1 SEPTEMBER 2018

ROMAN IOVLEV

Chief QA Automation

In Testing almost 13 years

In Testing Automation 11 years

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AGENDA

- EPAM Experience
- Common testing types
- Some statistic on project types
- What is hard to automate now
- New market challenges: Big Data, Voice Assistance, ML, DL, AI etc.
- Global challenge with IoT

EPAM EXPERIENCE

SOME FACTS ABOUT EPAM

26,000
EPAM Engineers

25+
Countries
Offices in 79 cities

1000+
Projects
simultaneously

25+
Years of Testing
Experience

WHAT WE ARE USUALLY TEST?

TEST AUTOMATION MARKET

Web UI and Mobile

Front-end

50-60%

Web Services

Back-end

30-40%

HARD CORE TESTING

UNUSUAL CASES

- Games (RPG, Strategies, Online multiplayers)
- VR (Virtual Reality)
- Some sort of intelligence (pseudo AI)
- Unusual/Old devices, platforms etc.
- …

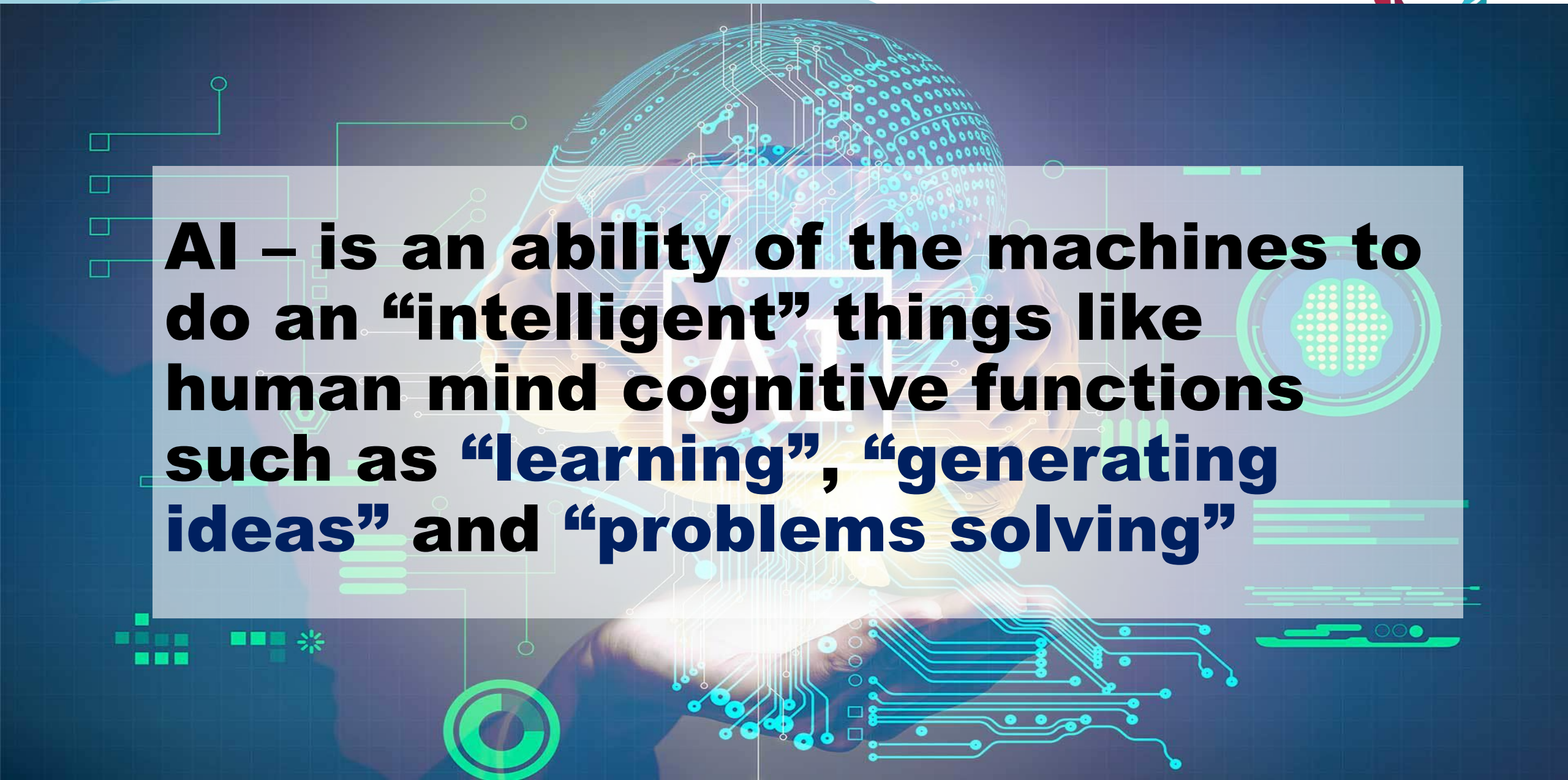
<5%

HOW TO TEST?

- Manual testing
- Open Beta tests

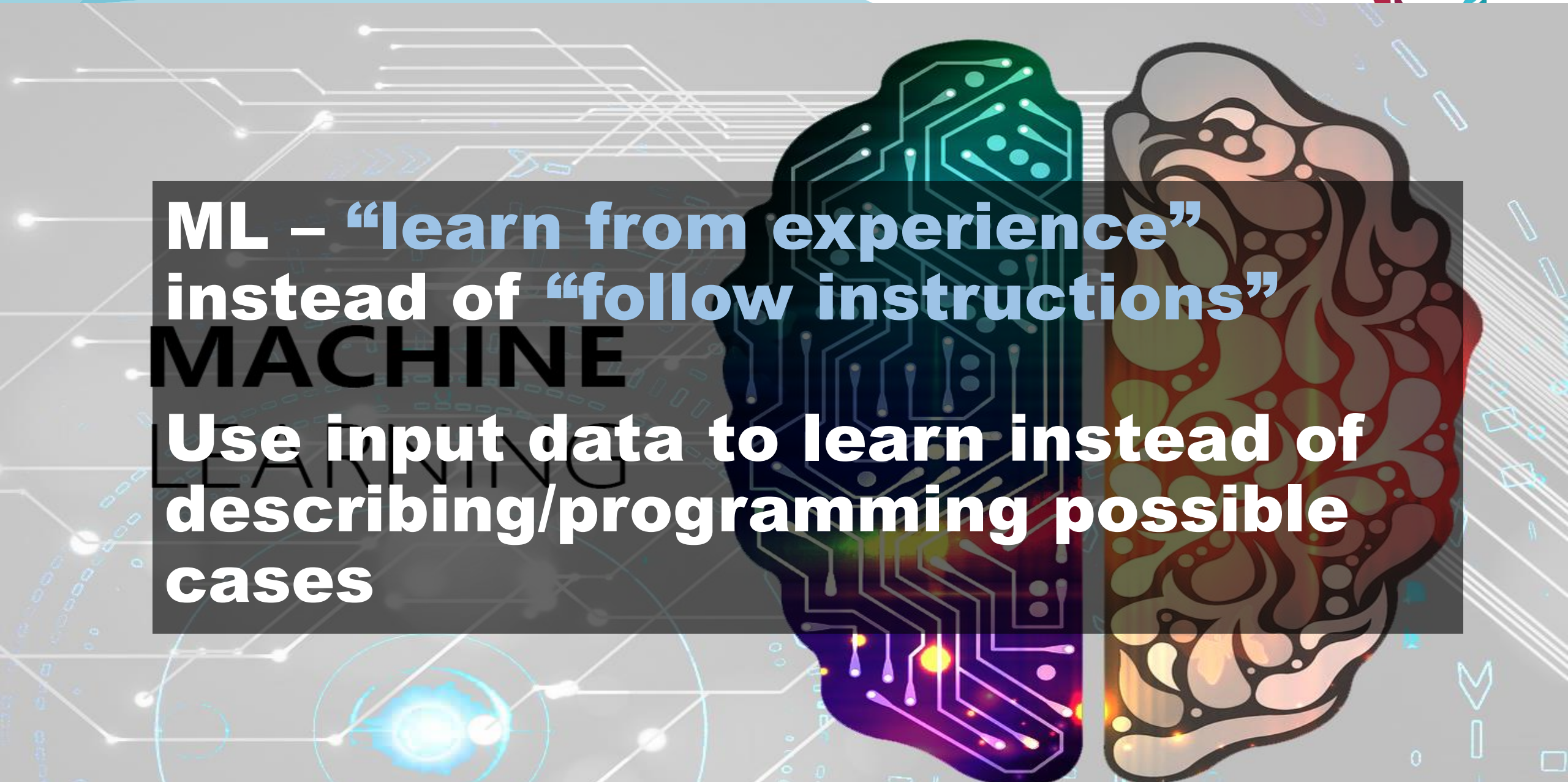
ML, DL AND AI TESTING

ARTIFICIAL INTELLIGENCE



AI – is an ability of the machines to do an “intelligent” things like human mind cognitive functions such as “learning”, “generating ideas” and “problems solving”

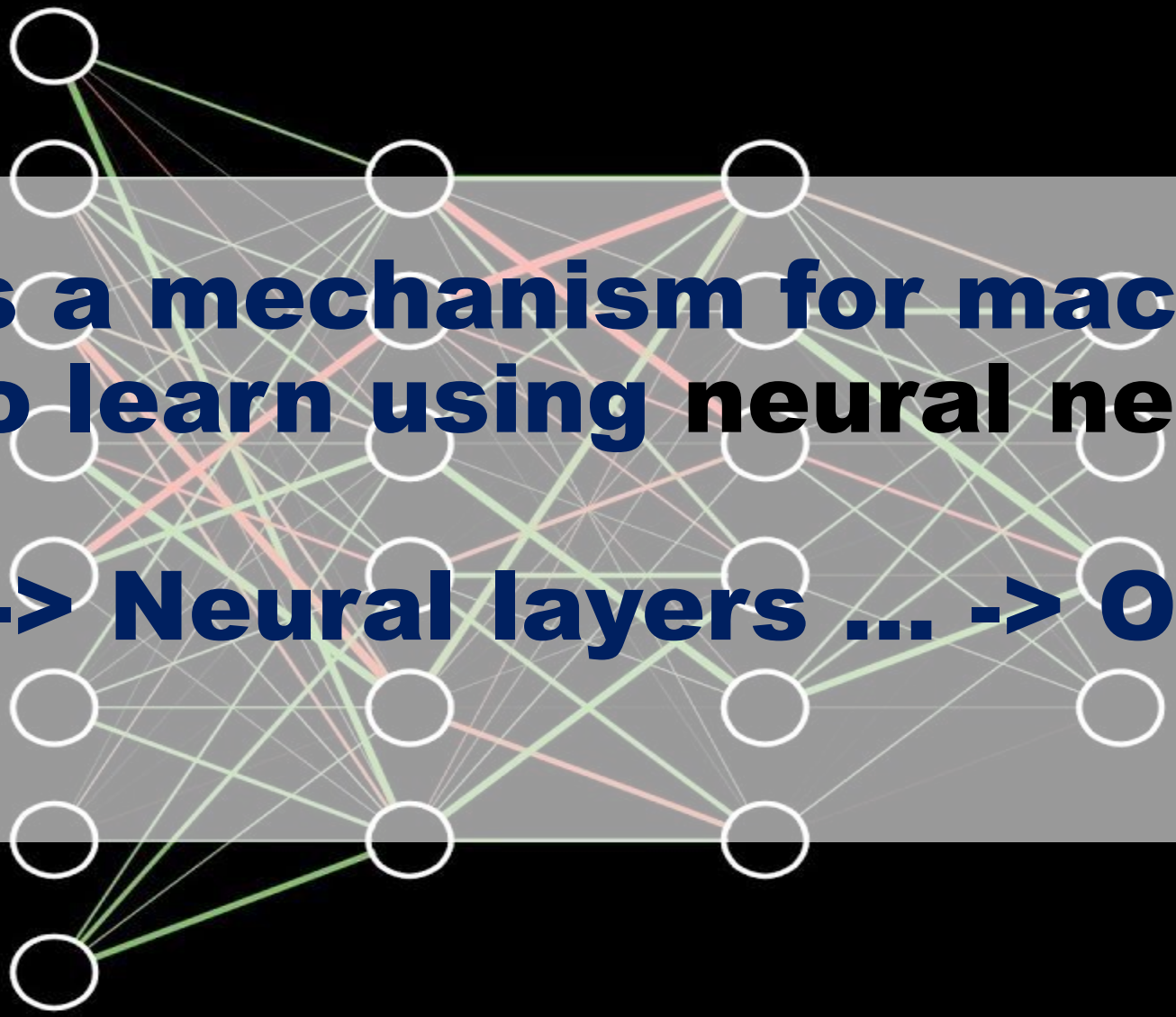
MACHINE LEARNING



ML – “learn from experience” instead of “follow instructions”

Use input data to learn instead of describing/programming possible cases

DEEP LEARNING



DL – is a mechanism for machines how to learn using neural networks

Input -> Neural layers ... -> Output

HOW TO TEST?

!?

HOW/WHAT TO TEST

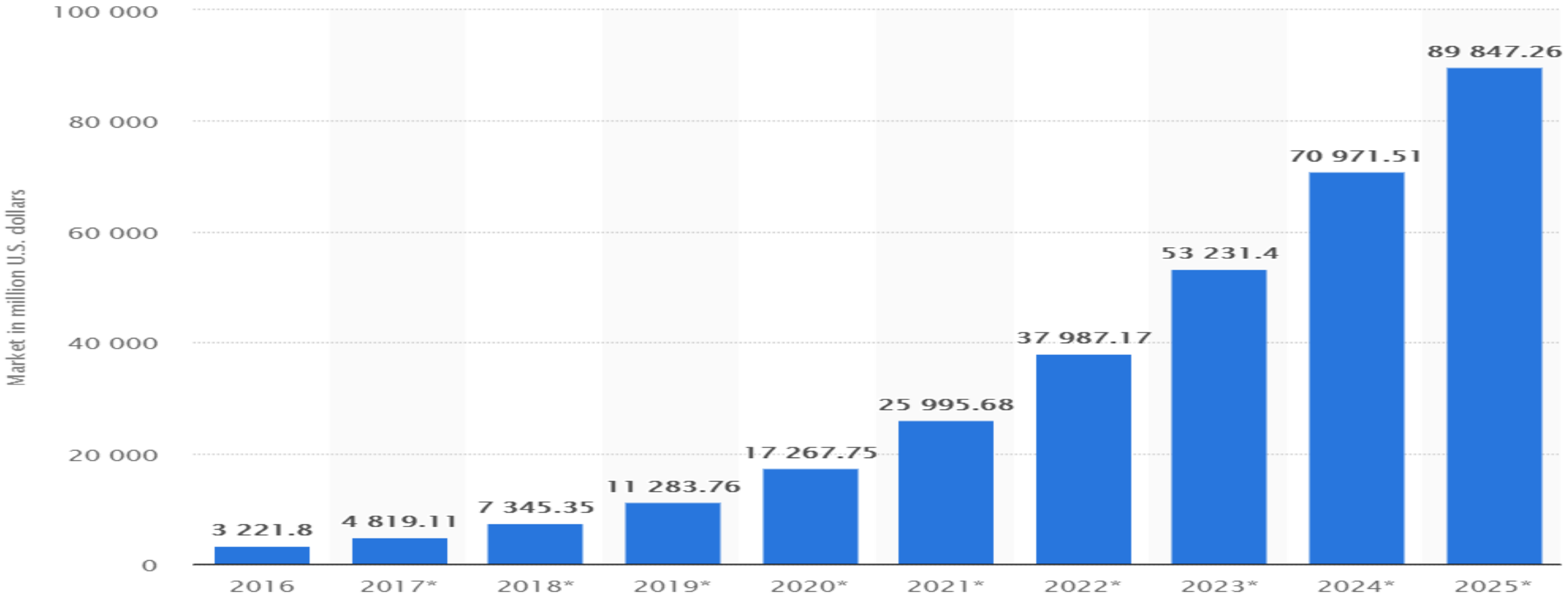
- Verify quality of learning
- BigData. How to define/generate data
- Challenge: on different data and other algorithms
- How to find failing data?
- How AI can solve problems?

or… generate ideas???

- …

AI MARKET GROWTH

AI market Revenues (in million U.S. Dollar) 2016-2025



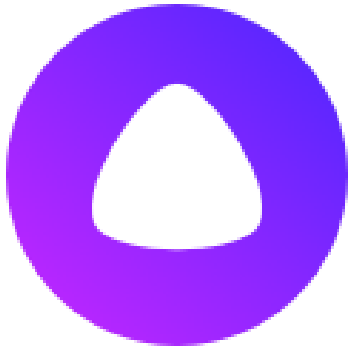
*https://www.statista.com/

VOICE ASSISTANT

CHATS AND ASSISTANCE

Google Siri

Yandex Alice

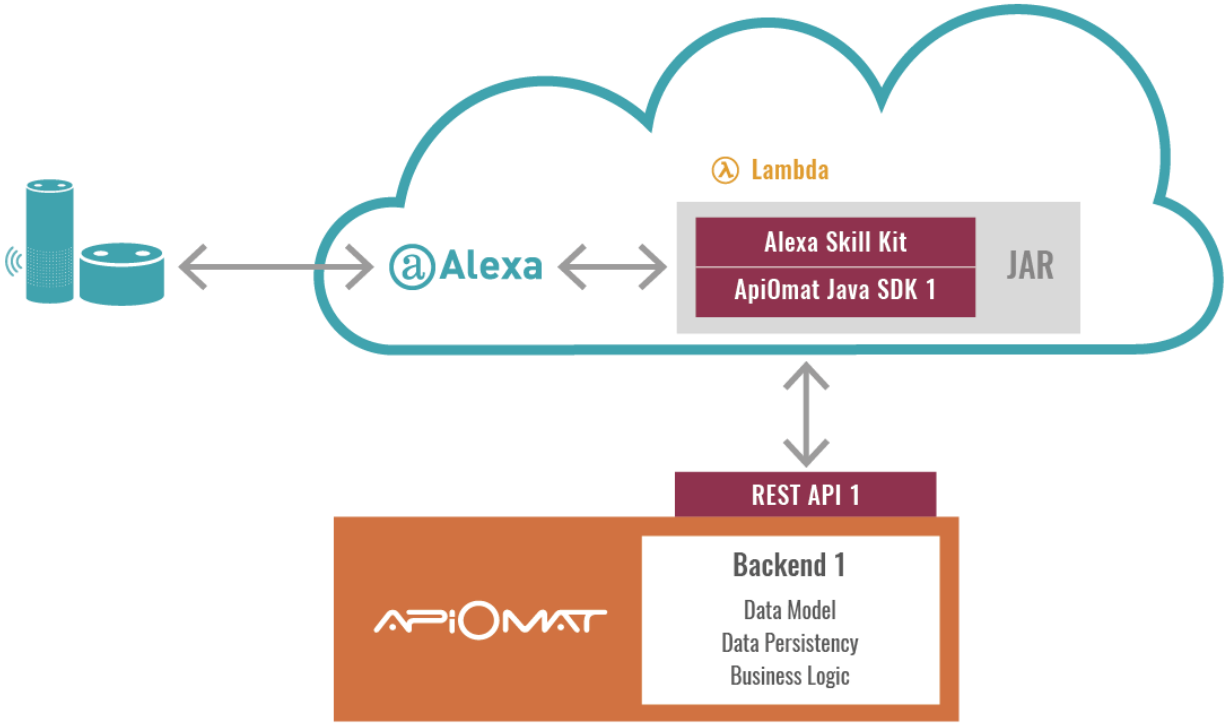


Devices

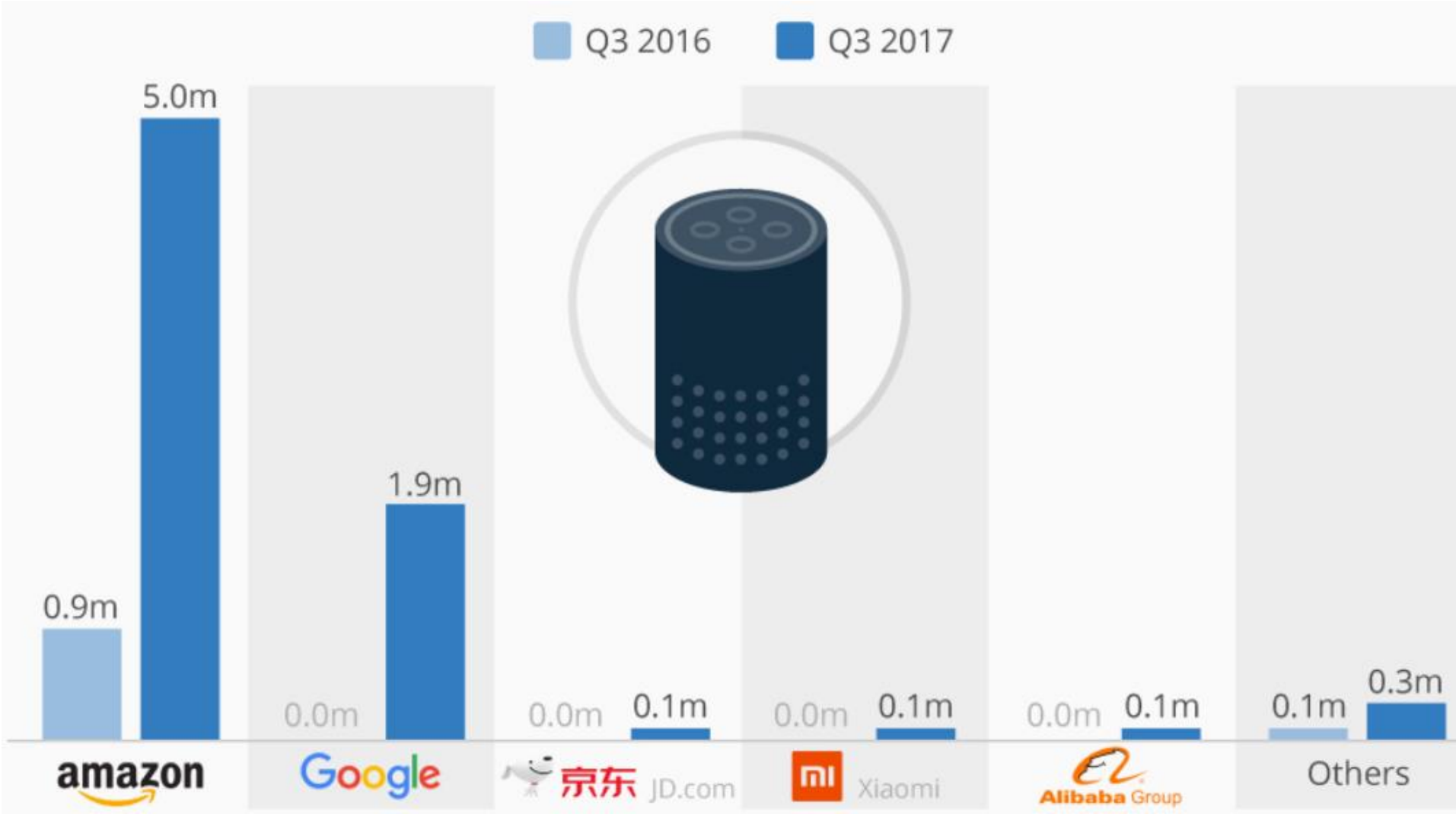
STM32 SDK for Amazon AVS

RTOS-based STM32Cube Expansion

SDK



SMART SPEAKERS

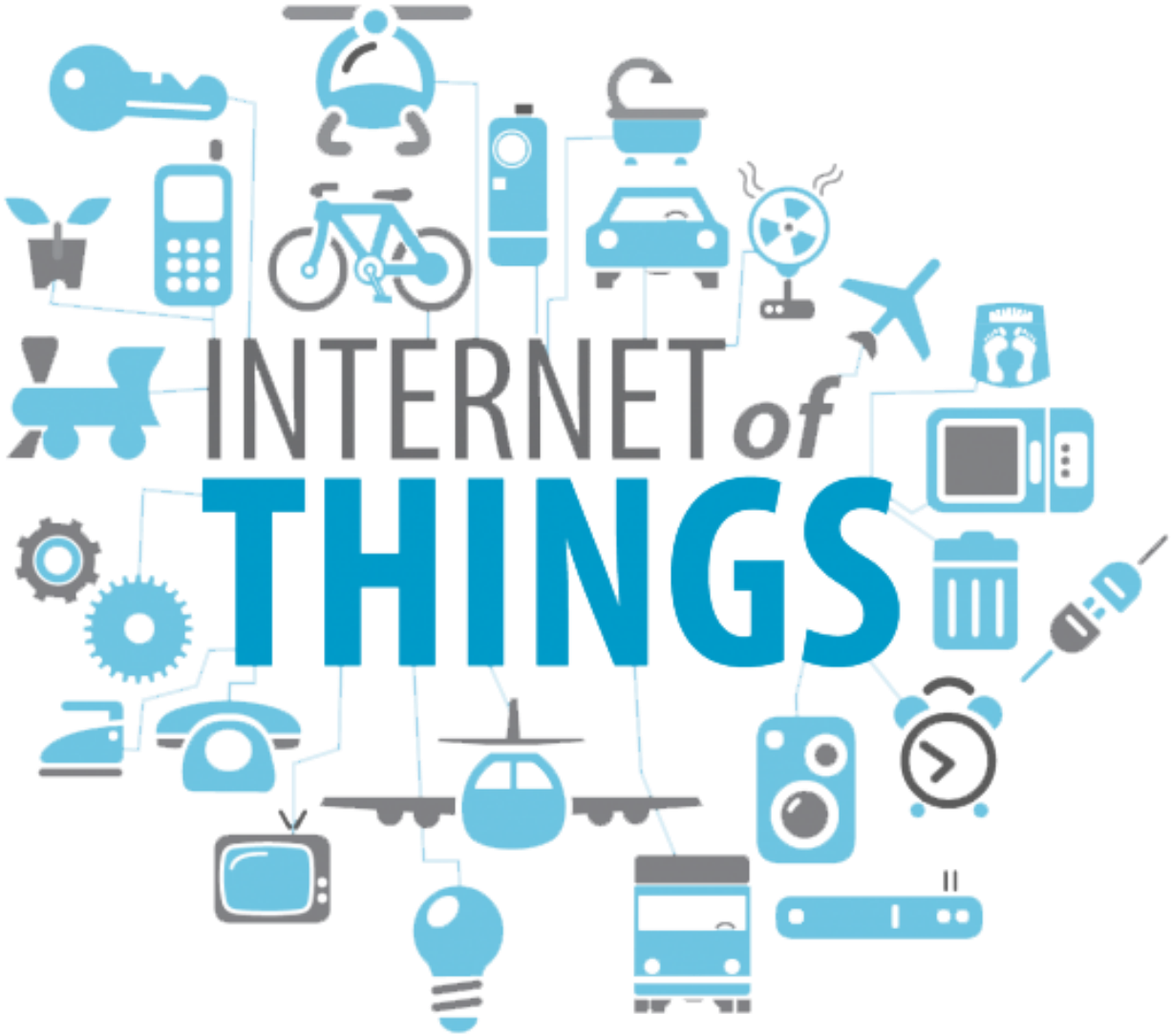


HOW / WHAT TO TEST

- AI
- Voice recognition
- Chat to each other
- Network, sound problems etc.

IOT NOW ONLY A CONCEPT

IOT



- IoT network include almost all devices you can see. A lot of utility devices
- All devices in network can be found
- Need fast way for communication
- All devices can be requested about their status, parameters
- Asked to do some action or script of actions

TRAFFIC EXAMPLE

- Vehicles
- Traffic light
- People (pedestrian)
- Road
- …

What's your position?

- Car
- Your friend
- Traffic service …

INTELLECTUAL TAEPOT

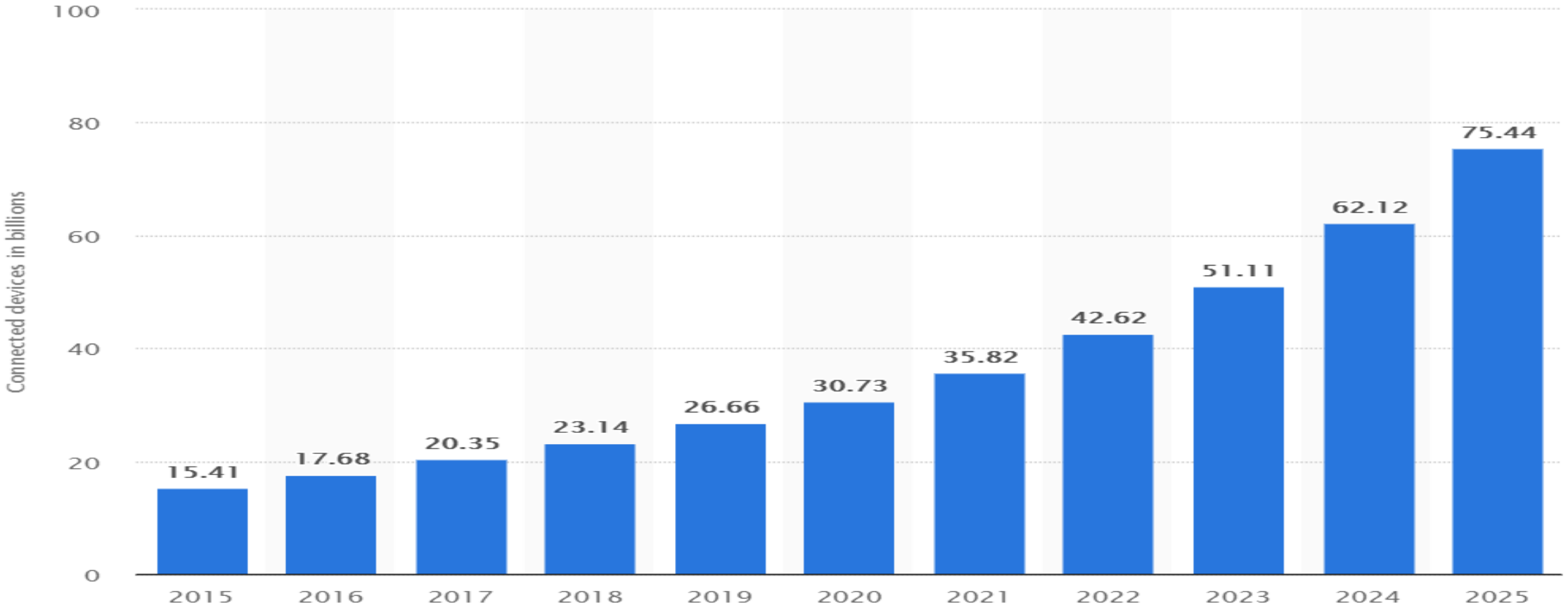
- Boil water - man
- Boil water while master comes
- Is teapot obsolete or need maintenance
- What model, color etc. teapot I have?

PROBLEMS?

- You never know who next will ask your device
- How much devices will ask you simultaneously etc.
- High channel stability and availability
- Calculation possibilities
- Make most of object as part of network by default

IOT MARKET GROWTH

IOT market Revenues (in billions U.S. Dollar) 2015-2025



*https://www.statista.com/

TEST AUTOMATION

TRENDS

- Move to Big Data and clouds
- Python trend
- Code Generation
- Standards

FUTURE

- ML and AI in testing
- More code generation
- Application Models
- Testing as part of development
- New languages become more popular

JDI light

TEST SCENARIO

1. **Open EpamGithub site https://epam.github.io/JDI**
2. **Click user icon**
3. **Login as User (name: epam, password: 1234)**
4. **Select Contacts page in sidebar menu**
5. **Check that Contacts page opened**
6. **Fill contacts form with:**

   gender = "Male"; religion = "Other"; weather = "Sun, Snow"; passport = "true"; name = "Roman"; lastName = "Iovlev"; position = "QA Automation"; number = "4321"; seria = "123456"; description = "JDI awesome";

7. **Check that contact form filled with expected data:**

   gender = "Male"; religion = "Other"; weather = "Sun, Snow"; passport = "true"; name = "Roman"; lastName = "Iovlev"; position = "QA Automation"; number = "4321"; seria = "123456"; description = "JDI awesome";

Q & A

https://vk.com/jdi_framework

http://jdi.epam.com/

https://www.facebook.com/groups/jdi.framework/

JDI STAGE - 1 СЕНТЯБРЯ

12:15 Тренды Автоматизации тестирования (Презентация) - Алексей Гирин
13:15 Архитектура ТА (Презентация) - Максим Мещеряков
14:15 Как повысить свою капитализацию или как достичь сеньорного уровня (Круглый стол) - Дмитрий Лебедев
15:15 Flash Pages (мастеркласс) - Роман Иовлев
16:15 Конкурс на название для Page Object генератора, мысли идеи - Алексей Гирин
17:15 Wishes and pains in TA (круглый стол) Роман Иовлев

JDI STAGE - 2 СЕНТЯБРЯ

12:15 Cloud Mobile Services (мастеркласс) Максим Мещеряков
13:15 JDI Light (мастеркласс) Роман Иовлев
14:15 JDI Dark (мастеркласс) Юля Атласова
15:15 Как использовать возможности JDI (стабильность, логирование) в своем фреймворке для автотестов (Презентация) - Алексей Платковский
16:15 Аукцион по автоматизации - Алексей Гирин/Алексей Платковский
17:15 Кто такие Dev in Test? (Круглый стол) - Алексей Гирин