



# INNOVATIVE DEVELOPMENT OF THE REPUBLIC OF UZBEKISTAN 2017-2021 y. KEY INDICATORS

**80** normative and legal documents  
**2** laws



For the years 2022-2030  
**National Policy on Science and Innovations**

## RATE OF GLOBAL INNOVATIVE INDEX



## PRIMARY DIRECTIONS

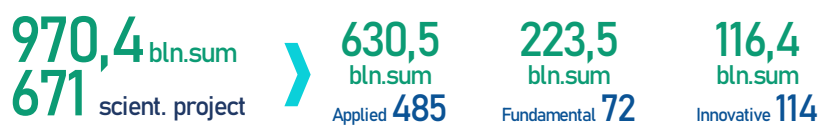
- Biotechnology
- Renewable energy
- Increase of soil productivity
- Industry of mining and metallurgy(copper)
- Livestock development
- Artificial intelligence

## DIGITAL TRANSFORMATION

[grant.mininnovation.uz](http://grant.mininnovation.uz)  
[phd.mininnovation.uz](http://phd.mininnovation.uz)  
[ias.gov.uz](http://ias.gov.uz) | [nsp.gov.uz](http://nsp.gov.uz)  
[antiplag.uz](http://antiplag.uz)  
[innotashabbus.mininnovation.uz](http://innotashabbus.mininnovation.uz)



## FUNDING OF SCIENCE



## IMPORTANT SCIENTIFIC RESULTS:

- Flotoreagent
- Ceramic pigments
- Ozone generators
- Anti-cancer cure - "Biokor"
- Nanomaterials
- S-6602 class of cotton
- Combined cotton picking machine
- Minting machine

**372** COMMERCIALIZED INNOVATIVE PROJECTS

**201** new types of product

**235** bln.sum product was produced in the amount of

**229** bln.sum product was sold in the amount of

**1 283** bln.sum new workplaces

## TRANSFER OF TECHNOLOGY

ALV, anesthesia-respiratory apparatus, consoles, technology for the production of simulators

Technology for early detection of cancer

Satellite detection technology for drinking water leakage in pipes

Technology for polyester putty and glue production

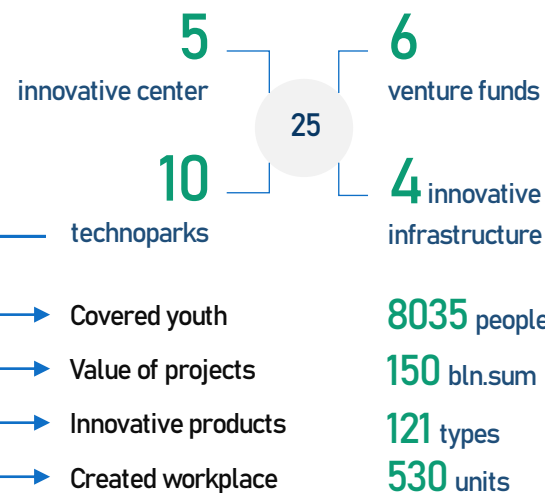
Modified serobitum technology

**140** TOTALLY/RADICALLY UPDATED INNOVATIONS (2021 year)

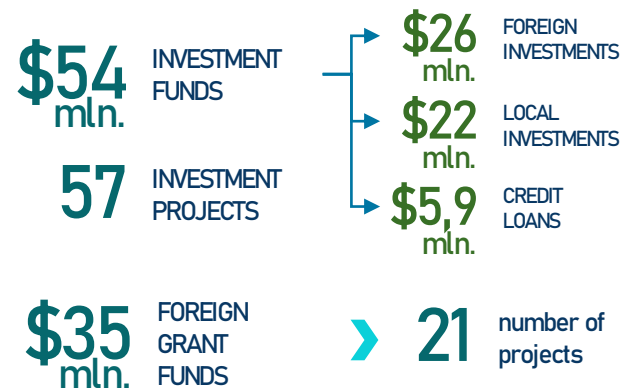
**122** new product/ type of services

**78** innovative enterprises

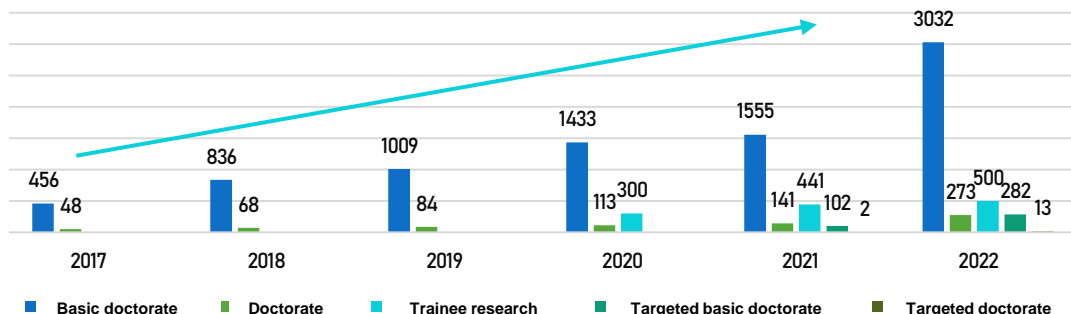
## INFRASTRUCTURE AND INFORMATION-COMMUNICATION TECHNOLOGIES



## ATTRACTION OF INVESTMENTS



Quotas allocated for doctoral studies from the state budget



## Scientific internship

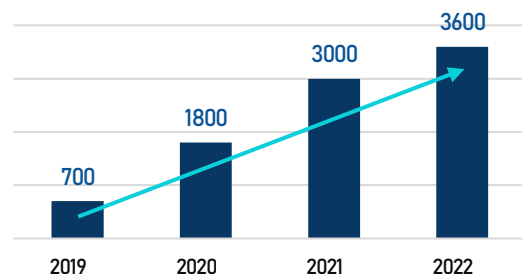
**349** young scientists were sent

**24** foreign countries

**12,6** bln.sum funds have been allocated



Quantity of members of YOUTH ACADEMY



## Projects funded under the competition «Future scientist»

**81** pc > **17** bln. UZS

«Academic mobility»  
**13** pc > **451** mln. UZS

## Results of innovative development of regions (2018-2021)



**56** startup projects worth **41,4** billion UZS were funded



**CENTER FOR ADVANCED TECHNOLOGIES**  
10 monographs  
10 patents



## Indicators of innovative activity of industries

Production of scientific and innovative products has been mastered (2021)

**76** BLN. UZS  
**215** SCIENTIFIC PROJECTS

## Indicators for 2021 on 88 innovative developments in the network line

**2,63** bln. UZS Produced innovative products

**2,58** bln. UZS Sold innovative products

**19,05** bln. UZS Services provided

## Scientific and technical information system

Database of information resources  
Database of scientific experts  
Rapid analysis service  
English For Science

## Work carried out at the expense of international grant funds

Utilization of Server DL380 has been launched worth \$ 12,000 for storing and processing data of the Energy Power System Model

2 sets of Lidar equipment worth \$ 200,000 have been brought

Plexos, DigSilent Power Factory and other software worth \$ 90,000 has been brought in

125 trainings were conducted for specialists of the Energy Dispatch Center

## INITIATIVES

Scientific and practical innovation center of hydrogen energy technologies

Industrial experimental workshop with a capacity of 200 tons

Technology of production of UZ-AD-1 adsorbent

Transfer of technology for the production of highly complex shaped parts using a metal 3D printer

Project for the development of the Republic of Karakalpakstan at the expense of grant funds worth \$ 5.1 million

## Our scientific journals



Journal of "Innovator"



Journal of "Science and Innovative Development"

## Our activities in the media

2021 year

**21** held a press conference  
**35** Number of appearance s on TV

**>20** thousand social media coverage

**34** board meetings were broadcasted online

**3** place rating of transparency index



OUR PAGES ON SOCIAL NETWORKS





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## NORMATIVE-LEGAL DOCUMENTS IN THE FIELD OF SCIENCE AND INNOVATION

Total number of  
normative-legal  
documents



80

2

Laws of the  
Republic of  
Uzbekistan

On science and  
scientific activity

Year of 2019 № 576

On innovative  
activity

Year of 2020 № 630



5 Presidential  
Decrees

38 Resolutions of the Cabinet of  
Ministers

26 Presidential  
Decrees

9 Resolutions of the Cabinet of  
Ministers

### The law on “Science and scientific activity”

Individuals conducting  
scientific research

are obliged – not to harm  
human life and health, natural  
environment

not to plagiarize, take credit for someone  
else's work and rely on false information

to comply with the rules of intellectual  
property rights and scientific ethics

In accordance with the law, individuals conducting scientific activities in state scientific organizations are provided with paid leave of **48 working days** which provides financial assistance

### The law on “Innovative activity”



Ministry of  
Innovative  
Development



Competent state body in  
the field of innovation

Coordinates the activities of state and economic  
administration bodies, local state authorities in this f

Innovation  
Types



Product  
innovations

Process  
innovations

Marketing  
innovations

Organizational  
innovations

Innovation Assistance  
Funds



Creation and implementation of  
technologies, financing production

Financing technology  
transfer

Financing the  
commercialization of new  
developments

### Presidential Decree “On improving the system of public administration for the development of scientific and innovative activities”

13 districts have been  
transformed into  
innovation zones

The fund to finance science and  
support innovations

Chief Innovation  
Officer position is  
created

A system for evaluating scientific  
and innovative activities of higher  
education institutions has been  
introduced

### Resolution of the Government of the Republic of Uzbekistan No. 1030 “On the procedure for additional payment of employees with academic degrees engaged in scientific, scientific-pedagogical and labor activities in state organizations in the field of science and education”

In accordance with the resolution, a system of additional payments to the salaries of employees engaged in scientific, pedagogical and labor activities in state labor organizations in the field of science and education was introduced.



PhD  
Up to **30%**

DSc  
Up to **60%**

### Resolution of the Government of the Republic of Uzbekistan No. 1030 “On the procedure for additional payment of employees with academic degrees engaged in scientific, scientific-pedagogical and labor activities in state organizations in the field of science and education”

“Academic persistence” Competitions  
“Future scientist” are organized



Short-term internships at least  
once a year



A simplified system of requirements for the  
selection of startup projects will be  
developed





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## PLACE OF THE REPUBLIC OF UZBEKISTAN IN GLOBAL INNOVATION INDEX RATING

### Uzbekistan's place in the GII rating



### "GII "grouping of" strong " indicators

#### Economy Block

- The ease of opening a business
- Gross accumulation of capital
- General infrastructure
- Market development
- The simplicity of the protection of minor investors
- Patent applications by Origin
- GDP growth rate for one person

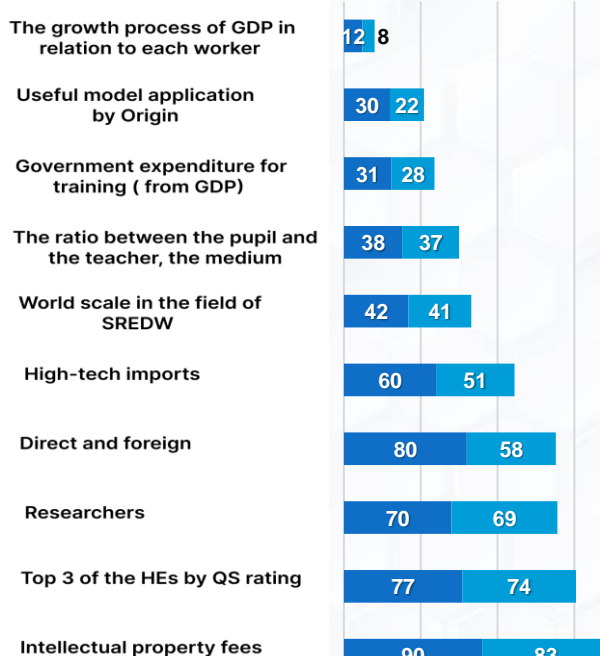
#### Economy Block

- Public expenditure on education
- The mutual ratio of students and teachers
- Graduates in the field of Science and engineering
- Electronic government services
- Influence of knowledge
- Export of cultural and creative services

### Indicators of the GII rating trends in Uzbekistan (2021y)

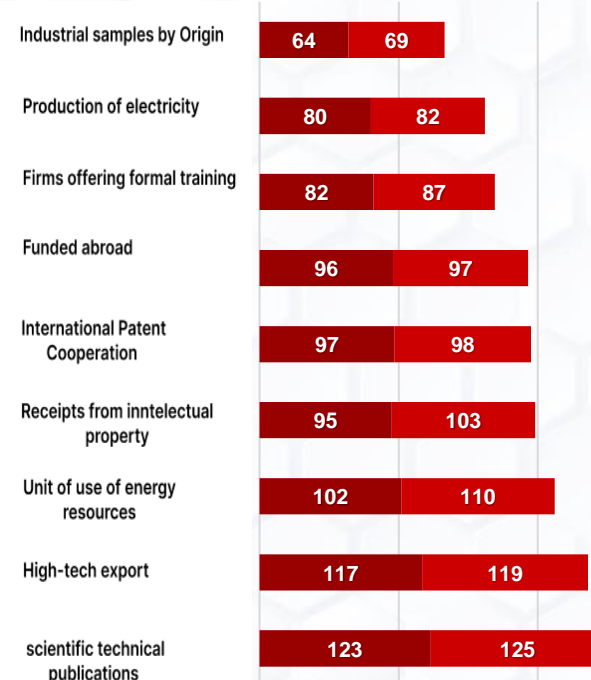


### The most powerful indicators



■ 2020 y. ■ 2021 y.

### The weakest indicators



■ 2020 y. ■ 2021 y.



## MINISTRY OF INNOVATIVE DEVELOPMENT OF THE REPUBLIC OF UZBEKISTAN



## INDICATORS OF HUMAN CAPITAL DEVELOPMENT

### Training personnel with scientific degrees



**Total number of HEIs – 159**

In Tashkent – 72	Universities – 28	Conservatory – 1	Academia – 3
In Regions – 87	Institutes – 47	Branches – 26	Foreign and non-profit – 54

Number of Vice-Rectors (Deputy Director) for Research and Innovation – 105

Commercialization Funds – 102

Budget – 120,0 billion soums



**Total number of professors-teachers in HEIs – 32 949**



**Individuals with scientific degree – 12 846 (39%)**

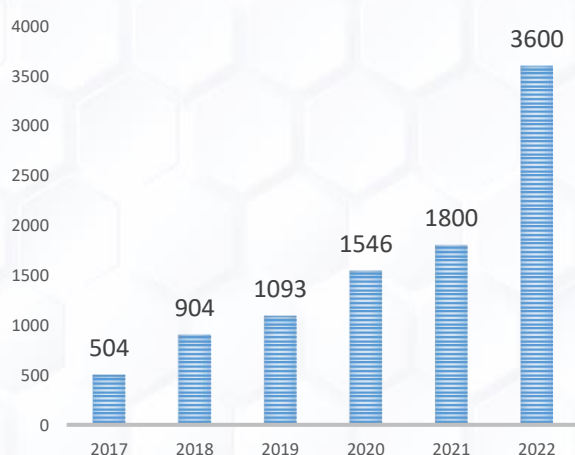
2 643 (21%)

Doctor of  
Science  
(DSc)

10 203 (79%)

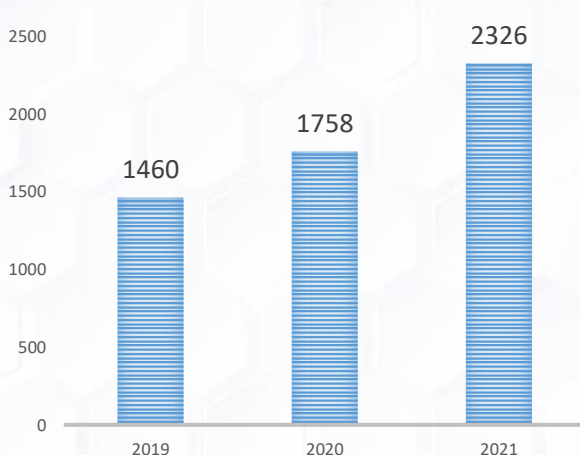
Candidate of  
Science (PhD)

NUMBER OF DOCTORATE QUOTAS



7 times more admission quotas nowadays compared to 2017

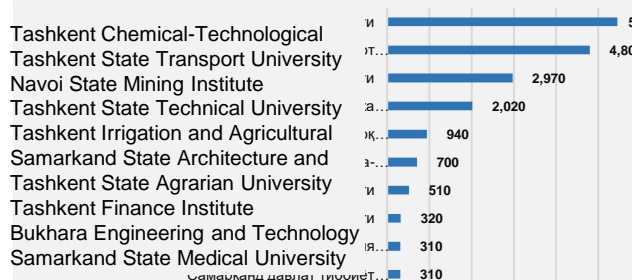
NUMBER OF DEFENSES



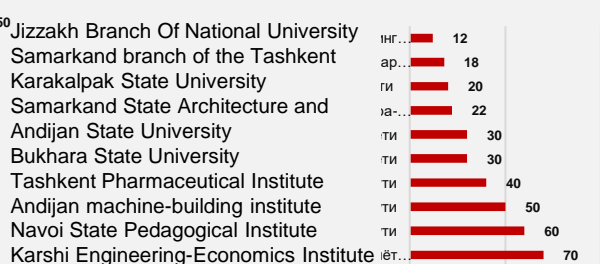
2 times more defenses nowadays compared to 2019

### Budget from commercialization in 2021

The highest 10 (million sum)



The lowest 10 (million sum)

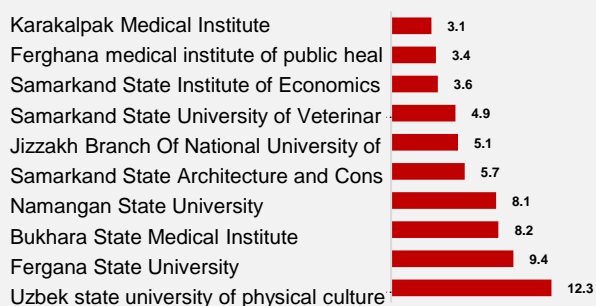


### Rating of HEIs regarding innovative potential

The highest 10



The lowest 10



### Digitalization of postgraduate education system

*phdmininnovation.uz*

10200 researcher

5016 basic doctoral  
student

634 intern  
researcher

444 doctoral  
student

3661 independent  
researcher PhD

445 independent  
researcher DSC

*Anjumanlar.uz*

300 та  
хорижий анжуманлар  
**300 foreign  
conferences**

297 та  
маҳаллий анжуманлар  
**297 local  
conferences**

### Sending young scientists to internships

Number of young scientists

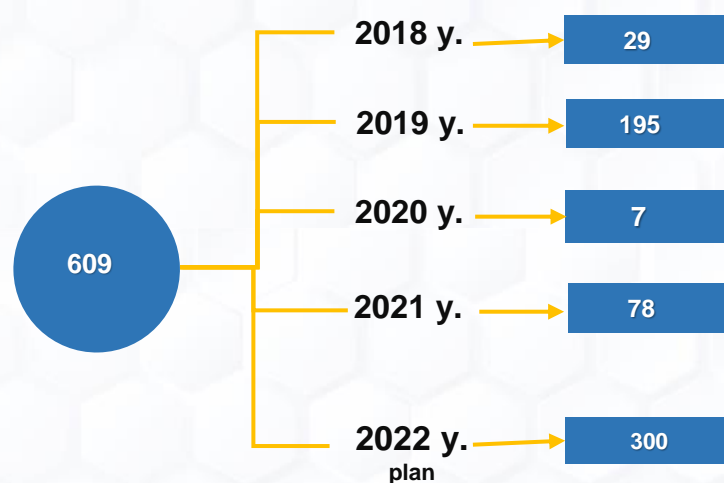
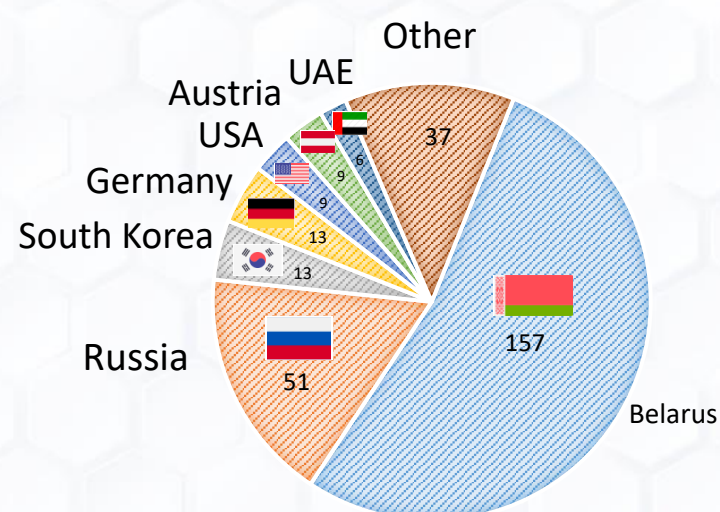


Chart of countries







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## INDICATORS ON THE INTRODUCTION OF INNOVATIONS AND TECHNOLOGY TRANSFER

### In the field of technology transfer:

Total transfer cost

**1,1 million US dollars**

Number of technologies

**20**



- Turkish International Cooperation and Development Agency (TİKA)
- 100 US dollars
- 12 mini technology



- USAID organization
- "Power the Future" project
- 245 US dollars
- 2 ta LIDAR technologies



- KCOOPSAGRO company
- 109 US dollars
- Innovative energy saving Greenhouse

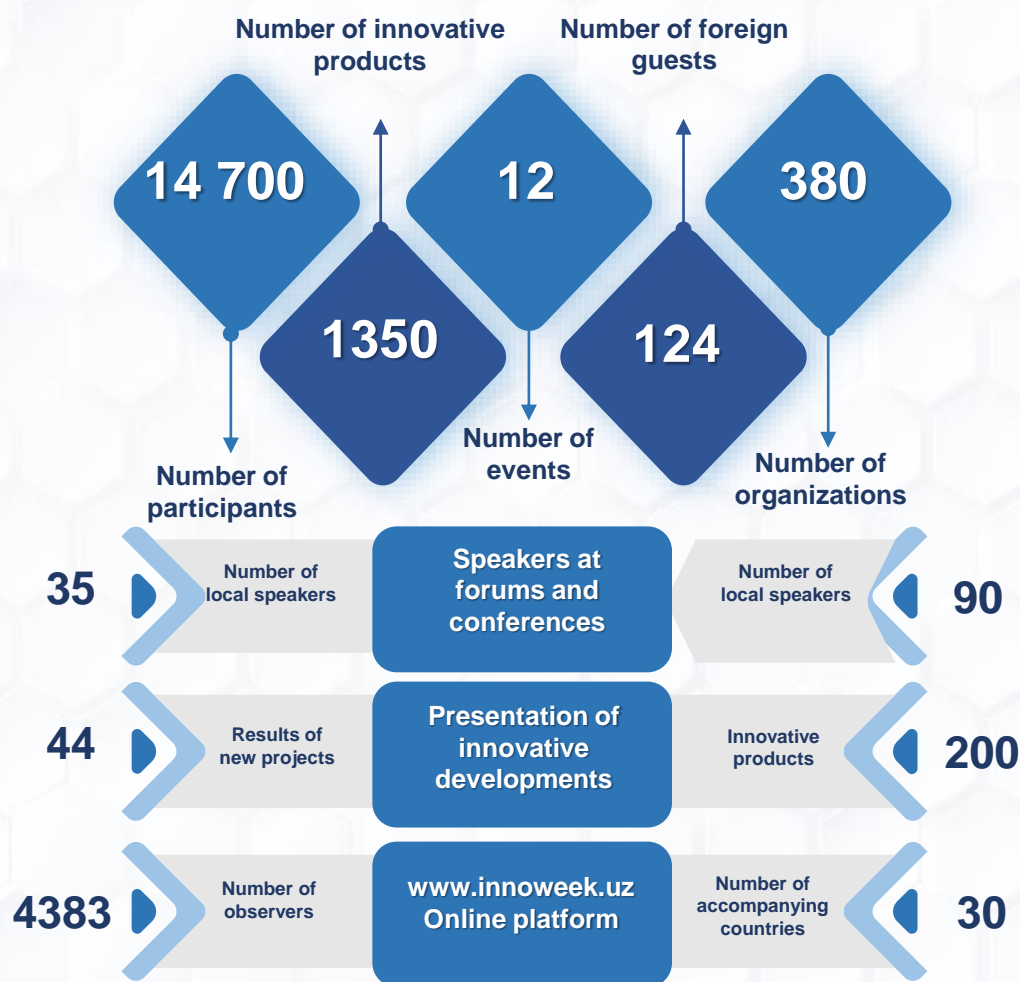


- South Korean technology
- 500 thousand US dollars
- Metal (copper) for 3D printer



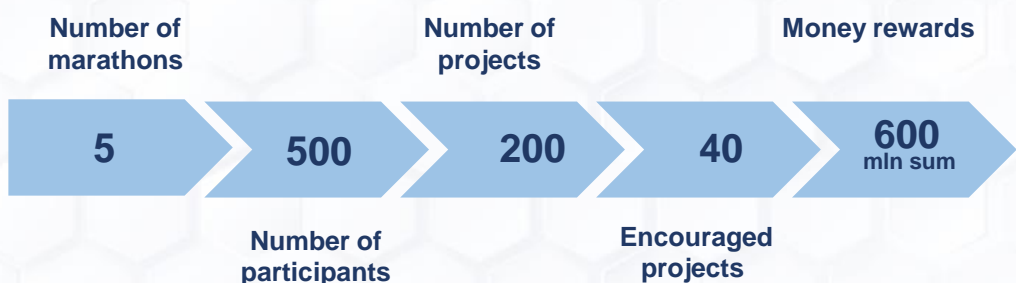
- Grand funds of the World Bank
- 2 production hangars
- 4 types of technology
- 440 US dollars

### "InnoWeek.uz-2021" week of innovative ideas



### System of working with knowledgeable youth

#### "Technoways" technological development marathon



#### "Technoways" youth business incubator

Established areas: 3  
Number of projects: 75  
❖ Andijan – 20  
❖ Fergana – 28  
❖ Syrdarya – 27

Expected result:

- ❖ Youth employment - 130 people
- ❖ New types of business fields - 56
- ❖ Organization of spin-off enterprises - 42

#### "The heirs of Mirzo Ulugbek" Republican competition

➤ Registered participants	➤ 23,8 thousand people
➤ First stage	➤ 5 people (in each region) ➤ 5 times of the Basic Calculated Amount
➤ Second stage	➤ 20 people (in each region) ➤ 10 times of the Basic Calculated Amount

### Exhibition and fairs

#### Vision of products created in innovative districts:

- ❖ Innovative regions - 13
- ❖ Innovative products - more than 50
- ❖ Participated entrepreneurs – more than 100
- ❖ Andijan experimental - exhibition area

#### "Made in Uzbekistan" international industrial fair:

- ❖ Number of developments - 7

### Introduction of innovations



More than 3 000  
"National intelligent cameras based on artificial intelligence" technology



Innovative Ferris wheel:  
Electricity raises water at least 8-10 meters above the ground without energy consumption



Aerostat device:  
flying indicator  
46 thousand meters



Innovative energy saving greenhouse





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## INDICATORS ON THE ACTIVITIES OF "YASHNABAD INNOVATIVE TECHNOLOGICAL PARK DIRECTORATE"

### ABOUT ACTIVITIES OF THE RESIDENTS

- **60** Number of residents
- **774,5 bln.** Sum Manufactured products
- **710** New vacancies
- **\$ 11,4 mln.** USD Made investments
- **\$ 7,4 mln.** USD Exported products

### ABOUT INTERNATIONAL COOPERATION

Technopark, in cooperation with **CelluFAB.Co.LTD** and **KH.Co.LTD (South Korea)**, has made direct investment in the form of a non-repayable grant of **\$5.9 million** in production equipment and **\$1.0 million USD** worth of laboratory equipment

### ABOUT ACTIVITIES IMPLEMENTED IN THE TERRITORIES

#### Namangan regional branch of "Chust" Innovative Technopark

**10** innovative projects received residency status  
**79** vacancies created  
**236 mln.** sum worth of products were produced

#### Altynsay district "Youth innovative production zone"

**1,2 hectares** of land will be fully operational by the end of 2022

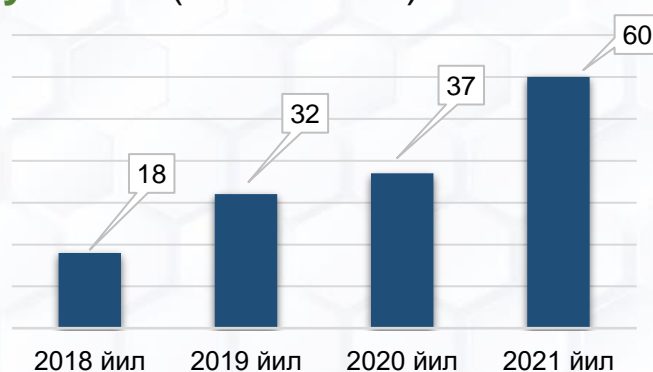
**5** startup projects developments will be launched

#### Altynsay district "Business Incubator" program

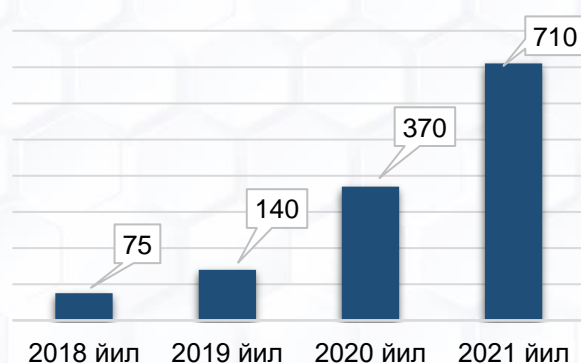
In 2021, **Technopark** launched the **"Business Incubator" program** in Altynsay district, Surkhandarya region with the aim of implementing **innovative ideas of young people** in practice. Of the **120 startup ideas** across the regions, **50** were accepted, and **online-offline** classes were organized by mentors and **speakers**.

### ABOUT RESIDENTS

The growth rate of accepted companies for residency **increased by 233%** (in numbers)

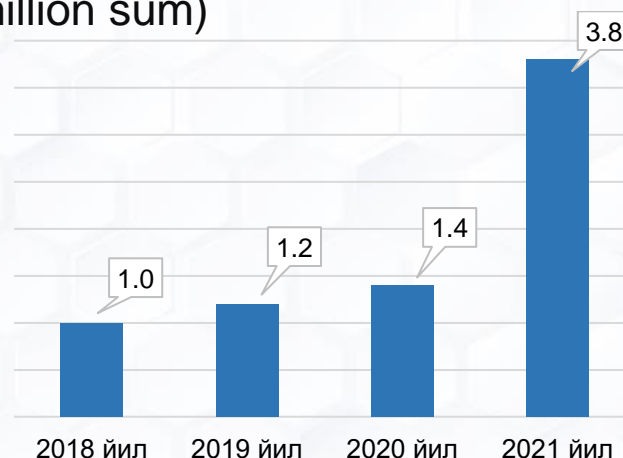


The growth rate of accepted companies for residency **increased by 846%** (in numbers)

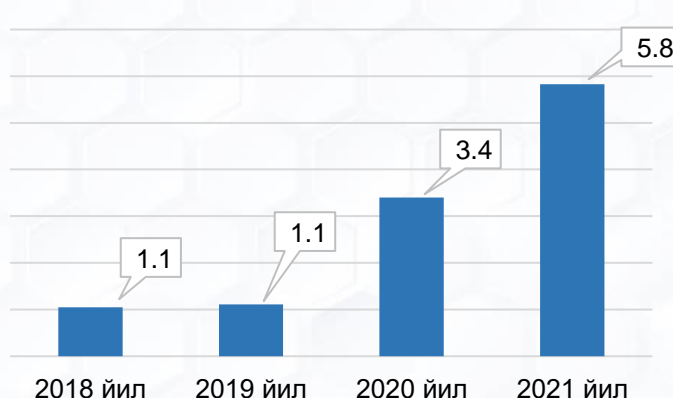


### ABOUT EXPORTS AND INVESTMENTS

The volume of exports made during this period **increased by 280%** (million sum)

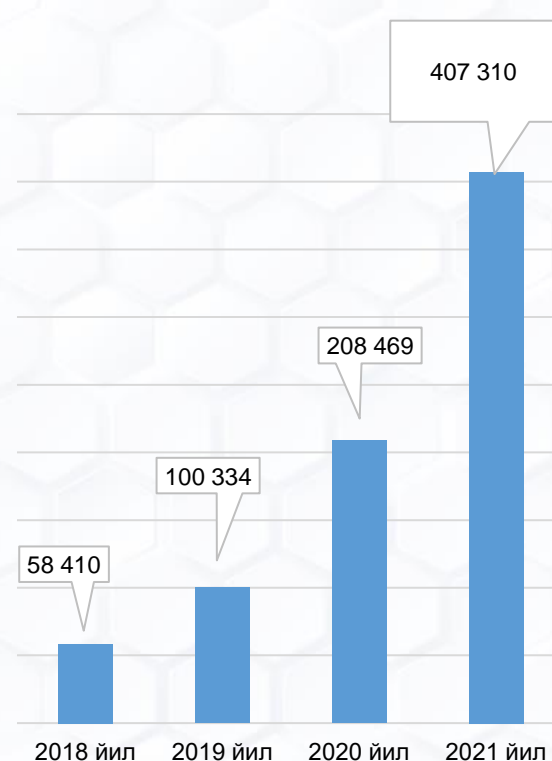


The volume of investments in innovative projects **increased by 427%** (million US dollars)



### ABOUT MANUFACTURED PRODUCTS

Production growth rate (million sum)







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## INDICATORS OF COMMERCIALIZATION OF INNOVATIVE DEVELOPMENTS AND TRANSFER OF TECHNOLOGIES

### Commercialized innovative developments in 2018-2021



### Production and sale of scientific products as a result of commercialization (UZS)



**140** Disruptive innovations  
in 2021

**78** Innovative enterprises

Innovation Water Filters, Yuma Green, Merry-Cricket

**122** new product / service type

Reverse osmosis filters, herbal extracts, new generation  
biopreparations, linoleic acid, new seeds

**1 283** new vacancies

Introduced in the  
following areas:

Agriculture – 34 %

Energy – 18 %

Medicine and pharmaceuticals – 23 %

Mining and geology – 13 %

Other areas – 13 %

### Transfer of technologies



Enterprise “Maya International”

Satellite detection technology for fresh water leakage in water pipes

**19 bln. UZS** economy - Tashkent city, in Urgut district of Samarkand region and Andijan



“Chirana Asia” LLC

Technology for the production of artificial ventilation (IVL), anesthesia-respirators, medical consoles and simulators



“Novol Asia” LLC

Technology for the production of polyester putty and polyester glue (special glue for marble, granite and other stones)



Enterprise “DB Biotech”

Technology for early detection of cancer by antibodies



Modified seriaticim technology based on sulfur and bitumen, which is considered factory waste



WORLD BANK GROUP

The World Bank's MUNIS project implementation worth of **50,0 mln USD** has been launched



One-time award to the authors of **patented intellectual property** in the amount of **10 times** the amount of the basic calculation

A cash prize of **700 million UZS** was awarded to patent holders



Spring and autumn commercialization forums have been organized

**48** innovative products were mastered

New diuretic drug “Ekustim”, new generation biopreparation “Serhosil”, multifunctional coating for cell recovering and organ regeneration, photoelectric module and automated stands, etc.



For the first time in the history of Uzbekistan, **the national selection round of the Entrepreneurship World Cup 2020 (EWC)** was held



Science for Kids platform was launched to attract young people to exact and natural sciences, innovations as well as to increase their knowledge of mnemonics

Involved more than **10 000**



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## INDICATORS OF INNOVATIVE DEVELOPMENT IN NETWORK ENTERPRISES

Scientific and innovative projects implemented by the  
Ministry of Innovation Development in mining,  
metallurgy and copper industry.

**36**

Number of projects

**53,6**

billion UZS

Total value of projects

### ACTIVITIES AND SUGGESTIONS IMPLEMENTED BY THE BOARD INITIATIVE

Portfolio of **21** projects  
worth **28,7 billion USZ**  
with scientific solutions  
to copper industry  
problems

Science-innovation-  
production integration  
in the field of mining  
and metallurgy  
(Uzmetkombinat JSC)

“Uzmetkombinat” JSC  
signs joint decision to  
finance **3** projects worth  
**2.2 billion UZS**

Attracting **15,5 million**  
**USD** grant under  
Korean program of  
ODA.

The number of  
collaboratively  
developed projects:  
**3**

### PROJECTS IN THE FIELD OF MINING, METALLURGY AND COPPER INDUSTRY

On the basis of SUE “Science and Development”  
invented a new local chemical reagent – foam  
flotation reagent, **2 times** cheaper than imported  
analogues from local raw materials for the  
extraction of precious metals from copper ores,  
and a small innovative production capacity of **500**  
**tons** per year was established.

Scientists from the Institute of Materials  
Science have developed a technology for  
obtaining oleic acid, which is used in the  
blasting of mining ores. Localization of **oleic**  
**acid** was achieved. With the supply of oleic acid  
to JSC “Almalyk MMC” **1 bln. UZS** worth  
contract was signed.

### PERSONNEL TRAINING, RETRAINING AND ADVANCED TRAINING

Quotas for **doctoral**  
**studies** in mining  
and metallurgy

**2020-2021 – 95**

**2022 – 118**

Foreign scientific  
internship

Foreign Counties – **2**

Candidates – **12 ta**

Internship years – **2021-**  
**2022**

### TRANSFER OF TECHNOLOGY

Transfer of **3D-printer**  
**technology** on metal  
parts of complex  
shapes

Transfer value

**0,5** Million USD

Place of installment

INNO  
technological  
park Tashkent

RESULT

Metal parts of complex shapes  
were created using the **3D**  
printer.

Copper alloy and  
powder  
production

Transfer value

**3,5** Million USD

Place of installment

Center of Rare  
Metals in Chirchiq

RESULT

Production of high-quality  
copper alloys and powders





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## INDICATORS ON INNOVATION DEVELOPMENT IN NETWORK ENTERPRISES

INDICATORS  
for 2021 on the implementation of projects for the  
development of science-intensive and innovative products  
in 30 priority sectors of the economy

215

Number of projects

76

bln sum

Disbursed funds

### Work carried out on the account of the involved international grant funds

Wind and solar potential  
maps for electrical  
circuits working in  
renewable energy  
sources

Solar energy  
resource  
measuring  
equipment for  
40,000 USD

2 sets of Lidar  
equipment for  
200,000 USD

125 trainings for  
specialists of the  
Energy Dispatch  
Center

90,000 USD  
Plexos, DigSilent  
Power Factory and  
other software

DL380 server for storage  
and processing of energy  
system model data for  
12,1 dollars

### Works carried out at the initiative of the Department

As a result of the pilot project to modernize the low-voltage power  
grid, losses in the network will be reduced by up to 50 percent

Scientific and practical innovation center of hydrogen  
energy technologies

Test of the project "Block tariff system" for  
electricity consumers

Production of superplasticizer, smear oils and organic dyes  
series

Research on the production of carbon fiber in the Republic  
using a large solar furnace

Technology of production of UZ-AD-1 adsorbent.  
Industrial-experimental shop with a capacity of 200 tons

### Qarshi trunk channel pump station cascade frequency changer installation project

Total capacity

75 MW

Value of project

\$8,4 mln

REDUCTION IN SPENDING COST  
(PER YEAR) 52 bln sum

DECREASE IN THE RELEASE  
OF CO2 INTO THE  
ATMOSPHERE (PER YEAR) 20 thousand  
tons

PERIOD OF REIMBURSEMENT OF  
EXPENSES 2 years

ENERGY EFFICIENCY (PER YEAR) 176 mln. kW·s

### Aral Sea International Innovation Center

Value of project

3,9 bln sum

Seed field

20

1,1 bln. sum

AGRICULTURAL MACHINERY

13 type

DESERT PLANTS

\$ 5.1 mln from Abu Dhabi  
Development Fund

Development project of the Republic  
of Karakalpakstan

### Projects implemented in economic sectors

Implementation of the SATREPS  
state program project in Japan

Integration of science-innovation-  
production in the field of mining and  
Metallurgy ("Uzmetkombinat" JSC)

21 projects portfolio for  
scientific solutions to copper  
industry problems worth 28.7  
billion sums

Transfer of 3D-printer technology  
on metal details of very complex  
shapes

International conference "Transformation of  
the Aral Sea region into a zone of ecological  
innovation and technology"



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## PRIORITIES FOR INNOVATIVE DEVELOPMENT OF REGIONS

2018-2020 YEARS

### WORK CARRIED OUT IN THE REGIONS

171,4 BLN.SUM > 177 INNOVATIVE PROJECTS > 41 NEW ENTERPRISE > 92 NEW PRODUCT / SERVICE TYPE

#### CROSS SECTION :

AGRICULTURE - 40 %

EDUCATION - 29 %

SCIENCE - 10,5 %

ANIMAL HUSBANDRY - 8 %

INDUSTRY - 2,2 %

OTHER FIELDS - 10,3 %

2 IN CHUST AND FURQAT DISTRICTS A MOBILE LABORATORY "SOIL CLINIC" WAS ESTABLISHED AND A MOBILE APPLICATION "SALINE SOIL" WAS CREATED

3 AN INNOVATIVE TELEMEDICINE CLINIC HAS BEEN BUILT IN MOYNAK, MARHAMAT AND URGURT DISTRICTS. 200 THOUSAND PEOPLE HAVE ACCESS TO REMOTE TREATMENT AND DIAGNOSIS.

20 types THE PRODUCTION OF BIOFERTILIZERS IN AGRICULTURE HAS BEEN LAUNCHED.

73 THE SCHOOL WILL RECEIVE "3D TRAVEL" "QR" CODES "INNOVATIVE PACKAGES" ON HISTORICAL AND CULTURAL SITES.

### WORK DONE IN INNOVATIVE DISTRICTS

2021

125,9 BLN.SUM

80 NEW ENTERPRISE

230 NEW PRODUCT SERVICE TYPE

137 INNOVATIVE PROJECT

1 290 NEW WORKPLACE

28,4 BLN.SUM SOLD PRODUCT

#### CROSS SECTION:

AGRICULTURE - 32

HEALTH CARE - 9 %

INFORMATION TECHNOLOGY - 10,5

ANIMAL HUSBANDRY - 11

INDUSTRY - 28

OTHER FIELDS - 14 %

3 IN TASHKENT, FERGANA AND ANDIJAN, AN IMPORT-SUBSTITUTING "LEECH BREEDING" SYSTEM HAS BEEN ESTABLISHED.

3 IN NUKUS, DOSTLIK AND MARHAMAT DISTRICTS "TECHNOLOGIES FOR OPTIMAL USE OF AMARANTH PLANTS AND FODDER BASE FOR LIVESTOCK HAVE BEEN CREATED

4 HYDROPONICAL GROWTH OF PLANTS IN EXTREME CONDITIONS IN KARAUZAK, CHUST, KARAKUL AND NISHAN DISTRICT

4 PRODUCTION OF GRANULATED FEED FROM YANTAK, REED AND CEDAME PLANT WAS LAUNCHED IN MOYNOK, NISHAN, KARMANA AND POMITAN DISTRICT

### IN 2022, IT IS PLANNED TO BE IMPLEMENTED IN 36 INNOVATIVE DISTRICTS

123,9 BLN.SUM

130 INNOVATIVE PRODUCTS

148 NEW PRODUCTS

1575 NEW WORKPLACES

2022-2024 YEARS > 36 new innovative (spin-off) enterprises specializing in the production of scientific products (goods and services) will be established in promising areas of innovation

AGRICULTURE - 10

ENERGY - 5

CUNSTRUCTION - 4

OTHER FIELDS - 17

350 INNOVATION CENTERS WILL BE ESTABLISHED

170 PATENTS WILL BE ISSUED (PER YEAR)

287 START-UP PROJECTS WILL BE IMPLEMENTED

423 INNOVATIVE ENTERPRISES WILL BE ESTABLISHED

156 FOREIGN INNOVATIVE PROJECTS WILL BE IMPLEMENTED (WIYH FOREIGN COMPANIES)

166 BLN.SUM FOREIGN GRANTS WILL BE ATTRACTED

351 NEW TECHNOLOGIES WILL BE INTRODUCED

22 BLN.SUM ENTREPRENEURIAL FUNDS WILL BE REDUCED FOR R&D

2023-2026







MINISTRY OF INNOVATIVE  
DEVELOPMENT OF THE REPUBLIC OF  
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## INDICATORS FOR MAKING INVESTMENTS IN SCIENCE AND INNOVATIVE ACTIVITIES

### 2018-2021 y

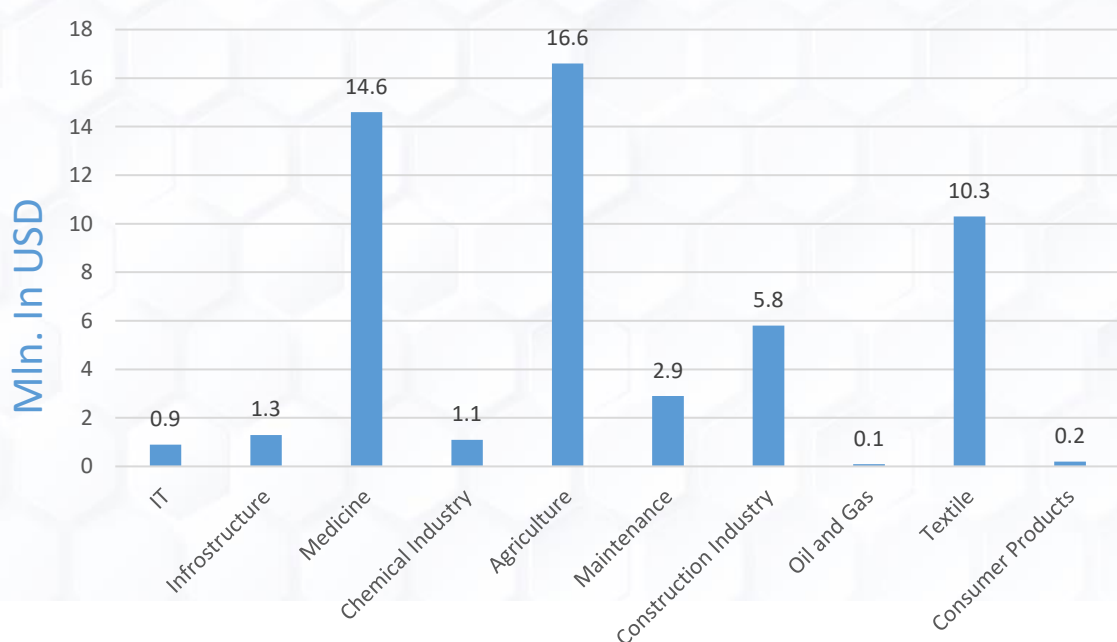
#### Investments



**53,7** mln USD



**57** projects



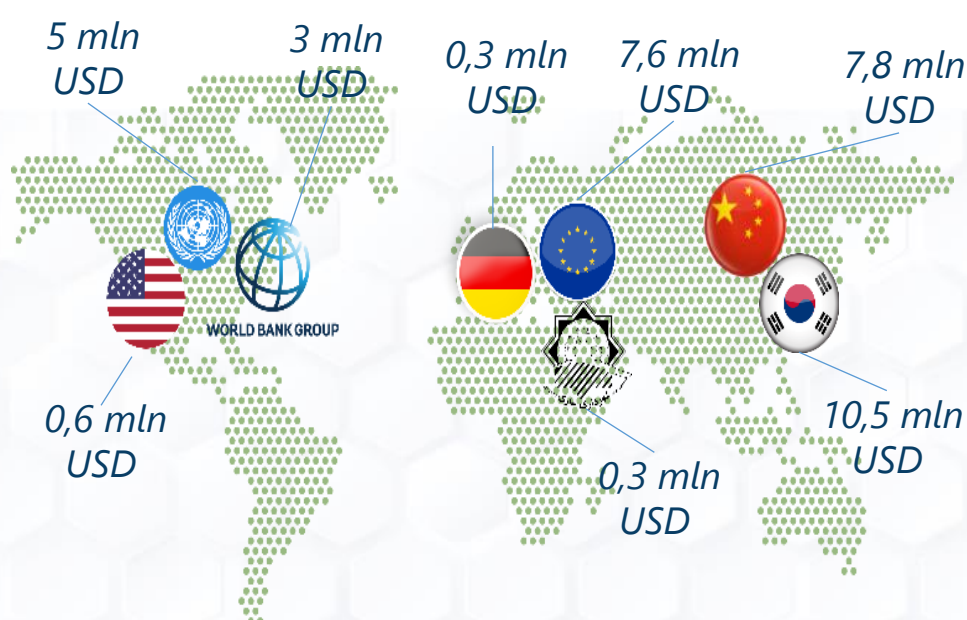
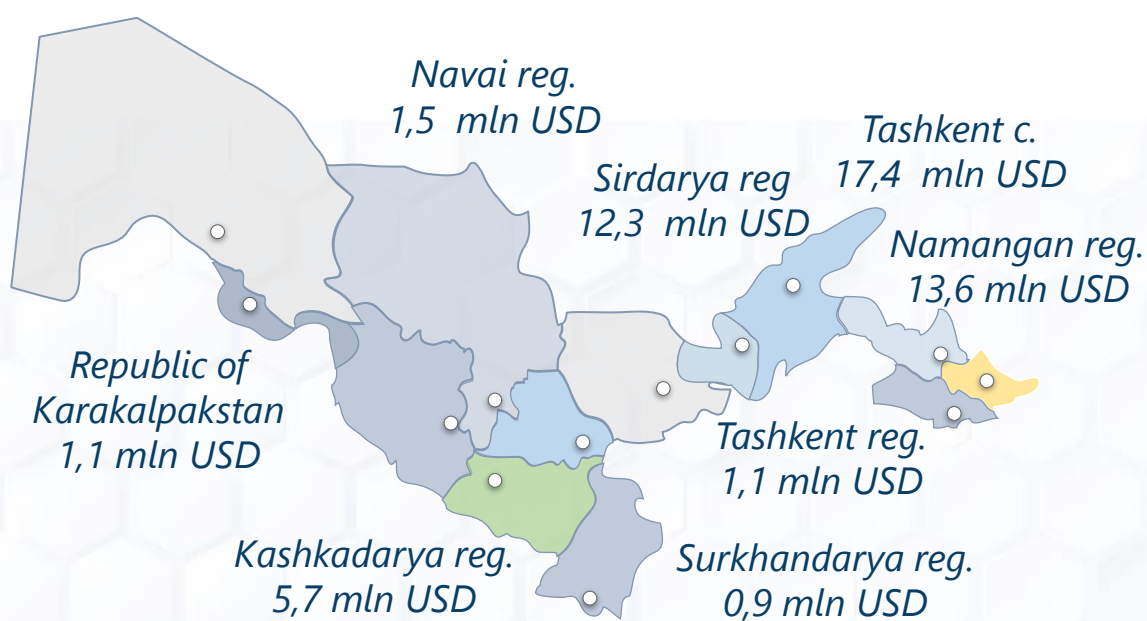
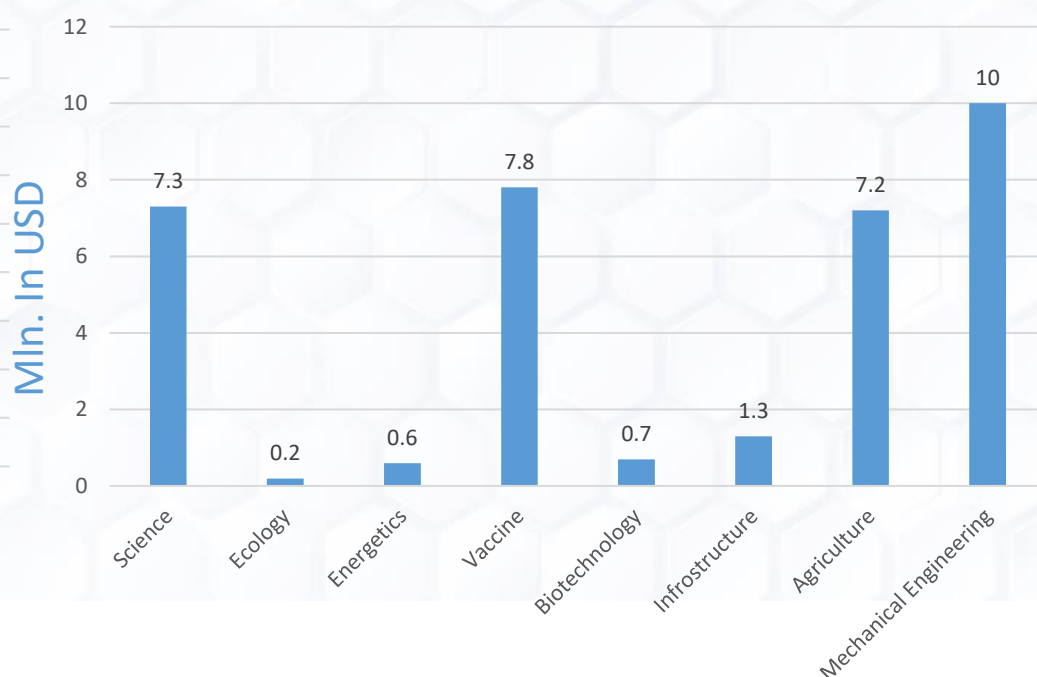
#### Grants



**35,1** mln USD



**21** projects



### In 2021

Total: **\$21** mln

Investments: **\$14,1** mln

Grants: **\$6,9** mln



### In 2022

Total: **\$29,6** mln

Investments: **\$17** mln

Grants: **\$12,6** mln

**40% growth over 2021**



Major projects



**China Federation**  
**10,0** mln USD



**MOTIE**  
**10,0** mln USD



**MOLIT**  
**500** mln USD



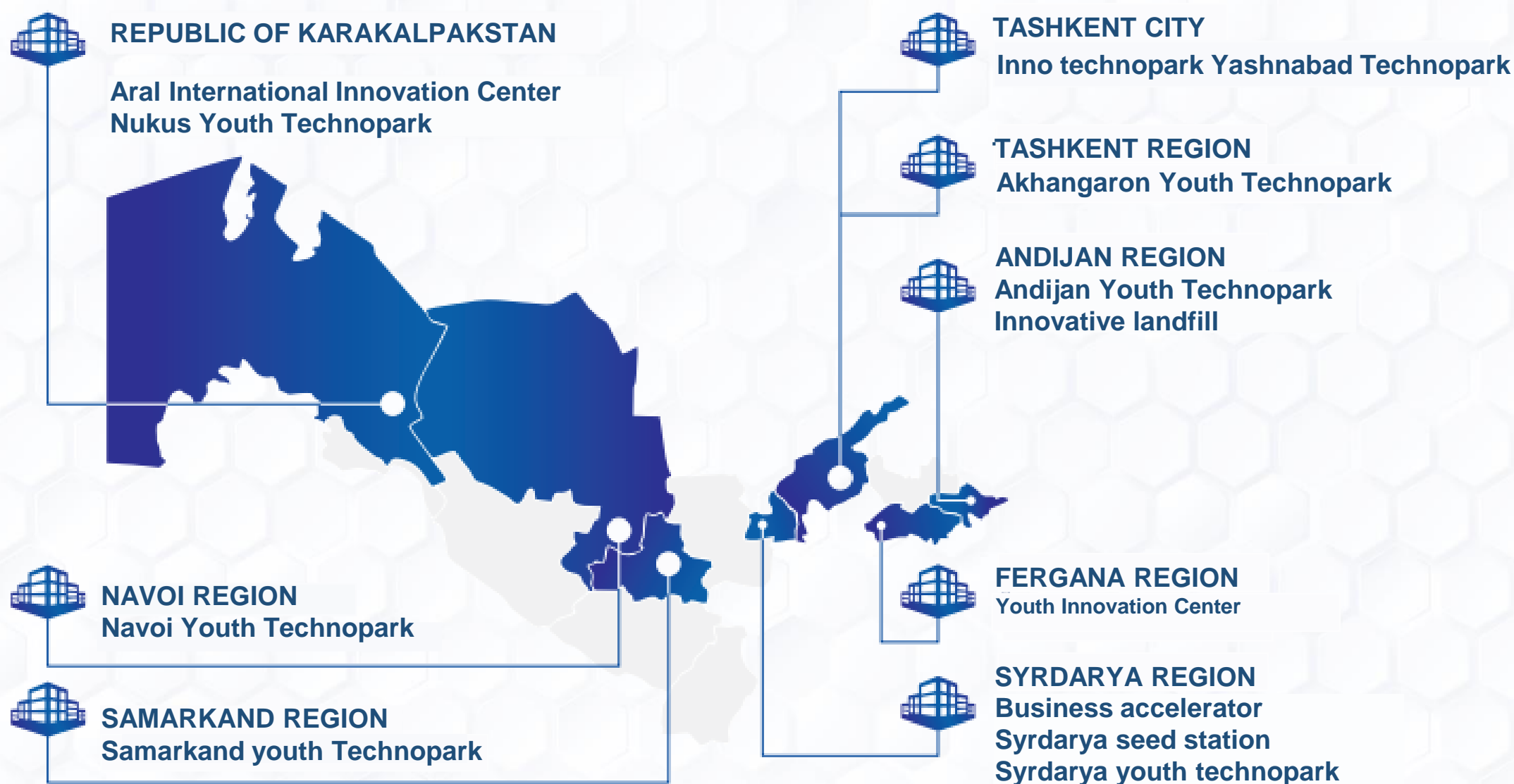


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## INDICATORS OF INNOVATIVE INFRASTRUCTURE CONSTRUCTS

### Innovative infrastructure constructs



#### Indicators of youth technoparks

Number of covered youth	-	<b>1035</b>
Number of formed startup projects	-	<b>30</b>
Number of training and practical courses on modern professions	-	<b>18</b>
Number of projects in the program Incubation / Acceleration	-	<b>120</b>

#### Indicators of Yashnabad technopark

Number of residents	-	<b>65</b>
The value of the formed projects	-	<b>150 bln.sum</b>
Type of innovative products	-	<b>110</b>
Number of created new workplaces	-	<b>500</b>

#### Indicators of youth technoparks

Number of covered youth	-	<b>7000</b>
Number of formed prototypes	-	<b>24</b>
Number of innovative products	-	<b>11</b>







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## STARTUP SUPPORT INDICATORS

**In 2019-2021, a total of 80.6 billion sums of startup projects were financed**

### NUMBER OF PROJECTS

**105**

TOTAL VALUE

**80,6**  
bln sum

WORKPLACES

**953**

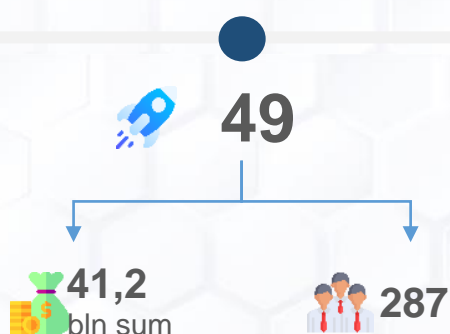
TOTAL INCOME

**18,1**  
bln sum

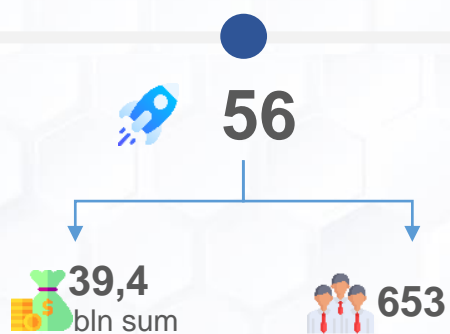


**In 2022, it is planned to finance twice as many startup projects as in 2021**

**2019-2020**

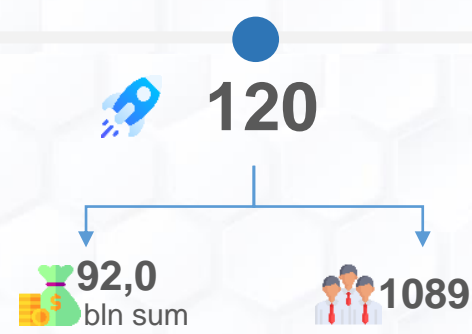


**2021**



**114% more**

**2022**



### Work to be completed in 2022



Startup projects in 2022



Normative and legal documents



Digitization of startup selections



International joint startup competitions



**120**



**92,0** bln sum



“About startup” law



Single startup platform



**4 mln U.S. dollars**



Iran



Uzbekistan



Hungary



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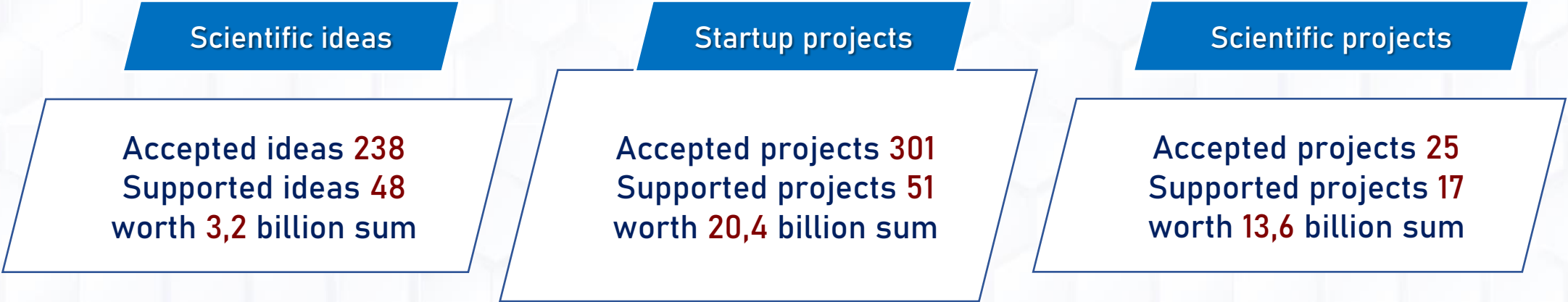
INDICATORS FOR THE YOUTH  
ACADEMY



The amount of funding to the contest “Bo’lajak olim”



Funded projects in the framework of the contest “Bo’lajak olim”



The implemented projects fields

Number of jobs created



**640**

ENERGY	11	9,4%	MECHANICAL ENGINEERING	11	9,4%
FOOD INDUSTRY	10	8,6%	SOCIAL TECHNOLOGIES	14	12,1%
AGRICULTURE	15	12,9%	MEDICINE AND BIOTECHNOLOGY	14	12,1%
INFORMATION TECHNOLOGIES	27	23,4%	OIL, GAS, AND CHEMISTRY INDUSTRY	14	12,1%

“AKADEMIK HARAKATCHANLIK”

Implementation of scientific projects in the territory of the Republic of Young scientists, exchange programs

**13**  
Youth scientists

**451**  
Mln sum

In order to support talented young people involved in scientific and innovation activities



“Innovatsion g’oyalar yetakchisi”  
Medal of honor



**14**

the best candidates each year





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## INDICATORS OF INTERNATIONAL RELATIONS IN THE FIELD OF SCIENCE AND INNOVATIONS

>250

Meetings

17

Meetings with the President  
and honored guests

112

Memorandums and  
agreements were  
signed

>70

81 billion UZS

International  
projects



China



Turkey

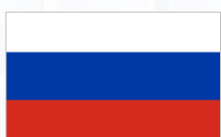


India



Belarus

### Foreign counties



Scientific and startup  
projects  
8,4 billion UZS

“Softlanding” Skolkovo  
25 startups



Scientific and startup  
projects  
6 billion UZS



180  
Scientific  
internships



“ZF-UZ-VAC2001”  
Vaccine

Scientific projects  
2 million dollars



70  
PhD quotas



“Smart screen”  
Technology transfer

### International Organizations

The Aral Sea – region of  
ecological innovation and  
technology



«Uzbekistan ESRSA»  
scientific projects  
3 billion UZS

National Science and Technology  
and Innovation Policy of the  
Republic of Uzbekistan 2021-2030



«Modernization of National  
Innovation System»  
50 million USD

Meeting of leaders  
in science and  
technology





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## INDICATORS OF ENFORCEMENT OF NORMATIVE AND LEGAL DOCUMENTS IN THE FIELD OF SCIENCE AND INNOVATION

Total number of normative  
legal acts

> 27

The total number of tasks  
assigned to the Ministry

> 1 033



Not done

1 section



In progress

277 section



Done

755 section

2 UZRD

✓ Done – 0 section  
⌚ In progress – 36 section  
✗ Not done – 0 section

№ UZRD-576

✓ Done – 0 section  
⌚ In progress – 19 section  
✗ Not done – 0 section

№ UZRD-630

✓ Done – 0 section  
⌚ In progress – 17 section  
✗ Not done – 0 section

2 PD

✓ Done – 80 section  
⌚ In progress – 33 section  
✗ Not done – 0 section

№ PD-6097

✓ Done – 63 section  
⌚ In progress – 13 section  
✗ Not done – 0 section

№ PD 6198

✓ Done – 17 section  
⌚ In progress – 20 section  
✗ Not done – 0 section

9 PD

✓ Done  
442 section

⌚ In progress  
174 section

✗ Not done  
1 section

*Decree of the president -5063 number of the Republic of Azerbaijan on measures to ensure more effective organization of the process of acquisition of rights over land parcels and other immovable property as part of the South Caucasus pipeline expansion project more ... 50 billion to the state. sum funds were not spent..*

12 DCM

✓ Done  
201 section

⌚ In progress  
18 section

✗ Not done  
0 section

2 statement

✓ Done – 32 section  
⌚ In progress – 16 section  
✗ Not done – 0 section

21 number

✓ Done – 18 section  
⌚ In progress – 0 section  
✗ Not done – 0 section

95 number

✓ Done – 14 section  
⌚ In progress – 16 section  
✗ Not done – 0 section





MINISTRY OF INNOVATION  
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## Project "Modernizing Uzbekistan National Innovation System"



Research Excellence Program  
(REP) (Research grants)

\$10 mln

For each Research Group, a grant of **200-600 thousand US** dollars equivalent is allocated for a period of not more than 24 months.



Research Commercialization  
Program (Research  
commercialization grants)

\$4 mln

A grant of **75-150 thousand US** dollars will be allocated to the commercialization of scientific research results for a period of not more than 24 months



Public Research Institutes  
Modernization (PRIM) Program

\$6 mln

In order to ensure the integration of national scientific research activities with the achievements of World Science, **modern laboratory equipment and devices** are purchased



Innovation capabilities program  
(Grants)

\$10 mln

Private manufacturing enterprises will receive a grant of up to **50 thousand US** dollars for the establishment of quality certificates and small-scale production



Business Investments in R&D  
Program

\$10 mln

Projects will be financed through public and private partnerships. The amount of funding is allocated from **300 thousand US** dollars to **600 thousand US** dollars for a period of not more than 24 months



Organization of the prestigious  
international Expert Board (IEB)  
(involving international scientists  
consisting of 7 members)

\$2.1 mln

Within the framework of the project components, the projects of the participants of the competition **should be examined**, qualifying, in accordance with international standards, provide **expert conclusions**, carry out monitoring and regularly provide scientific and technical support

Research Excellence  
Program (Research Grants)

Projects

199

10 mln. US dollars

I round **109 project**

II round **90 project**

### Ongoing contracts

### Cost

### Results

Quality assurance and digitization of the  
Ministry of innovation development

\$98 thousand

Quality is ensured and digitized by the Ministry of innovation development

Training of employees of the Ministry of  
innovation development on digital  
transformation

\$18,5 thousand

New skills in digital transformation are being generated

Development of a strategy for the  
development of Science and innovation

\$99 thousand

A strategy for the development of Science and innovation is being  
developed

Implementation of technological forecast in  
order to determine the priority directions of  
scientific and innovative development

\$99 thousand

In order to determine the priority directions of scientific and innovative  
development, a technological forecast is being made

To evaluate the scientific and innovative  
potential of the country (audit)

\$99 thousand

Evaluation of the country's scientific and innovation potential (audit) is being  
held

Digital transformation of the Ministry of  
innovation development

\$16 thousand

Practical workshops on digital transformation are organized for ministry  
employees

National report

\$22 thousand

International consultant develops methodology

Educational program "English for science"

\$98 thousand

About 200 scientists are organizing special training courses in order to  
improve their skills in the Academic English language

Development of a scientific metrics base for  
the Ministry of innovative development of the  
Republic of Uzbekistan

\$40 thousand

A report on the scientific basis and results of the policy is being prepared  
for the sustainable national innovation system





Ministry of Innovative Development of  
the Republic of Uzbekistan



## PERFORMANCE INDICATORS OF THE SCIENTIFIC AND TECHNICAL INFORMATION CENTER

### FORMATION OF INFORMATION RESOURCES

5500

Scientific and  
technical document  
is digitized



5500

A single reporting register  
has been formed

### MONITORING OF SCIENTIFIC AND INNOVATION PROJECTS AND SCIENTIFIC - TECHNICAL EXPERTISE

1500  
experts

Database of foreign and  
domestic experts

400

Project technical  
expertise

457

project scientific  
expertise

300

Project  
monitoring

997

Project performance analysis

### INFORMATION - ANALYTICAL SERVICES FOR SCIENCES



National Report  
on Science and  
Innovations



National Policy  
on Science and  
Innovations

Digests  
Total:  
620  
published

539 COVID-19

7 Artificial  
intelligence

8 Viticulture and  
winemaking

8 Hydrogen energy

8 Copper industry

50 Others

### COLLECTION OF SCIENTIFIC STATISTICS AND IMPLEMENTATION OF INFORMATION-ANALYTICAL SYSTEMS

[nsp.gov.uz](http://nsp.gov.uz)



The national scientific portal includes modules (public administration in the field of science and innovation, scientific and innovative infrastructure, national scientific and technical information resources, database of innovative ideas, information for scientists).

[ias.gov.uz](http://ias.gov.uz)



It includes information on all higher education and research institutions in the Republic, as well as information on scientific developments, publishing activities, patents and research projects of researchers, as well as tasks such as identification of scientific potential.

### INTERNATIONAL SCIENTIFIC DATABASE

SPRINGER  
NATURE

- more than 100 webinars
- more than 100 HEIs and SPIs
- more than 8000 participants

An asymmetry department was established.



The publishing and patent  
activities of local scientists were  
analyzed



A list of authoritative scientific  
journals has been compiled for local  
researchers

### ENGLISH FOR SCIENCE



"English for Science" project was based on a three main phase program designed for more than 200 research scientists. At the same time, the students participated in the trainings for 9 months on the basis of the program, which consists of the stages of "General English", "Academic writing", "Grants and Scholarships".

229

Article in International journals

120

Scopus, at the base of  
WoS

183

Thesis at an International  
conference

100

international grant  
application







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INFORMATION SERVICE OF THE  
MINISTRY OF INNOVATIVE  
DEVELOPMENT

According to the results of the 2nd half of 2021, the activity of the head of the information service of the Ministry was rated **HIGH** \*.

**2021**

**20**

Published articles at the  
Minister's print media

**35**

The number of appearances of the  
Minister on television

**25**

Number of official pages on  
social networks

**42**

Number of videos about the  
activities of the Ministry

**21**

Number of press conferences  
held by the Information  
Service

**53**

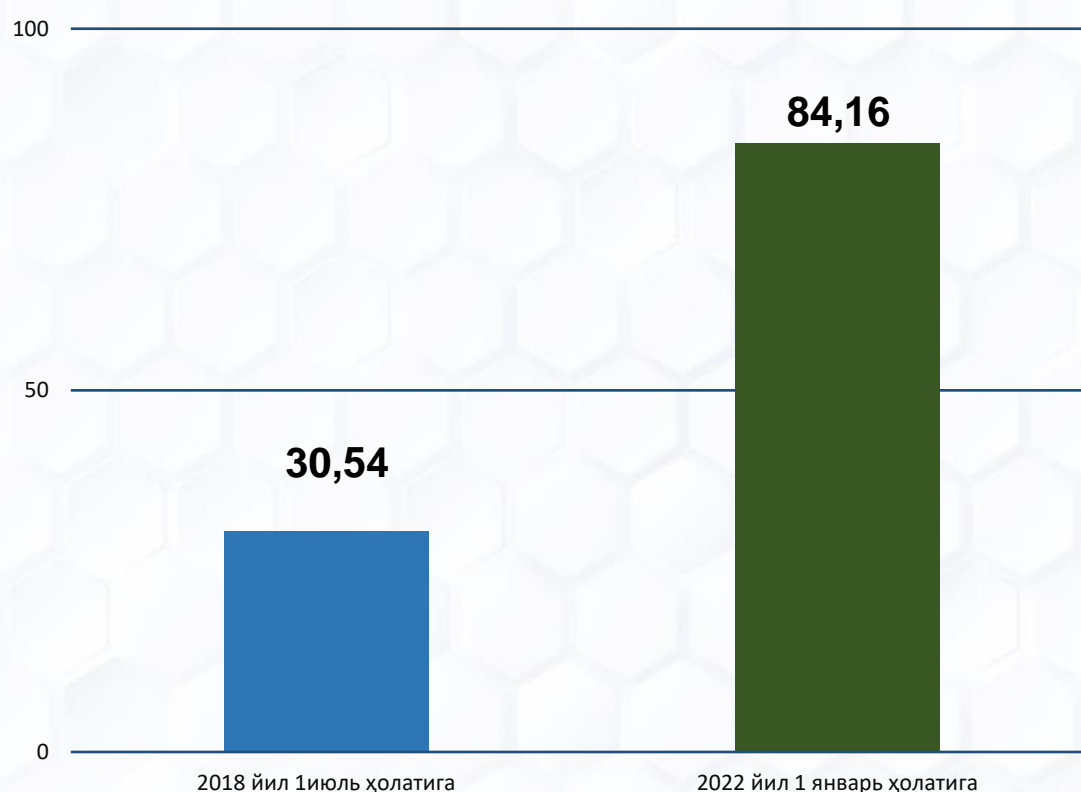
The number of major events  
widely covered in the media

COVERAGE OF IN SOCIAL  
NETWORK PAGES OF THE  
MINISTRY.

**20000+**

As of July 1, 2018, the Ministry of  
Innovative Development took the 3rd place  
in the "OPENING INDEX" rating

"Transparency Index" Rating of government  
authorities and governing bodies



From June 2021, 34 board meetings will be broadcast  
online on the YouTube platform of the Ministry of  
Innovation Development and through Facebook

2 SPECIAL EDITIONS of "Economic  
Bulletin of Uzbekistan" are dedicated to  
the activities of the Ministry of Innovative  
Development.

Support bots of the Ministry of Innovative Development have been launched  
[@uzmininnovation\\_bot](#) | [@mininnovation](#) | [anticorruption\\_bot](#) | [@vaksinatsiya\\_bot](#)

The Minister's open dialogue on his activities in 2021 and plans as well as implementation in  
2022 was broadcast online.

Open dialogues are planned to be held on a quarterly basis.

[www.MININNOVATION.UZ](#)



[MININNOVATION.UZ](#)



[@MININNOVATION](#)



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MINISTRY OF INNOVATIVE  
DEVELOPMENT OF THE REPUBLIC OF  
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## INDICATORS ON DIGITALIZATION OF INNOVATIVE ACTIVITIES

### In the field of information technology and digitalization

117 The project is being implemented  
(137.5 billion UZS)

129 Quotas have been allocated for  
basic doctoral studies and  
internships

22 Startup projects worth 18.2 billion  
UZS have been financed

In the field of postgraduate education, the  
major 05.01.11 - Digital Technologies and  
Artificial Intelligence was established

An international conference on "Artificial  
intelligence - the foundation of technological  
development" has been organized

Young scientists were selected to be sent for  
short-term foreign research internships in the  
field of artificial intelligence in 2022

In the government's artificial intelligence  
readiness index in 2021, it was ranked 93rd out  
of 160 countries with a score of 40.13.

### On the development of artificial intelligence

24 The project is being implemented  
(38.9 billion UZS)

33 Quotas have been allocated for  
basic doctoral studies and  
internships

93 In 2021, it was ranked 93rd out of  
160 countries with a score of 40.13

### "Digital Uzbekistan – 2030" Strategy

[grant.mininnovation.uz](http://grant.mininnovation.uz)

The system for the state order for scientific - research works

[phd.mininnovation.uz](http://phd.mininnovation.uz)

A single information system for a coordination of the system  
of training of scientific level personnel

[ias.gov.uz](http://ias.gov.uz)

System for scientific and technical information analysis

[navigator.uzmip.uz](http://navigator.uzmip.uz)

Centralized information portal on "Navigator for innovation"

[invest.mininnovation.uz](http://invest.mininnovation.uz)

Electronic register on attraction and use of external grants  
and its database

[slab.gov.uz](http://slab.gov.uz)

The only electronic database of research laboratories in  
Uzbekistan

2021

2022

### "The concept of science development by 2030"

[nsp.gov.uz](http://nsp.gov.uz)

National scientific portal on scientific potential

[antiplag.uz](http://antiplag.uz)

Anti-plagiarism system

[slib.uz](http://slib.uz)

An electronic library with an extensive database of  
articles from scientific journals and authors of  
Uzbekistan

2021

### "Modernizing the national innovation system of Uzbekistan"



The concept



Functional architecture



Roadmap

2022-2024





Оролбўйи халқаро  
инновация маркази



## INDICATORS OF ACTIVITIES AT THE INTERNATIONAL INNOVATION CENTER FOR ARAL SEA BASIN

### 2021-2022 INDICATORS PROVIDED BY THE INTERNATIONAL INNOVATION CENTER FOR ARAL SEA BASIN

#### WORK DONE AT THE EXPENSE OF FUNDS ATTRACTED FROM INTERNATIONAL ORGANIZATIONS

A **\$55,000** contract was signed with the **Xijang Institute of Ecology and Geography of the Chinese Academy of Sciences** and **\$24,981** has been allocated to the Aral Sea Innovation Center.

The **European Union** has signed a contract for the planting of **27,000** tree seedlings worth **\$55,260** and **30%** advance payment of **\$16,578** has been transferred to the Aral Sea Center.

**Swiss LATMA-ADED** Association implemented the School Water project for desalination for **secondary school No.7** with a capacity of **250 students** in the territory of Tik Oz yak PF in Muynak district.

In collaboration with scientists from the **Tunisian company Chahbani Technologies** a new innovative irrigation system under **0.5 ha** of soil was introduced.

#### The work carried out by the initiative of the Center

Innovative youth projects in Nukus and Muynak districts under the **Upshift 2021** program were funded by the United Nations Development Program in the amount of **\$3000**.

In order to create conditions for research work on the **dried bottom of Aral Sea**, field containers and wagons were placed in two places.

**574 Million UZS** provided by the **Ministry of Innovative Development** is being spent on the agro-eco tourism project “**My Garden in the Aral Sea**” and being carried out by the Center.

**Halophytes, cotton and grain crops** were planted on an area of **500 m2** on the dried bottom of the Aral Sea as an experiment. **16** species of **shrubs and trees** were planted on **0.0008 ha** of territory.

#### International Innovation Center for Aral Sea Basin

##### Project Value

**3,9 Billion UZS**

##### Seed Field

**20 ha**

**1,1 Billion UZS** AGRICULTURAL MACHINERY

**13 varieties** DESERT PLANTS

**\$5.1 million** from Abu Dhabi  
Development Fund.

Republic of Karakalpakstan development  
project

#### Activities and events in the agricultural sector

**3-year** practical work on “Reclamation of saline lands in the Republic of Karakalpakstan (Muynak district) with the use of adapted raw materials for agricultural crops (**Apocinum / Kutra** plant) and the creation of textile value as an alternative to cotton” within the **CLIENT II** program implemented by **CASIB, Germany** has started.

In collaboration with the **ICBA Center**, experiments of ecological assessments of food and fodder crop growth were carried out to test the resistance of plants to the Aral Sea climate, salinity, heat and drought involving **Q3 and Q5 examples of Quinoa, Red and White Amaranth** being planted as an experiment. A lysimetric research site has been set up to conduct scientific research.

➤ Fodder hay - **480 m2** territory

➤ Technical Crops - **990 m2**

➤ Cereals - **7740 m2**

➤ Cereal-Legumes - **990 m2**

➤ Legumes - **512 m2** territory was populated with plants as a test

##### “Muynak Experimental Field” (**106 ha**)

➤ Medical Plants (China) - **1,7 ha**,

➤ Cultural Forest - **6,82 ha**,

➤ My Garden in Aral Sea Territory - **1,8 ha**,

➤ Oily and halophyte plants - **1,7 ha**,

➤ Drought resistant plants - **1,85 ha**,

➤ Plant nursery area - **2,5 ha**.

**190 varieties** of wheat imported from Mexico and African countries were planted on a total area of **380 m2** to be compared to the local Semurg variety





MINISTRY OF INNOVATION  
DEVELOPMENT OF THE REPUBLIC OF  
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## INDICATORS IN THE ACTIVITY OF THE INTERNATIONAL CENTER FOR MOLECULAR ALLERGOLOGY

### Cooperation with Vienna Medical University

Italy's Lanzon s.r.l. Modern last-generation VPPs 2010 flower pollen traps brought by the company were installed in the Republic of Karakalpakstan, Tashkent City, Samarkand, Jizzakh, Bukhara, Navoi, Namangan and Khorezm regions.

### Scheme of location of flower pollen traps



### Equipment for collecting allergic pollen in the air



The target practical project "Development of products for passive immunization of people against SARS-CoV-2 on the basis of milk of vaccinated animals" was implemented with positive results.



### Multiplex microchip



At the International Center for Molecular Allergology, **more than 282** allergic microchip technologies for analyzing have been launched and 1021 patients have been provided with a system of analysis

Creating a platform to monitor plant pollen and inform the public about the spread of plant pollen allergens has been formulated and submitted for consideration in accordance with the established procedure. In order to identify seasonal pollen allergens in the regions, work is being carried out to continue the installation of pollen traps in the regions, to organize training sessions, to organize international training



A passport of innovative allergic sensitivity was developed, which includes aggregated data on allergic disease, types of allergens, as well as other data on the risk of developing emergency situations.



The project "development and implementation of a system of marking of hidden food allergens in food products" has passed the scientific and technical Council and work is being carried out on this project.

### Cluster of young scientists

In order to support the initiatives of educated youth, to ensure international competitiveness of the country's science, to further strengthen the potential of existing scientific schools and to further revive the work carried out to develop their innovative potential, the International Center for Molecular allergy "cluster of young scientists" was established.



15 potential allergens on the examined patients - Ana C 2 (pineapple), Ani s 1 (anisakis), Ber e (Brazil nuts), Cam d (tuya milk), Car p (papaya), Fra a (strawberries), Gal d\_meat (chicken meat), Hev b 11 (latex), Lac s (lettuce), Mac l 2s albumin (macadamia), Mala s9 (Malassezia symbiodialis, fungal'), Mus a (banana), Ole-fruit (olive), Ovi a-epithelial (sheep skin), Thu a (tuna) no sensitivity was determined.

### Works carried out on the basis of the national project of the green space

On the basis of the analysis of molecular allergosenbilization of trees, the most dangerous tree species used in the improvement and landscaping of urban and other population punches were identified. Types of decorative ornaments with a landscape, which is an alternative to allergies, were introduced.

Flower pollen of representatives of the family **Sirgesaseae, Populus, Platanus, Salix and Fraxinus** flower pollen of Representatives of the family **Picae, Pinus, Plantago and Quercus** flower pollen of the family **Artemesia, Ambrosia, Shenopodium**.







MINISTRY OF INNOVATION  
DEVELOPMENT OF THE REPUBLIC OF  
UZBEKISTAN



## INDICATORS IN THE ACTIVITY OF THE INTERNATIONAL CENTER FOR MOLECULAR ALLERGOLOGY

### MULTIPLEX MICROCHIP



The International Center for Molecular Allergology has launched an analysis system using more than 282 allergy microchip technology and served 1,021 patients.

An innovative allergy susceptibility passport has been developed, which includes aggregated information on allergic disease, allergen types, as well as other information on the risk of developing emergencies.



### IMPLEMENTED PROJECT IN 2021 - 2022

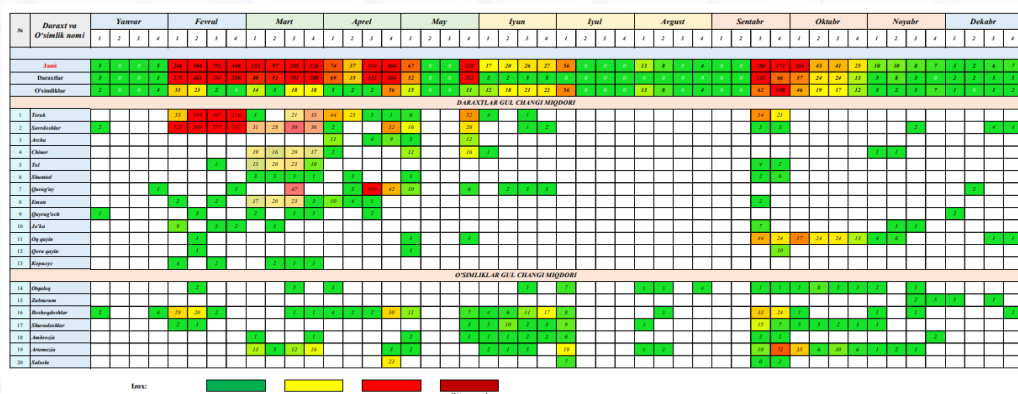
The target practical project "Development of products for passive immunization of people against SARS-CoV-2 on the basis of milk of vaccinated farm animals" was implemented with positive results.



### ACCORDING TO THE CLIMATE OF THE REGIONS IDENTIFIED BY THE CENTER, THE TYPES OF TREES AND PLANTS WITHOUT ALLERGIES WITHIN THE FRAMEWORK OF THE NATIONAL PROGRAM " GREEN SPACE "

No	No	Name	Number of seedings
Bushes			
1	1	Syrian rose (Сирийская роза -Hibiscus syracus)	In the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan, there is an opportunity to prepare 7000 seedlings by 2023.
2	2	Indian lilac (Indian Lilac- Lagerstroemia indica)	
3	3	Deycia (Deutzia amorenensis, D. scabra, D. mollis)	
4	4	Ligustrum glossy leaf (Bryuchina, Ligustrum lucidum)	
5	5	Barberry (Barbaris - Berberis thunbergii, B. juliana)	
6	6	Spanish drag (Spanish drag - Spartium conceum)	
7	7	Pirakanta (pirakanta - Pyracantha coccinea)	
8	8	Black necklace (Buzina Chernaya-Sambucus nigra)	
9	9	Types of Shelvi (Jimolost-Lonicera)	
10	10	Snow-capped fruit Bush (Snejnoyagodnik Belirosary,Symphoricarpos albus)	
11	11	European forzisia (Forsythia european)	
12	12	Simple siren (Siren ordinary, - Syringa vulgaris)	
13	13	Damn, an ordinary (Roza-Rosa canina)	
14	14	Magonia (Mahonia aquifolium of Magonia)	
From coniferous trees			
15	1	Western camel (Thuja occidentalis)	There are 1 500 seedlings in the Forestry Administration
16	2	Eastern biota (Biota orientalis)	
17	3	Barbed spruce ( only available in private seedlings)	
Medium-sized trees that do not spread allergens			
18	1	Canadian slang (Canadian Purple- Cersis canadensis)	There are 4 500 seedlings in the forestry department and in private sector
19	2	Chitala (Chitalpa Tashkent - Chitalpa taschkentensis)	
20	3	Silk Acacia (Acacia Lankaran, Albizia julibrissin)	
21	4	Turangil (Turanga, Populus pruinosa)	
22	5	Scumpia (Cotinus coggygria)	
23	6	Sumax (Rhus coriaria)	
24	7	Cornus (Cornus)	
25	8	Types of Hawthorn (Hawthorn - Crataegus turkestanica)	
26	9	Viburnum (Viburnum opulus)	
Total		26	13 thousand bush seedlings

### 1M3 OF TREES AND PLANTS FLOWING IN THE AIR OF BLOSSOMING SEASON IN 2021 BY THE AMOUNT OF FLOWER POWDER



### ON INTERNATIONAL COOPERATION

Italy's Lanzon s.r.l. Modern last-generation VPPs 2010 flower pollen traps brought by the company were installed in the Republic of Karakalpakstan, Tashkent City, Samarkand, Jizzakh, Bukhara, Navoi, Namangan and Khorezm regions.

### 1M3 OF TREES AND PLANTS FLOWING IN THE AIR OF BLOSSOMING SEASON IN 2022 BY THE AMOUNT OF FLOWER POWDER

