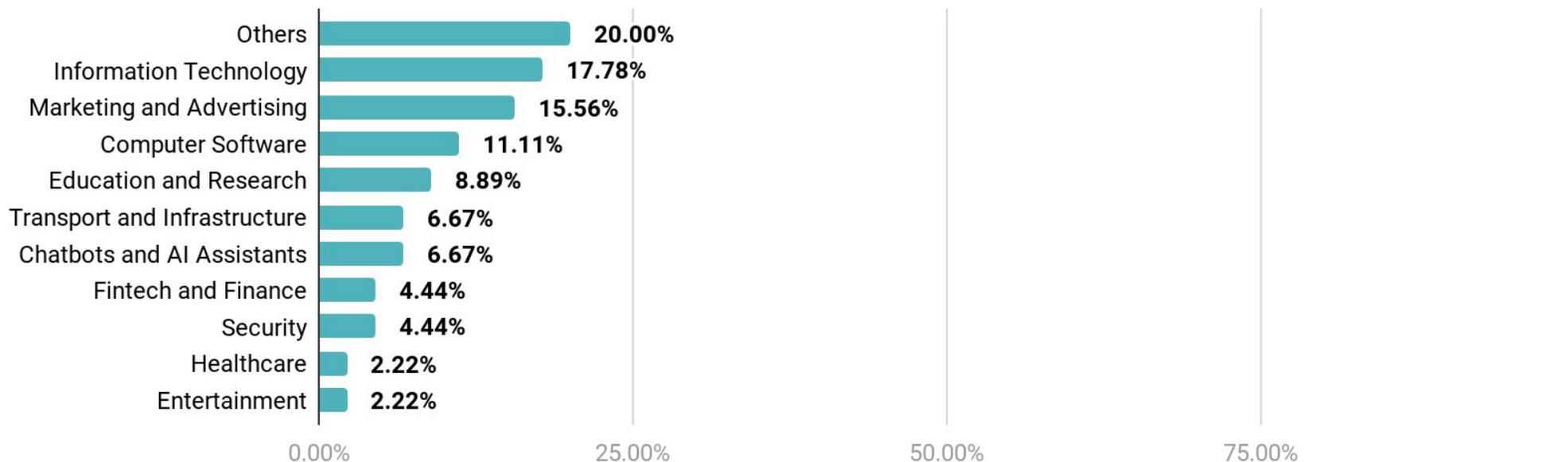


# Industry and Technology Distribution in Estonia (46 Companies)

## AI-Industry Breakdown in Estonia



## AI-Technology Distribution in Estonia





Estonia has long been at the forefront of instituting digital technologies into government and throughout its society. The country is now investing in AI, and developing a legal framework around its use.

Estonia is developing a bill for AI liability which will be ready in March 2019. The government hopes the legal framework will attract investors by providing a simple, comprehensive guideline to enable the broad use of AI systems. The government will also establish an AI Task Force to define legal, business, and communications strategies.

In March 2018 the Government Office and the Ministry of Economic Affairs and Communications announced their intention to launch a cross-sectoral project to analyse and prepare the implementation of artificial intelligences, or so-called kratts, as well as develop a test environment in Estonia. The expert group will also develop an artificial intelligence strategy for Estonia, which will describe the most useful types of kratts and their use in both the public and private sector as well as measures for promoting the implementation of kratts. The work of the expert group is coordinated by the Government Office in cooperation with the Ministry of Economic Affairs and Communications and its term is April 2019. The expert group will comprise state authorities, universities, companies, and independent experts.

Siim Sikkut, Deputy Secretary General for Communications and State Information Systems of the Ministry of Economic Affairs and Communications, highlighted that the implementation of artificial intelligence could have various benefits for Estonia. *“In the public sector, it would allow us to increase the user-centeredness of services, improve the process of data analysis, and make the country work more efficiently by achieving the goals of developing the e-government,”* Sikkut emphasised. *“Artificial intelligence can also play an important role in the digital revolution of the industry and attract new investments and innovation activity to Estonia – developers of technology are searching for a development and test environment that favours artificial intelligence solutions”*.

In May 2018, the Ministers responsible for digital development from Denmark, Estonia, Finland, the Faroe Islands, Iceland, Latvia, Lithuania, Norway, Sweden, and the Åland Islands released a *Declaration on AI in the Nordic-Baltic Region*. Under a new resolution, governments will apply a joint approach to taking advantage of and further elevate the Nordic region’s already high status as a leader in the development and use of AI and digital technologies.

The Nordic-Baltic collaboration also opens the door to partnering with AI and digital technology industry players in the region. In particular, Nordic and Baltic governments will work with the private sector to avoid unnecessary regulation pertaining to research, development and technology to launch initiatives in the AI and digital sectors.

Estonia is characterized by ecosystems, where public and private digital services are woven into the fabric of everyday life, and business is encircled by different networks. Possibly, it is the characteristic of an ecosystem that contributed to the fast development of Estonia's startup community with reliably many AI companies.

Tallinn, the capital of Estonia, held on October 15-16 Tallinn Digital Summit, a congress where world leaders, IT ministers, experts and tech communities spoke about the technology and digital transformation. This year the emphasis was on the potential of artificial intelligence (AI) in government, economy, and society, where such themes as self-learning algorithms and their impact on social systems were discussed.

Actually, it is not so remarkable that such an event is held in Estonia, a country which early hit on a path towards a futuristic digital society. Estonia was one of the first countries to automate government processes. Cabinet meetings went paperless in 2000 and e-voting was introduced in 2007. By 2012, 94 percent of tax returns were completed online. Nowadays the Estonians can conduct governmental and private business online with their digital identities.

The pragmatic attitude of Estonians regarding the digitalization of everyday life lead to big amount of anonymous raw data, which is a fuel for machine learning and other technologies. Consequently, the Estonian government now plans to start building next-generation public services based on AI which are not sector-specific given that questions around issues such as cybersecurity, enforcement, and ethics cut across sectors. At the same time as it works on the legal status of AI through the so called the Kratt Law, named after a mythological creature made out of household objects that gains sentience after its "creation".

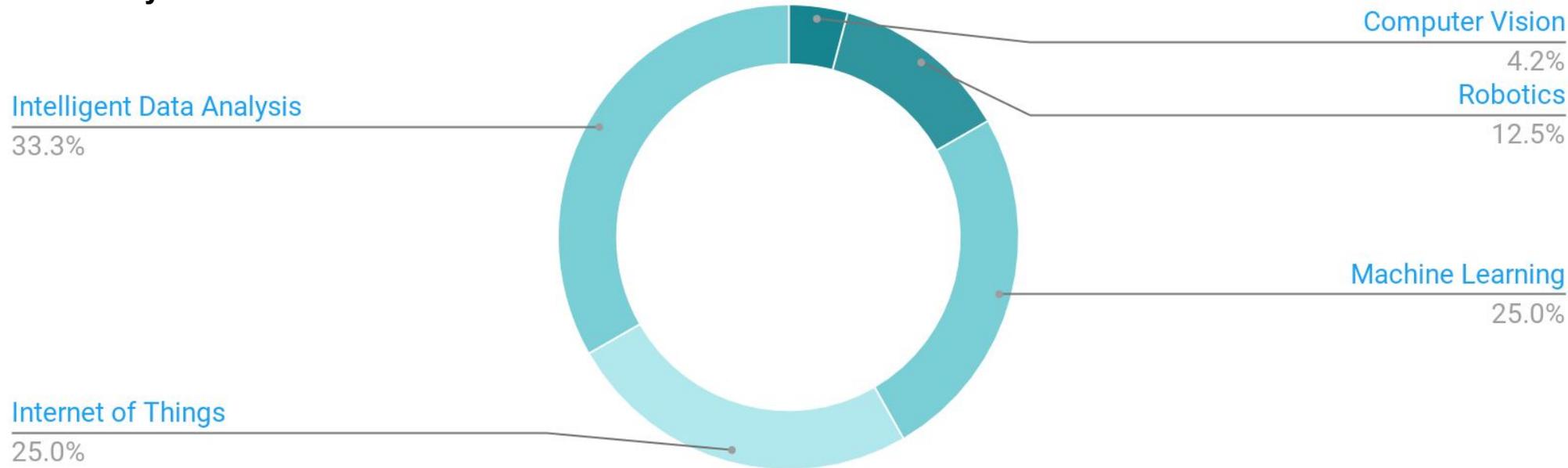
The proposed Kratt Law will allow the law to determine the level of sophistication of an AI, which, in turn, will help determine what legal protections or obligations should be placed on the AI.

In last years, as the technological progress continued, Estonian startups started to experiment with AI, both the old companies and the new ones. The vast amount of them are working towards industries such as Information Technology and Services, Marketing and Advertising and Computer Software. The most common technologies used are Machine learning, Intelligent Data Analysis, Search Engines and Language Processing and Recommender Systems.

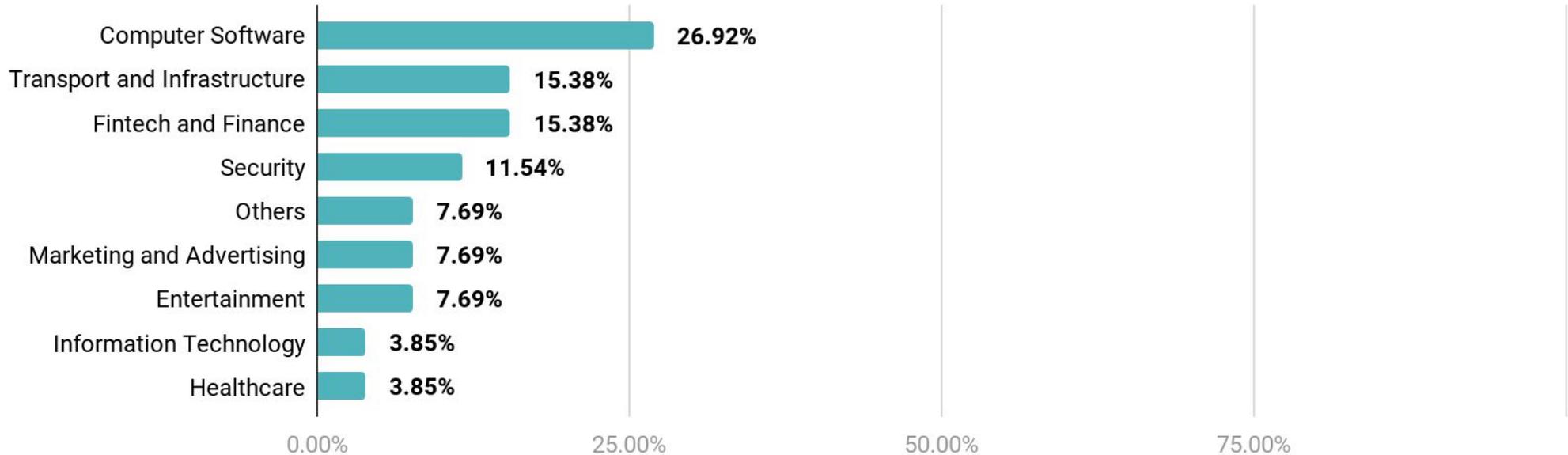


# Industry and Technology Distribution in Latvia (26 Companies)

## AI-Industry Breakdown in Latvia



## AI-Technology Distribution in Latvia



Latvia is amongst the world leaders in internet speed and uptake of mobile internet, and features a rapidly growing ICT sector. These have been seen as helpful instruments for recovery, growth, and empowerment of citizens. ICT has been strategically applied to improve government efficiency, transparency, citizen participation and availability of public services, and is now strategically positioned to expand national competitiveness.

Latvia could be a leader in AI solutions in the fields of forest management, ecological agriculture, export development, e-government, and others if it begins investing now, and shares the benefits of their experience with other countries.

The Latvian Ministry of Environment and Regional Development (VARAM) plans to allocate EUR 990,000 for the integration of artificial intelligence (AI) into the e-services provided by public administration institutions, announced the ministry's deputy state secretary for information and communication, Edmunds Belskis, at the presentation of Una, the virtual assistant of the Latvian Enterprise Register, on June 13th.

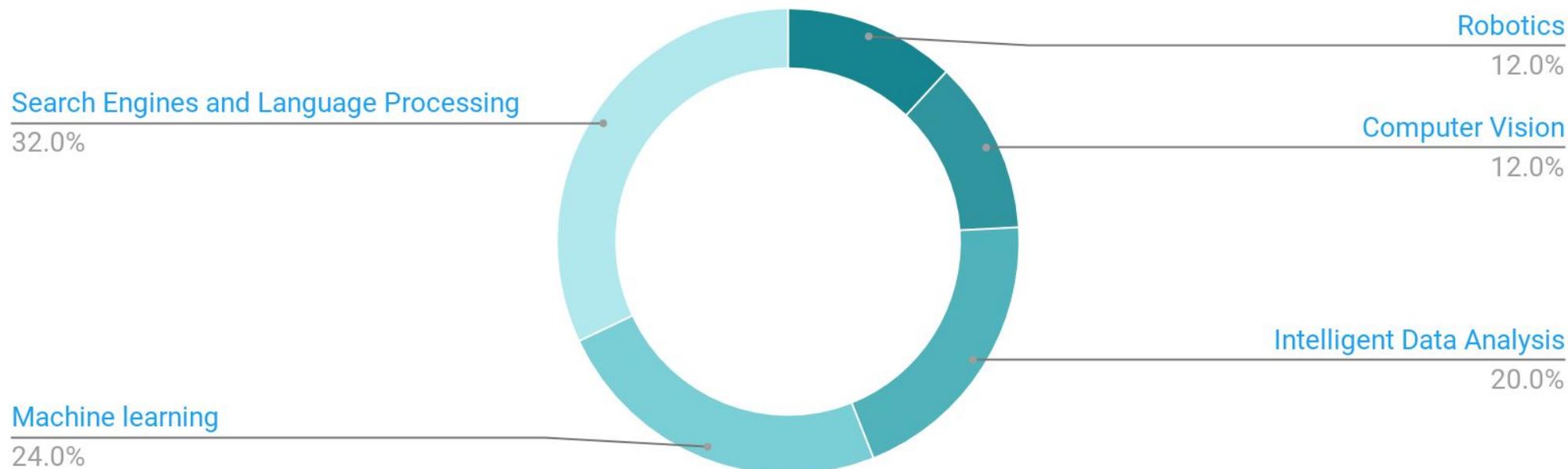
Belskis said the ministry was working on a project to develop a universal platform for the introduction of AI in the public administration, and expected to submit the project to the government for approval before the end of 2018. According to Belskis, all government agencies providing e-services should be developing AI solutions: *"There are more than 500 public e-services, and we have to think about it [AI] as a solution for the future"*.

Guna Paidere, Chief Notary Public of the Enterprise Register said during the presentation that the Enterprise Register was the first public authority in Latvia to introduce an AI solution in customer service. She said that Una, a virtual assistant, will be communicating with customers in writing around the clock, responding to routine questions about foundation and liquidation of companies and organizations, etc. With Una handling the routine inquiries, human personnel will be able to focus on the more irregular enquiries, Paidere said.

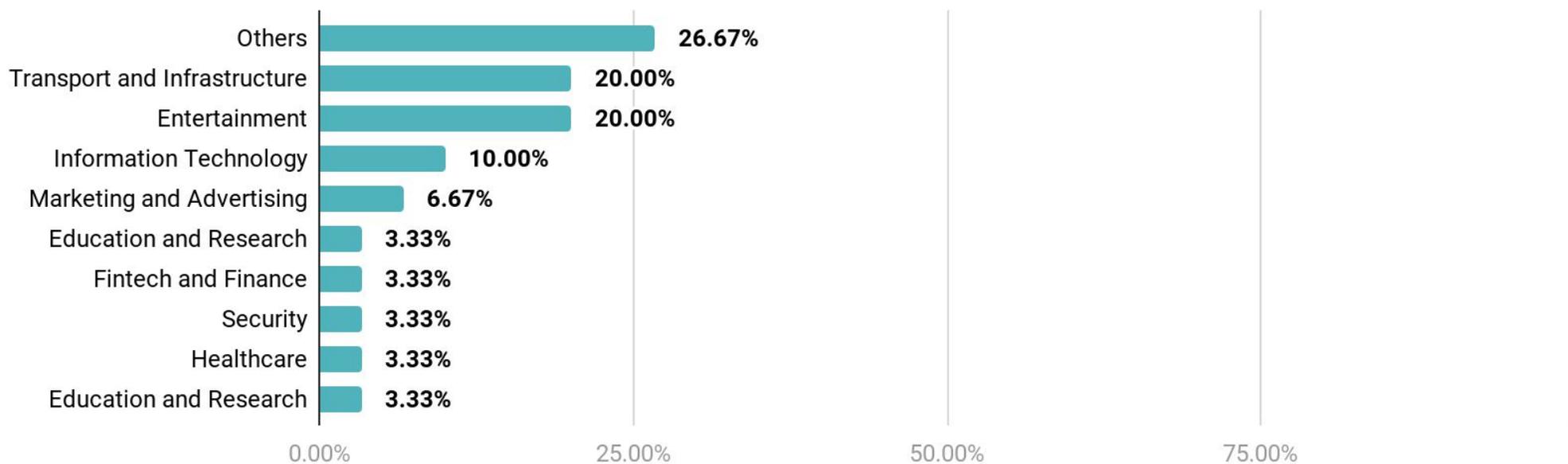


# Industry and Technology Distribution in Lithuania (29 Companies)

## AI-Industry Breakdown in Lithuania



## AI-Technology Distribution in Lithuania



# Lithuania: AI projects by the Ministry of Transport and Communications



Lithuania is the host to a robust academic Artificial Intelligence Community, with over 7 universities that offer substantial AI research efforts and curriculum in the field. Lithuanian universities have long been a great source of research and tech talents and experts.

Lithuania together with the 24 EU Member States signed a Declaration of Cooperation on AI, whereby they committed to boost Europe's technology and industrial capacity in AI and its uptake, including better access to public sector data, while addressing socio-economic challenges and ensuring an adequate legal and ethical framework.

Lithuania's Artificial Intelligence Technology Cluster known as "Ditek" was created to boost the market position of its members by exploiting their collective AI knowledge base and skill sets. The cluster aims for value-added by developing new AI-based products and services or improving existing ones. The dual use and defence sectors represent some 60% of its members' activities, which range across electronics, energy, ICT and robotics. Ditek has a strategy, linked to Lithuania's national RIS3, to support its SMEs in defence and dual use by promoting the integration of AI technology with simulation and training, predictive maintenance, entity recognition and other dual use applications. The cluster has ties via ICT, electronics and robotics to other defence-related entities in Europe such as the Federation of Security and Defence Industries of Latvia and the Estonian Defence Industry Association.

In order to optimise internal processes and increase work effectiveness and productivity, the Ministry of Transport and Communications begins the automation of its operation processes. Automation, use of artificial intelligence, new information technologies in daily work processes – all of this is already well known and is successfully being implemented and applied in the companies and institutions under the Ministry of Transport and Communications. The Lithuanian Transport Safety Administration successfully uses an automated invoice-registration process. Last year the Lithuanian Post tested the automation of the subscription ordering, invoicing, sales report checking processes.

The Lithuanian Railways company plans to integrate the management of its technologies in a unified system managed by artificial intelligence. Integration of the Lithuanian Railways technologies in a single network would make it possible to successfully manage critical situations remotely, ensure continuous provision of services, reduce the likelihood of faults, ensure active cybersecurity and traffic safety. According to calculations, the investment in this project may be up to 22 million euros, and it will be implemented by 2022. But its financial effect would be almost 7 million euros per year. Essentially, this means that the project would pay off and achieve positive economic returns in 3 years.

# Romania

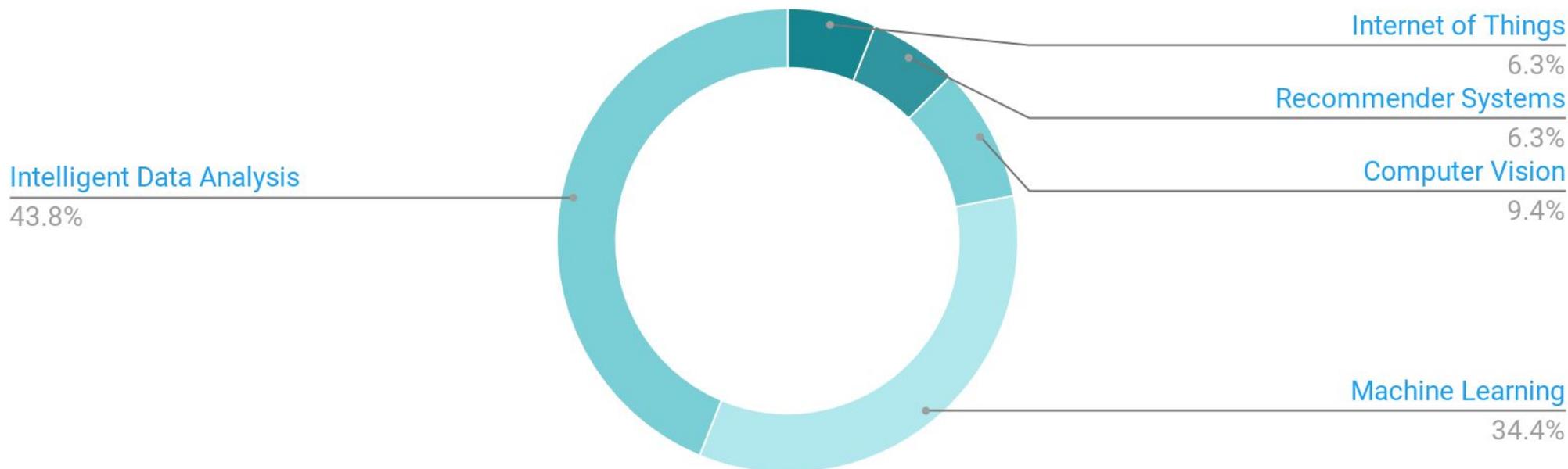


DEEP  
KNOWLEDGE  
ANALYTICS

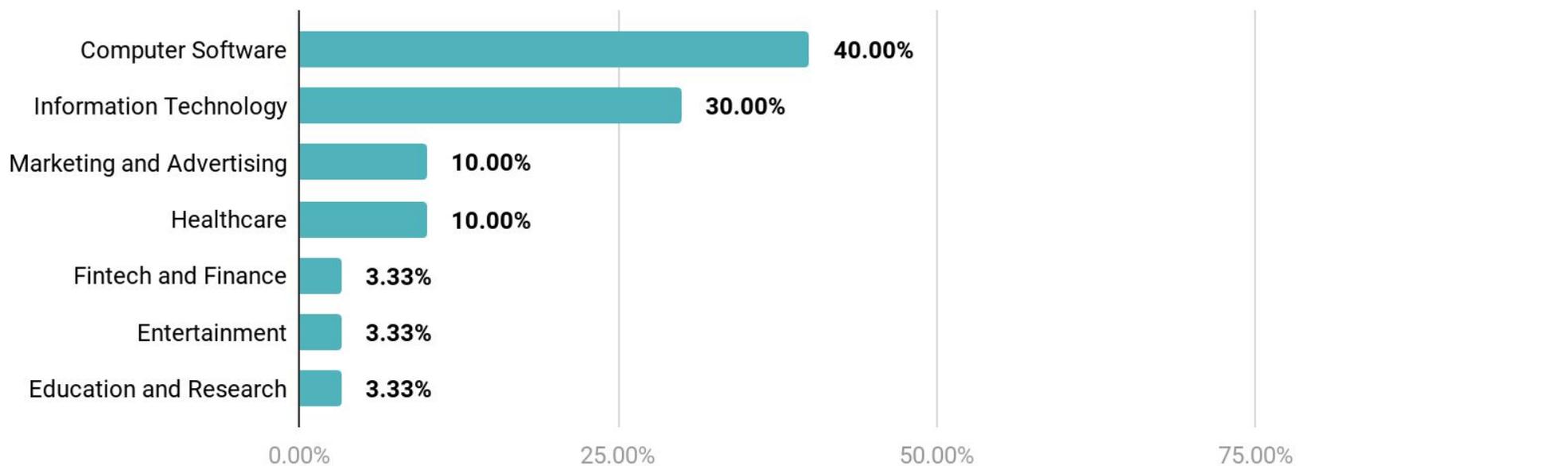


# Industry and Technology Distribution in Romania (32 Companies)

## AI-Industry Breakdown in Romania



## AI-Technology Distribution in Romania





Romania could have a strategic approach in channeling the potential effect of Artificial Intelligence (AI) technologies in recovering the economic gaps against the Western countries. AI found a good home in Romania thanks to an excellent pool of talent and knowledge in the technical and IT space. Moreover, it is being put on the map through events like Techsylvania, *'the leading technology event in Eastern Europe that gathers tech enthusiasts and business people to connect, hack and share ideas'*.

AI software development in Romania has been intensely contributing to the global innovations of computer science. During 2017, the capabilities that are generally included under AI software development in Romanian projects vary from understanding human speech, playing strategic games, situational simulations, driving autonomous cars or complex data interpretation. SOFTECH is one of the providers of AI software development in Romania and currently specializes in the complex data arena, with machine learning systems focused on image recognition technologies and algorithms.

The development of the IT sector is one of the Romanian government's priorities, with focus placed on the implementation of 5G technologies, cloud services, the development of the Internet of Things (IoT) and of the concept of Artificial Intelligence (AI), said Secretary of State with the Ministry of Communications and Information Society (MCSI) Ionut-Valeriu Andrei at the Central and Eastern Europe Innovation Roundtable event organized in Warsaw.

*"It is essential that Central and Eastern European countries have a synergistic, concerted approach to the sustainable development of the IT industry and the digital economy in the region, capable to lead to the creation of a hub that is truly competitive in the global economy. The development of the IT sector counts to the priorities of the Romanian government, with focus on the implementation of 5G technologies, cloud services, as well as on the development of IoT and AI,"* Andrei said, as cited in a MCSI release.

In 2014, the government adopted the National Strategy "Digital Agenda for Romania 2020". Its direct and indirect impact on the economy was estimated at a GDP growth of 13 per cent, thereby increasing the number of jobs by eleven per cent and reducing administration costs by twelve per cent, between 2014 and 2020.

# Volume II: Profiles

## 30 Tech Hubs in Eastern Europe



# 30 Tech Hubs in Eastern Europe



Foundation for Armenian Science and Technology (FAST)



Microsoft Innovation Center Armenia



Belarus Hi Tech Park



Imaguru Startup Hub



Buildit Accelerator



TechHub Warsaw



Prototron



Startup Wise Guys



Baltic Sandbox



iHUB



Founder Institute Warsaw



Startup Estonia



Gamma Rebels



Huge Thing



StartUp HUB Poland



Skolkovo



GrowthUP (Bay View Innovations)



LIFT99



Innovation Labs



UVCA



iPavlov.ai



IIDF



Eastlabs



Vilnius Tech Park



Eclass



School of Data Analysis (Yandex)



Risky Business Ventures



Happy Farm



WannaBiz



e-LITHuania



## Foundation for Armenian Science and Technology (FAST)

FAST is building an ecosystem of innovation to lead scientists, technologists and innovators in Armenia and beyond to success on the global stage. With a focus on entrepreneurial endeavors, FAST empowers innovators to bring cutting-edge, commercially viable and globally competitive solutions to life. FAST partners with academic, governmental and non-governmental organizations alongside global players to explore and create what's next.



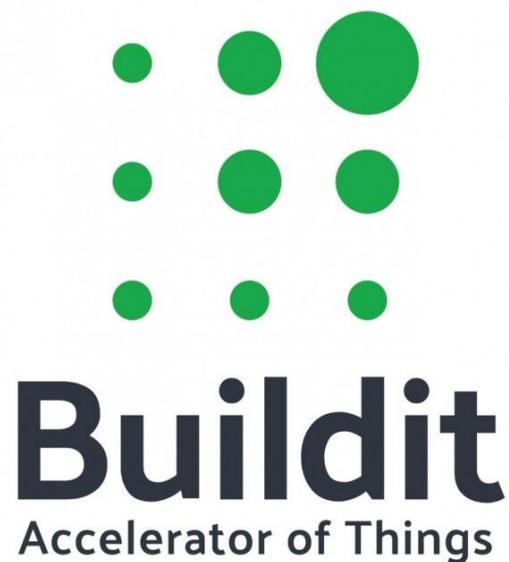
# Microsoft Innovation Center Armenia

Microsoft Innovation Center Armenia offers an innovative and effective approach to build core competencies in business and soft skills in technology among a growing number of small and medium IT companies. The center initiates various targeted projects and activities, which includes training programs and coding bootcamps, aimed at development of qualified workforce, programs, targeted at teams and startups to support the development of innovative IT products in various spheres.



# Belarus Hi Tech Park

During the last years the ICT sector in Belarus received strong government support and is one of the top-priority economic sectors to develop. Thus, by the special Law issued in 2005, Belarus Hi-Tech Park was established with the main goal to support software industry. HTP Belarus provides special business environment for IT business with incentives unprecedented for European countries. Since 2015, Hi-Tech Park resident-companies are allowed to get involved in new science-intensive activities. Now, any company engaged in IT and related industries (micro-, opto- and nanoelectronics, mechatronics, telecommunications, radar ranging, radio navigation and wireless communication), information protection and establishment of data processing centers can apply for residency within the HTP and benefit from tax-incentives and other advantages it provides. HTP resident-companies can work and provide services in the field of information system analysis, designing and software development (IT consulting, audit, national information networks maintenance, database development and corporate information systems implementation and support).



## Buildit Accelerator

Buildit is an accelerator that supports hardware and IoT startups in turning an idea into a tangible, market-worthy product.

Established in 2014 in Estonia, Buildit has already had 1000+ applications over its 7 batches. More than 60 startups have already been funded, with founders from 17 different countries of the world. The first exits are already starting to roll in.

Expanding to Latvia brings additional opportunities, both from spreading the knowledge further, as well as being able to provide startups with increasingly more funding and support to develop their ideas.



# Prototron

Prototron is a fund created in 2012, which aims to contribute to the birth of new start-ups and world-changing technologies through prototype financing.

Prototron was created to help turn smart and innovative ideas into tangible prototypes to grow into major businesses.



# Startup Wise Guys

Startup Wise Guys is a mentorship-driven accelerator program for early stage B2B startups, providing seed capital (€30K), office space and most importantly – world-class mentors.

The intensive 3 month accelerator program is focused on validating, developing and selling products to business customers. Over 150 international and local mentors with B2B startup experience help startups move through those stages much faster than they would on their own. Founders are also prepared to sell their vision to investors, and the program culminates in a Demo Day, where startups get to present to venture capitalists and angel investors. Post program, startups join the alumni community of 100+ startups in more than 40 countries and become eligible for invite-only alumni events focused on business development, fundraising and experience sharing.



## Baltic Sandbox

Baltic Sandbox is an acceleration program for Fintech and SaaS startups from pre-seed to A-round stages, focused on business model design and strategies for scalability.

The program is based on a hybrid model of investing and participating. This model aims to help startups grow their business in EU and US markets. Investors as well as corporate partners benefit from direct mentorship of the startups.

The main goal of the acceleration program is to help startups shape their business models to ensure commercial growth on a global scale. Baltic Sandbox selects startups with the greatest potential and tailor mentorship program based on the specific needs of each batch.



## Founder Institute Warsaw

The Founder Institute is the world's largest entrepreneur training and startup launch program, helping aspiring founders across the globe build enduring technology companies. In the Founder Institute's four-month, part-time program, promising startup entrepreneurs “learn by doing” and launch a company through structured training courses, practical business-building assignments, and expert feedback from a large network of business mentors. Plus, aspiring founders are not required to quit their day job to participate, so they can begin building a business around their ideas without putting their livelihood at risk.



# Gamma Rebels

GammaRebels is an accelerator program for tech startups based in Warsaw, Poland. The program lasts 3 months and ends with a demo day during which the startups present their products/solutions in front of investors, business angels audience. The first edition started on 1st August 2011.

GammaRebels is a part of venture capital company hardGAMMA Ventures.

The logo for Huge Thing, featuring the words "HUGE" and "THING" stacked vertically in a bold, dark blue, rounded, sans-serif font.

# Huge Thing

HugeThing is an intensive acceleration programme, based in Poland, for the high potential teams with global ambitions, powered by SpeedUp Venture Capital Group featuring 500 startups & other accelerators.

Huge Thing teaches how to gain a funding and how to manage budget in the most efficient way possible. It supports founders in a journey to become smart entrepreneurs, able to build strong and capable teams. The goal is to give them the tools and knowledge which allow them to build a business successfully.

The programme is dedicated to startups working on a scalable, innovative idea.



# StartUp HUB Poland

StartUp Hub Poland (2012) is a Warsaw base organization which mission is:

- to build an innovation hub for Central-Eastern Europe in Poland;
- to create regionally-based high-tech brands that win global-markets;
- to support promising commercialize research, scientific prototypes & support R&D;
- to meet early-stage high-tech start-ups with leading VC funds;
- create and enhance the image of innovative Poland, hospitable for newest ideas and commerce.

SHP hosts, guides and pre-incubates innovative startups from Poland and abroad



# Innovation Labs

Innovation Labs is a pre-accelerator for young tech founders and startups. The program targets students and graduates from technical universities and from communication, business and creative fields for the 3-month mentoring adventure of team work, intensive prototype development and mentorship, exploring Romania's growing startup ecosystem.

The participants are empowered to develop proof-of-concept solutions and products using cutting edge tech with the support of top mentors in the ICT and business industry.

The teams accepted in the program will work during the mentoring program to develop prototypes for their idea through user testing, design work, business modelling and product validation in weekly courses and workshops in a variety of fields.



# Skolkovo

The Skolkovo Innovation Center is a high technology business area that is being built at Mozhaysky District in Moscow, Russia. Moscow School of Management SKOLKOVO offers programmes for students seeking to excel in businesses of any type and size – from startups to multinational corporations. All programmes are designed with a “learning by doing” principle and include theoretical segments, practical tasks, project work and international modules. At SKOLKOVO Business School the academic platform is the intellectual centre, responsible for the development of the education and research agenda.

Their goal is to foster an open platform of academic exchange, attract world-class professors and researchers, develop Russian experts, explore and tackle issues at the overlap of academia and business practices, and generate new ideas. They strive to create relevant knowledge and expertise for those who rely on Russia and emerging markets.



## GrowthUP (Bay View Innovations)

Business Accelerator GrowthUP is part of GrowthUP Group and is the first accelerator in Ukraine to start working with technology projects. The history of the accelerator began in 2008 when, taking into account the state of the Ukrainian industry of technology business and venture capital investments, as well as the specifics of the local market, it was decided to start the work in the free format of the Academy of Entrepreneurship at the consulting company BayView Innovations (also part of the GrowthUP Group). Over the period from 2008 to autumn 2013, through the accelerator was over 350 startups and listened to seminars of more than 3000 people. Its graduates have raised more than \$3 million in seed and \$ 45 million in rounds A and B. Today, the GrowthUP Accelerator is the only accelerator in Ukraine, based on the long and successful experience of working with projects in the Valley and in Europe, which allows it to work with such projects confidently.



## UVCA

Ukrainian Venture Capital and Private Equity Association (UVCA) was established to spread the word about Ukraine's achievements and opportunities and to support investors in every aspect, from providing reliable information to establishing international connections at the industry and government levels. On the other hand, blossoming local technology sector have triggered emergence of new local investors, who certainly benefit from the western peers sharing their expertise and best practices. By building a bridge between Ukrainian and global ecosystems, UVCA facilitates the motion of knowledge and capital in both directions. UVCA is a member of Invest Europe.



## iPavlov.ai

iPavlov.ai is on a mission of solving conversational intelligence. It makes research, open-source state-of-the-art approaches to NLP & dialogue systems development in DeepPavlov library and apply its knowledge to real world problems.

Their goal is to enable AI-application developers and researchers with the state-of-the-art tools for creation of next generation conversational systems. With \$9m in funding, it gathered the world class R&D team in MIPT, released DeepPavlov library in February 2018 and got up to 2000 stars at GitHub as of now.

Location

Russia

Sources

[ipavlov.ai](http://ipavlov.ai)



## IIDF

One of the priorities of Internet Initiatives Development Fund (IIDF) is financial and expert support to startups in their early development stages. The Fund also plans to launch a variety of educational programs and to perform a number of legislative initiatives. These steps will help to increase transparency and ensure effective cooperation between entrepreneurs, investors, and state agencies in the field of venture capital investments in Russian online projects.

Internet Initiatives Development Fund will further the development of the necessary infrastructure and conditions that will be conducive to a full-fledged industry of small and medium online businesses in Russia.



**eastlabs**  
Think Brighter

# Eastlabs

Eastlabs is a newly launched venture capital seed accelerator fund based in Kyiv, Ukraine.

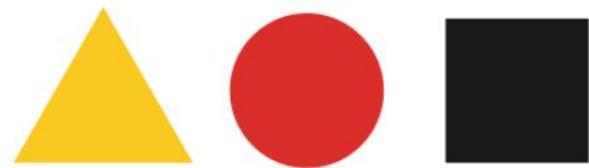
Its goal is to help early-stage internet enabled ventures move from idea stage to become highly successful companies.

The logo for 'eclass' is displayed in a large, bold, black, lowercase sans-serif font. The letters are closely spaced, and the overall appearance is clean and modern.

## Eclass

Eclass is for all those who are interested in modern technology in learning and in particular online courses. First of all, Eclass has done this project to make an easy and convenient guide to a variety of existing online courses, to have a common directory, not just a dozen separate ones, to keep abreast of all new things, without having to search a huge number of sites daily in order to find a relevant course.

Eclass is just the beginning of the project and it will be constantly developing as the whole online learning area itself.



SCHOOL OF DATA ANALYSIS

## School of Data Analysis (Yandex)

The School of Data Analysis is a free Master's-level program in Computer Science and Data Analysis, which is offered by Yandex since 2007 to graduates in engineering, mathematics, computer science or related fields. The aim of the School is to train specialists in data analysis and information retrieval for further employment at Yandex or any other IT company. One of the school's key advantages is the opportunity to take an internship at Yandex, available to any student or graduate of the school. Each graduate receives a certificate from Yandex. The School has branches in Moscow, Yekaterinburg, Novosibirsk, Kiev and Minsk. In addition to partnering with the Computer Science Center in St. Petersburg, the School co-organises joint academic programmes with some of Russia's leading research institutions. The School also runs distance-learning courses and provides lectures over the internet.



## Risky Business Ventures

Risky Business was established to support promising early stage startups with the resources to grow into regional and global sustainable tech firms. Bringing together some of the most prominent business people in the region, it provides more than financing. In addition to intensive and high-quality consulting services focused on product development, scaling and strategy, Risky Business Ventures also offers financial investment. It is the first structure in Romania targeted towards pre-seed support and an innovative step forward in supporting the growth and sustainability of the Romanian startup ecosystem.



# Happy Farm

Happy Farm is the first full cycle American-Ukrainian business accelerator that provides business development services to startup teams or companies as well as further guidance and attracting investments. Its startups are seeded in Kiev, and launched in Silicon Valley with global mentors.

Happy Farm has already held 4 acceleration cycles for startups from Ukraine, Russia, Belarus, Uzbekistan, Italy and China + 1 acceleration program for Imperious Group VC Fund (Lion Farm program). Happy Farm has 31 portfolio companies 12 of which have already attracted seed investments. Its network consists of over a 100 board members and mentors who are successful entrepreneurs and investors from the US and Europe as well as dozens VC funds and hundreds of business angels from Europe, the CIS and the US.

The logo for WannaBiz, featuring the word "WANNA" in a bold, dark grey sans-serif font, followed by "Biz" in a bold, orange sans-serif font.

# WannaBiz

WannaBiz is an angel seed fund, focused on seed stage global projects in ad tech and SaaS. Founded in 2012 by three young IT-entrepreneurs in Odessa, WannaBiz became one of the most active startup incubators in Ukraine. The founders were driven by the goal to form and to develop the ecosystem of IT-entrepreneurship in Ukraine. During the first 3 years WannaBiz raised 11 startups through the acceleration program, 7 of them raised investments, 6 projects achieved the next funding round. In September 2015 WannaBiz transformed into a seed fund, virtually stopping its incubation activity. Its goal is to build and develop global projects in line with the competitive market.



# TechHub Warsaw

TechHub is a unique environment where technology startups can start up faster. It nurtures an international network of like-minded and focused tech entrepreneurs, providing places where they can work, meet, collaborate, network, learn and have fun.

TechHub is the global community for technology entrepreneurs and startups. TechHub works with 750+ startups around the world to help them scale. It is present in Warsaw, London, Swansea, Madrid, Riga, Bucharest and Bangalore and it is partner for Google For Entrepreneurs.

The logo for Startup Estonia is displayed in a white box. It consists of the words "STARTUP" and "ESTONIA" stacked vertically. The letters are in a light blue, sans-serif font. The letter 'A' in "STARTUP" and the letter 'I' in "ESTONIA" are replaced with a stylized blue triangle pointing upwards. A small trademark symbol (TM) is located to the right of the word "STARTUP".

STARTUP<sup>TM</sup>  
ESTONIA

# Startup Estonia

Startup Estonia is a governmental initiative aimed to supercharge the Estonian startup ecosystem in order to be the birthplace of many more startup success stories to come. For that, Startup Estonia is working on making Estonia one of the world's best places for startups, partnering with and uniting the best of startups, incubators, accelerators, private and public sector.

The Estonian startup community has gathered data about the Estonian startup scene since the year 2006 – all investments, fundings, failures and exits of Estonian tech startups.



## LIFT99

From founders to founders, LIFT99 helps startup entrepreneurs and bright minds from all over the world elevate their businesses with the necessary know-how, network, and support. They are set to transform the way founders share expertise, learn, and grow. They are currently focusing on building a skill-sharing software for today's and tomorrow's founders across the world, as well as building the startup communities of Estonia and Ukraine. LIFT99 Tallinn Hub has earned the reputation of the flagship of Estonian vibrant startup ecosystem.

Location

Estonia

Sources

[lift99.co](http://lift99.co)



# Vilnius Tech Park

The region's most complex and integrated ICT hub, Vilnius Tech Park aims to attract and unite innovative talent from game development, big data, cyber security, smart solutions, fintech and digital design.

Vilnius Tech Park is inviting cutting edge companies to become part of this unique ecosystem, located 9000+ sq meters of renovated XIX century buildings, surrounded by an old park just a 15 minute walk from Vilnius city centre.

e-LITHUANIA  
A Hub for Innovation

## e-LITHuania

e-Lithuania is a Lithuanian IT company cluster that aims to spread the word of Lithuania's ICT sector potential, grow the competitiveness of the cluster members and offer eGovernment as well as eBusiness solutions to the Lithuanian and international companies.

e-Lithuania cluster's vision is to become a reliable and recognized IT company alliance, a partner, which creates innovative and competitive eGovernment and eBusiness solutions that build added value.

# 15 Conferences in Eastern Europe



# 15 AI Conferences in Eastern Europe 2018-2019



14th International Conference on Electronics Computer and Computation



23rd World Congress on Information Technology



2nd International Conference on Recent Advances in Artificial Intelligence (RAAI) 2018



4th International Conference on Engineering Technology and Applied Sciences (ICETAS)



AI CONFERENCE 2018



AIME 2019 conference



Big Data Conference 2018



CyCon 2018 - Cyber Security Conference



OpenTalks.AI conference



Science and Technology Convergence Forum



TAPOST 2019



The 18th International Conference on AI and Soft computing



The 707th ICAISC



The Artificial Intelligence Conference



The Fifth International Conference on Artificial Intelligence and Pattern Recognition (AIPR2018)

# 15 AI Conferences in Eastern Europe 2018-2019

NAME	DATE	WEBSITE
14th International Conference on Electronics Computer and Computation	29 November - 1 December 2018	<a href="http://icecco.net/#/mainBlock">http://icecco.net/#/mainBlock</a>
23rd World Congress On Information Technology	6-9 October 2019	<a href="http://wcit2019.org/">http://wcit2019.org/</a>
2nd International Conference on Recent Advances in Artificial Intelligence (RAAI) 2018	25-26 June 2018	<a href="https://conferences.unibuc.ro/raai2018/">https://conferences.unibuc.ro/raai2018/</a>
4th International Conference on Engineering Technology and Applied Sciences (ICETAS)	24-28 April 2019	<a href="https://www.icetas.com/icetas-2019-kyiv-call-papers">https://www.icetas.com/icetas-2019-kyiv-call-papers</a>
AI development in Ukraine: topical issues on the new Artificial Intelligence platform	14 November 2018	<a href="https://aiconference.com.ua">https://aiconference.com.ua</a>
AIME 2019 conference	26-29 June 2019	<a href="http://aime19.aimedicine.info/">http://aime19.aimedicine.info/</a>
Big Data Conference 2018	27-29 November 2018	<a href="https://www.bigdataconference.lt/">https://www.bigdataconference.lt/</a>
CyCon 2018 - Cyber Security Conference	30 May-1 June 2018	<a href="https://ccdcoe.org/cycon-2018.html">https://ccdcoe.org/cycon-2018.html</a>
OpenTalks.AI conference	14-16 February 2019	<a href="http://opentalks.ai/en">http://opentalks.ai/en</a>
Science and Technology Convergence Forum	12-13 October 2018	<a href="http://www.stcc.am/">http://www.stcc.am/</a>
TAPOST 2019	9-10 October 2019	<a href="http://www.tapost.org/">http://www.tapost.org/</a>
The 18th International Conference on AI and Soft computing	16-20 June 2019	<a href="http://www.icaisc.eu/">http://www.icaisc.eu/</a>
The Academics World 707th International Conference on Artificial Intelligence and Soft Computing (ICAISC)	17-18 November 2019	<a href="http://www.academicworld.org/Conference2019/Ukraine">http://www.academicworld.org/Conference2019/Ukraine</a>
The AI Conference	9 April 2019	<a href="http://aione.world/en/">http://aione.world/en/</a>
The Fifth International Conference on Artificial Intelligence and Pattern Recognition (AIPR2018)	17-18 September 2018	<a href="http://sdiwc.net/conferences/5th-conference-artificial-intelligence-pattern-recognition/">http://sdiwc.net/conferences/5th-conference-artificial-intelligence-pattern-recognition/</a>

2018

ICECCO

*Suleyman Demirel University*

# 14th International Conference on Electronics Computer and Computation

29 November - 1 December 2018 Kazakhstan, Almaty

[icecco.net](http://icecco.net)

The ICECCO 2018 aims are collaboration for researchers and developers from various areas of electronics and computing, developers and practitioners to explore and address the challenging research issues on e-technology with the purpose of developing a common research agenda and vision for electronics and computer sciences. The main focus of this conference is on the enabling technologies to facilitate next generation. By conducting this conference it is hoped to make a universal impact on the related subjects.



**the power of decentralization**

## 23rd World Congress On Information Technology

6-9 October 2019 Yerevan, Armenia

[wcit2019.org](http://wcit2019.org)

WCIT – the World Congress on Information Technology – is an annual congress where the world’s leading technology thinkers and innovators gather to advance the conversation on the key questions facing the industry and the world. Framing the discussions of the 2019 congress will be the theme: “Fulfilling the Promise of the Digital Age - The Power of Decentralization”. The congress brings together more than 2,000 high-level public and public sector representatives from over 60 countries, including heads of state, investors, startup founders, and academic thought leaders.



## 2nd International Conference on Recent Advances in Artificial Intelligence (RAAI) 2018

25-26 June 2018 Romania, Bucharest

[conferences.unibuc.ro](http://conferences.unibuc.ro)

The main goal of the conference is to bring together active researchers in various fields of Artificial Intelligence, presenting state of the art research topics and projects (published or ongoing work) as well as reports concerning the up to date technologies related to their fields of study. In addition to its dissemination purpose, the conference aims to stimulate the creation of active research networks in the fields of its participants. The fields of interest are: Natural Language Processing, Machine Learning, Computer Vision, Data Science, Information Retrieval and other connected subfields.

KIEV, UKRAINE | APRIL 24 - 28 2019



ICETAS

4th International Conference on  
Engineering Technology and  
Applied Sciences

# 4th International Conference on Engineering Technology and Applied Sciences (ICETAS)

24-28 April 2019 Kiev, Ukraine

[icetas.com](http://icetas.com)

ICETAS 2019 intends to be a global forum for researchers and engineers to present and discuss recent innovations and new techniques in Engineering Technology and Applied Sciences.

The conference seeks to contribute to presenting novel research results in all aspects of Engineering Technology and Applied Sciences. The conference aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of Engineering Technology and Applied Sciences. It also provides the premier interdisciplinary forum for scientists, engineers, and practitioners to present their latest research results, ideas, developments, and applications in all areas of Engineering Technology and Applied Sciences.



## AI CONFERENCE 2018

14 November 2018 Kiev, Ukraine

<https://aiconference.com.ua/en>

Despite all human merits, machines have many parameters that make them better. If you can delegate your work to a machine – let it do it! Experts will explain which new opportunities are opened by artificial intelligence for business and how to use the technology.

**What:** a conference that focuses on the automation of daily business tasks using artificial intelligence, Internet of Things, and chatbots.

**For whom:** business owners, operations managers, freelancers, and marketers.

**What for:** to reduce the number of human errors, cheapen and automate the production, acquire new customers, and speed up the service process; improve business analytics, automate marketing.



## AIME 2019 Conference

26-29 June 2019 Poland, Poznan

[aime19.aimedicine.info](http://aime19.aimedicine.info)

The AIME 2019 conference will be held in Poznan, Poland on June 26-29, 2019. As previous AIME conferences (from Marseille in 1987 to Vienna in 2017) it will be a unique opportunity to present significant theoretical, methodological and applied results related to the application of artificial intelligence (AI) in medicine. AIME 2019 will include two invited lectures, full and short papers, workshops and a doctoral consortium.



## Big Data Conference 2018

27-29 November 2018 Lithuania, Vilnius

[bigdataconference.lt](http://bigdataconference.lt)

Big Data Conference Vilnius is a three-day conference with technical talks in the fields of Big Data, High Load, Data Science, Machine Learning and AI. Conference brings together developers, IT professionals and users to share their experience, discuss best practices, describe use cases and business applications related to their successes. The event is designed to educate, inform and inspire – organized by people who are passionate about Big Data and Data Exploration.

**CCDCOE**NATO Cooperative Cyber Defence  
Centre of Excellence Tallinn, Estonia

## CyCon 2018 - Cyber Security Conference

30 May - 1 June 2018 Estonia, Tallinn

[ccdcoe.org](http://ccdcoe.org)

Each year, around 600 decision-makers, opinion-leaders, law and technology experts from the governments, military, academia and industry of nearly 50 countries meet at CyCon to address current cyber security challenges in an interdisciplinary manner. The CCDCOE conducted its first cyber security conferences in 2009, when two separate conferences were organised, focusing on legal and technological aspects and research on cyber conflict. Now, after nine iterations, the International Conference on Cyber Conflict is a unique annual conference hosting all the focus areas of cyber conflict in a single event. Over two and a half days, experts approach the conference's key themes in keynote speeches, plenaries, focused sessions and breakout discussions. CyCon's workshops allow more in-depth discussions on specific topics related to technology and malware development, education and training issues, legal aspects, etc., or provide practical hands-on training.



## OpenTalks.AI conference

14-16 Feb 2019 Moscow, Russia

[opentalks.ai](http://opentalks.ai)

OpenTalks.AI conference is an independent place for all AI stakeholders, where leading scientists will meet entrepreneurs, developers will meet customers, startups will meet investors. OpenTalks.AI is a place for presentation of leading R&D and AI solutions from Russia and abroad and discuss AI phenomenon from all sides – science, business, ethics, legal and philosophy.



# Science and Technology Convergence Forum

12-13 October 2018 Yerevan, Armenia

[stcc.am](http://stcc.am)

Science and Technology Convergence Forum (STC) aims to encourage science and industry cooperation in IT sector. The forum consists of parallel sessions in a line of 6 areas; those disclose the current status of scientific achievements, analyze and present issues as well as investigate potential avenues of cooperation between science and technology. Through the sessions the scientific community and the industry will be able to share and exchange ideas on possible new projects, discuss ongoing developments and discuss issues that hinder the progress of either side.

The areas of the forum are:

- *Quantum Computing*
- *Machine Learning*
- *Microelectronics*
- *Cybersecurity*
- *Computer Vision*
- *Renewable Energy*

The logo for TAPOST 2019, featuring the word "TAPOST" in white, bold, uppercase letters centered within a teal square. In the top-left corner of the overall slide, there is a decorative graphic of overlapping teal squares.

# TAPOST

## TAPOST 2019

9-10 October 2019 Latvia, Riga

[tapost.org](http://tapost.org)

The whole TAPOST 2019 will be devoted to effective and efficient testing under the conditions of frequent and fast delivery cycles. There will be talks (brief – 20 min or long – 40 min) addressing any aspect of this theme including:

- Test automation
- Testing in agile context
- Continuous integration and Continuous Delivery
- Artificial Intelligence in Test Automation
- Machine Learning in Test Automation
- Built-in testing
- Exploratory testing
- Risk-based testing
- Smoke testing
- Efficient test management approaches
- Testing under tight deadlines
- People development and upskilling
- Performance testing and engineering
- Usability and other non-functional testing



## The 18th International Conference on AI and Soft computing

16-20 June 2019 Poland, Zakopane

[icaisc.eu](http://icaisc.eu)

The conference will provide an excellent opportunity for scientists and engineers to present and discuss the latest results and methods. The conference will include keynote addresses, contributed papers, and numerous lectures and tutorials on a wide range of topics. Springer sponsors the ICAISC 2019 Best Paper Award by providing an amount of EUR 1,000.



# The Academics World 707th International Conference on Artificial Intelligence and Soft Computing (ICAISC)

17-18 November 2019 Kiev, Ukraine

<http://www.academicsworld.org/Conference2019/Ukraine/>

The Academics World 707th International Conference on Artificial Intelligence and Soft Computing (ICAISC) aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of Artificial Intelligence and Soft Computing. It also provides the premier interdisciplinary forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns, practical challenges encountered and the solutions adopted in the fields of Artificial Intelligence and Soft Computing.

This Conference is organized by Academics World. The conference would offer a large number of invited lectures from renowned speakers all over the country. The Best paper awards will be given for the papers judged to make the most significant contribution to the conference.



## The AI Conference

December 14-16, 2018 Moscow, Russia

[aione.world/en/](http://aione.world/en/)

At the conference, scientists will be able to present their reports at the stage and showcase their researches at the exhibit stands. The attendees will be able to get comments from the best experts in AI and understand what is needed to be improved in their work to move on.

3 days conference on Artificial Intelligence with several panels:

- At the startup alley teams will present their projects in front of the conference attendees, communicate with investors showing their product going live.
- As part of A!ONE it was held AI.Hack Hackathon with a prize pool of \$10 000.



## The Fifth International Conference on Artificial Intelligence and Pattern Recognition (AIPR2018)

17-18 September 2018 Poland, Lodz

[sdiwc.net](http://sdiwc.net)

The Fifth International Conference on Artificial Intelligence and Pattern Recognition (AIPR2018) was held over three days, with presentations delivered by researchers from the international community, including presentations from keynote speakers and state-of-the-art lectures.

# 60 AI Influencers in Eastern Europe



# 60 AI Influencers in Eastern Europe



# 60 AI Influencers in Eastern Europe



Adrian Matei



Albert Efimov



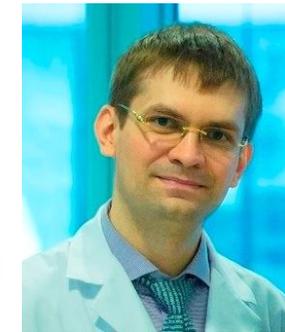
Aldis Erglis



Aleksander Kutela



Alex Konduforov



Alex Zhavoronkov



Alexander Chekan



Alexandra Petrus



Alexandru Floares



Andrus Ansip



Antons Mislevics



Arkady Volozh



Arseniy Kravchenko



Askar Zhumagaliyev



Audrius Zujus



Bakytzhan  
Sagintayev



Dan Ioan Tufis



David Dachi  
Choladze



David Yang



Dimitry Kumsishvili

# 60 AI Influencers in Eastern Europe



Dmitry Dolgorukov



Dmitry Grishin



Dmytro Bilash



Dmytro Zikrach



Edmunds Belskis



Elijus Čivilis



Ernestas Sysojevas



Evgeniy Burnaev



Evgeniya Konovalova



Gediminas Peksys



Gheorghe Tecuci



Herman Gref



Hovhannes Avoyan



Hrant Khachatryan



Ilya Kirillov



Jaann Tallinn



Janusz Homa



Jarosław Gowin



Jerzy Kwieciński



Karen Karapetyan

# 60 AI Influencers in Eastern Europe



Katarzyna Ludka



Leonid Lozner



Liviu Dragan



Marten Kaevats



Mateusz Morawiecki



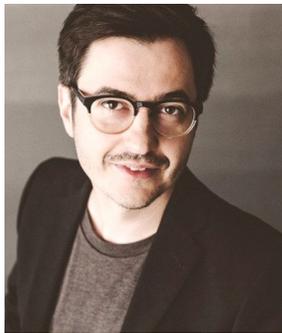
Max Lytvyn



Mikhail Burtsev



Pietrzak Piotr



Raul Popa



Renate Strazdina



Roman Merkulov



Sergey Nikolenko



Siim Sikkut



Tomas Dirvonskas



Tomas Krilavičius



Toomas Hendrick  
Ilves



Vilius Šapoka



Yelzhan Birtanov



Yuriy Guts



Yury Melnichek

# Adrian Matei

Head of Data Intelligence Office Advanced Analytics (BI & AI/Data Science) & Data Management at Orange Romania



Adrian Matei is a Senior Enterprise Leader of Orange Romania with 12+ years of proven expertise in the IT&C / Telecommunications sector, driving business excellence, transformation and growth by harnessing next-level technology performance and leveraging data-driven execution.

Dynamic, versatile, results-oriented professional with a strong transformation management background across three value areas: Technology and IT Engineering, Operations and PMO, as well as Digital / Business Analytics and Automation.

His core competencies & leadership assets include: Data-driven Digital Transformation, Advanced Predictive Data Analytics, Data Science modeling, Machine Learning & Artificial Intelligence; Data mining, model fitting and forecasting.



## Education

WU (Vienna University of Economics and Business), Executive Master of Business Administration (EMBA), General Business Administration and Management

University POLITEHNICA of Bucharest, (Ph.D.), IoT/Connected Cars - Next Generation Vehicular Networks

University POLITEHNICA of Bucharest, (B.Sc.), Mobile & Satellite Telecommunications

# Albert Efimov

Head of Sberbank Robotics Laboratory



Albert has over 25 years in IT and telecom industry, delivering complex and large business change projects and nurturing Russian IT startups at the frontier of innovation. Unique blend of experience in telco operators (5 years) in various positions enhanced with full-time Master in Communication Management Degree from one of UK Top Business Schools.

Joining Skolkovo Foundation almost from its start in 2010, he personally did a lot of projects and events for Russian innovation. He managed people, technologies, budgets and requirements at different scales according to organizational goals.



## Education

Imperial College London, Summer School, Human Centered Robotics  
University of Strathclyde, Master, Communications Management  
Moscow State Institute of Radio Engineering, Electronics and Automation  
(Technical University), Master in Computer Science

# Aldis Ērglis

Machine Learning lab lead at Emergn Limited



Aldis is an experienced business process, product and project manager demonstrating a history of working in the information technology, custom software development, and services industry. Aldis is skilled in business analytics, business planning, and operations management. Ērglis is specialized in data analysis and advanced analytics, he is a local community leader and data analysis enthusiast.



## Education

Latvijas Universitate / University of Latvia, Master, Economics  
Latvijas Universitate / University of Latvia, Bachelor's degree, Business Administration and Management

# Aleksander Kutela

CEO Grupa Onet.pl SA



The president of the Onet S.A., a Member of the Management Board in Ringier Axel Springer Polska as well as a Member of the Advisory Board of the ING Bank Śląski. Before he was associated with HBO, as the President of HBO Poland (2000-2015) and Senior Vice President of HBO Europe (2007-2015). He is a graduate of Economic Academy in Kraków (Foreign Trade) and the General Management Program at Harvard Business School. He also finished specialistic programs in the field of strategy, marketing and Management on the Stanford Business School, Harvard Business School, Kellogg School of Management and London Business School.



## Education

Northwestern University - Kellogg School of Management, Branding in Media & Entertainment

Stanford University Graduate School of Business, Strategic Marketing Management Program & Digital Marketing Program

Uniwersytet Ekonomiczny w Krakowie, MA in Economics

Harvard Business School, Effective Strategies for Media Companies

# Alex Konduforov

Machine Learning Engineer / Data Science Competence Leader at AltexSoft



Alex is the Data Science group leader and the Machine Learning engineer at AltexSoft. In the past he worked as a professional software engineer (.NET platform, mostly web development), technical/development leader, Software Architect, Project Manager.

His specialties include: Machine Learning, Data Science, Software development, Leadership, Architecture, Project Management.



## Education

Kharkiv National University of Radioelectronics, Master in Computer Science

# Alex Zhavoronkov

Founder and CEO at Insilico Medicine



Dr. Zhavoronkov is the CEO of Insilico Medicine, a Baltimore-based leader in the next-generation artificial intelligence and blockchain technologies for drug discovery, biomarker development, and aging research. At Insilico he pioneered the applications of generative adversarial networks and reinforcement learning techniques for generating the novel molecular structures with the desired properties. He set up the R&D centers in 6 countries including Korea, Russia, and Taiwan and launched multiple biomarker initiatives including Young.AI. Prior to founding Insilico Medicine, he worked in senior roles at ATI Technologies (acquired by AMD in 2006), NeuroG Neuroinformatics, the Biogerontology Research Foundation and YLabs.AI and established AgeNet.net competitions and diversity.AI initiative. Since 2012 he published over 80 peer-reviewed research papers and books including “The Ageless Generation: How Biomedical Advances Will Transform the Global Economy”. He is also the co-organizer of the Annual Aging Research for Drug Discovery Forum and the Artificial Intelligence and Blockchain for Healthcare Forum at EMBO/Basel Life, one of Europe's largest industry events in drug discovery.



## Education

Queen's University, Bachelor of Science, Computer Science  
The Johns Hopkins University, Master of Science, Biotechnology  
Lomonosov Moscow State University (MSU), PhD, Physics  
Queen's University, Bachelor of Commerce (Honors), Finance, Operations

# Alexander Chekan

Venture partner at Haxus



Alexander Chekan is an experienced media executive, active mentor of IT startups and organizer of e-commerce industry events. He was in the top 30 on Probusiness magazine's 2016 list of 'Top Entrepreneurs Under 40'.

As the CEO of TUT.BY, now the largest private media group in Belarus, Alexander has overseen numerous M&A deals mainly for web products involving public companies as well as private equity and venture funds. He's a member of the Coordination Council of the HTP High Tech Park incubator in Minsk and mentors at several accelerators including Google Launchpad. He was named national Mentor-of-the-Year at Global Entrepreneurship Week 2016.

Alexander holds an International Executive MBA degree from HEC Paris-affiliate BMI. He has also completed further studies in management and venture financing at Stanford University Graduate School of Business and other business schools in the European Union and the USA.



## Education

Executive Education / Stanford Graduate School of Business, Mergers and Acquisitions

Stanford University Graduate School of Business, Managing Teams for Innovation and Success

Baltic Management Institute, International Executive MBA, Business Administration and Management, General

# Alexandra Petruș

Co-Founder at Bucharest AI



Alexandra is a high impact product professional with a track record of defining, launching and marketing star products. She is masterful at crafting product strategies that bridge the gap between business problems and technology. Alexandra is proud of being part of award winning teams and businesses.

Petruș actively works with: experimenting, prototyping & user testing, Agile methodologies, deep analytics, sales & leads pipelines, business model canvas, Jobs-to-be-Done methodology, consumer behavioral driven decisions. Alexandra has 8+ years experience in startup and intrapreneurial environments, in leading Product & Organisational roles.



## Education

Universitatea Tehnică de Construcții din București, BA (Bachelor's Degree)  
Scoala Nationala de Studii Politice si Administrative, MA (Master's Degree)

# Alexandru Floares

Owner and CEO at OncoPredict



Alexandru Floares is a neurologist (M.D.) having a Ph.D. degree in biophysics and a computer scientist. He was the head and founder of the Artificial Intelligence Department of the Cancer Institute Cluj-Napoca, Transilvania, Romania. He is the president and founder of SAIA and OncoPredict a biomedical informatics company. He coordinates research projects on gene regulatory networks (GRN), brain neural networks, metabolic and signaling pathways, tumor vascular networks, cancer genomics and proteomics, and on intelligent clinical decision support systems (i-CDSS) for diagnosis, prognosis, and treatment optimization, promoting Precision and Personalized Medicine.

He is a member of the Steering Committee of the Computational intelligence in Bioinformatics and Biostatistics Conference, and of the Expert Network HCI-KDD. He is the recipient of the Honorary Doctor title of The Yorker International University and other awards, and member of IEEE Society and New York Academy of Science.



## Education

University of Medicine and Pharmacy Iasi, MD, PhD in Medicine, Neurology, Biophysics

# Andrus Ansip

European Commissioner for Digital Single Market



Andrus Ansip is an Estonian politician, the current European Commissioner for Digital Single Market and Vice President of the European Commission, in office since 2014.

Previously, he was Prime Minister of Estonia from 2005 to 2014 and chairman of the liberal Estonian Reform Party from 2004 to 2014. Before his entry into politics Ansip trained as a chemist, before working in banking and business. He entered Parliament in 2004, quickly becoming Minister of Economic Affairs, and subsequently Prime Minister in April 2005.



## Education

University of Tartu, Chemistry

# Antons Mislevics

Head of AI / Machine Learning at C.T.Co



Antons is the Head of AI / Machine Learning at C.T.Co. C.T.Co limited is a Europe-oriented IT solutions and services provider, based in Riga, Latvia (EU) with a track record of delivering enterprise solutions to top global clients for more than 18 years. He is Lead Researcher at Riga Technical University, Department of Artificial Intelligence and Systems Engineering. Prior he worked as a Senior Consultant at Microsoft, where he supported Microsoft customers and partners in designing architectures and developing solutions using SharePoint and cloud technologies



## Education

Rigas Tehniska Universitate. Doctor of Engineering Science (Dr.sc.ing.),  
Computer Systems

Rigas Tehniska Universitate, Master of Engineering Science (Mg.sc.ing.),  
Computer Systems

Rigas Tehniska Universitate, Bachelor of Engineering Science, Computer  
Control and Computer Science

# Arkady Volozh

Founder of Yandex



Arkady Yurievich Volozh is a Russian billionaire technology entrepreneur, investor, computer scientist, and philanthropist, best known as the founder and CEO of Yandex. Volozh has background in computer science. After working at a state pipeline research institute, he started a small business importing personal computers from Austria. He went on to co-found several IT enterprises besides Yandex, including a Russian provider of wireless networking technology InfiNet Wireless, and CompTek International, one of the largest distributors of network and telecommunications equipment in Russia. Arkady co-founded Yandex in 1997, later leaving his position as CEO of CompTek International to become the CEO of Yandex in 2000. As part of a larger effort to spread machine learning, Volozh and the Yandex team established the Yandex School of Data Analysis in 2007, offering a free master's level program in data science. The program has grown to include six branches, online courses, and other learning programs through multiple partnerships. In 2018, the school opened a branch in Tel Aviv to launch a one-year career advancement program in machine learning.



## Education

Republican School of Physics and Mathematics  
Gubkin Russian State University of Oil and Gas, Applied Mathematics

# Arseny Kravchenko

Head of Data Science team in Juno



Arseny Kravchenko is one of the admins in Open Data Science community. This community unites more than 10000 russian-speaking data science related guys. Within ODS I co-organize local free data science related events in Minsk: meetups, workshops, etc. Also he has recently reached Kaggle Master achievement. Currently he is mostly interested in Computer Vision and Deep Learning.



## Education

Belarusian State University (quit after 1.5 years, Communication and Media Studies)

# Askar Zhumagaliyev

Deputy Prime Minister of the Republic of Kazakhstan



Askar Zhumagaliyev is a Kazakh politician. He became the Deputy Prime Minister of the Republic of Kazakhstan on 29 August 2017. He was the Deputy Minister for Investment and Development of Kazakhstan, Chief executive officer of Kazatomprom, Kazakhstan's uranium mining company. He was the Chairman of the Agency Republic of Kazakhstan for Communications and Information between March and August 2014; Minister of Transport and Communications of the Republic of Kazakhstan between January 2012 and March 2014; Minister of Communications and Information of the Republic of Kazakhstan between March 2010 and January 2012, President of JSC Kazakhtelecom between October 2006 and March 2010.



## Education

Satbayev Kazakh National Technical University, Radio Communication, Broadcasting and Television  
Kazakh Humanitarian Law University, Law  
École Polytechnique Fédérale de Lausanne, Master's degree in Electronic Management

# Audrius Zujus

Co-owner and CTO at Baltic Institute of Advanced Technology (BPTI)



Audrius Zujus is Co-owner and CTO at Baltic Institute of Advanced Technology (BPTI). Baltic Institute of Advanced Technology (BPTI) is a private, high quality research-oriented institute, creating and developing new technologies. BPTI gathers interdisciplinary research teams, able to provide efficient solutions to technological and social problems. As a contractor, he has worked with Uber, Swedbank, Deloitte, Samsung, SAAB, and Leonardo. While at Deloitte, he worked with Rolls-Royce, Diageo, Deutsche Bank, Clydesdale Bank, Warner Bros, John Lewis, Waitrose, and Tesco. He is a member of the NATO STO advisory board and holds full NATO Secret security clearance.

He is the Founder of Artificial Intelligence Group. Artificial Intelligence Group is a collective effort to bring together a strong AI community and Lithuania and open up this key field to as many people as possible.



## Education

Aston University, BSc (Hons), Business and Management, Specialised in Information Technology and Government Policy Making

# Bakytzhan Sagintayev

Prime Minister of Kazakhstan



Bakhytzhan Abdiruly Sagintayev is a Kazakh politician who is the current Prime Minister of Kazakhstan, having taken office on 8 September 2016. He began his career as a teacher in the political economy department of the Almaty Institute of National Economy. In 1988-1992, he worked at Kazakh State University and advanced in his career from assistant to assistant professor of the sociology department. In 1998, he was appointed Deputy Governor of Zhambyl region. From 1992-2002 he held the post of the Deputy Chairman of the Agency for Small Business Support, Deputy Chairman of the Agency for Regulation of Natural Monopolies, Competition Protection and Small Business Support. From 2002-2004 he served as the First Deputy Chairman of the Agency for Regulation of Natural Monopolies and Competition Protection. From 2004 to 2007, he chaired the Agency for Regulation of Natural Monopolies of Kazakhstan. From 2007-2008, Sagintayev headed the Prime Minister's Office.



## Education

Kazakh State University (Economic Sciences)

# Dan Ioan Tufis

Professor at Research Institute for Artificial Intelligence



Dan Ioan Tufis is a professor at the Research Institute for Artificial Intelligence. His research interests include: Artificial Intelligence; Natural Language; Processing; Machine Translation; Language Technologies; Machine Learning; Natural Language Understanding and Generation; Knowledge Representation; Semantic Web.

Since 2002 Dan is Director of the Romanian Academy Research Institute for Artificial Intelligence and since 2011 he is Full Member of the Romanian Academy. In 2003 – 2009 Dan was professor at the Faculty of Computer Science, University Al. I. Cuza of Iasi, Romania. In 2010 he was professor at the Faculty of Automatic Control and Computers at the Polytechnic University of Bucharest.



## Education

Faculty of Computers Science, Polytechnic University of Bucharest  
(Software Engineer)

# David Dachi Choladze

Co-Founder and CEO of Pulsar AI



David Dachi Choladze is a co-founder and CEO of Pulsar AI, the company that specializes in Artificial Intelligence field. Pulsar AI has the aim to build automated agents that could converse with users in Georgian. Since then, the team has widened its span of expertise that includes custom made Georgian NLP engine, Georgian speech to text service, deep learning based face ID technology and some vital tools for pre-processing Georgian text online.



## Education

Universita Commerciale 'Luigi Bocconi', Bachelor's degree, International Economics and Management  
Free University of Tbilisi (MBA)  
Central European University (Bachelor of Business Administration)

# David Yang

Founder of ABBYY



David Yang is a Silicon Valley-based serial entrepreneur, founder and Chairman of the Board at ABBYY, co-founder of Yva.ai, and a member of the Band of Angels. He started his first company, ABBYY, in 1989 when he was a 4th-year student at MIPT. Today ABBYY has over 1,000 employees and is a leading developer of Artificial Intelligence, Content Intelligence, Optical Character Recognition, and Text Analytics software with offices in 11 countries. Currently, Dr. Yang is dedicated to Yva.ai by Findo, an ABBYY spin-off he co-founded in 2016. The company is developing an AI-powered real-time employee analytics and performance management system helping organizations save millions of dollars by predicting employee resignations, detecting interpersonal conflicts, and more.



## Education

Moscow Institute of Physics and Technology (State University) (MIPT)  
Degree Name Master of Science (MS)  
Moscow Institute of Physics and Technology (State University) (MIPT)  
(Computer Science)

# Dimitry Kumsishvili

First Vice Prime Minister of Georgia, Minister of Economy and Sustainable Development



Dimitri Kumsishvili is a Georgian politician who has served as the country's First Deputy Prime Minister from 27 November 2016 to 13 June 2018 and Minister of Economy and Sustainable Development from 13 November 2017 to 13 June 2018. Kumsishvili worked as an executive for various businesses in Georgia, including being Deputy General Director of Cartu Bank, owned by the tycoon Bidzina Ivanishvili, from 1997 to 2011 and Director for Business Development of the media holding Palitra Media from 2011 to 2012.



Education

Tbilisi State University (physics, economics)

# Dmitry Dolgorukov

Fintech entrepreneur, Co-Founder of GiniMachine



Dmitry Dolgorukov is a high-tech entrepreneur and business developer with over 15 years of experience in software development and fintech. He is focused on the following areas:

- Machine learning and AI.
- Financial services and solutions.
- Start-up business development.
- Online Lending.

GiniMachine is an AI-based credit scoring solution that utilizes machine learning algorithms and lender's historical data to build high-performing scoring models.



## Education

Chartered Institute of Marketing (Professional Diploma in Marketing)  
Belaruski DżarżauNy Ekanamièny Universitet (MA, International economics)

# Dmitry Grishin

Co-Founder at Mail.Ru Group



Dmitry Grishin is a Russian businessman, investor and Internet entrepreneur. He is best known as co-founder, Chairman and CEO of Mail.ru Group. Dmitry is the head of the department for training IT-specialists at the faculty of "Information Technologies and Programming" at St. Petersburg State University of Information Technologies in Mechanics and Optics. He is the founder of the largest in Eastern Europe Olympiad for programmers Russian Code Cup.



## Education

Stanford University Graduate School of Business  
Bauman Moscow State Technical University (Faculty of Robotics)

# Dmytro Bilash

Co-Founder – Captain Growth, Septa, Academy of Business Innovations



Dmytro Bilash is a co-founder of Captain Growth, AI for marketing analytics. Also, his company holds one of the biggest data science events in Eastern Europe called Kyiv Data Spring where Dmytro is an organizer and speaker. He is experienced in management, marketing, big data, data transformations and AI-based solutions.



## Education

Kiev National Taras Shevchenko University (Media)

# Dmytro Zikrach

Data Scientist at SoftServe



Dmytro is an aspiring Data Scientist who is actively developing the skills pertaining to it. A fast learner with good analytical skills who keeps on learning things. An avid reader who believes in conceptualized learning who is interested in mining information and insights. Zikrach is a lover of Mathematics, Statistics, Algorithms, Machine Learning, Deep Learning, Data Mining, NLP and Big Data. Dmytro is participating in Kaggle, hackathons and other Data Science competitions.

His core competencies include:

1. Strategic Thinking
2. Modeling: Design and implement statistical/predictive models and cutting-edge algorithms utilizing diverse sources of data to solve business problems.
3. Analytics: Use statistical methods to identify trends and relationships between different pieces of data, draw appropriate conclusions and translate analytical findings into strategies that drive solving retail problems.



## Education

Ivan Franko National University of L'viv, Master's degree, Finance  
National University 'Ivan Franko' , Lviv, PhD, Mathematical Analysis  
Ivan Franko National University of L'viv, Master's degree, Math

# Edmunds Belskis

Deputy State Secretary at Ministry of Environmental Protection and Regional Development of the Republic of Latvia



Edmunds Belskis holds the position of Deputy State Secretary at Ministry of Environmental Protection and Regional Development of the Republic of Latvia. In this role, he carries responsibility of defining and implementation of E-Governance policy, as well as developing the whole-of-government approach for better delivery of public services, based on customer needs and provision of multi-channel service, i.e. On-Site and easy to use E-government portal along with seamlessly integrated back-office information systems.



## Education

Rīgas Tehniskā universitāte (Riga Technical University)  
University of Latvia (Master of Public Administration (MPA))

# Elijus Čivilis

Vice-Minister at Ministry of Economy of the Republic of Lithuania



Before getting elected as Vice-Minister of the Ministry of Economy of the Republic of Lithuania, Elijus had been working in various leading positions in IBM for a long time. Currently, as Vice-Minister, he is in charge of state institution information technology (IT) service management office and infrastructure formation process. Graduated from Vilnius University in 2009, he obtained a master's degree in International Business Management graduating from Warwick Business School (UK) in 2013.



## Education

Warwick Business School (MBA)  
Vilniaus Universitetas (Economics)

# Ernestas Sysojevas

CEO at DATA MINER



Ernestas is Senior Trainer and Director in DATA MINER Company. His training carrier started 15 years ago in Lithuania as Certified Microsoft Trainer (MCT) with specialization in Relational Databases area. During these years, he delivered more than 300 Microsoft SQL Server courses. However, 5 years ago he decided to step from Relational Database word toward Big Data solutions.

Now he delivers official Cloudera Hadoop trainings not only locally in Lithuania, but in all Europe, from London to Moscow. As Big Data technology enthusiast, he often speaks or delivers workshop trainings in various IT conferences and events. In 2016 year, taking into account course attendees' evaluations, Ernestas was awarded as best Certified Cloudera Hadoop trained in EMEA area (Europe, Middle East and Asia). He is one of inspirers and main organizers of devdays.lt, devopspro.lt, testcon.lt and bigdataconference.lt conferences.



## Education

Vilnius Gediminas Technical University, Master's degree, Computer Science

# Evgeniy Burnaev

Associate Professor



Since 2007 Evgeniy Burnaev carried out a number of successful industrial projects with Airbus, SAFT, IHI, and Sahara Force India Formula 1 team among others. The corresponding data analysis algorithms, developed by Evgeniy Burnaev and his scientific group, formed a core of the algorithmic software library for metamodeling and optimization. Thanks to the developed functionality, engineers can construct fast mathematical approximations to long running computer codes (realizing physical models) based on available data and perform design space exploration for trade-off studies. The software library passed the final Technology Readiness Level 6 certification in Airbus. Since 2016 Evgeniy Burnaev works as Associate Professor of Skoltech and manages his research group for Advanced Data Analytics in Science and Engineering. For his scientific achievements in the year 2017 Evgeniy Burnaev (jointly with Alexey Zaytsev and Maxim Panov) was honored with the Moscow Government Prize for Young Scientists in the category for the Transmission, Storage, Processing and Protection of Information for leading the project “The development of methods for predictive analytics for processing industrial, biomedical and financial data.”



## Education

Moscow Institute of Physics and Technology (Physics and Mathematics)

# Evgeniya Konovalova

Co-Founder at A!ONE / The Artificial Intelligence Conference



Evgeniya Konovalova, Founder and CEO of AI HUB and CEO of Science Guide, told AI Conference about the way of artificial intelligence being applied in various business models. The expert reviewed business trends and sectors having a huge potential for AI integration.

Evgeniya Konovalova participated in dozens of IT events: 13 hackathons, 50 conferences, and meetups. The AI HUB project led by the expert is a team of researchers who have published a thorough study on artificial intelligence in Russia.

Evgeniya Konovalova revealed relevant issues for business representatives: investments in AI startups in 2017; industries applying artificial intelligence; conventional and promising sectors engaged in this development trend. The presentation was aimed at allowing the audience to realize what AI product would be better to develop within the given conditions.



Education

Moscow state university (Doctor of Philosophy (PhD), Biochemistry)

# Gediminas Peksys

CEO and Co-Founder at oxipit.ai



Gediminas Peksys is Co-Founder/CEO of Oxipit – a startup helping radiologists be more productive through the use of Deep Learning. Having graduated Mathematics at the University of Cambridge, Gediminas has spent the last 7 years working at the intersection of Data Science and Software Engineering. He has won (together with the excellent team at Oxipit) last year's largest Computer Vision competition and helped building AI community in Lithuania through organizing various meetups and expert discussions.



## Education

University of Cambridge (BA, Mathematics)

# Gheorghe Tecuci

Professor of Computer Science and Director of the Learning Agents Center at George Mason University



Gheorghe Tecuci has been the director of the Learning Agents Center since 1995. Prior to joining George Mason University in 1990, he was with the Romanian Research Institute for Informatics. During the summers of 1986-1990, he was a visiting scientist at Laboratoire de Recherche en Informatique de l'Université de Paris-Sud. Between 1994 and 1999 he was also the director of the Center for Advanced Research in Machine Learning, Natural Language Processing and Conceptual Modeling of the Romanian Academy. Between 2000 and 2011 he was also Visiting Professor of Artificial Intelligence at the U.S. Army War College where, between 2001 and 2003, he was Chair of Artificial Intelligence.

He is member of the Romanian Academy and has published around 200 papers, including 11 books, with contributions to artificial intelligence, machine learning and knowledge acquisition, knowledge engineering, cognitive assistants, evidence-based reasoning, and intelligence analysis.



## Education

University Politehnica of Bucharest (Computer Science)

# Herman Gref

CEO at Sberbank



Herman Oskarovich Gref is a Russian politician and top manager. He was the Minister of Economics and Trade of Russia from May 2000 to September 2007. He currently is the CEO and Chairman of the Executive Board of the largest Russian bank Sberbank. Awarded the Order of Merit for Service to the Fatherland, 3rd and 4th Class, the Order of Honor, the Order of Alexander Nevsky, the P.A. Stolypin Medal, 2nd Class, the Order of St. Prince Daniel of Moscow, 1st Class, and the Certificate of Honor and Acknowledgments from the President of the Russian Federation.

He has been awarded the highest honor in France; he was made an Officer of the Legion of Honor. For outstanding achievements in banking and personal contribution to the development of Sberbank, he was awarded the Golden Badge of Sberbank. He is a shareholder of Sberbank: stake in the authorized share capital - 0.0031%, share of the ordinary shares held - 0.003%.



## Education

Omsk State University (Law)

# Hovhannes Avoyan

Co-Founder and CEO of PicsArt



Hovhannes Avoyan is a serial entrepreneur, investor and scholar. He is the co-founder and CEO of PicsArt, a social image editing application. He also served as President of the Union of Information Technology Enterprises of Armenia (UITE) from its inception in 2000 until 2015.



Education

State Engineering University of Armenia (Computer Science)

# Hrant Khachatryan

Founder of YerevaNN scientific educational



Hrant Khachatryan is a research scientist at YerevaNN lab. His research interests include deep learning and graph theory. He got his PhD in mathematics from Yerevan State University. Hrant also works at IntelinAir, a startup that brings state-of-the-art computer vision to agriculture.



Education

Yerevan State University, Informatics and applied mathematics

# Ilya Kirillov

Co-Founder and CEO of InData Labs



Ilya is an entrepreneurial and innovative executive with expertise that crosses domains and disciplines: he fuses progressive experience in software development, business savvy, and product vision together. He has a passion for identifying large market opportunities and building them into businesses. In 2013 Ilya co-founded InData Labs - a data science company that delivers business-focused solutions to enhance insightful & data-driven management. InData Labs is founded for a purpose to transform the way professionals from different industries use their data - to improve speed of data analysis and quality of the insights. Prior to founding InData Labs Ilya had more than 13 years of extensive experience in software development and 6 years of experience on management positions. Currently, Ilya is a General manager of Adamantium™.



## Education

Belarusian State University (Bachelor of Science (BS), Mathematics and Computer Science)

# Jaann Tallinn

Investor, Co-Founder of Skype



Jaan Tallinn is an Estonian programmer, investor, and physicist who participated in the development of Skype in 2002 and FastTrack/Kazaa, a file-sharing application, in 2000. Jaan Tallinn is partner and co-founder of the development company Bluemoon which created the game SkyRoads. He graduated from the University of Tartu in 1996 with a BSc in Theoretical Physics with a thesis that considered travelling interstellar distances using warps in space-time. Tallinn sits on the Board of Sponsors of the Bulletin of the Atomic Scientists and is a former member of the Estonian President's Academic Advisory Board. He is also one of the founders of the Centre for the Study of Existential Risk and the Future of Life Institute and was co-founder of the personalized medical research company MetaMed.



## Education

University of Tartu (Bachelor of Science)

# Janusz Homa

Co-Founder and Chief Executive Office of Ardigen S.A.



Mr. Janusz Homa is the co-founder and Chief Executive Office of Ardigen S.A. responsible for strategic management, business and corporate development.

He began his career in 1994 in Comarch where, among others he was the Vice-President of the Management Board of the subsidiary Comarch Telecom. In 2000 he founded one of the first venture capital funds in Poland investing in ventures based on new technologies. Between 2002 and 2005 he implemented Polish alternative payment network. From 2006 to 2013 he was the President of the Management Board of Software Mind (currently Ailleron listed on Warsaw Stock Exchange) of which he was the founder and major shareholder. During this period, the company employed 300 people, gained a strong position in the financial and telecommunications industry and launched their own, ground-breaking products LiveBank and iLumio on the international markets.



## Education

Jagiellonian University (Master of Business Administration)  
AGH University of Science and Technology in Cracow (Master of Science (M.Sc.), Computer Science)

# Jarosław Gowin

Minister of Science and Higher Education of Poland



Jarosław Adam Gowin is a Polish conservative politician and editor. Gowin served as Minister of Justice in the cabinet of Prime Minister Donald Tusk between 2011 and 2013, and is the current Minister of Science and Higher Education in the cabinet of Mateusz Morawiecki.



Education

Jagiellonian University  
University of Cambridge

# Jerzy Kwieciński

Minister of investment and development of Poland



Jerzy Stanisław Kwieciński was appointed as Secretary of State in the Ministry of Development in November 2015. Earlier, in 2005–2008, he held the position of Deputy Minister of Regional Development. He was directly responsible for coordinating the national development policy and the Cohesion Policy (the National Development Strategy for 2007–2015 and the National Cohesion Strategy for 2007–2013), as well as for negotiating with the European Commission. He participated in the development of operational programmes. Since May 2008, he has been the President of the Management Board of the European Center for Entrepreneurship Foundation and the Vice-President of the Management Board of the Europejskie Centrum Przedsiębiorczości sp. z o.o. BCC's expert for regional development and structural funds. He also worked as an advisor during the drafting of World Bank's reports.



Education

Warsaw University of Technology (Materials Science Faculty)

# Karen Karapetyan

Prime minister of Armenia



Karen Vilhelmi Karapetyan is an Armenian politician who was Prime Minister of Armenia from September 2016 until April 2018. He was previously Mayor of Yerevan, the capital, from 2010 to 2011.

Karapetyan was chief executive of the Armenian-Russian joint venture ArmRosGazprom beginning in 2001. He became Mayor of Yerevan on 17 December 2010 after receiving overwhelming support from the municipal assembly.

Karapetyan resigned as Mayor on 28 October 2011 and in November 2011 Taron Margaryan was elected mayor in his place. After his resignation, he returned to Russia to continue working for Gazprom. He was appointed as Prime Minister by President Serzh Sargsyan on 13 September 2016 and held office until 9 April 2018.



Education

# Katarzyna Ludka

AI Director at RINGIER AXEL SPRINGER Polska Sp. z o.o.



Katarzyna Ludka is a psychologist, who graduated from University College London receiving a Doctor of Philosophy degree in Psychometrics and Medical Education. For the last 10 years she has been a part of several research and evaluation projects working as an expert, while teaching experimental psychology, advanced statistical methods and methodology of research and working for large commercial companies as a business analyst and project lead. Currently she puts her energy into applying machine learning, statistics, and data-driven processes in business environment.



## Education

SGH Warsaw School of Economics, Bachelor's degree in Marketing, Online marketing

University of Warsaw, Master's degree, Psychology, Psychometrics

University College London, Ph.D, Psychometrics and Medical Education

# Leonid Lozner

Co-founder of EPAM Systems



Leonid Lozner is co-founder of EPAM, a physicist, co-author of several inventions. According to various sources in the media, in preparation for an IPO in the mid-2000s, he resigned from a management position in the company, and later put out part of his stake on the New York Stock Exchange. He earned about \$200 thousand for him and kept only about 6% of the shares of EPAM Systems.



## Education

Belarusian State University, Master's degree, Physics

# Liviu Dragan

Founder and Chief Executive Officer at TotalSoft SA



Mr. Liviu Dan Dragan founded TotalSoft SA in 1994 and has been its Chief Executive Officer since its foundation. Mr. Dragan served as Director General of TotalSoft SA. Mr. Dragan is one of the important personalities of the Romanian IT&C market, a strong supporter of the software applications, intellectual property and skills of the Romanian specialists. Mr. Dragan is the creator of two of the most powerful Romanian IT brands, namely TotalSoft and Charisma. These brands are the business card of the Romanian software industry in over 25 countries on 4 continents. During his career, Mr. Dragan participated as a founding member, in the establishment of the Association of the Software Industry and Services (ANIS), which he also led from 2005 to 2011; he introduced the project management concept in Romania, through Primavera and was the author, through TotalSoft, of the largest e-procurement application at European level.



## Education

ASEBUSS & Washington University (Master of Business Administration)  
University Politehnica of Bucharest (Doctor of Engineering)  
University Politehnica of Bucharest (Master's Degree)  
University Politehnica of Bucharest (Energetic Department)

# Marten Kaevats

National digital advisor in the Government Office of Estonia



Marten Kaevats, is the national digital advisor in the Government Office of Estonia who studies the impact of various scalable technologies on the spatial behaviour of individual people and communities, as he believes that the third industrial revolution and the hyperlocal model of life will create reformatory changes to the spatial and social behaviour of people. Marten has graduated from governmental talent management programme in 2017. He is educated as architect and city planner and has been the head of TAB 2015 "Self Driven City" curatorial team. Marten is also an active member of several civil society organisations; having among other things led the team that won second place at the design competition for the Monument to the Estonian War of Independence, he was also one of the founding members of the Uue Maailma Selts (New World Society) in 2007 and contributed to the creation of freeware community web platform Community Tools, established in 2008.



## Education

Estonian Academy of Arts (Architecture and City Planning)

# Mateusz Morawiecki

Prime Minister of the Republic of Poland



Mateusz Jakub Morawiecki is the 17th and current Prime Minister of the Republic of Poland. He is also a historian and economist. He previously served in the cabinet of Prime Minister Beata Szydło as Deputy Prime Minister, Minister of Development, and Minister of Finance. In 2007–15 Morawiecki was chairman of Bank Zachodni WBK. In 1991 Morawiecki began work at Cogito Company and co-created two publishing firms, Reverentia and Enter Marketing-Publishing. That same year he co-founded the magazine Dwa Dni (Two Days), later becoming editor-in-chief. In 1995 he completed an internship at Deutsche Bundesbank in credit analysis, financial restructuring, banking supervision, and financial market supervision. In 1996–97 he conducted banking and macroeconomic research at the University of Frankfurt. In 1998, as deputy director of the Accession Negotiations Department in the Committee for European Integration, he oversaw and participated in numerous areas, including finance, of the negotiations for Polish accession to the European Union. With Frank Emmert, he co-authored the first textbook on The Law of the European Union published in Poland.



## Education

University of Basel (European Studies)  
University of Hamburg (European Law and Economic Integration)  
Wrocław University of Economics (Business Administration)  
University of Wrocław (history)

# Max Lytvyn

Co-founder of Grammarly



Max is a co-founder at Grammarly. As the Head of Growth Strategy, Max is focused on identifying and expanding new market opportunities for Grammarly's product portfolio. Prior to Grammarly, Max co-founded MyDropBox, a plagiarism-detection company, and then served as the Director of Product Strategy at Blackboard Inc. after its acquisition of MyDropBox. Max holds an MBA from Vanderbilt University's Owen Graduate School of Management and received a bachelor of business administration in management information systems from International Christian University in Kyiv, Ukraine.



## Education

Vanderbilt University (MBA, Marketing, Finance)  
International Christian University - Kiev (BBA)

# Mikhail Burtsev

Head of Neural Nets and Deep Learning lab at MIPT



Mikhail Burtsev is head of Neural Networks and Deep Learning Laboratory at Moscow Institute of Physics and Technology. In 2005, he received the Ph.D. degree from Keldysh Institute of Applied Mathematics of Russian Academy of Sciences. From 2011 to 2016 he was head of the lab of Department of Neuroscience at Kurchatov NBIC Centre. Now he is one of the organizers of NIPS 2017 Conversational Intelligence Challenge, and a head of iPavlov Project.

His research interests are in fields of Natural Language Processing , Machine Learning, Artificial Intelligence and Complex Systems. Mikhail Burtsev has published more than 20 technical papers including – Nature, Artificial Life, Lecture Notes in Computer Science series and other peer reviewed venues.



## Education

Keldysh Institute of Applied Mathematics (Doctor of Philosophy (Ph.D.),  
Computer Science)  
Moscow Power Engineering Institute (Technical University) (Master of Science)

# Pietrzak Piotr

CEE Energy & Utilities Industry Technical Leader, Executive Architect at IBM



Technology evangelist, visionary and forward-thinking IT enthusiast with 20 years of experience in the IT industry. Piotr specializes in enterprise digital transformation projects, business model optimisation, incubation of innovative projects and their commercialization. He is responsible for collaboration with VC/PE investment firms, incubators and accelerators. On daily basis engaged in IBM R&D works. Always willing to go an extra mile to deliver innovative solutions. Currently responsible for business development in the energy and industrial sector in the CEE region. Author of many industry specific and business publications. Member of the innovation committee of the Polish Chamber of Chemical Industry.

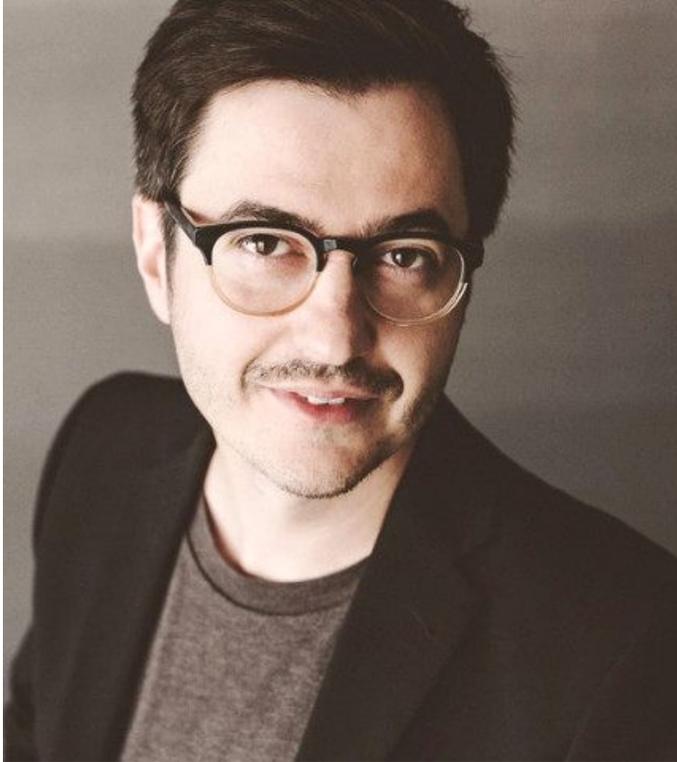


Education

Warsaw University of Technology

# Raul Popa

Co-founder, CEO at TypingDNA



Raul Popa is an entrepreneur, generalist, idea person, AI evangelist, UX focused, coder, data scientist, social psychologist. He is the Co-founder, CEO, Data Scientist at TypingDNA. TypingDNA is a cyber security SaaS that uses AI to identify and authenticate people based on typing biometrics (the way people type on their keyboard). Typing biometrics (also known as keystroke dynamics) is a new technology that has valuable cyber security applications by securing devices and web applications such as LMS (Learning Management Systems), PSP (Payment Service Providers), corporate apps, and consumer apps that want to reduce fraud and enhance security.



## Education

Stanford University (Machine Learning)  
Malmö University (Communication and Media Studies)  
Universitatea din Oradea (Information Technology)  
Universitatea „Babeş-Bolyai” din Cluj-Napoca (Psychology)

# Renate Strazdina

Country Manager for Microsoft



Renāte Strazdina was announced as the new Country Manager for Microsoft Latvia, on August 22nd, reporting to the Baltics CM. She is based in Riga, and brings to Microsoft her international experience from consulting business throughout the Baltic States. Renāte is native from Latvia, graduated from Riga Technical University where she is active as a leading technical researcher for last 10 years. Her 10+ years of professional experience was in advisory services specializing in government sector, EU related services, educational and welfare matters and information technology. This allowed her to develop wide knowledge and experience in project management; e-Service process design; IT supervision of implementation: IT project audit; IT governance and organizational change support and development of IS concepts and requirements (including IT strategy developments).



## Education

Rīgas Tehniskā universitāte (Riga Technical University) (Computer Science)

# Roman Merkulov

Machine Learning Engineer at InData Labs



Roman is a Machine Learning Engineer having experience in delivering data driven solutions to projects from various business domains, serves as the Head of Machine Learning at Influenceye.

Active participant of Belarusian data science community, speaker at meet-ups and conferences, hackathons mentor. In 2015 started working as a Machine Learning Engineer at InData Labs in Minsk, in 2017 headed company's internal product development in social media analytics area where he is now responsible for implementation and delivery of machine learning models.



## Education

Belarusian State University, Master's degree, Applied Mathematics and Computer Science

Belarusian State University, Bachelor's degree, Economic cybernetics

# Sergey Nikolenko

Chief Research Officer, Neuromation;



Sergey Nikolenko is a computer scientist working in the field of machine learning (deep learning, natural language processing, recommender systems) and analysis of algorithms (algorithms for networking, online algorithms, bioinformatics).



## Education

Steklov Mathematical Institute, St. Petersburg (Ph.D., Mathematics)  
Saint Petersburg State University

# Siim Sikkut

Government CIO of Estonia



Siim Sikkut is the Government CIO of Estonia, also titled as Deputy Secretary General for IT and Telecom, in charge of digital government and society, also telecommunications and post areas. His role is to set the strategy and policies, to launch and steer strategic development initiatives and regulation, to represent the government in EU and other international organisations or collaboration in his domain.



## Education

Princeton University (A.B., Woodrow Wilson School of Public and International Affairs)

# Tomas

Co-founder and CEO at Lemon Labs



Tomas Dirvonskas is Founder of Lemon Labs, Treatwell CXO (Chief Executive Officer for Consumer Experience). With over 1 million downloads & over 20 products in the portfolio, Lemon Labs has skilled and curious mobile product creators. ITs focus lays in simple consumer problem solutions / utilities as well as taking global businesses to mobile.



## Education

Vilniaus universitetas / Vilnius University ( Master, Communication, Economics)  
KTH Royal Institute of Technology ( IT business competence)  
Vilniaus universitetas / Vilnius University ( Bachelor, Telecommunications physics)



Tomas Krilavičius is a computer scientist, professor of the Faculty of Informatics, Head of Information Technologies in the Baltic Institute of Advanced Technologies, a member of the Lithuanian Union of Scientists, founder of TokenMill, a computer analysis and search engine development company. Among its scientific interests and competences are cyber-physical systems, hybrid systems, formal modeling of critical systems, tool integration, application of language processing technologies in software. The researcher has worked as a researcher at the University of Twente (The Netherlands), where he has also obtained his PhD.

T. Krilavičius actively participates in or participated in various scientific projects for customer service system inquiries, Lithuanian digital resources, e-democracy, development of practical IT skills in continuing studies, hybrid systems, collecting, archiving and analysis of Seimas data, etc.



## Education

University of Twente (PhD, Computer Science, Formal Methods)  
Vytauto Didžiojo universitetas ( Master of Science, Computer Science)  
Alytaus 5-oji vidurinė

# Toomas Hendrik Ilves

Former President of Estonia



Toomas Hendrik Ilves is an Estonian politician who served as the fourth President of Estonia from 2006 until 2016. Ilves worked as a diplomat and journalist, and he was the leader of the Social Democratic Party in the 1990s. He served in the government as Minister of Foreign Affairs from 1996 to 1998 and again from 1999 to 2002. Later, he was a Member of the European Parliament from 2004 to 2006. He was elected as President of Estonia by an electoral college on 23 September 2006 and his term as President began on 9 October 2006. He was reelected by Parliament in 2011.



## Education

University of Pennsylvania (master's degree, psychology)  
Columbia University (bachelor's degree, psychology)

# Vilius Šapoka

Minister of Finance in the Republic of Lithuania



Vilius Šapoka is the current Minister of Finance in the Republic of Lithuania and Governor of the European Investment Bank for the Republic of Lithuania. Šapoka started his professional career at the Lithuanian Savings Bank in 1999. From 2006 to 2012 he worked at the Lithuanian Securities Commission, first as Commissioner, then Vice-Chairman, and finally Chairman. Šapoka was employed at the Lithuanian Ministry of Finance from 2002 to 2006 in the Market Policy Department. From 2012 to 2016 Šapoka was Financial Services and Markets Department Director at the Bank of Lithuania. Šapoka has served as Minister of Finance of the Republic of Lithuania since 13 December 2016.



Education

Vilnius University ( Economics in Banking)

# Yelzhan Birtanov

Minister of Health of the Republic of Kazakhstan



By the presidential decree Mr. Yelzhan Birtanov has been appointed as Minister of Health of the Republic of Kazakhstan. Earlier, Mr. Birtanov served as Vice-Minister of Health and Social Development of the Republic of Kazakhstan. Mr Birtanov is responsible of public health, healthcare administration, health system research, hospital management, corporate strategic planning, quality improvement, organizational design and culture development. The Minister aims to digitize public health services by implementing Artificial Intelligence as a separate initiative under the project "*Modernization of the Healthcare System*".



## Education

Fuqua School of Business, Duke University  
Turan University (Economics)  
Kazakh National Medical University (Doctor of Medicine)

# Yuriy Guts

Machine Learning Engineer at DataRobot



Yuriy Guts is a highly versatile software engineer and data scientist with over 10 years of industry experience, as well as a successful track record of algorithmic programming contests and Kaggle competitions (currently top 2% worldwide). During his career, he has performed a variety of R&D, data analysis, engineering, and leadership roles. Yuriy Guts believe in T-shaped skills, therefore he has broad interests in technology in general, but his deepest knowledge is in data science and software architecture.



## Education

Lviv Polytechnic National University (Master with Honors) , Computer Science

# Yury Melnichek

Tech entrepreneur and investor

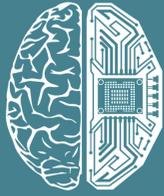


Yury Melnichek is a Belarusian tech-entrepreneur, venture investor and software engineer. Born in Minsk (Belarus), now living in Zurich (Switzerland). Founder of free cartographic service MAPS.ME, AIMATTER company. In spring 2018, together with his business partner Andrei Avsievich, founded an investment company Bulba Ventures to invest in Belarusian and ready-to-relocate to Belarus startups. Apart from investment activities Yury provides consulting services in venture investment, mobile applications marketing and also consults IT-companies and startups working with machine learning, computer vision and data science.



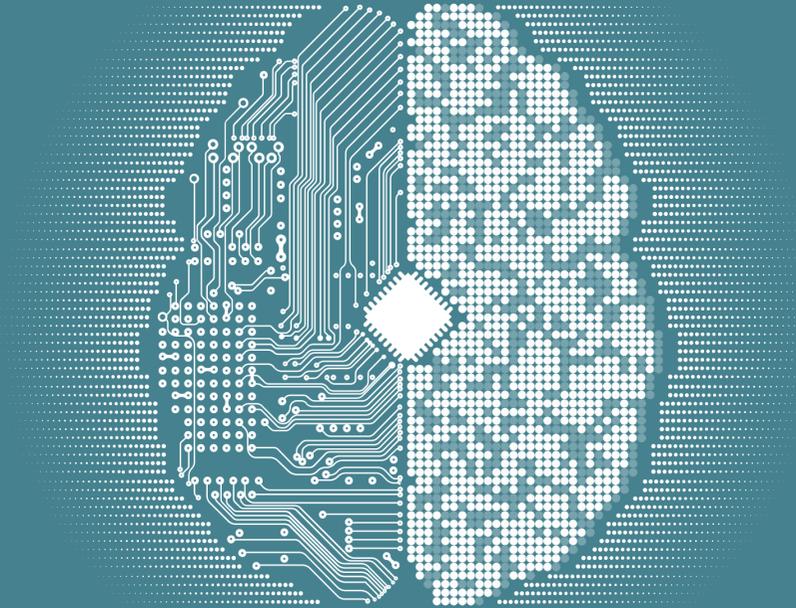
## Education

Belarusian State University (Computer Science)  
BSU Lyceum (Mathematics and Computer Science)



DEEP  
KNOWLEDGE  
ANALYTICS

[www.dka.global](http://www.dka.global)



## Deep Knowledge Analytics (DKA) Disclaimer.

The information and opinions in this report were prepared by Deep Knowledge Analytics. The information herein is believed by DKA to be reliable but DKA makes no representation as to the accuracy or completeness of such information. There is no guarantee that the views and opinions expressed in this communication will come to pass. DKA may provide, may have provided or may seek to provide advisory services to one or more companies mentioned herein. In addition, employees of DKA may have purchased or may purchase securities in one or more companies mentioned in this report. Opinions, estimates and analyses in this report constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of DKA and are subject to change without notice. DKA has no obligation to update, modify or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, estimate, forecast or analysis set forth herein, changes or subsequently becomes inaccurate. This report is provided for informational purposes only. It is not to be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy in any jurisdiction.