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Cloud Computing, Big Data and IoT: Current situation in Uzbekistan

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INTRODUCTION

CLOUD COMPUTING

IoT is a King, **Big data** is a Queen and **Cloud** is a Palace.

Source: Dr.-Ing. Abdur Rahim, Empowering Urban Innovation Through Convergence of IoT-Big data and Cloud, Geneva, Switzerland, 19 October 2015

CLOUD COMPUTING: Standardization

- O‘z DSt ISO/IEC 17788:2018 Information technology. Cloud computing. **Overview and vocabulary**

  (ISO/IEC 17788 is *identical with ITU-T Reccommendation Y.3500 (08/2014))*

- O‘z DSt ISO/IEC 17789:2018 Information technology. Cloud computing. **Reference architecture**

  (ISO/IEC 17789 is *identical with ITU-T Reccommendation Y.3502 (08/2014))*

CLOUD COMPUTING
Companies providing cloud services in Uzbekistan

№	Company Name	Hosting	VPS	Colocation
1	Active	√	√	√
2	aHost	√	√	√
3	Arsenal D	√	-	-
4	BCC	√	-	-
5	Megahosting	√	-	√
6	Regname	√	-	-
7	Sarkor Telecom	√	-	-
8	Scinet	√	√	√
9	Sharq Telekom	√	√	√
10	Turon Cloud	√	√	-
11	Uzhosting	√	√	√
12	Uzinfocom	√	√	√
13	Uztelecom	√	√	√

source: hosting-obzor.uz

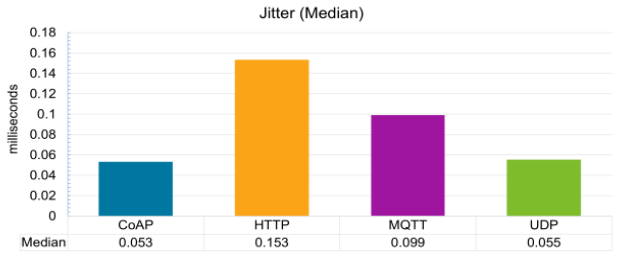
BIG DATA

Young researchers have been working on this research domain

Performance Evaluation

Protocol	Jitter (ms)	
	Median	Mean
CoAP	0.053	0.07995726
HTTP	0.153	0.45754430
MQTT	0.099	0.47545580
UDP	0.055	0.12100310

Performance Evaluation



Pi estimation

Fog node	The number of partitions				
	10	16	26	32	64
Desktop	3.700	3.760	3.780	3.777	3.790
Raspberry Pi 3 Model B	12.126	12.070	12.168	12.040	12.209

*Measures are given in seconds

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BIG DATA

Planning to develop standards for then next year

- O‘z DSt _____:2019 Big data. Cloud computing based requirements and capabilities

  Based on Recommendation ITU-T Y.3600

- O‘z DSt _____:2019 Big data. Framework and requirements for data exchange

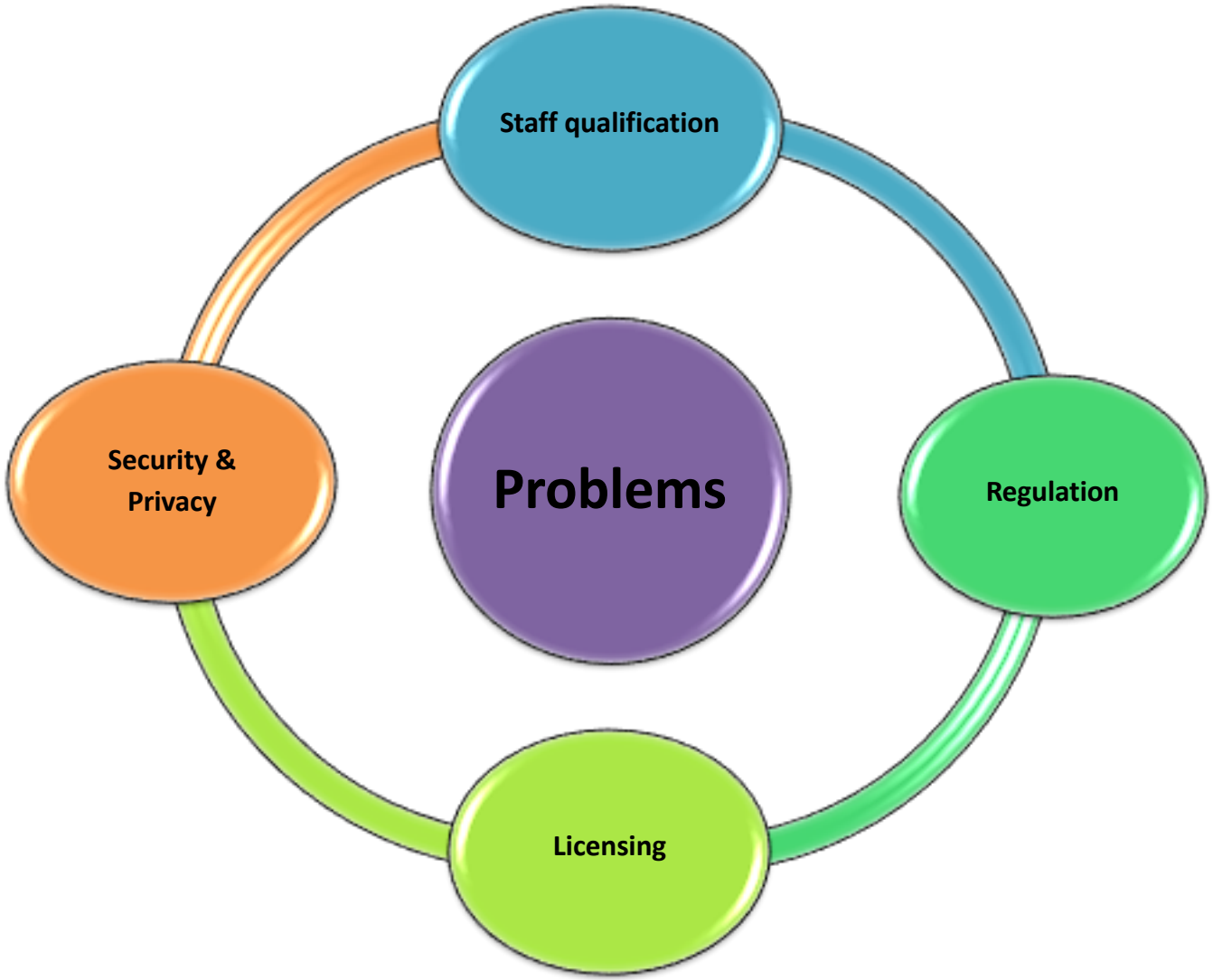
  Based on Recommendation ITU-T Y.3601

Internet of Things
Ongoing Research by UNICON.UZ

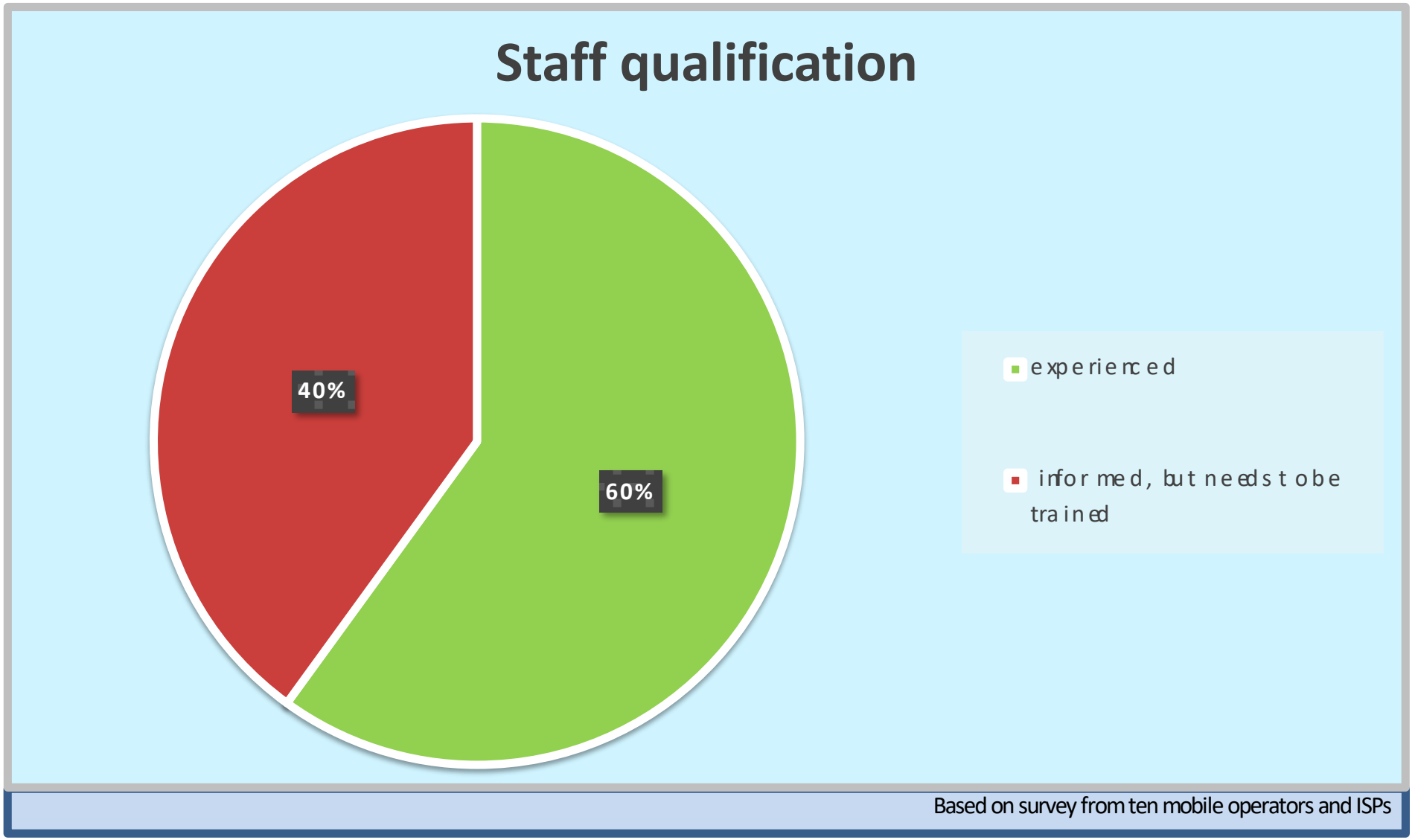
State Unitary Enterprise Scientific Engineering and Marketing Researches Center – “UNICON.UZ” is conducting research to develop regulations for use of Internet of Things in Uzbekistan:

- Study and analyze world experience;
- Investigation telecommunication aspects in Uzbekistan;
- Investigation radio-frequency aspects in Uzbekistan;
- Development of proposal for use of IoT in Uzbekistan.

Internet of Things
Ongoing Research by UNICON.UZ

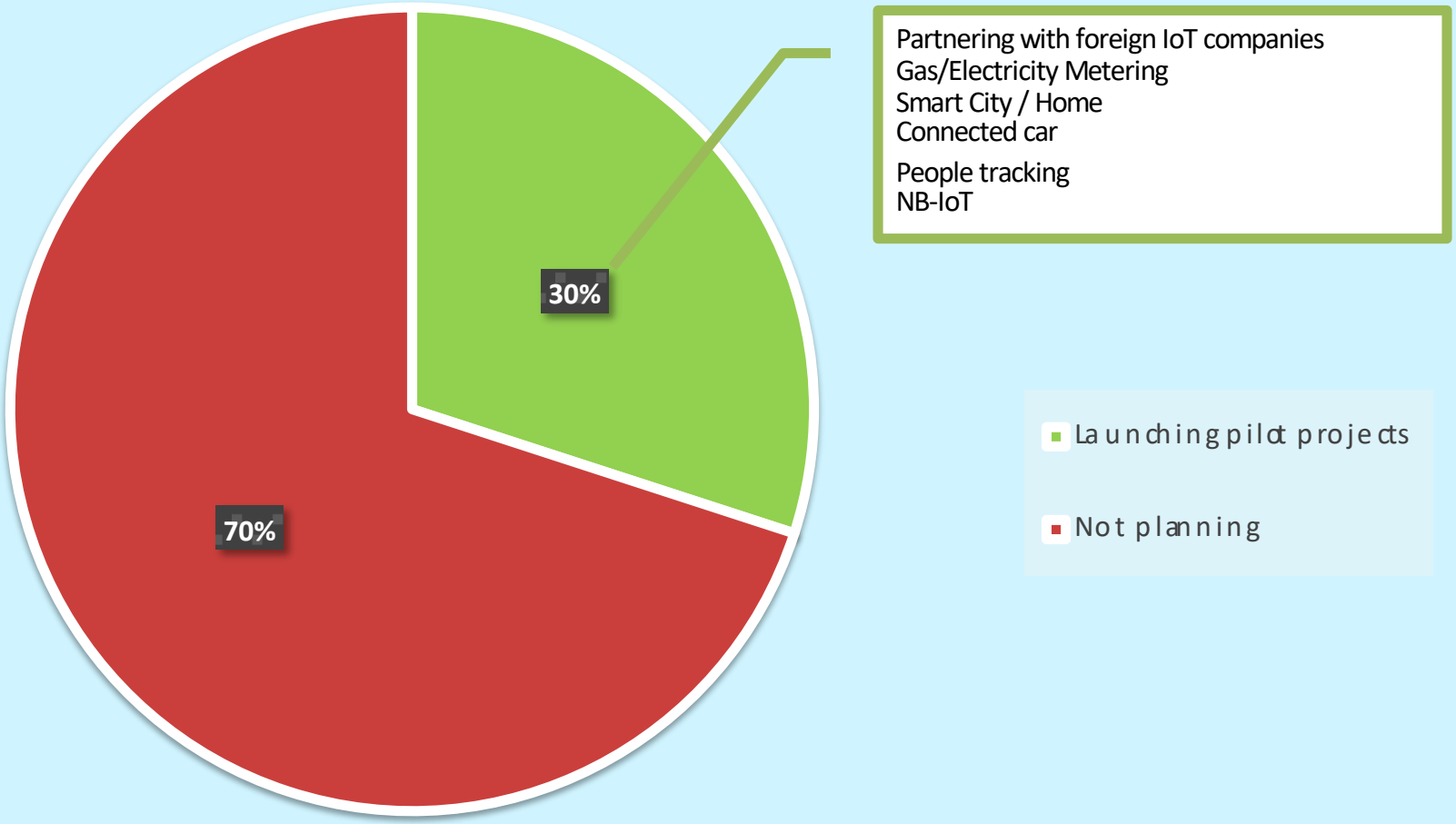


Internet of Things
Ongoing Research by UNICON.UZ



Internet of Things
Ongoing Research by UNICON.UZ

Future plans for following years

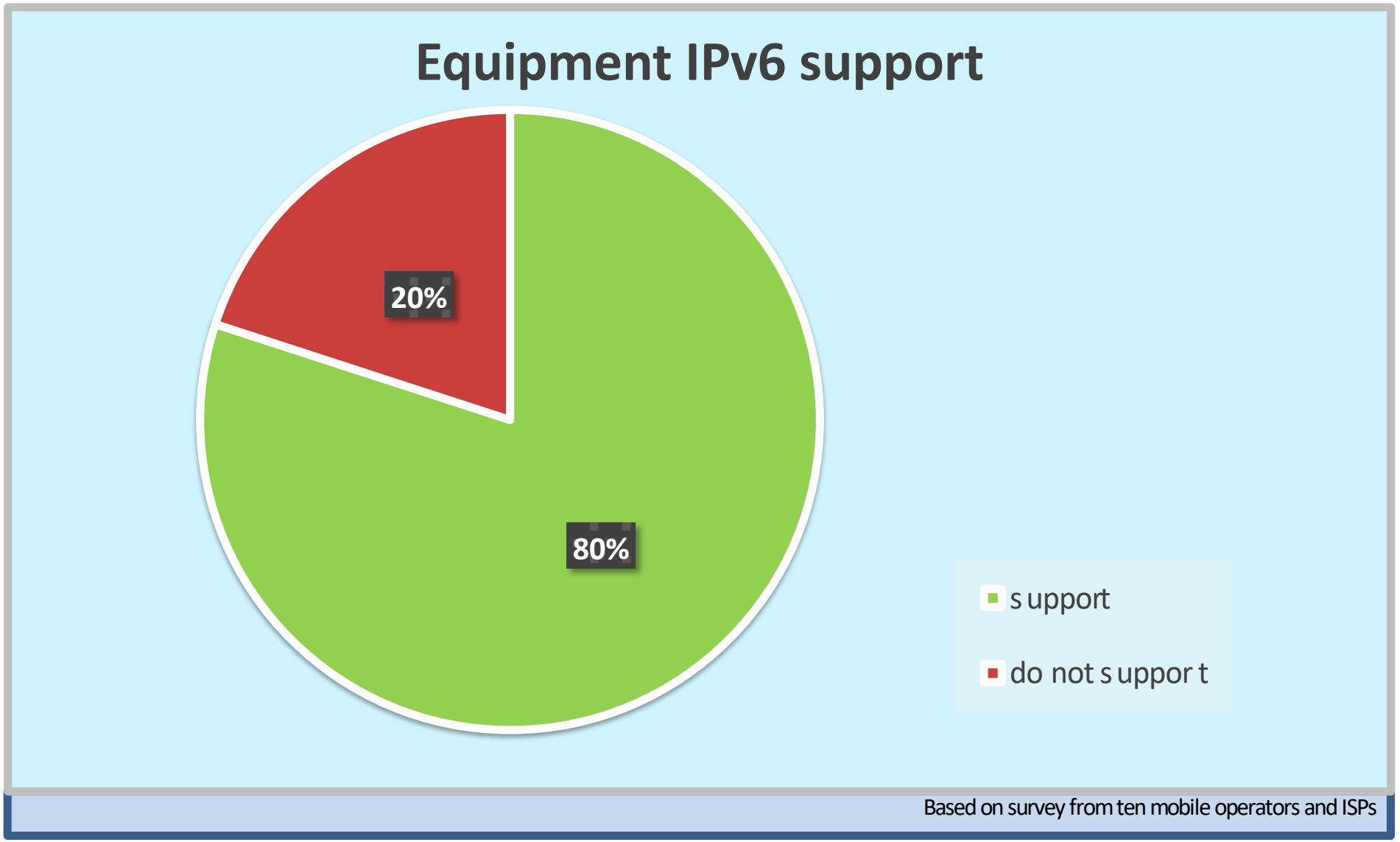


Partnering with foreign IoT companies
Gas/Electricity Metering
Smart City / Home
Connected car

People tracking
NB-IoT

Based on survey from ten mobile operators and ISPs

Internet of Things
Ongoing Research by UNICON.UZ



Based on survey from ten mobile operators and ISPs

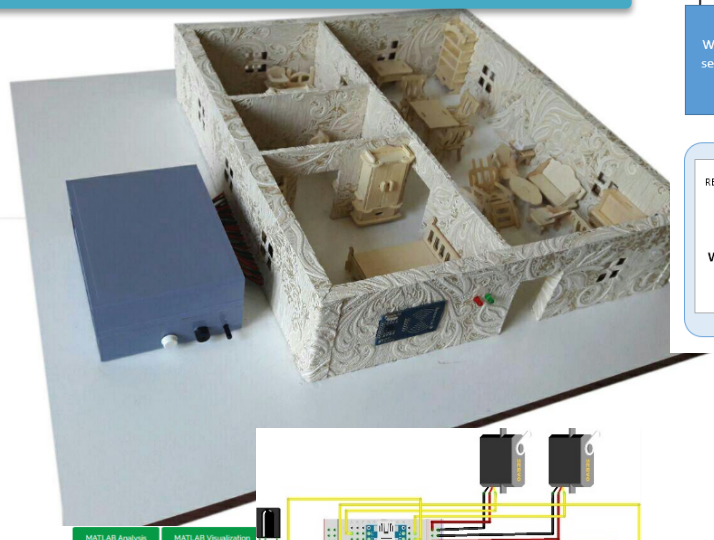
Internet of Things Standardization

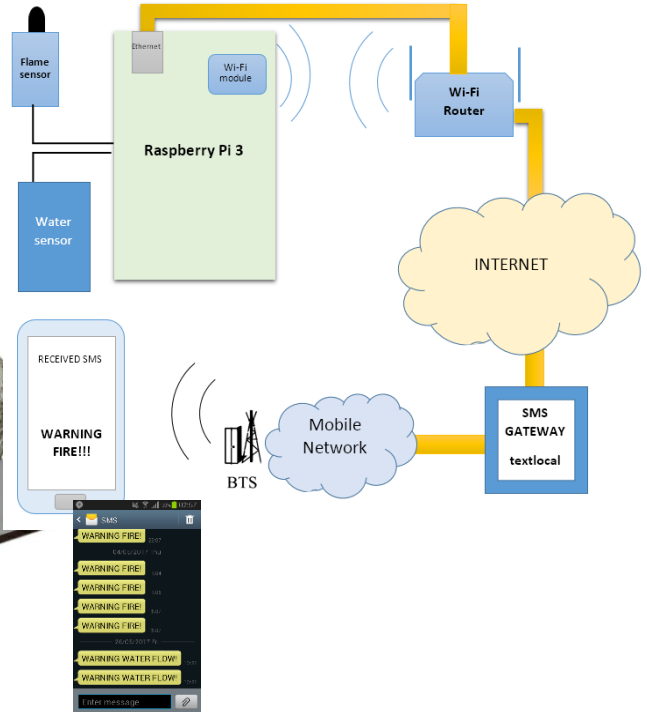
- O‘z DSt _____:2018 Information technologies. Internet of Things. General requirements
- O‘z DSt _____:2018 Information technologies. Internet of Things. Terms and definitions

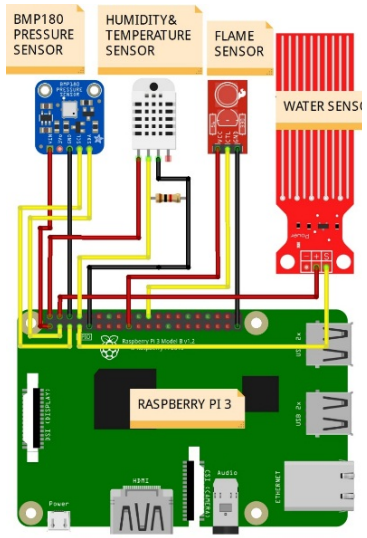
Internet of Things Projects

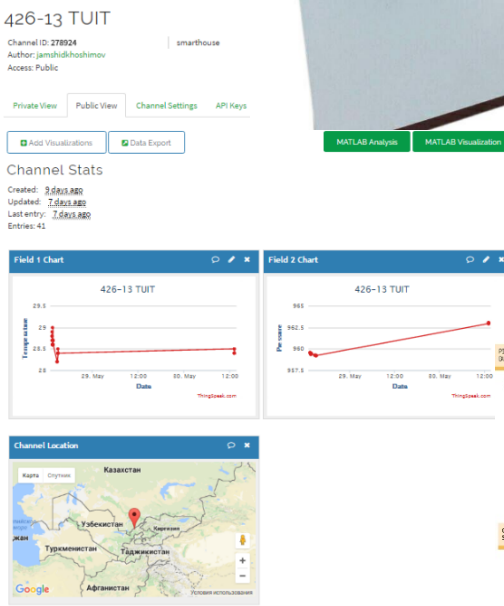
Young researchers have been working on this research domain

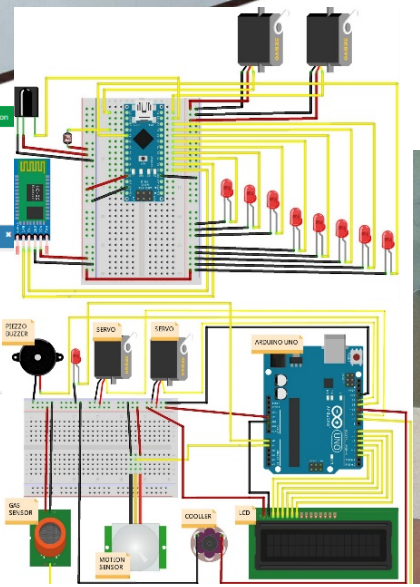
- Temperature, pressure, humidity monitoring system
- Video monitoring system
- Alarm system
- Automatic reaction system in an emergencies
- Smart entrance system
- Remote controlling system: Wi-Fi, Bluetooth,

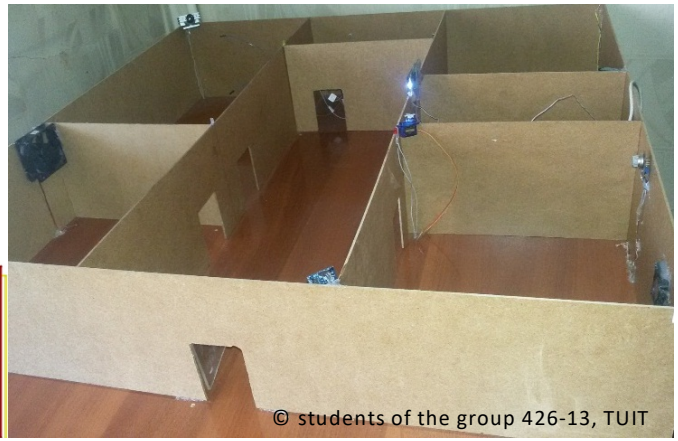












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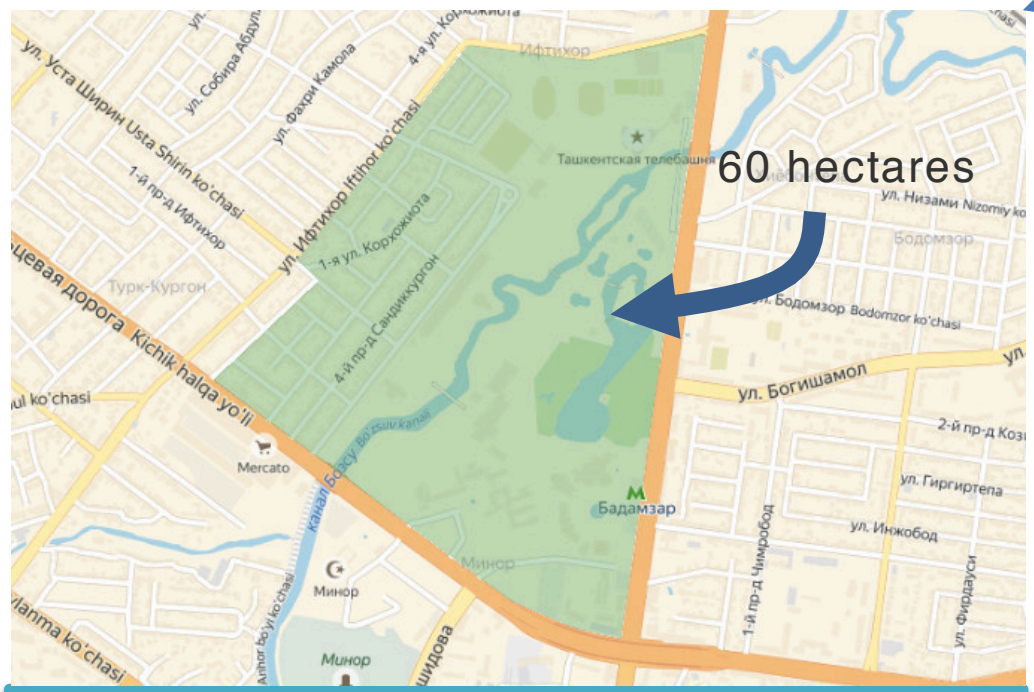
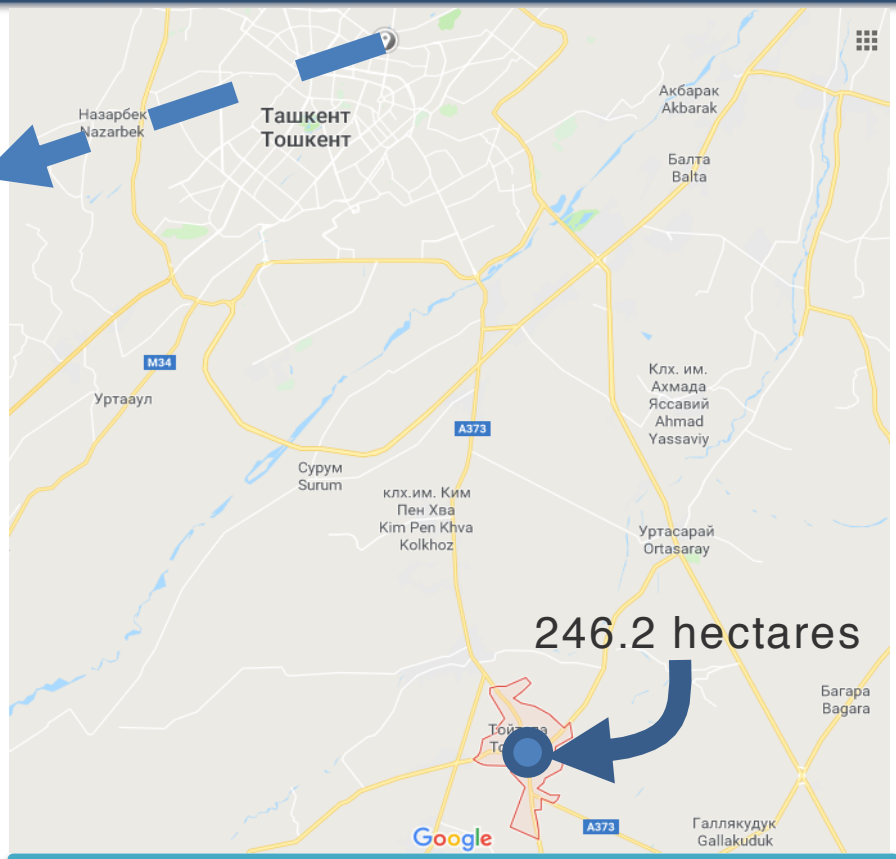
SMART CITY PROJECTS





Hi-tech city

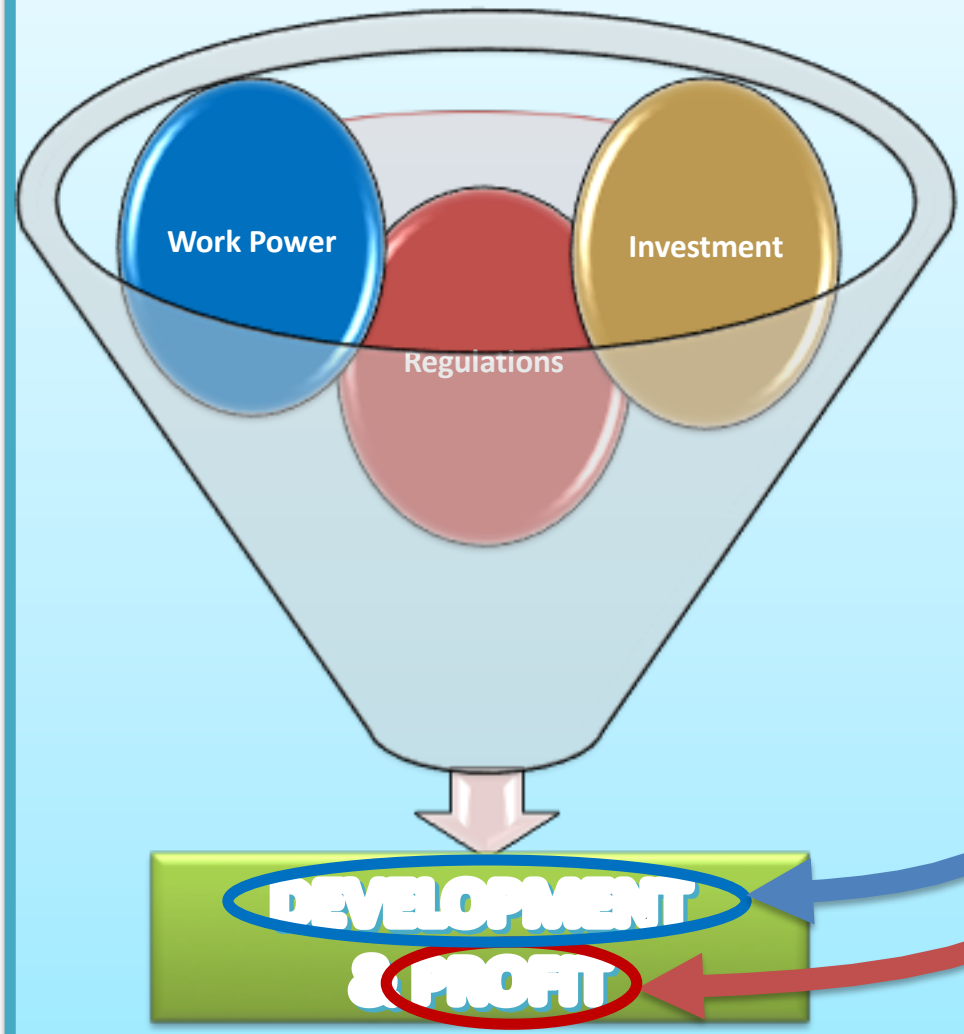
Ordinance of the Cabinet of Ministers #169
on 5 March 2018

Smart City

NURAFSHON

Ordinance of the Cabinet of Ministers #236
on 26 March 2018

SUMMARY



- Uzbekistan has brought up high skilled talents having an expertise in ICT
- Uzbekistan has big regulations base and it is continuing to expand
- **Uzbekistan is open for investments**

THANK YOU FOR ATTENTION!