



Government of the Republic of North Macedonia

FUND FOR INNOVATIONS AND TECHNOLOGY DEVELOPMENT REPUBLIC OF NORTH MACEDONIA

MISSION, EXECUTION & ACHIEVMENTS

Conference: Policy Dialogue on Aligning Priorities in the Western Balkans
Digital, green and health pathways. **Vision 2030.**

Horizon Europe: Policy Answers conference
13 September 2023

Festim Halili, PhD

www.fitr.mk





FITD (GENERAL OVERVIEW)

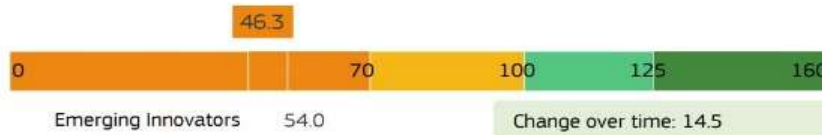
FITD IS THE LEADING NATIONAL INSTITUTION FOR SUPPORTING INNOVATION AND TECHNOLOGICAL DEVELOPMENT IN MICRO, SMALL AND MEDIUM ENTERPRISES IN ORDER TO ACHIEVE ACCELERATED TECHNOLOGICAL DEVELOPMENT, BASED ON KNOWLEDGE TRANSFER, RESEARCH FOR DEVELOPMENT AND INNOVATIONS THAT CONTRIBUTE TOWARDS CREATING NEW JOBS, ECONOMIC GROWTH AND DEVELOPMENT, WHILE IMPROVING THE BUSINESS ENVIRONMENT FOR THE DEVELOPMENT OF COMPANIES COMPETITIVE ABILITIES.

OUR MISSION is

- facilitating access to finance for innovation and technological development;
- ✓ **Boost innovation and technological development in SMEs**
- ✓ **Support academia-industry collaboration**
- ✓ **Promote benefits of innovation and technological development**

OUR ACTIVITIES include

- Financial instruments for SMEs
- Technical assistance for SMEs
- Thematic Challenges
- Innovation Vouchers
- Measures to encourage STEM and creativity among students and youth
- Measures to support Innovation Infrastructure
- Promotional activities



North Macedonia

	Performance relative to EU in 2023	Performance change 2016-2023	Performance change 2022-2023
SUMMARY INNOVATION INDEX	46.3	14.5	3.4
Human resources	32.8	8.7	0.0
Doctorate graduates	11.0	-11.4	0.0
Population with tertiary education	75.1	42.5	0.0
Lifelong learning	8.8	0.0	0.0
Attractive research systems	84.8	76.4	19.2
International scientific co-publications	25.5	21.5	7.9
Most cited publications	48.2	29.6	21.6
Foreign doctorate students	228.7	234.8	24.3
Digitalisation	43.2	1.8	0.0
Broadband penetration	61.3	3.5	0.0
People with above basic overall digital skills	18.4	0.0	0.0
Finance and support	15.6	-4.3	0.1
R&D expenditures in the public sector	25.0	-12.9	0.0
Venture capital expenditures	N/A	N/A	N/A
Government support for business R&D	6.7	8.0	0.2
Firm investments	40.0	0.5	0.0
R&D expenditure in the business sector	3.5	1.5	0.0
Non-R&D Innovation expenditures	114.5	0.0	0.0
Innovation expenditures per employee	14.4	0.0	0.0
Use of information technologies	32.8	-5.6	0.0
Enterprises providing ICT training	42.0	-29.3	0.0
Employed ICT specialists	23.3	17.2	0.0
Innovators	60.0	5.3	0.0
Product innovators (SMEs)	49.2	-4.8	0.0
Business process innovators (SMEs)	69.5	16.0	0.0
Linkages	50.0	34.9	-16.5
Innovative SMEs collaborating with others	46.0	-11.4	0.0
Public-private co-publications	28.2	23.9	3.9
Job-to-job mobility of HRST	62.5	82.4	-41.2
Intellectual assets	14.4	9.0	-2.0
PCT patent applications	13.3	12.0	-9.7
Trademark applications	28.2	14.7	7.5
Design applications	1.0	0.8	0.4
Employment impacts	30.7	8.2	0.0
Employment in knowledge-intensive activities	18.1	16.9	0.0
Employment in innovative enterprises	41.0	0.0	0.0
Sales impacts	68.8	16.6	-2.1
Medium and high-tech goods exports	111.8	16.4	-8.7
Knowledge-intensive services exports	55.1	30.1	4.4
Sales of innovative products	22.6	0.0	0.0
Environmental sustainability	87.3	29.2	43.3

NORTH MACEDONIA is an **Emerging Innovator** with performance at 46.3% of the EU average. Performance is below the average of the Emerging Innovators. Performance is increasing at a rate higher than that of the EU (8.5%-points). The country's performance gap to the EU is becoming smaller.

Relative strengths

- Foreign doctorate students
- Environment-related technologies
- Non-R&D Innovation expenditures
- Medium and high-tech goods exports
- Population with tertiary education

Relative weaknesses

- Design applications
- R&D expenditure in the business sector
- Government support for business R&D
- Lifelong learning
- Doctorate graduates

Strong increases since 2016

- Foreign doctorate students
- Job-to-job mobility of HRST
- Environment-related technologies

Strong decreases since 2016

- Enterprises providing ICT training
- R&D expenditures in the public sector
- Doctorate graduates

Strong increases since 2022

- Environment-related technologies
- Foreign doctorate students
- Most cited publications

EU Innovation scoreboard

SUPPORT INSTRUMENTS

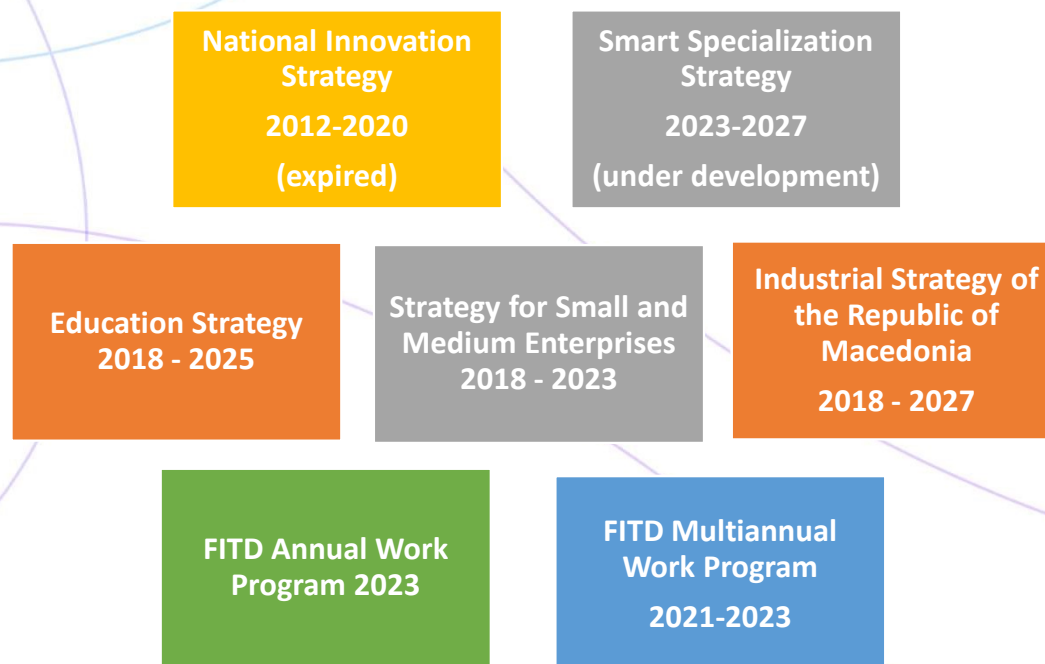
Plan for
economic
growth
(pillar III)

- Co-financed grants for improvement of innovation
- Co-financed grants for technology development
- Co-financed grants for vocational training and practice of newly employed young people
- Co-financed grants for technology development for fast adjustment to COVID19 consequences
- Co-financed grants for technology development for accelerated economic growth

World bank
SDISP

- Co-financed grants for newly established enterprises start-up & spin-offs
- Co-financed grants for commercialization of innovation
- Co-financed grants for technology extension
- Co-financed grants for establishment and operation of business accelerators

National Strategic Framework



National Innovation
Strategy
2012-2020
(expired)

Smart Specialization
Strategy
2023-2027
(under development)

Education Strategy
2018 - 2025

Strategy for Small and
Medium Enterprises
2018 - 2023

Industrial Strategy of
the Republic of
Macedonia
2018 - 2027

FITD Annual Work
Program 2023

FITD Multiannual
Work Program
2021-2023

IBSG/Cisco – 30 billion devices connected to internet in 2023

Emerging Trends in AI

Computer Vision
Robotics

- Percieve Objects
- To manipulate objects and move about

COMMUNICATION WITHOUT BARRIERS

SOC - Servive Oriented Computing in AI

Artificial Intelligence

Natural Language Processing
Knowledge Representation
Automated Reasoning
Machine Learning

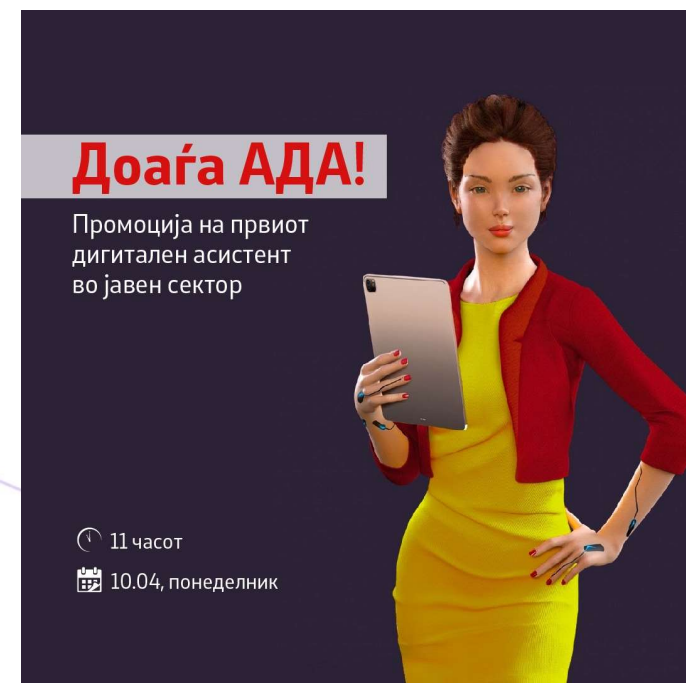


NATIONAL Strategy for AI

- Committee of experts.
 - Released the first Digital Assistant ADA in three languages: English, Albanian and Macedonia.
 - You can find it online 24h at www.fitr.mk
 - Soon, it will be in other governmental institutions.
-
- AI through games and logic.

ADA – the first digital assistant in the public sector

- FITD for the first time launched a challenge "Digital assistant based on artificial intelligence for the needs of the state aid programs of the Government of the Republic of North Macedonia through the Economic Growth plan".
- "ADA" is created by the domestic company Codewell Unlimited.
- We are facilitating the communication of domestic, foreign companies and investors and safe, fast access to public data, but also liberation from the traditional way of communication.
- ADA is available in three languages: Macedonian, Albanian and English.
- You can find it online 24/7 on: www.fitr.mk



THEMATIC CHALLENGES

Competitions and challenges to enhance innovation in the priority areas of science and technology with positive socio-economic impact

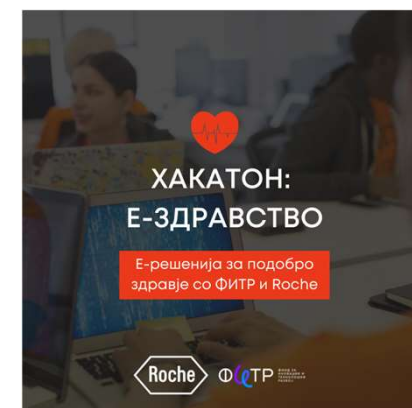
- Challenge for Tackling Climate Change
- Challenge for Digital Transformation
- Digitalization of Agriculture
- Digitalization of the Private Sector
- Start-up Heroes
- E-Health Hackathon
- Encouragement of Social Entrepreneurship
- Etc.



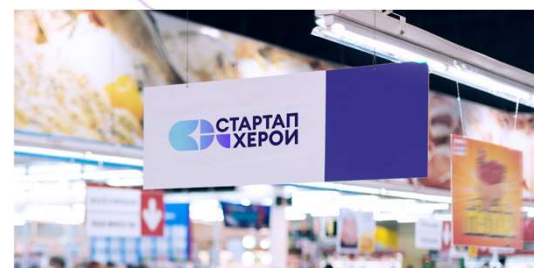














ПОТТИКНУВАЊЕ НА СОЦИЈАЛНОТО ПРЕТПРИЕМНИШТВО







YOUNG MINDS FUND

The YOUNG MIND FUND supports proven programs and designs new programs aiming to enhance innovation, creative and critical thinking, scientific and technological excellence, and to develop STEM and entrepreneurial skills among students and youth.

- **Challenge for Young Researchers** (5 conducted cycles / 2 cycles of “green projects”) supporting primary and secondary schools to implement scientific method based projects in life and technical sciences
- **UpShift** – Social Entrepreneurship Program (in collaboration with UNICEF) mentoring adolescents to apply design thinking methodology to tackle social challenges
- **Junior Achievement** (in collaboration with USAID) boosting entrepreneurial education in high-schools across the country, organizing competitions for school based companies



INVESTING IN INNOVATION INFRASTRUCTURE

FAB LABS – Challenge for Establishing of Fabrication Laboratories

Three FAB LABS were established at the premises of HEIs and PROs with standardized equipment. The laboratories are providing the young people with free access to mentoring and technical facilities to construct a prototype or small-scale production of an innovative solution that can be tested in a laboratory, industrial environment and/or market.

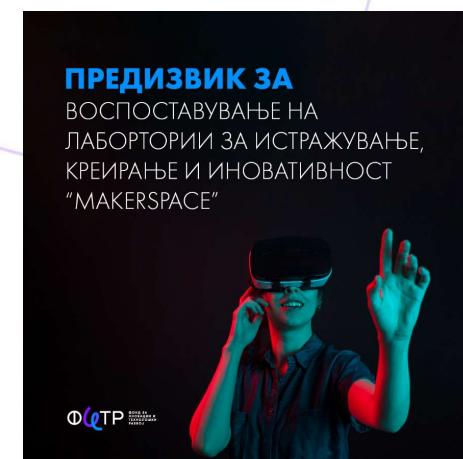
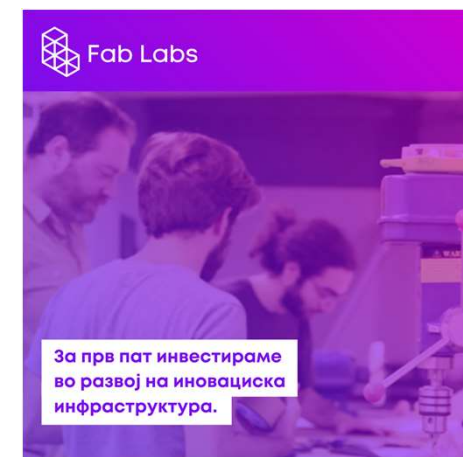
MAKER SPACES - Challenge for Establishing laboratories for Research, Creation and Innovation

Four projects were supported through the Challenge for establishing Makerspace laboratories. This year they will establish the laboratories and will open their doors for the young people to experiment and work on their innovative ideas.

INNOVATION VAUCHERS

In 2022, the Fund started preparing a Western Balkans pilot call for Innovation Vouchers within the framework of the **POLICY ANSWERS** project "Answers for public policies - creation, implementation and support of policies for research and development in the Western Balkans" financed within the framework of Horizon Europe program of the European Commission.

It is planned that the pilot call will be implemented during 2023.



MEASURES FOR COOPERATION – BUSINESS ACCELERATORS

Support of 3 accelerators:

- ▶ X factor
- ▶ Seavus Accelerator
- ▶ BAU - UKIM

Result:

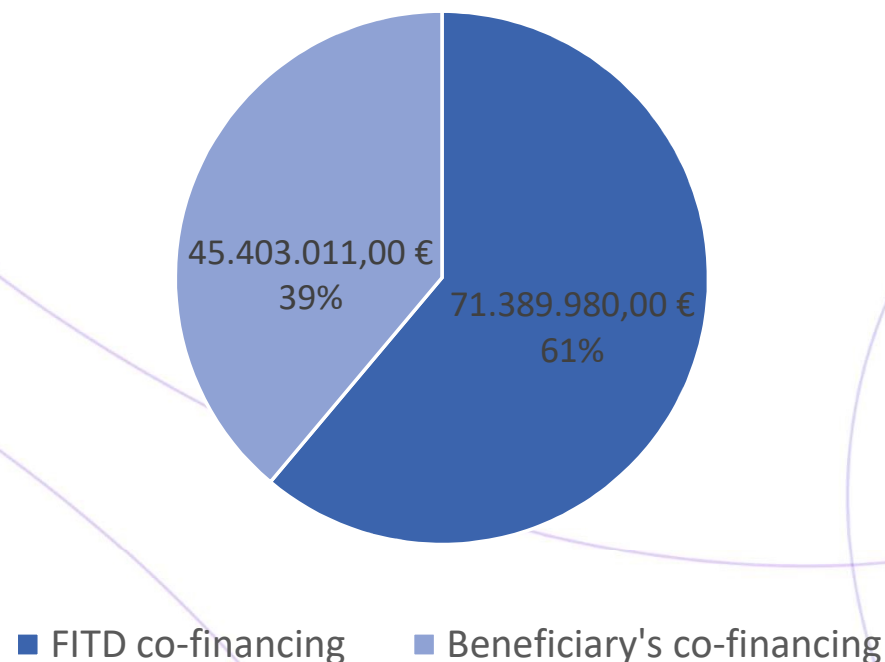
- (6 startups)
- (1 startup)
- (10 startups)

FITD investment: ~ **1,500,000 €**

- ▶ A new call for Business Accelerators support is planned to be announced in November 2023

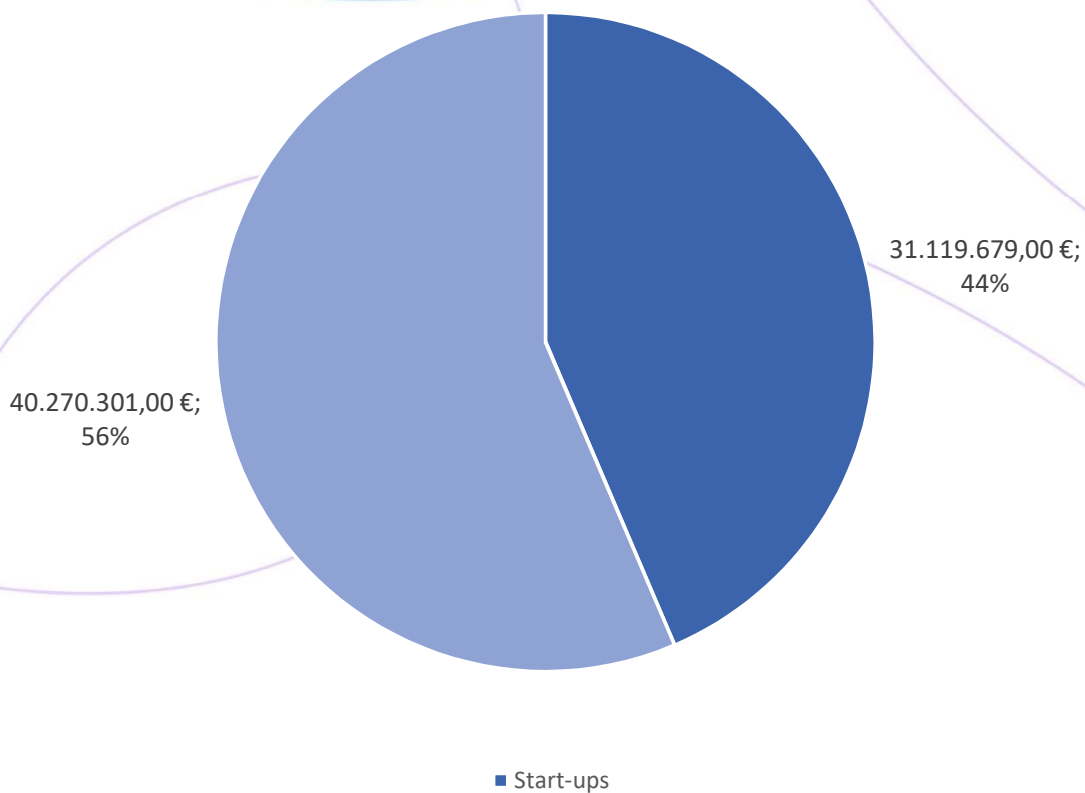
FITD PORTFOLIO IN VOLUME AND NUMBER OF BENEFICIARIES

- Total volume of FITD portfolio = **116.792.992€**
- Total number of supported beneficiaries = **919**
- The total public FITD instruments investment is approximately **71.3 million EUR**, matching approximately **45.4 million EUR** of private investment from the granted beneficiaries.
- During 2022, FITD has announced 6 public calls with a total available budget of approximately **17 million EUR**.
- For 2023, FITD announced/will announce 7 public calls with a total available budget of approximately **16 million EUR**.

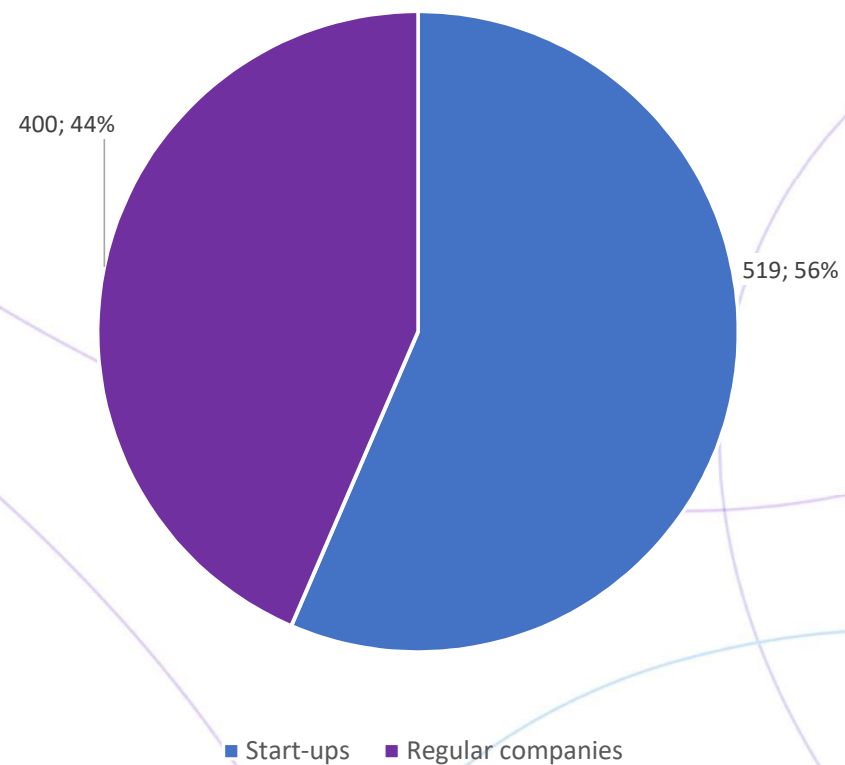


Participation of start-up companies in total FITD portfolio:

Invested amount in start-up companies:

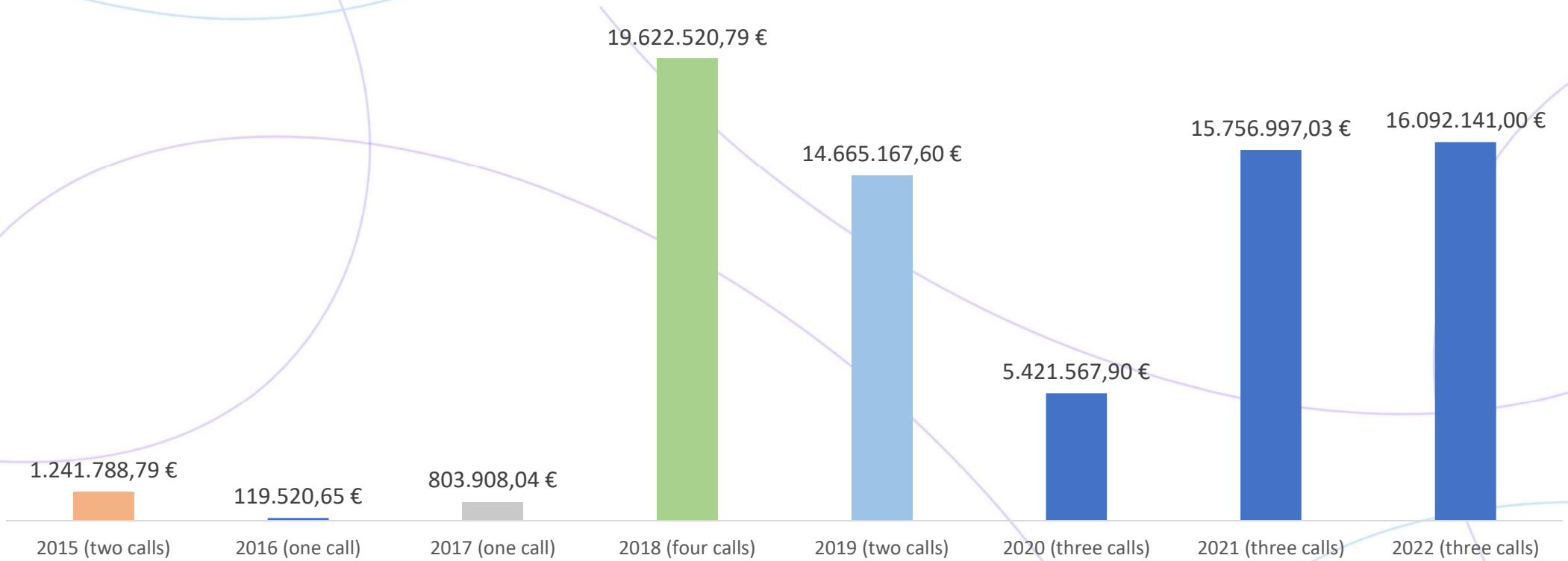


Number of start-up companies in total FITD portfolio:

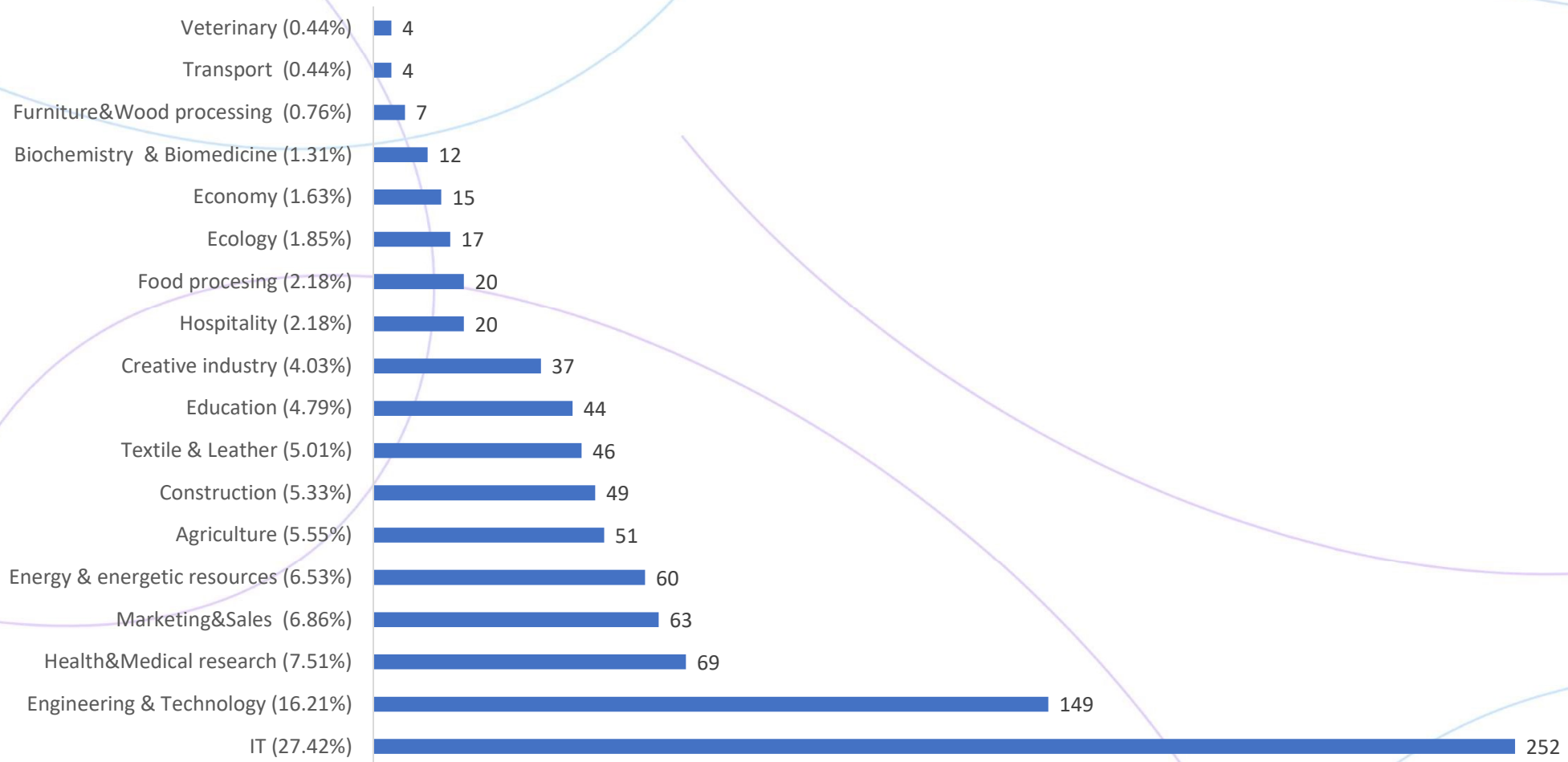


FITD GROWTH PER YEAR

Contracted amount per year:



IT industry, leading industry in supported projects by FITD



DIGITALIZATION OF THE PUBLIC SECTOR

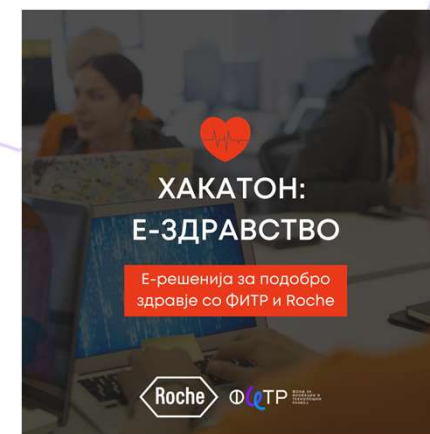
Digitization of the card files at the Institute of Macedonian Language "Krste Misirkov".

Together with the Ministry of Culture we supported the domestic company Inbox, to digitize the unique original records of the Macedonian Language Institute "Krste Misirkov", which are over 500 years old, thus creating an active protection of the records in original digital content, which are available and usable in digital form, as and passive protection from all forms of risks that can damage or destroy cultural heritage.

Hacaton „E-Health”

FITD with Roche supported the project „m-Health”, who created a smart, innovative platform that aims to integrate and advance health services in our system, which will enable greater efficiency and availability of health services, improved patient monitoring, development of healthy habits and increased awareness are just some of the benefits that offers this digital solution.

SMART SCHOOL SYSTEMS



DIGITALIZATION OF THE PRIVATE SECTOR

With digital transformation to innovation

We supported 13 small and medium-sized enterprises from the agricultural, food and tourism sectors, in order to enable the increase of innovations and the competitiveness of enterprises through the introduction of digital solutions that will lead to digital transformation in their operations.

Digitalization of the agriculture sector

Four domestic startups have offered innovative solutions which will contribute to increasing the productivity and income of agricultural holdings, ensuring sustainable food production systems and accelerating the digital transformation of the agricultural sector.



FUTURE PLANS FOR HARMONIZATION

➤ Innovation Strategy 2012-2020 is expired → Smart Specialization Strategy

Smart Specialization Strategy expected to be adopted in 2023

FITD future plans for implementation measures to support innovation and research

Action	Timeline	Budget	Source of Funding
Continuation of the existing measures for support	2023	16,000,000 €	National Budget
Green Business Facility	2023 – 2025	27,000,000 €	IPA + third parties
Policy Answers Project	2022 - 2025	420,000 €	Horizon Europe - EC

Further plans: Green Business Facility IPAIII 2021: AD for “EU for Green Economy”

Activity 1.1: Establishment of “Greening Business” Facility (2 mil EUR IPAIII)

Advisory assistance to companies, advisory assistance to FITD, promotional activities, policy development

Activity 1.2: Investing in green businesses (18 mil EUR IPAIII + 7 mil national)

The Facility will provide grants, through a competitive procedure (targeted calls for proposals) to selected companies for their projects/initiatives.

The Facility will stimulate the private companies’ investments in area such as: industrial innovation and circular economy, green buildings, clean energy resources and sustainable mobility, sustainable land use and nature, and willingness to apply the EU internal market standards. The gender perspective will also be taken in consideration.

Future plans: Accreditation at the Green Climate Fund



Government Decision No. 31-2220/1, 12.04.2022, assigns the Fund for Innovation and Technology Development as a public entity to be accredited to access the Green Climate Fund.

Application by FITD submitted in April 2023.

Application prepared in close cooperation with the Food and Agriculture Organization (FAO).

Micro projects: up to 20 million €

Expected accreditation results: during 2024

FITD Sources of financing:



Government of the Republic of North Macedonia



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP



PLAN for
ECONOMIC
GROWTH

Partners in development and implementation of programs:

The state of
Israel



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP



USAID
FROM THE AMERICAN PEOPLE

swiss ep: swiss
entrepreneurship
program



British Embassy
Skopje

unicef



Empowered lives.
Resilient nations.

Implementation, enforcement and track record

(FITD Portfolio, April 2023)

919	projects supported under the financial instruments
53	projects supported under thematic challenges
31	granted Innovation Vouchers
100	research projects in PRIMARY AND SECONDARY schools
3	supported FAB LABS
4	MAKERSPACE laboratories at universities and scientific-research institutions
3	Business Accelerators

The total public FITD instruments investment is approximately **71.4 million EUR**, matching approximately **45.4 million EUR** of private investment from the granted beneficiaries.

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REGIONAL COOPERATION

Cooperation in concepting the model of Funds:

- Serbia Innovation Fund
- Innovation Fund Montenegro

Sharing experiences and best practices with institutions:

- Albania, Kosovo, Bosnia and Herzegovina

POLICY ANSWERS – Horizon Europe

- Innovation Vouchers for SMEs in 6 Balkan Countries
- By the end of 2023

Cooperation under the World Bank Investment Readiness Programme for Innovative SMEs in Western Balkans. EBRD within Star Venture Capital. NASA Space Apps Challenge etc.



**THANK YOU
FOR YOUR ATTENTION!**

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