

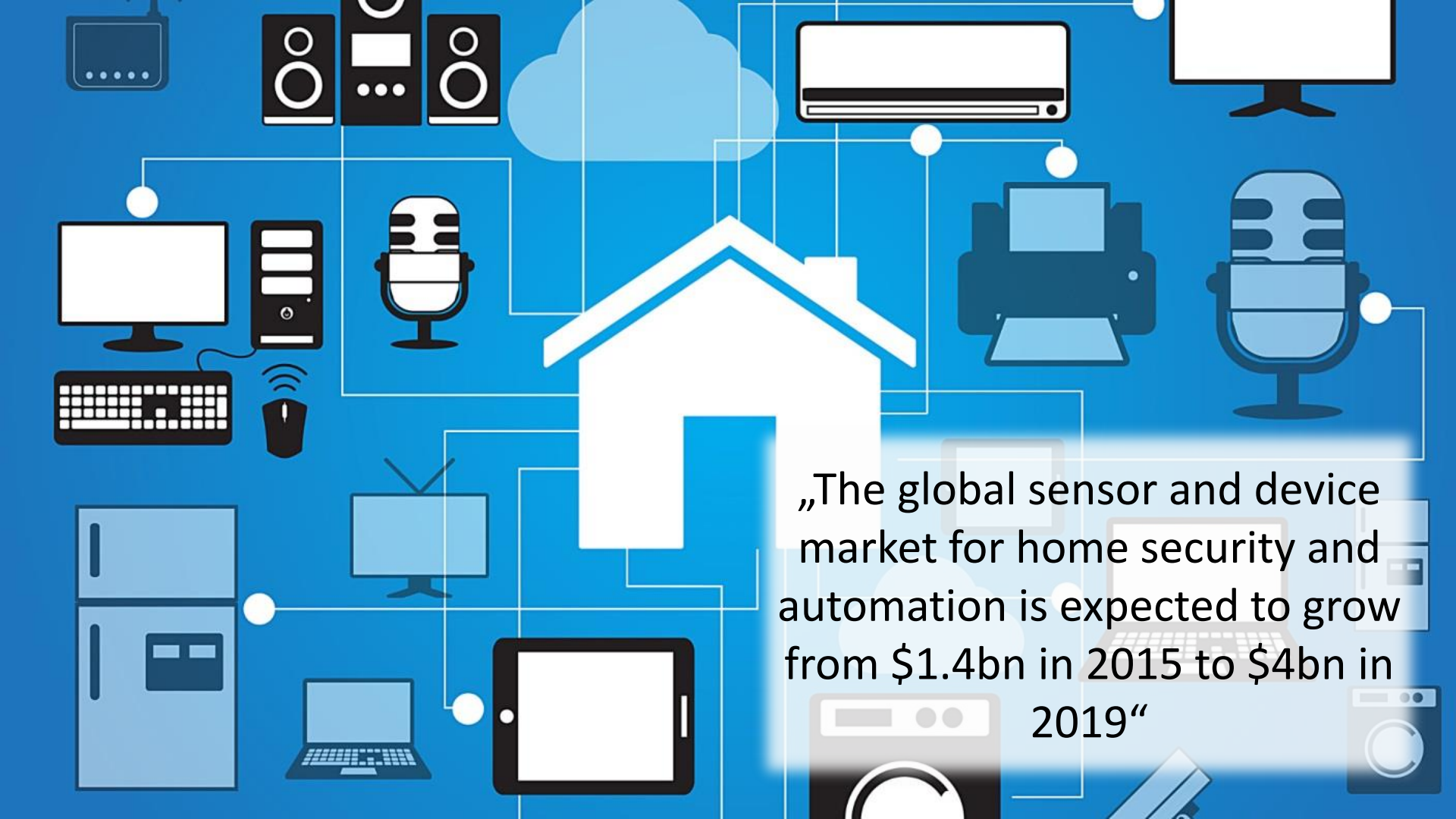


Connected Home

Qivicon

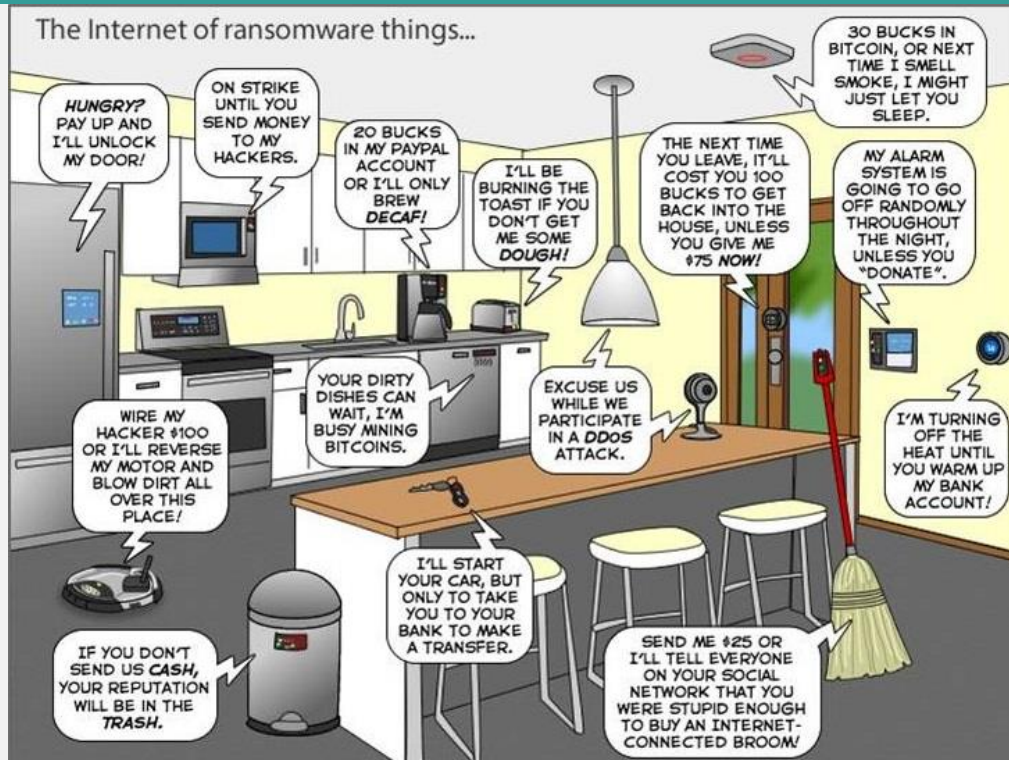
Hristo Gergov & Petyo Dimitrov





„The global sensor and device market for home security and automation is expected to grow from \$1.4bn in 2015 to \$4bn in 2019“

THE INTERNET OF RANSOMWARE THINGS...



SMART HOME'S VALUE LAYERS

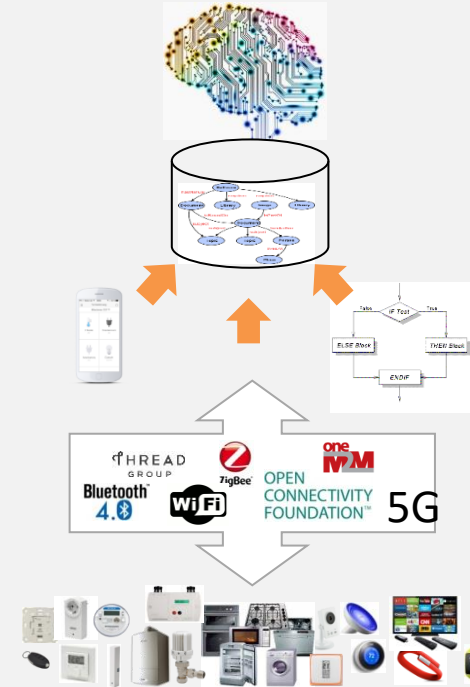
Artificial Intelligence

Semantic Data

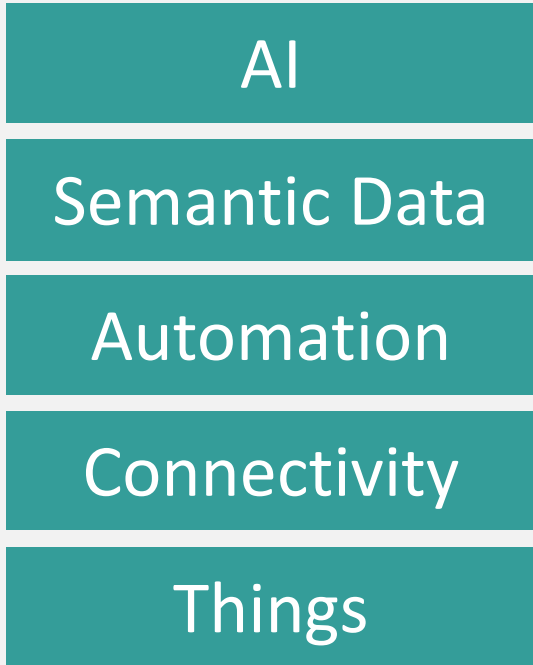
Automation

Connectivity

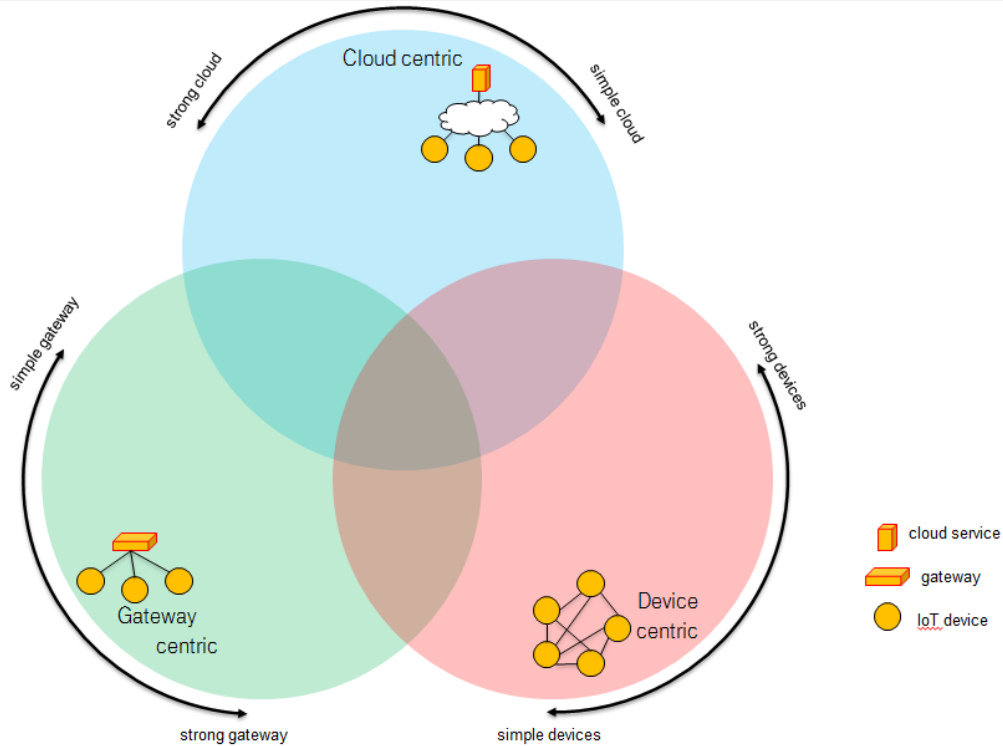
Things



SMART HOME COMPETITION



TECHNOLOGY TRENDS: PLATFORMS

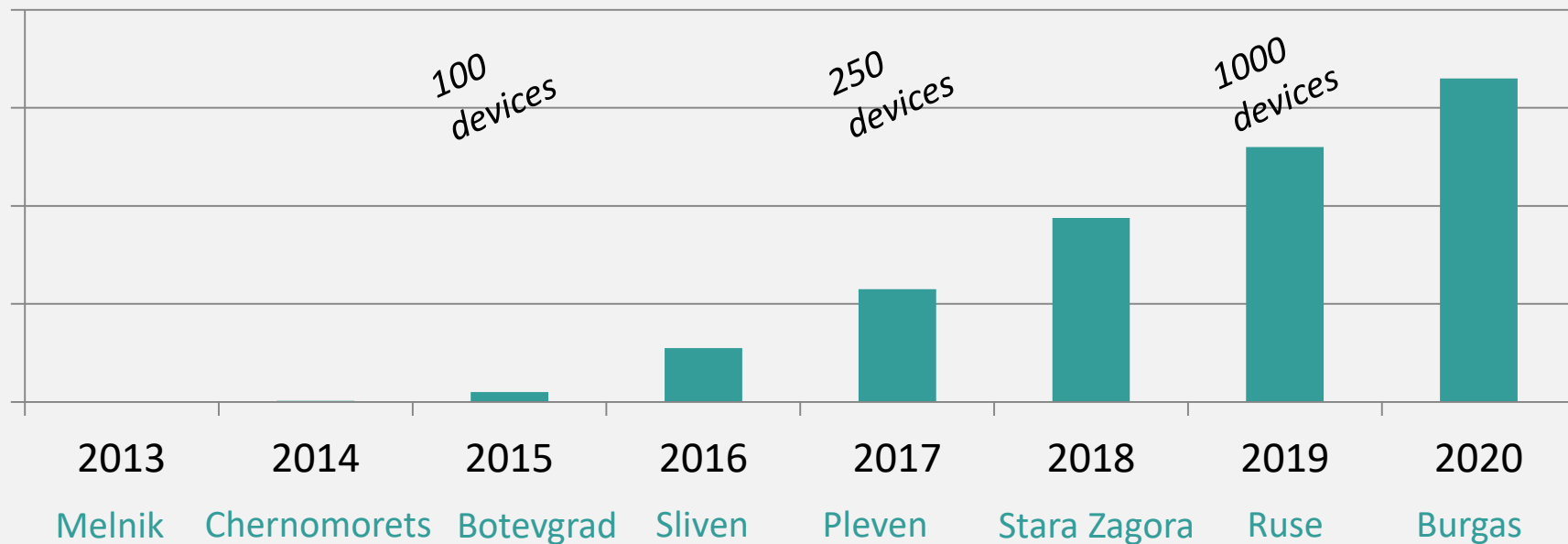


QIVICON



7 Connected Home

TIMELINE – CUSTOMERS & DEVICES



DEVICES

Bitron Home Wireless motion detector, indoor



Bitron Home Wireless smoke detector



Bitron Home Wireless Smart Plug with power metering



Bitron Home Wireless temperature/humidity sensor with display



Netatmo Rain Gauge



Netatmo Weather Station



Netatmo Wind Gauge



Osram LIGHTIFY Classic A60 RGBW



D-Link Wireless Outdoor Camera



D-Link Wireless Indoor Camera



eQ-3 Wireless motion detector, indoor



eQ-3 Wireless radiator thermostat



Osram LIGHTIFY Downlight TW



Osram LIGHTIFY Plug



Osram LIGHTIFY Surface Light TW



Philips hue LED Bulb E27



eQ-3 Wireless switch actuator, flush mounting



eQ-3 Wireless door/window contact



Miele Automatic coffee machines



Miele Washing machines



Philips hue LightStrips



Sonos CONNECT



Sonos Play:1



Sonos Play:5

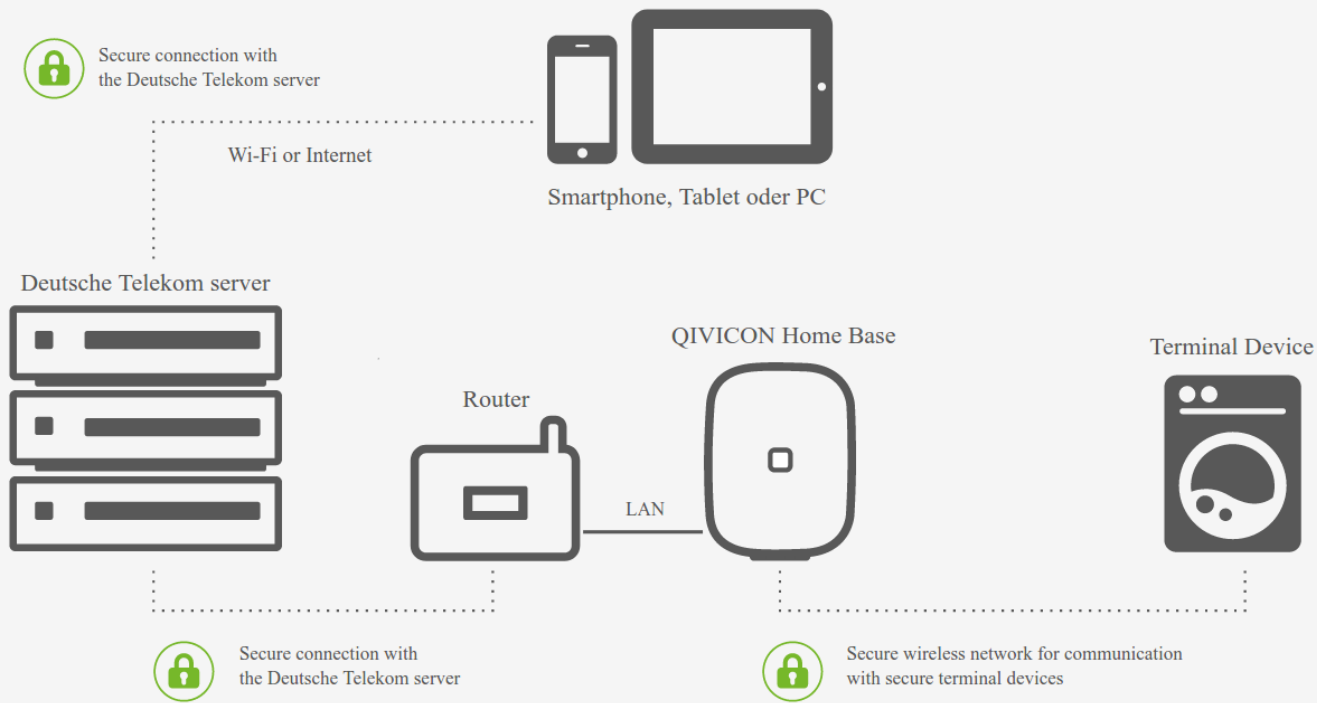


PARTNERS ~ 50

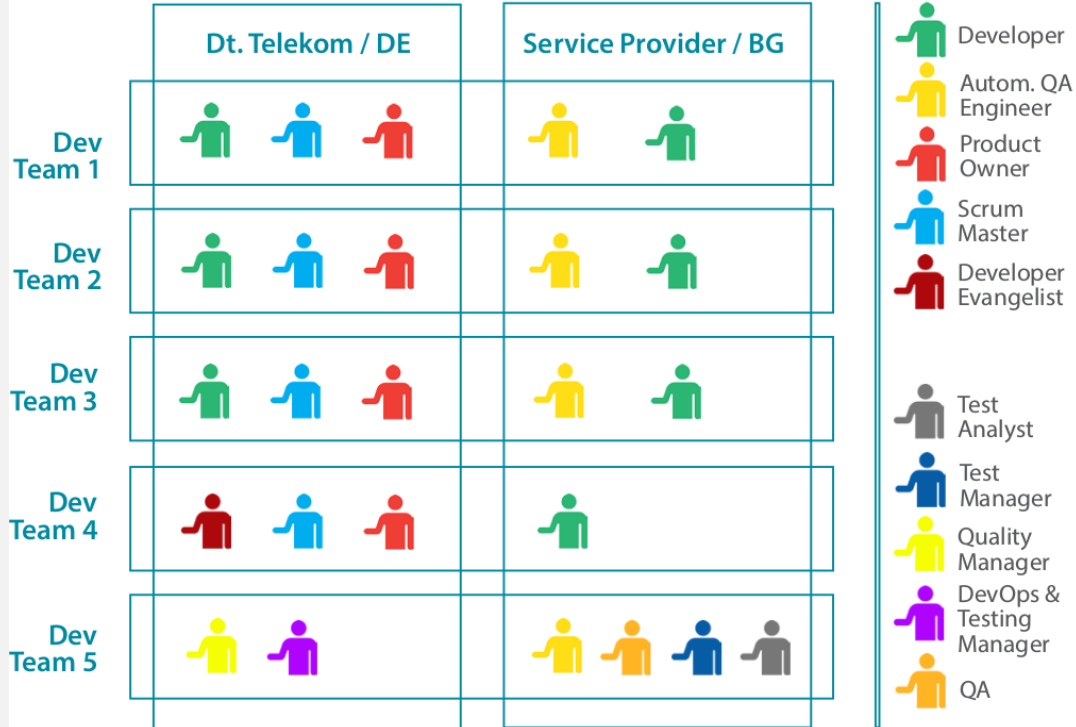


- + TelCos: KPN, ...
- + NatCos: Slovak, Cosmote, ...

HOW IT WORKS



QIVICON & MUSALA



BACKEND DEVELOPMENT

1

New & unexplored business model

- *open platform vs white label*
- *flexible pricing*

2

Big Data & Analytics

- *data privacy*
- *opportunity identification*

3

Integrations

- *> 15 systems*
- *reliability expectations*

4

Performance

- 100k gateways
- testing

FRONTEND DEVELOPMENT

1

Easy setup of a complex & flexible solution

2

Responsive and robust UI

3

Dependencies to all other DEV teams

RUNTIME DEVELOPMENT

1

Opportunity to contribute to Open Source projects

2

Different gateway devices & firmware-s

3

Low footprint vs API convenience

4

Version management

DEVICE INTEGRATION

1 Many devices with interesting functionalities

2 Aligning a diversity of devices to a common abstraction

- Vendors, Protocols, APIs

3 Synchronization with external Smart Home tools

4 Testing:

- requires physical interaction
- difficult to automate

Enough is good enough



Enough is NOT good enough



THE IMPACT ON QA & TESTING

- Even higher quality needed – big impact comes with big risks
- Bigger complexity & project's systems landscape. Important to know non-tech stuff
- Not yet established good testing practices
- What about Test Automation?

TESTING TYPES

1 Usability

3 Security

5 Beta / Friendly User

2 Integration

4 Performance



Open-source Connected Home

openHAB

Dimitar Ivanov



OPENHAB FROM SCRATCH



Started as a Tooling for Private Use

Platform independent - JVM

Open-source

Protocol and Vendor Agnostic

Modularity - OSGi

Open for Extension

HOW BIG IS OPENHAB



1

<https://GitHub.com/openHAB>

2

Eclipse Public License 1.0

3

Over 1000 Forks

4

Over 350 Active Contributors

5

1200 Already Merged PRs

6

33 active repositories

THE MOST INTERESTING BINDINGS

[Qualcomm AllPlay](#), [Amazon Dash Button](#), [Asterisk](#), Astro, [Autelis](#) (pool control), [BigAssFan](#) (industrial fans), Bluetooth, Bosch Indego(lawnmower), Gardena (lawnmower), Google Chromecast, Daikin, [digitalSTROM-System](#), D-link, [ekey](#) (biometric access), [EnOcean](#) (energy harvesting), Logitech Harmony, HomeMatic, Zigbee, [Philips Hue Lighting system](#), LG, LIFX, KNX, Sonos, Miele, Xiaomi, Minecraft, Nest, Netatmo, NTP, Panasonic, Plex, Samsung, TinkerForge,

WakeOnLan, Z-Wave, HTTP, Ventilation systems, other smarthome installations, weather services, DIY Hardware modules, DIY Security systems, Lightning, heating systems, solar panels, Projectors, MQTT, RSS, IR devices, Video equipment, Motorized shades, MacOS text to Speech, Alexa, Mail, Twitter, Cisco Spark, MySQL, JDBC, Windows 10 Application, Tesla, SleepIQ (smart beds), BMW, Volvo, HomeKit, Spotify, etc.

TRENDS IN OPENHAB

1

Voice Control

2

Gesture Control

3

Rule Engine

4

Security

5

Open for Extension

6

Big Companies Involved –
Deutsche Telekom, Mozilla,
Huawei, Xiaomi, Bosch, etc.