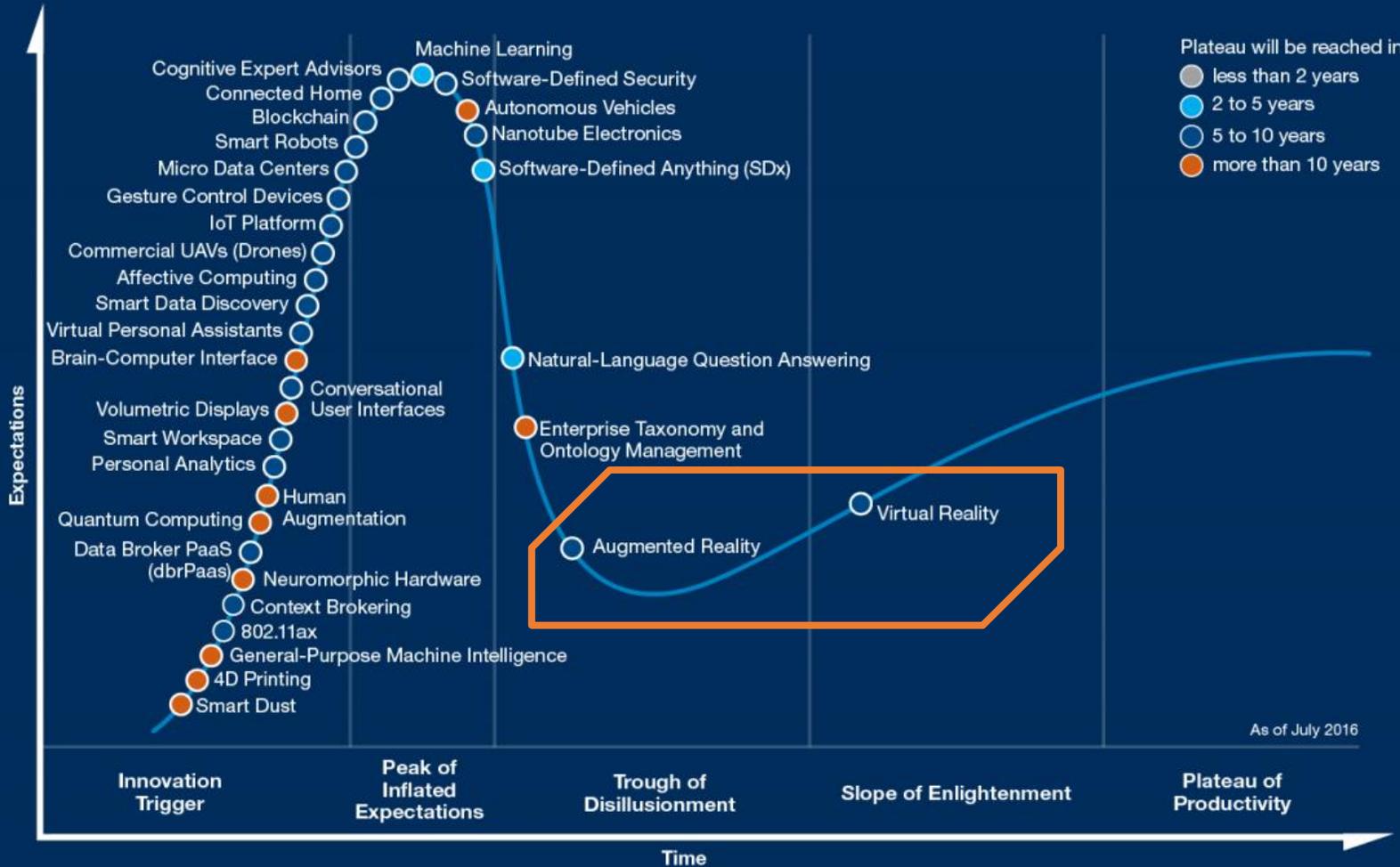


# Yet Another Reality: технологические ВЫЗОВЫ И НОВЫЕ ПРОДУКТЫ



# Gartner Hype Cycle for Emerging Technologies, 2016



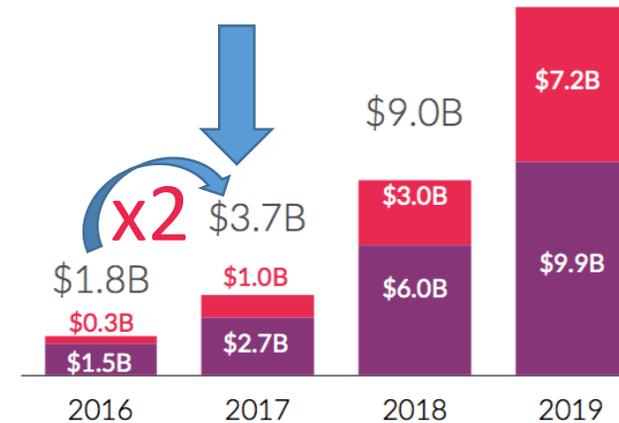
“We predict by 2019, AR, VR and mixed reality (MR) solutions will be evaluated and adopted in 20% of large-enterprise businesses.”

May 5, 2017



Customer software/services  
Hardware

Рынок VR растёт на 100% \$17.1B



96% рынка AR в 2017 году пришлось на Pokemon Go ~ \$1 млрд

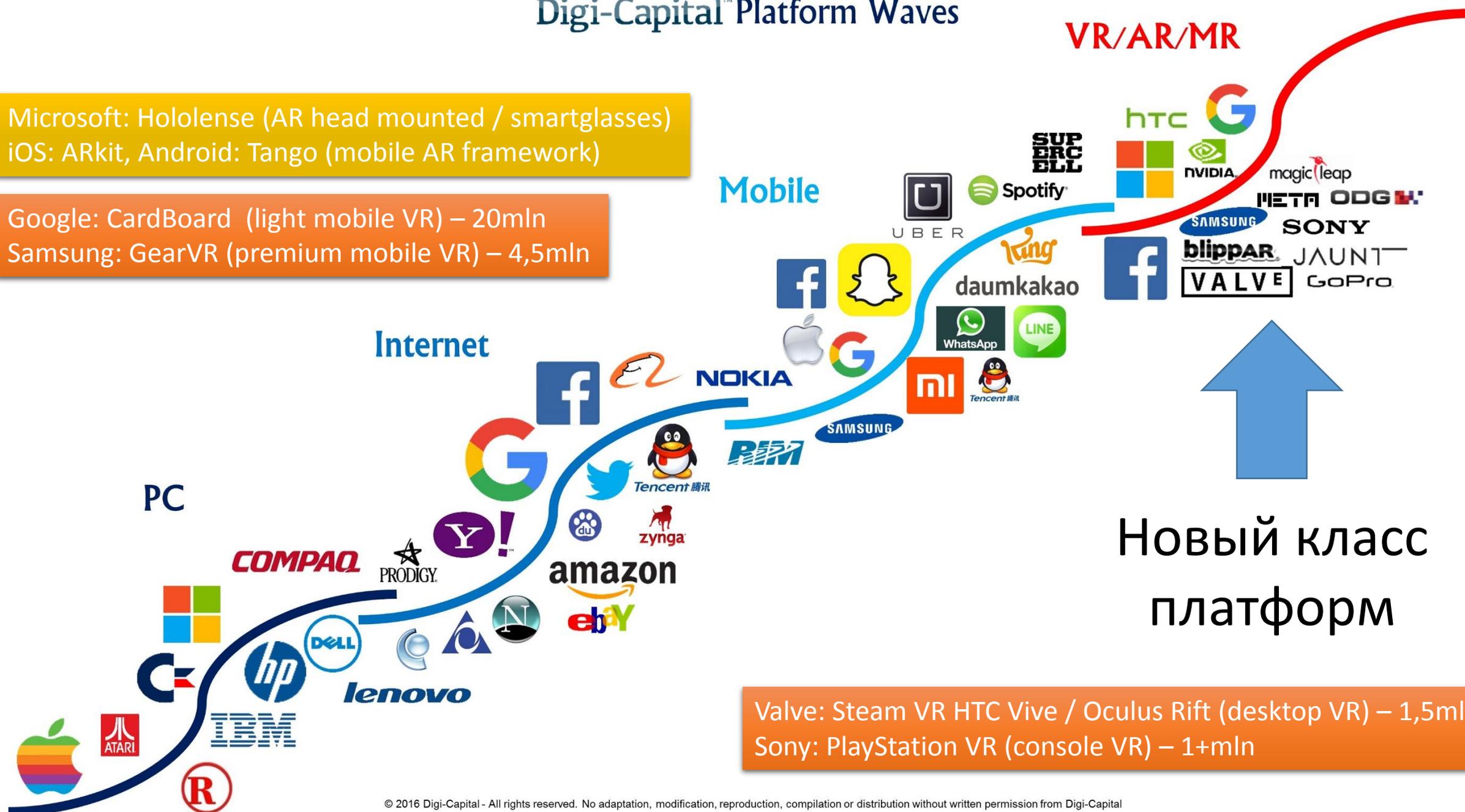
Source: Gartner  
© 2016 Gartner, Inc. and/or its affiliates. All rights reserved.



# Digi-Capital™ Platform Waves

Microsoft: HoloLens (AR head mounted / smartglasses)  
 iOS: ARkit, Android: Tango (mobile AR framework)

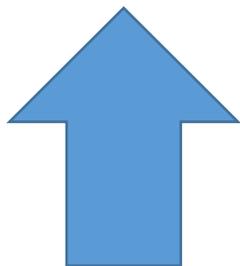
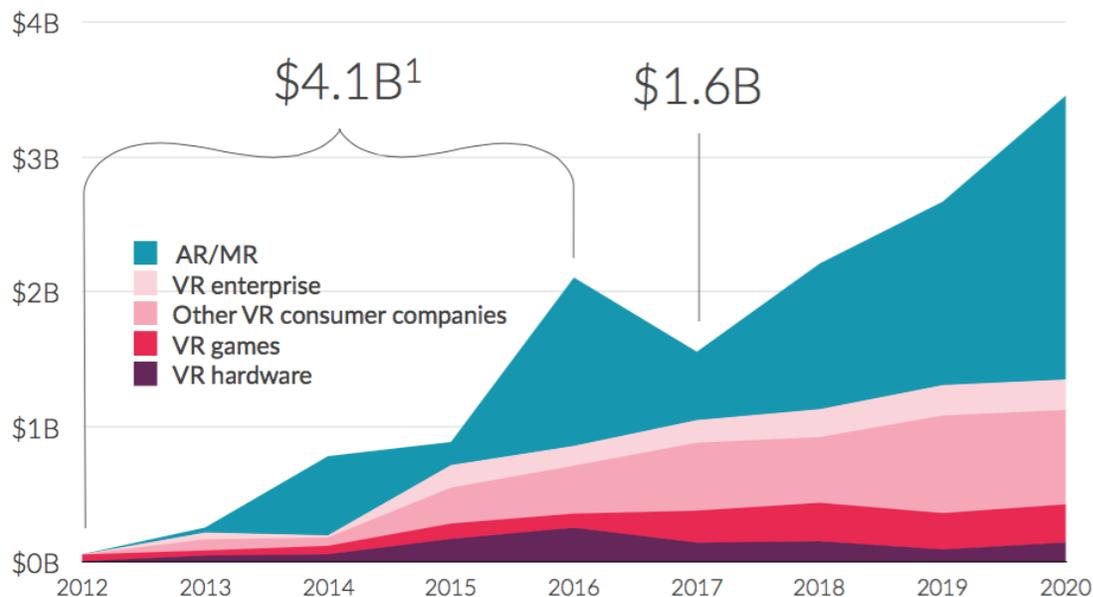
Google: CardBoard (light mobile VR) – 20mln  
 Samsung: GearVR (premium mobile VR) – 4,5mln



Новый класс платформ

Valve: Steam VR HTC Vive / Oculus Rift (desktop VR) – 1,5mln  
 Sony: PlayStation VR (console VR) – 1+mln

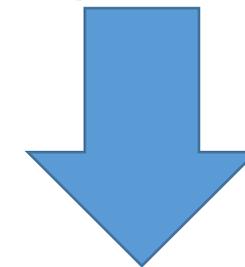
# Investment in VR/AR/MR companies



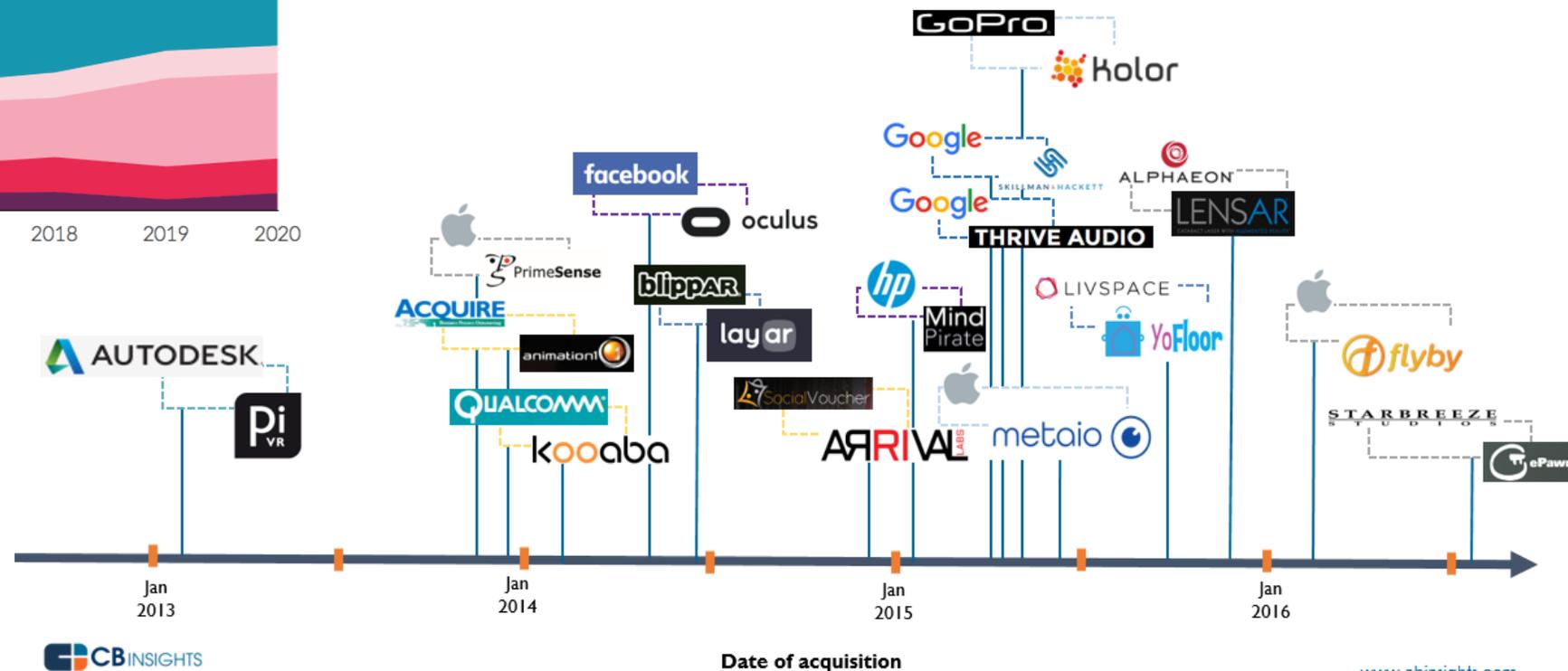
\$4,1 млрд

проинвестировано  
в 2012 - 2016

# Крупные игроки поддерживают AR/VR через M&A



## AR/VR's Major Acquisitions



# Потребности клиентов в технологии VR/AR

## *типы потребительских сценариев*

### B2B

Маркетинговые инструменты

- достижение вау-эффекта
- экономия места - шоурум

Тренинг и обучение персонала

- экономия HR-бюджета
- нестандартные ситуации

Визуальная коммуникация

- между уровнями менеджмента
- с поставщиками

Управление бизнес-процессами

### B2C

Игры

LBE / развлечения

Video 360

Образование

Туризм

Спорт

Social media и коммуникации

Здравоохранение / Медицина

# THE VR FUND H2 2017 VR INDUSTRY LANDSCAPE

	LOCATION BASED	SPORTS/LIVE EVENTS	SOCIAL	GAMES	ENTERTAINMENT	ENTERPRISE	HEALTHCARE	EDUCATION	
APPLICATIONS/CONTENT									
	<p><b>DISTRIBUTION (APPS/MEDIA)</b></p>								
	<p><b>3D TOOLS (ENGINES/AUDIO)</b></p>								
	<p><b>REALITY CAPTURE (360 VIDEO/NEXT GEN)</b></p>								
TOOLS/PLATFORM	<p><b>HMD (TETHERED/MOBILE)</b></p>								
	<p><b>INPUT (HAND/EYE/WEARABLE/OMNI TREADMILLS/HAPTICS)</b></p>								

	LOCATION BASED	SPORTS/LIVE EVENTS	SOCIAL	GAMES	ENTERTAINMENT	ENTERPRISE	HEALTHCARE	EDUCATION	
INFRASTRUCTURE									
	<p><b>DISTRIBUTION (APPS/MEDIA)</b></p>								
	<p><b>3D TOOLS (ENGINES/AUDIO)</b></p>								
	<p><b>REALITY CAPTURE (360 VIDEO/NEXT GEN)</b></p>								
<p><b>HMD (TETHERED/MOBILE)</b></p>									
<p><b>INPUT (HAND/EYE/WEARABLE/OMNI TREADMILLS/HAPTICS)</b></p>									

# THE VR FUND Q2 2017 AR INDUSTRY LANDSCAPE

APPLICATIONS  
 TOOLS/PLATFORM  
 INFRASTRUCTURE

GAMES/ENTERTAINMENT	CONSUMER	ENTERPRISE	HEALTHCARE	EDUCATION
Microsoft, ASOBO STUDIO, magic leap, Disney, Funomena, SCHELL GAMES, HADO, FATHER.IO, ILMxLAB, CLIMAX STUDIOS, WETA WORKSHOP, FLARB, WITHIN, NIANTIC, WINGNUT FILMS	Microsoft, facebook, MODSY, HUTCH, wayfair, LEGO, 8P, QuiverVision, Snapchat, L'OREAL, IKEA, LOWE'S	Microsoft, UP SKILL, RE'FLEKT, SCOPE, vuforia, AUGMENT, AUGMATE, MODIFACE, xmreality, Trimble, hyperindustry, DAQRI, ZEBRA, DASSAULT SYSTEMES, IBM, CN2, LOOK, CivicAR, object theory, FINGER FOOD, HUDWAY, OIK	Microsoft, AUGMEDIX, 3D4MEDICAL, Medical Realities, evena, SCOPIS medical	Microsoft, Lifelique, EvoBooks, NeoBEAR, CURISCOPE

DISTRIBUTION	SDK	3D TOOLS (ENGINES/AUDIO)	3D REALITY CAPTURE
Microsoft, magic leap, Google, Meta, Apple	Microsoft, Apple, vuforia, blippar, Google, wikitude, occipital, SONY, AR-media SDK, Total Immersion, augumenta, EasyAR, DAQRI, BOSCH, kudan, ARTOOLKIT, zappar	unity, UNREAL ENGINE, NVIDIA, RE'FLEKT ONE, facebook, Microsoft, skylight, W, AMD, RealSpace3D, DOLBY ATMOS, Google, facebook, DYSONICS, Mach 1, AR	PHOTOGRAMMETRY: Agisoft, AUTODESK, Microsoft, matterport, CapturingReality, INDOOR REALITY, itSeez3D, occipital VOLUMOGRAPHY/LIGHTFIELD: Microsoft, LYTRO, 8P, S, otoy

DEVICES (MR HMD/AR HMD/HANDHELD MR)	COMPONENTS (DISPLAY/3D CAMERAS/INPUT/COMPUTER VISION)
Microsoft HoloLens, magic leap, ODG H, Meta, DAQRI, Lenovo, Canon, occipital, SULON, IMMY, INFINITY augmented reality, VRVANA, SHADOW CREATOR, DreamWorld, mira	magic leap, intel REALSENSE TECHNOLOGY, Microsoft, Apple, mantis vision, gestigon, SONY, uSens Inc, nod, THALMICLABS, XIMMERSE, tabii, oculus, IBM Watson, ODG H, LUMUS, KOPIN, AVEGANT, DIGILENS, EyeWay, emacula, WaveOptics, THALMICLABS, pmd, occipital, SONY, STEREO LABS, FOTONIC, ORBBEC, AIRY:3D

# Проблемы и преимущества

AR

+

Кейсы применимости

-

Технология

VR

+

Технология

-

Кейсы применимости

# Russian VR + AR Landscape

## ПРОГРАММНОЕ ОБЕСПЕЧЕНИЕ, МУЛЬТИМЕДИЙНЫЙ КОНТЕНТ

<b>ИГРЫ</b> 	<b>ОБРАЗОВАНИЕ, ОБУЧЕНИЕ</b> 	<b>МАРКЕТИНГ</b> 	<b>AR/VR/360-КОНТЕНТ</b> 
<b>РАЗВЛЕЧЕНИЯ</b> 	<b>ПРОМЫШЛЕННОСТЬ</b> 	<b>AR Production</b> 	
<b>ТУРИЗМ, МУЗЕИ</b> 	<b>ТУРИЗМ, МУЗЕИ</b> 	<b>НЕДВИЖИМОСТЬ, ИНТЕРЬЕР</b> 	
<b>КОММУНИКАЦИИ</b> 	<b>КОММУНИКАЦИИ</b> 	<b>НАВИГАЦИЯ</b> 	<b>СТРИМИНГ</b> 

## АППАРАТНОЕ ОБЕСПЕЧЕНИЕ

<b>СТАЦИОНАРНЫЙ VR</b> 	<b>КОНТРОЛЛЕРЫ, ТРЕКИНГ</b> 	<b>МОБИЛЬНЫЙ VR</b> 	<b>КАМЕРЫ 360</b> 
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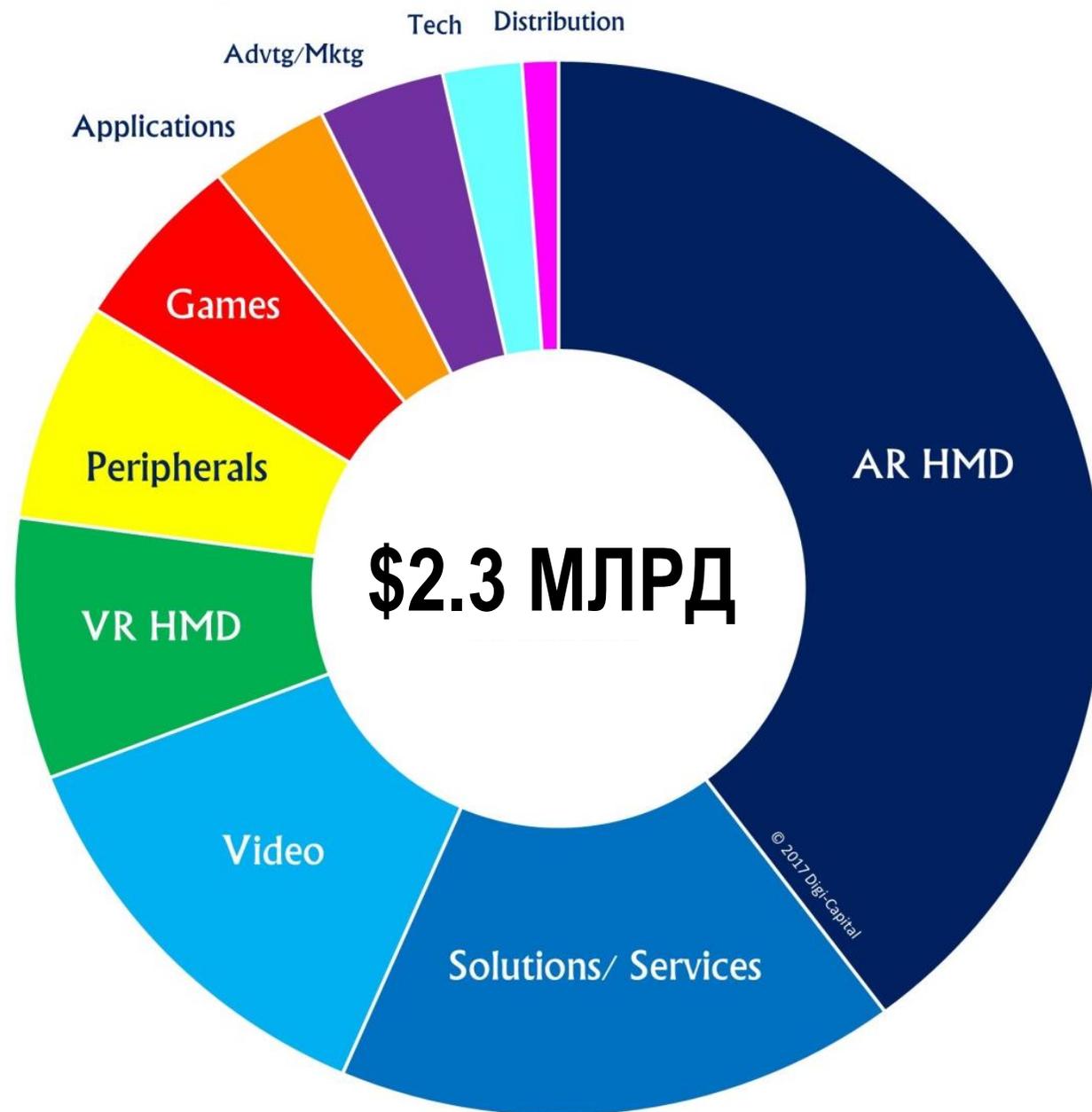
## РАЗВИТИЕ РЫНКА

<b>СМИ</b> 	<b>ОБРАЗОВАНИЕ</b> 	<b>ФОНДЫ, ОБЪЕДИНЕНИЯ</b> 	
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Company	Founded	Total venture funding raised	Select investor(s)
 magic leap	2011	\$1.4B	Kleiner Perkins Caufield & Byers Qualcomm Ventures Andreessen Horowitz
 blippar	2011	\$150.6M	Qualcomm Ventures Landsowne Partners
 DAQRI	2010	\$132M	Tarsadia Investments
 NEXTVR	2009	\$116M	Comcast Ventures RSE Ventures Time Warner Investments
 mindmaze	2012	\$110M	Venture Kick EPFL Innovation Park
 ROBLOX	2006	\$103M	ALTOS Ventures First Round Capital
 JAUNT	2013	\$101.3M	Highland Capital Partners Redpoint Ventures GV
 zSpace	2007	\$87.2M	Artiman Ventures In-Q-Tel
 Meta	2012	\$72.7M	Horizons Ventures Y Combinator VTF Capital
 CCP	1997	\$69.3M	General Catalyst New Enterprise Associates

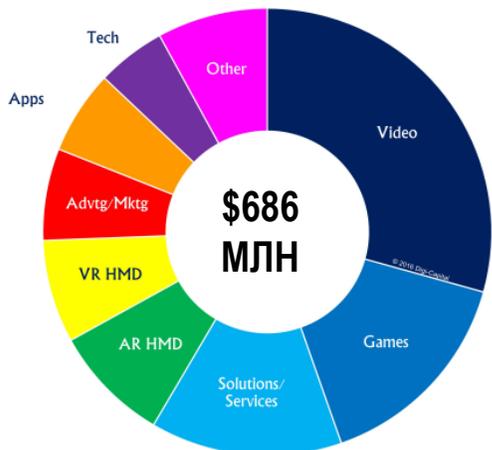
+ \$500 миллионов от Temasek,  
Janus Henderson Investors,  
Grupo Globo

Стоимость компании: \$6 млрд



**\$12 млн в РФ**

**2016**



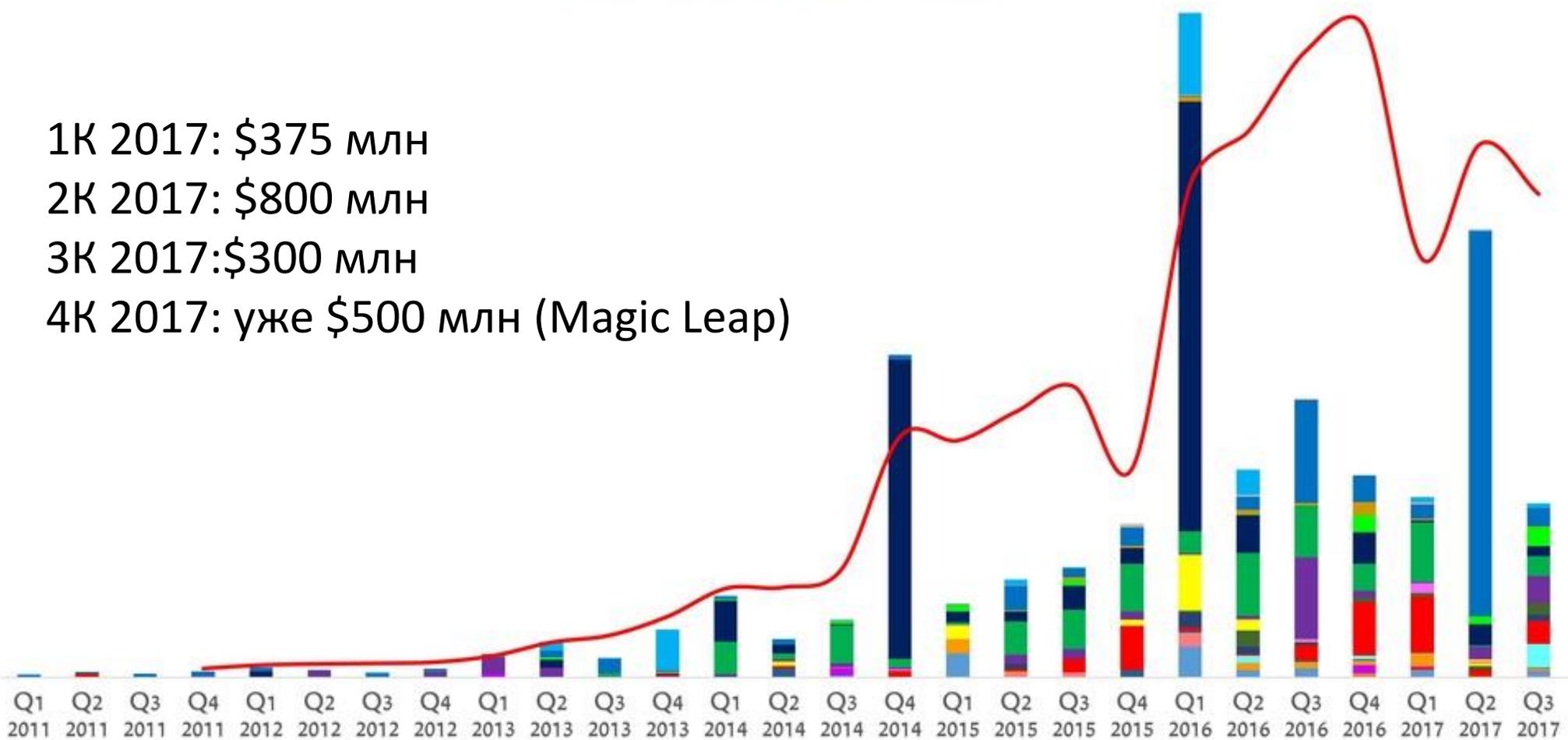
**2015**

**2016**

# AR/VR Investments

1K 2017: \$375 млн  
 2K 2017: \$800 млн  
 3K 2017: \$300 млн  
 4K 2017: уже \$500 млн (Magic Leap)

Investments



LTM

- Advtg/mktg
- Art/design
- Business
- Distribution
- eCommerce
- Education
- Enterprise/B2B
- Entertainment
- Games
- Kids
- Lifestyle
- Medical
- Music
- Navigation
- News
- Photo/video
- Productivity
- Smartglasses
- Solutions/services
- Sports
- Peripherals
- Travel/transport
- Utilities
- VR headset
- Social
- LTM



# САМЫЕ АКТИВНЫЕ AR/VR ИНВЕСТОРЫ

## 2012 – 2017 (ЯНВ-ИЮНЬ)

1

Investor	Rank	Investments
 <b>ROTHENBERG VENTURES</b>		8i, Adawarp, AltspaceVR, Cerevrum, DeepStream VR, DISCOVR, Emblematic Group, Emergent VR, Fove, Fringefy, GeoCV, GetVu, Immersv, Innerspace, InsiteVR, inVR, Jaunt, Matterport, Merge VR Nearpod, OBE Immersive, Psious, Reload Studios, Retina Virtual Reality, SDK Africa, Solirax, Spectra VR, Temple Gates Games, The VR Company, TheWaveVR, Trigger, Vantage.TV, Vicarious Surgical, VRChat, VrTV, WEVR, Zeality 

2

 <b>boostVC</b>		3D-SensIR, 8i, Beloola, Binary VR, Daydream Blue, Ease VR, Fearless VR, Intugame, Janus VR, JigSpace, Kite & Lightning, Metaphysics VR, Pixel Ripped, Plump, PRIME, Realities.io, Spaces, SpaceSys, Surreal VR Unimersiv, V, Vizor, VR Showroom, VRChive 
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3

 <b>VIVE X</b>		Appnori, Aurora AR, bHaptics, Brokencolors, Beyond, cognitiveVR, Construct Studio, Fish Bowl VR, Inverse Reality, Limitless, Mindesk, Multiverse, Opaque Media Group, OVA, Owichery Labs, Realteer Corp., Rogue Initiative, Shengda, Snobal SoccerDream, TEGway, Vertebræ, VRANI, Xikaku 
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4

 <b>THE VENTURE REALITY FUND</b>		Against Gravity, Eonite Perception, Immersv, InstaVR, Limitless, Owichery Labs, Rogue Initiative, Silver.tv, Spaces, TheWaveVR, Virtualitics, Mindshow, Vizor 
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5

 <b>PRESENCE CAPITAL</b>		Baobab Studios, Eonite Perception, Fringefy, Immersal, Resolution Games, Rogue Initiative, Scope AR, STRIVR Labs, TheWaveVR, Upload, Visbit 
-----------------------------	--	-------------------------------------------------------------------------------------------------------------------------------------------------

6

 <b>techstars</b>		AppliedVR, EEVO, Fantasma Studios, Fish Bowl VR, IrisVR, LiveLike, Resolution Tube, Rival Theory, Rodin, Sketchfab, Skully Helmets 
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7

 <b>colopl next</b>		Fish Bowl VR, Fove, Limitless, Owichery Labs, Pinscreen, Polyarc, Psychic VR Lab, Rogue Initiative, Spaces, Upload 
------------------------	--	------------------------------------------------------------------------------------------------------------------------

8

 <b>intel capital</b>		Avegant, Eyefluence, InContext Solutions, Nimble VR, Occipital, Skully Helmets, Two Bit Circus, Voke, WorldViz 
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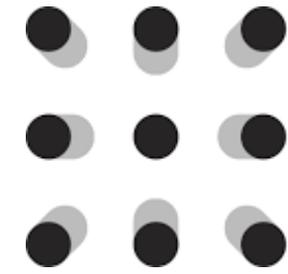
9

 <b>Y</b>		ConstructVR, Ilium VR, InsiteVR, Meta, Pantheon VR, Scope AR, Sixa, Skylights 
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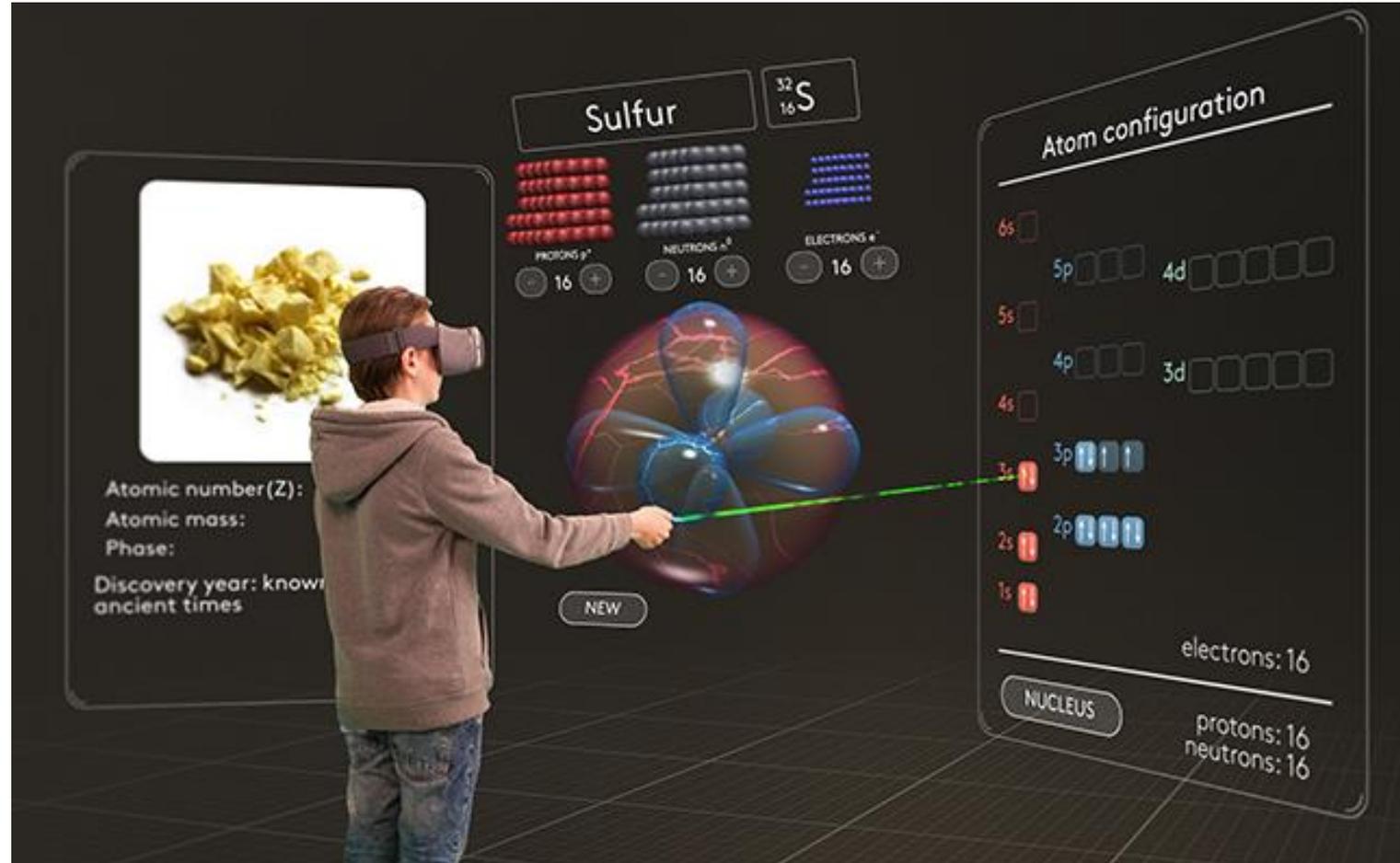
**\$2 500 000**



**SISTEMA\_VC**



**MEL  
Science**



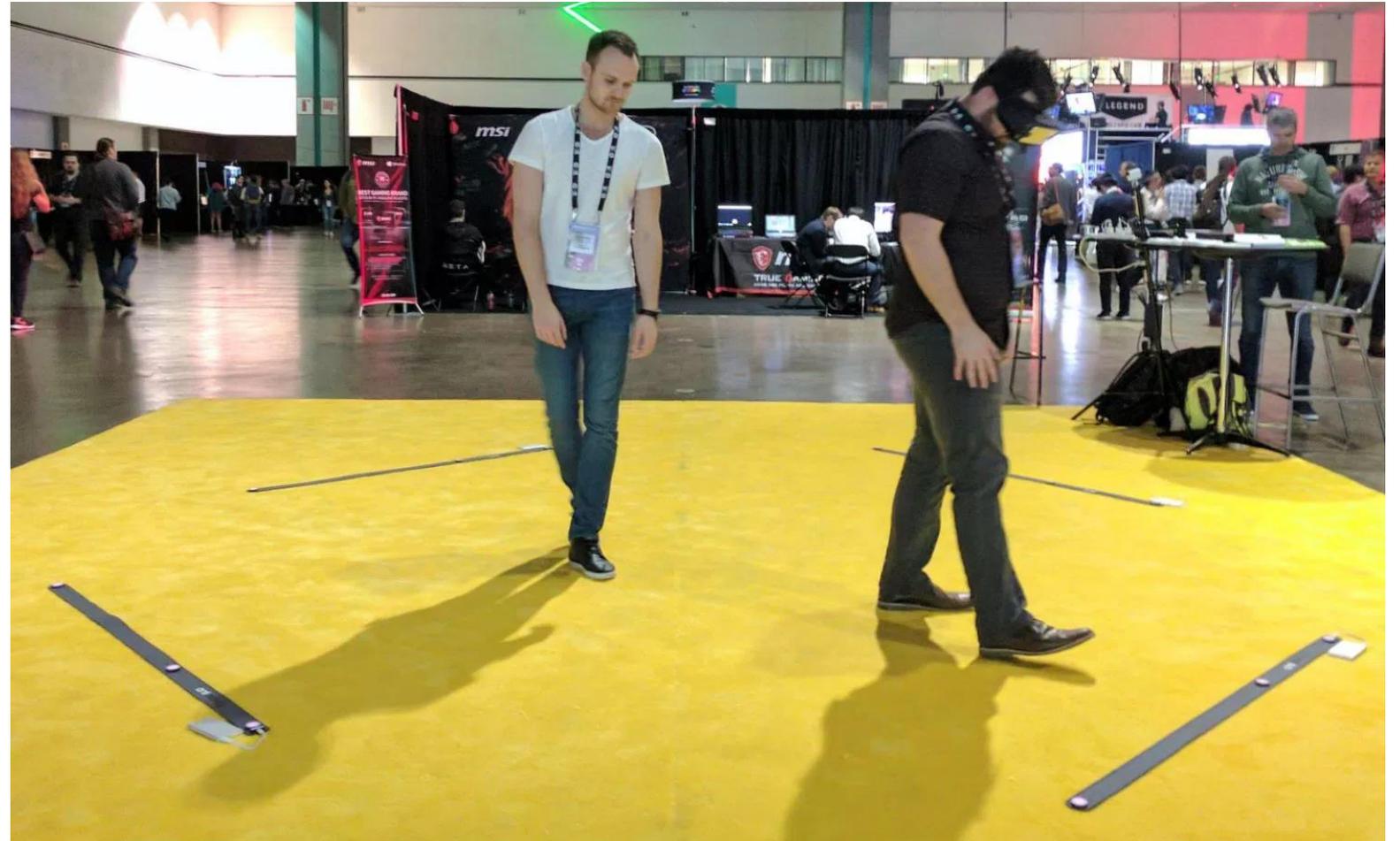
antilatency

60 000 000  
рублей



120 000 000  
рублей

ФРИИ



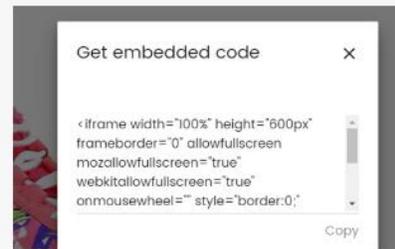
CAPPACITY  
платформа и решения для  
создания и интеграции  
3D-контента



## Cappacity Solution Works 10 Times Faster Compared To Competitors And Optimized For Production Of Thousands SKU Per Day



Software to produce 3D content for 3D, VR and AR in 3 minutes



Easy embedding – iFrame or API. Synchronization by SKU solution



4x faster browsing – proprietary 3D format with data streaming



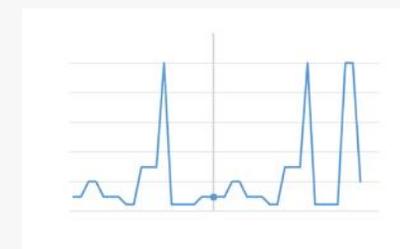
Virtual Reality shopping

 YOUTUBE VIDEO



Augmented and Mixed Realities

 YOUTUBE VIDEO



Artificial Intelligence technologies for 3D imaging

**BLACK MIRROR**





# \$110 Billion

*Potential VR market size  
by 2025 - Goldman Sachs*





**принудить миллионы пользователей купить VR**

**Technology First**

# Примеры перспективных технологии

	Gamedev	Media	Enterprise	Education	Consumer
Applications & Content	AAA-игры в VR, коллективные аттракционы	Редактор анимации и блогинга в VR	Социальные и тренинговые VR приложения	Тематические курсы обучения	Приложения: телемедицина, образование.
Tools & Platforms	Оптимизация фотограмметрии объектов, UX/UI в VR/AR	Интерактивная бесшовная дистрибьюция анимации	VR инструменты промышленного проектирования	Оптимизация фотограмметрии объектов	Конструктор для шоурумов
Infrastructure	FullBody tracking, гарнитуры VR/AR	360 \ 4D камеры, трекинг глаз и мимики	Шлем дополненной реальности, шлем VR высокого разрешения	Специализ-ые системы ввода	Модульный шоурум для ритейла

Долгосрочное развитие

Среднесрочное развитие

Краткосрочное развитие

# Портфель ИТ-Кластера

## Applications & Content

FIBRUM



BAZELEVS



ELIGO VISION



Simulation & Training  
Logos

VIZERRA  
BRINGING LIFE TO LIFE®

Nettle



GeoCV



PILIGRIM XXI  
augmented reality time machine

## Tools & Platforms



FIBRUM



BAZELEVS

ELIGO VISION

GETSHOP.TV  
ШОППИНГ С ТВ ПУЛЬТОМ

VIZERRA  
BRINGING LIFE TO LIFE®

## Infrastructure

FIBRUM



Nettle



antilatency  
VR positional tracking



Simulation & Training  
Logos

TAU  
TRACKER

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ИТ-Кластер Сколково**



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**M: +7 916 946 47 74**

**FB: [alexey.kalenchuk](https://www.facebook.com/alexey.kalenchuk)**



# VR AR MR

