

# ARTIFICIAL INTELLIGENCE

## TRENDS VS. BUZZ

YAROSLAV LABUTIN-RYMSHO

Samsung Research Russia

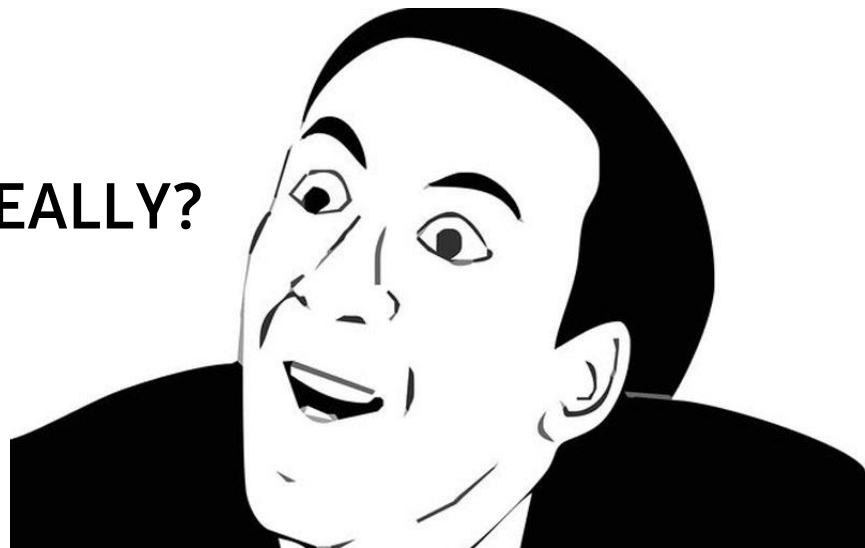
# BEFORE WE START...

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SAMSUNG  
RESEARCH  
RUSSIA

I AM NOT HERE TO ADVERTISE SAMSUNG

OH REALLY?



**BEFORE WE START...**

## **I AM NOT HERE TO ADVERTISE SAMSUNG**

**SURE, I PUT A FEW SLIDES ABOUT THE KEY DIRECTIONS AT SAMSUNG R&D  
BUT IT IS JUST TO HELP YOU UNDERSTAND MAJOR TRENDS IN THE CONSUMER MARKET**

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## WE WILL TRY TO SHOW THE KEY BUSINESS TRENDS

SO IT MIGHT HELP YOU TO HAVE MORE DETAILS ABOUT AREAS,  
WHICH ARE THE HOTTEST FROM BUSINESS POINT OF VIEW

# 1. CONSUMER TRENDS

# GENERATION TRENDS

## GENERATION Z: DECISION MAKING (3-19 Y.O)

### KEY POINTS



- Fear of wrong decision making
- Involvement in practical interaction
- Personal assistants helping to achieve short-term goals
- Apps to create own content (music, video)

## MILLENNIALS: FAST LIFESTYLE (20-39 Y.O)

### KEY POINTS



- Want services “yesterday” and real-time dialogue with their brands
- Early adopters
- Personal recommendations based on consumer preferences
- AR/VR shopping experience
- Autonomous services

## DISRUPTING AGING (40-59 Y.O)

### KEY POINTS



- Tech savvy
- 65% of total income
- Health is #1 priority
- Small robots to perform simple household chores
- Apps & bots to monitor consumer health
- “Ease-of-use”

# GENERATION TRENDS

## HOW ABOUT MY GRANDMA?

E.G. WHAT HAPPENS AFTER 60+

SAMSUNG  
RESEARCH  
RUSSIA





# GENERATION TRENDS

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E.G. WHAT HAPPENS AFTER 60+

### ACCORDING TO THE STATISTICS

AT LEAST **35%** OF PEOPLE ELDER THAN 55  
ARE USING WEB

**21%** ARE USING SMARTPHONES AND  
TABLETS



# GENERATION TRENDS

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E.G. WHAT HAPPENS AFTER 60+

## ACCORDING TO THE STATISTICS

AT LEAST **35%** OF PEOPLE ELDER THAN 55  
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**21%** ARE USING SMARTPHONES AND  
TABLETS

## WHAT ARE THEIR NEEDS?

TO KEEP ACTIVE AND ENGAGED



# WORLDWIDE TRENDS

## AUTHENTICITY

### KEY POINTS



- “Get rid of common devices”
- Hidden Assistance

- AI in electronic accessories
- Solutions for non-standard consumers

## WELLNESS AS STATUS SYMBOL

### KEY POINTS



- Life balance
- Looking wellness-ready
- Wellness leisure

- Devices to help during training (headphones with voice recognition, activity, mood & emotions control)
- Personal trainer (virtual assistant)

## SECURITY

### KEY POINTS



- People worry about personal and private data safety because of «automation» trend

- Smart Home security
- Self driving cars security
- Basic platform for mobile & IoT

## CUSTOMER-DRIVEN AI TECHNOLOGIES ARE:

### INTELLIGENT ASSISTANCE

**AUTONOMOUS  
MACHINES**

FULL STACK OF ROBOTICS STUFF

**PERSONAL  
ASSISTANCE**

NLU / NLG

USER RECOGNITION  
PROFILING  
RECOMMENDATIONS

### HEALTH & WEALTH MANAGEMENT

**“FIT-CARE” & WEALTH**

OUTLIER DETECTION  
TIME SERIES ANALYSIS

**HEALTHCARE**

ASSISTIVE DECISION MAKING  
AUTOMATED VIEW PLANNING  
FOR MRI AND CT  
COMPRESSIVE SENSING

### NEXT-GEN MEDIA

**COMPUTATIONAL  
MEDIA PROCESSING**

AI-BASED MEDIA  
ENHANCEMENT &  
COMPRESSION

**AUGMENTED AND  
MIXED REALITY**

OBJECT RECOGNITION AND  
CLASSIFICATION  
VISUAL SLAM

## 2. GLOBAL AI MARKET TRENDS

# ARTIFICIAL INTELLIGENCE

## DEMAND FOR INNOVATIONS

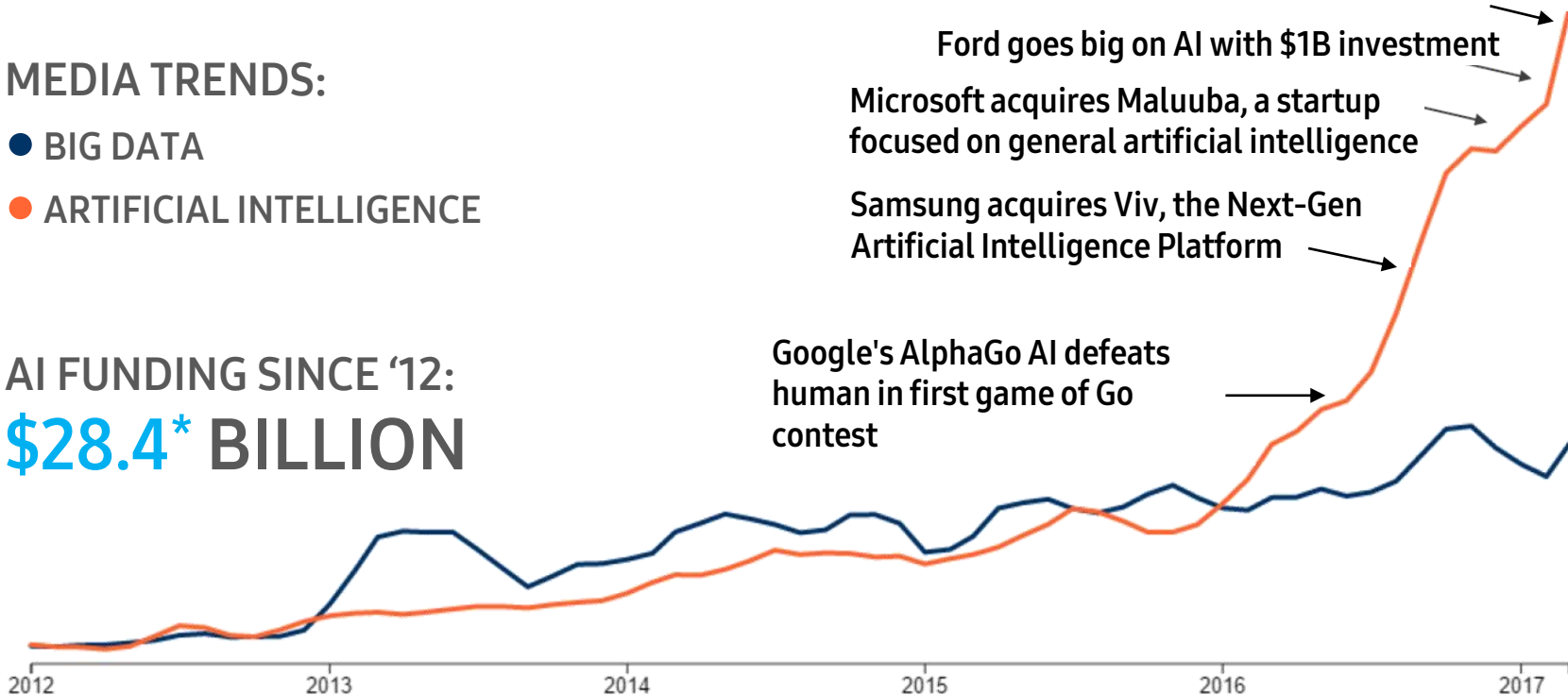
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### THE BATTLE FOR TOP AI TALENTS ONLY GETS TOUGHER FROM HERE

#### MEDIA TRENDS:

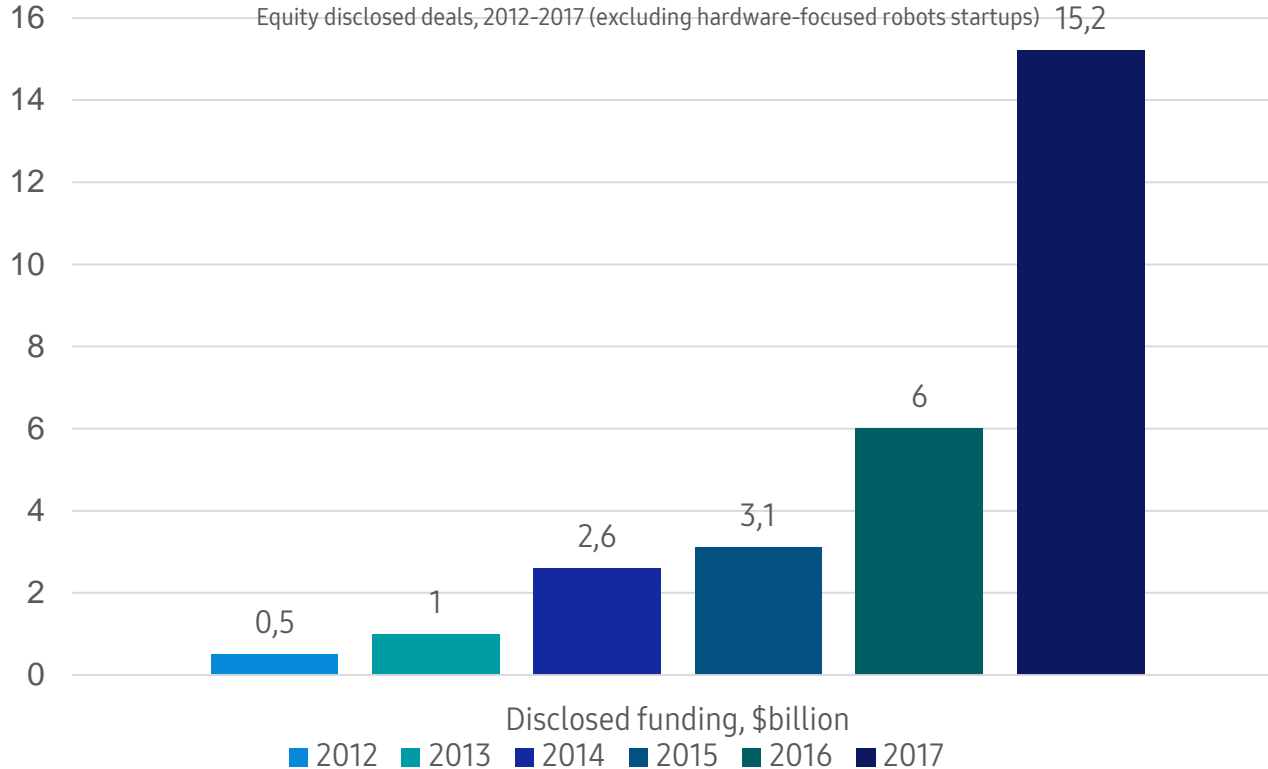
- BIG DATA
- ARTIFICIAL INTELLIGENCE

AI FUNDING SINCE '12:  
**\$28.4\*** BILLION



\* Accumulated AI funding 2012-2017 / "The state of AI" [www.cbinsights.com/](http://www.cbinsights.com/)

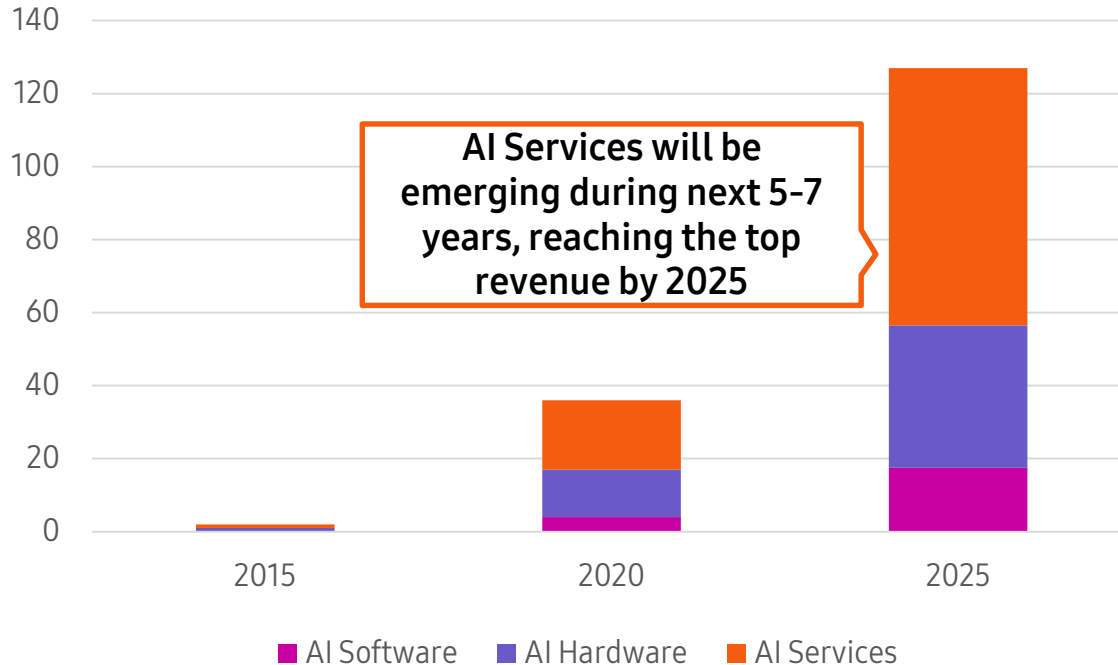
## AI sees 141% funding jump in 2017



### IN 2017 DEALS CONTINUE TO BREAK PREVIOUS RECORDS

- Deals to AI startups increased 30x in the last 5 years
- In 2017 AI startups received \$15,2 billion
- The top round went to auto tech and cybersecurity startups

## Revenues from AI market from 2015 to 2025, by segment (in billion U.S. dollars)

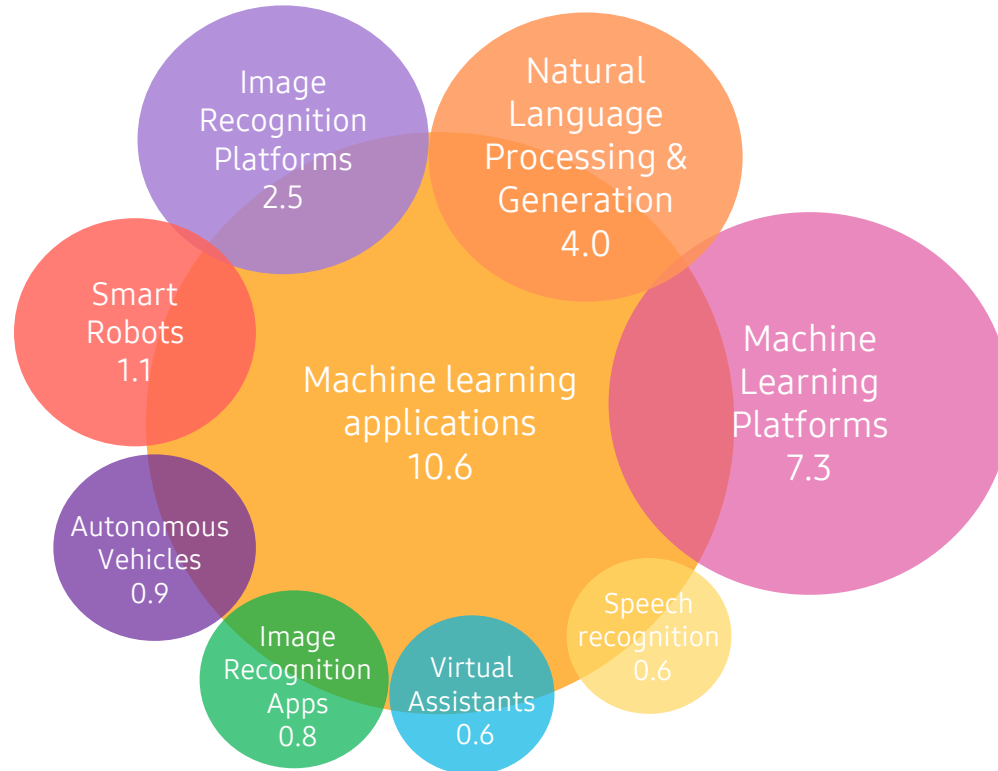


- The statistic shows revenues from the artificial intelligence (AI) market worldwide, by segment, from 2015 to 2025
- In 2020, revenues from AI services are forecast to reach 19 billion U.S. dollars worldwide



# INVESTMENT IN AI TECH (2012-2017), \$billion

MACHINE LEARNING-BASED TECHNOLOGIES RECEIVED THE BIGGEST PART OF INVESTMENT, ALTHOUGH BOUNDARIES BETWEEN TECHNOLOGIES ARE NOT CLEAR-CUT



- [www.cbinsights.com](http://www.cbinsights.com)
- <https://medium.com/@VentureScanner/artificial-intelligence-funding-trends-q3-2017-4e8a9b80fe53>
- <https://www.statista.com/statistics/672712/worldwide-artificial-intelligence-startup-disclosed-funding/>

# DEEP-LEARNING STARTUPS IN RUSSIA

- The most popular areas are Computer Vision and NLP/NLU



CV, ADAS, 3D  
Acq. Intel '16



CV, Face Recognition  
#1 NIST '17 & EmotionNet '17  
VC (~\$15M): Impulse VC, (10%)



CV, Face Recognition  
Acq. Facebook '16



CV, DL-based image  
processing  
World's buzz '16



CV, Face Recognition  
VC (\$25M): Sistema (25%),  
Sberbank (25%)



CV, LW DL  
Acq. Google '17



CV, Face Recognition  
1st MegaFace '16



CV, Gesture Recognition  
#2 NIST '17  
VC investment: LG, SK



IPavlov

Conversational AI  
VC investment:  
Sberbank (\$8M)



DUSI

Voice Assistant  
NLP, Dialog Agent  
1M subscribers in Russia



ML NLP chatbot Eugene Goostman  
1st chatbot passed Turing Test '14



**WOW**

**SO DEEP**

**MUCH LEARNING**





**WOW**

**SO WHAT? SO DEEP**

**MUCH LEARNING**

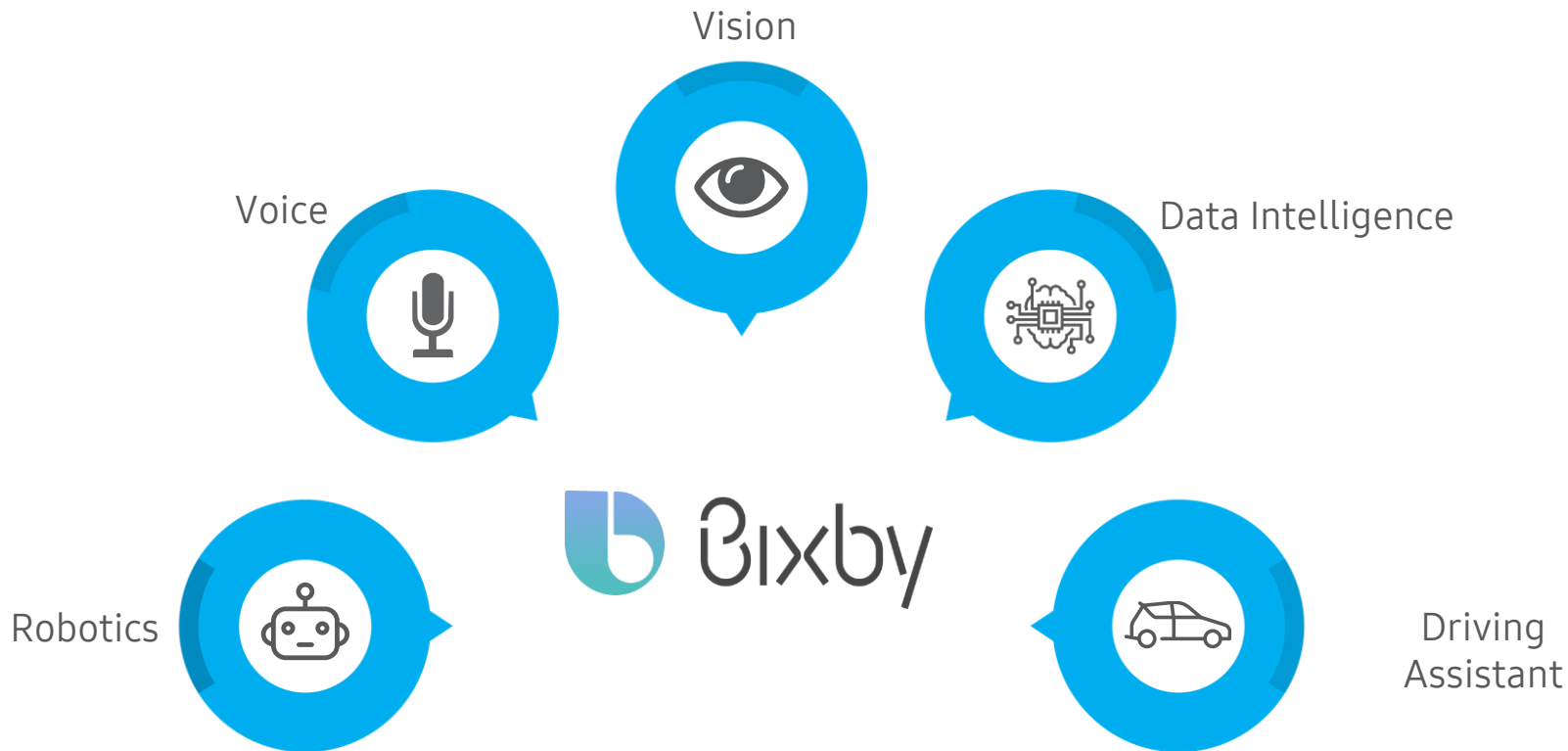
# “AI SELLS”, BUT THERE ARE COMMON ISSUES FROM BIZ. SIDE:

**1. RESEARCHERS HAVE REACHED PROMISING RESULTS IN DIFFERENT AREAS**  
BUT MOST OF ALGORITHMS ARE NOT SUITABLE FOR CONSUMER DEVICES

**2. CUSTOMERS DO NOT SEE REAL USE-CASES FOR AI ALGORITHMS**  
PEOPLE “DON’T TALK WITH THEIR PHONES” AND DO NOT WANT TO SHARE  
THEIR DATA OUTSIDE THE DEVICE

**3. THERE IS NO GOOD DEVELOPMENT INFRASTRUCTURE FOR AI APPLICATIONS**  
FOR EXAMPLE, RIGHT NOW YOU CANNOT FIND ANY GOOD SDK WITH  
AUTOMATED TESTING VS. ADVERSARIAL ATTACKS

# BASED ON THIS, WE ESTABLISHED KEY R&D AREAS:



By 2020, Every Samsung Device will be **AI-Enabled**,  
Creating Entirely New Experiences and Values Just For You!



**THANK YOU!**

**감사합니다!**

**СПАСИБО!**

**SAMSUNG**



# CONTACTS

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**Special thanks for supporting the creation of this report:**

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**Andrey Peressadko**