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PROGRAMME
RESEARCH, INNOVATION
AND DIGITALISATION FOR
SMART TRANSFORMATION

Market consultations Report

Financial Instrument "Enterprise Innovation Fund" Program "Competitiveness and Innovation in Enterprises" 2021- 2027 and Financial Instrument "Technology Transfer Fund" Program "Scientific Research, Innovation, and Digitization for Smart Transformation" 2021-2027

April, 2024

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This report (the "Document") has been prepared solely in connection with market consultations as defined in Article 44, Paragraph 1 of the Public Procurement Act ("PPA") and in fulfillment of the conditions laid down in Article 44, Paragraph 3, Item 1 of the PPA in connection with the financial instrument "Enterprise Innovation Fund", financed by the "Competitiveness and Innovation in Enterprises" Program 2021-2027 ("PCIE"), and the financial instrument "Technology Transfer Fund" (TTF), financed by the "Scientific Research, Innovation, and Digitization for Smart Transformation" Program 2021-2027 ("SRIDST"). This Document should not be used for other purposes.

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Table of Contents

Introduction	3
Participants	4
Market opportunities	5
Main risks.....	6
Target investments segment	7
Investment strategy and structure	9
Summary	17
Appendix 1	19

Introduction

This report was prepared based on Article 44 of the Public Procurement Act (PPA) in connection with the structuring of the following financial instruments (FI):

- "Enterprise Innovation Fund", financed under the "Competitiveness and Innovation in Enterprises" program 2021-2027 (PCIE), Priority 1 "Innovation and Growth", Specific Objective (i) "Development and enhancement of the capacity for scientific research and innovation and the introduction of modern technologies", directly related to achieving smart growth and the development of the economy through the promotion of the creation and use of innovations by enterprises;
- "Technology Transfer Fund", financed under the "Scientific Research, Innovation, and Digitization for Smart Transformation" program 2021-2027 (SRIDST), Priority 1 "Sustainable Development of the Bulgarian Scientific-Research and Innovation Ecosystem", Specific Objective (i) "Development and enhancement of the capacity for scientific research and innovations in the introduction of modern technologies", directly related to increasing the size of investments through the application of new financing models in the field of scientific research and innovation.

In connection with defining the parameters of the subject of the public procurement for each of the two FIs, the following documents were published on February 16, 2024, on the Buyer Profile in the Centralized Automated Information System for Public Procurement (CAIS EOP):

1. Invitation to participate in market consultations;
2. Indicative technical specification for the "Enterprise Innovation Fund";
3. Indicative technical specification for the "Technology Transfer Fund";
4. Presentation of the main parameters of the two financial instruments.

The invitation indicated that the market consultations would be conducted in the form of structured meetings from the publication of the invitation until March 8, 2024, at the FMFIB office located in Sofia, at 19 Karnigradska Street, floor 2. Due to the heightened interest in the consultations, the deadline for conducting them was extended by a decision of the FMFIB Management Board until March 15, 2024.

The invitation included a link to an electronic schedule where participants were required to register in advance.

To attract the interest of the widest possible range of potential stakeholders, the process of conducting market consultations was initiated with the publication on FMFIB's corporate page of an announcement accompanied by marketing materials, including indicative technical specifications and presentations for the two financial instruments. Additionally, the start of the consultations was reflected in the company's profiles on social networks (Facebook and LinkedIn), as well as through communication channels of partner organizations.

For the publicly provided opportunity to participate, FMFIB sent invitations to a list of identified stakeholders, and from February 19 to March 15, 2024, 41 individual meetings were held with local and international organizations, private individuals with private interests, including more than 10 professionals in investment fund management, including fund managers with a mandate to manage FIs under the Operational Program "Innovations and Competitiveness", investors, and ecosystem participants.

The list of participants in the market consultations is attached to this report (Appendix 1).

FMFIB will be the main investor in the two FIs "Technology Transfer Fund" and "Enterprise Innovation Fund". The instruments require a combination of public funds and private financing. The funds will invest in a diversified portfolio of equity or quasi-equity investments, with no pure debt form, to support the development of the innovation capacity of companies in Bulgaria and improve the conditions for conducting technology transfer.

FMFIB conducted market consultations to gather feedback from a wide range of stakeholders, inviting experts in the field of venture capital and the scientific community to gain a better understanding of the state of the

innovation and scientific research ecosystem and market needs in relation to the opportunities for creating spin-off companies arising from scientific organizations and commercialization of products and services with innovative potential, including those arising from scientific organizations. The market test aims, considering the needs and potential of the prevailing market environment, to assist in optimizing the conditions and structuring of the FI "Enterprise Innovation Fund" and FI "Technology Transfer Fund."

Participants

For the market consultations on structuring financial instruments, FMFIB conducted a preliminary analysis to identify potential groups of interested parties, including potential Financial Intermediaries (FIs), research organizations, academic institutes, technology centers and laboratories, intellectual property and knowledge transfer experts, and innovation implementation and analysis experts, based on certain individually applied criteria, the main ones being:

- Experience in financing enterprises that develop and/or implement innovations;
- Experience in financing enterprises that carry out technology transfer and/or develop products and services in cooperation with scientific organizations, and/or based on protected intellectual property rights;
- Experience with managing equity and quasi-equity investments;
- Presence or interest in Bulgaria and/or the Central and Eastern Europe region;
- Application of a strategy and process for identifying End Recipients (ER);
- Application of transparent market practices; and
- Existing market reputation.

As a result of the preliminary analysis, several groups of potential persons were identified who could offer substantial and applicable comments on the structuring of FIs:

- Investment professionals in existing investment fund managers, focused, but not exclusively, on investing in innovative enterprises and those conducting technology transfer;
- Heads of associations;
- Representatives of the academic and scientific community;
- Experts in the development and transfer of innovations and knowledge;
- Potential investors; and
- Entrepreneurs and other market participants.

To obtain the most complete and consistent feedback, the meetings were conducted in the form of structured interviews following a pre-prepared questionnaire. The main topics that FMFIB aimed to cover in the process were based mainly, but not exclusively, on the standards of good governance of InvestEurope/ILPA and included:

- Review of the market opportunity offered by the FI "Enterprise Innovation Fund" and/or FI "Technology Transfer Fund";
- Corporate structure and management of the fund and fund manager. Preferred jurisdictions;
- Regimes of state aid;
- Potential investment strategy;
- Optimal approach to raising private capital;
- Details and specifics of the investment process;
- Structure, composition, and optimal competencies of the potential fund manager's team;
- Challenges with the priority goals set by the program regarding territorial and sectoral coverage.

During the market consultations, many stakeholders with diverse profiles participated, including representatives of leading universities, research institutes and organizations, technology transfer offices, and

centers of competence, as well as representatives of mentoring and professional organizations supporting the development of innovations and scientific research from various sectors (robotics, automation, bio and medical research, clean technologies, and others).

Market opportunities

In the context of the Bulgarian economy, where innovation and research activities often face constraints in resources and commercialization opportunities, the transfer of technology can be especially valuable. It has the potential to act as a catalyst for the development of new enterprises, to accelerate the introduction of innovations to the market, and to enhance the competitiveness of the economy. The creation of effective mechanisms and platforms for technology transfer, as well as the support of both the state and private sectors for these processes, can help overcome existing barriers to innovation and unlock the country's scientific and research capacity.

Technology transfer plays a crucial role in stimulating innovation and economic growth as it helps transform theoretical research and innovations into practically applicable solutions that can be commercialized. Additionally, it supports universities and research institutes in finding new sources of funding and strengthens the link between science and business.

Since its establishment in 2016, FMFIB has structured and launched financial instruments that resulted in the establishment of 5 funds for equity and quasi-equity financing under the Operational Program "Innovation and Competitiveness" 2014-2020, aimed at addressing the lack of financing for small and medium-sized enterprises (SMEs). Three Funds for Seed/Acceleration and Start-up Financing (SASF) were created for the early development phase to support the formation and development of sustainable business models and actively participate in the development of the entrepreneurial ecosystem in Bulgaria. For enterprises in the growth and mature development phase, two financial instruments were structured: a Venture Capital Fund (VCF) and a Mezzanine/Growth Fund (MGF). The funds reached over 150 million euros to Bulgarian companies by the end of the investment period in 2023, supporting 327 startups.

In 2019, after market consultations and structuring the "Technology Transfer Fund" under the Operational Program "Innovation and Competitiveness" 2014-2020, Priority Axis 1 "Technological Development and Innovation", a procedure was initiated under the Public Procurement Act to select a financial intermediary to manage the fund. The procedure was prematurely terminated as the economic situation related to the Covid-19 pandemic required all unallocated funds at that time to be redirected to measures aimed at helping SMEs cope with its consequences. In this regard, resources from the Technology Transfer Fund of nearly 29 million euros were proportionally distributed for management to the Seed/Acceleration and Start-up Funds (SASF) and the Venture Capital Fund (VCF) under the Operational Program.

Despite the unrealized potential of the Technology Transfer Fund to improve the link between business and science in the country, FAIF and VCF supported over 30 projects, startups that create and develop products and services based on scientific developments and/or innovations with protected intellectual property.

During this programming period, the FI "Technology Transfer Fund" (TTF) is financed under Priority 1 "Sustainable Development of the Bulgarian Scientific-Research and Innovation Ecosystem", Specific Objective (i) "Development and enhancement of the capacity for scientific research and innovations in the implementation of modern technologies" of the SRIDST 2021-2027, with the main goal of providing support for spin-off companies, startups in high technology, and knowledge-based enterprises as part of industrial startup systems, to assist in turning scientific developments into market-applicable products and technologies, commercialization, and intellectual property management. It will also stimulate the process of unfolding and acceleration of startups around developed industries and clusters for efficient sharing of benefits in the field of scientific research and innovation, benefiting the economic development of the sector and regions in the country.

To date, feedback from market consultations reflects significant progress in the collaboration between scientific organizations and business in Bulgaria, as the ecosystem still strives to overcome previous challenges in achieving more effective interaction for solving business problems through scientific approaches. Research institutions and businesses are now perceived as allies, thanks to efforts to improve their structure, goals, and mission, to work together for innovation. TTF will play a key role in promoting good practices in the field of investment in scientific research and development activities, aiming to increase the economic and technological development of the country. Scientific organizations are actively encouraged to participate in developing new business ideas and generating revenue from them. Most participants in the market tests acknowledge that the links created by TTF between science and business would have a significantly positive impact on innovation and technological potential in Bulgaria, which in turn will contribute to its economic progress.

The FI "Enterprise Innovation Fund" is funded under Priority 1 "Innovation and Growth", Specific Objective (i) "Development and enhancement of the capacity for scientific research and innovations and the introduction of modern technologies" of the PCIE 2021-2027, which directly relates to providing appropriate support in the early stages of enterprise life to ensure sustainable growth and overcome market challenges, successful realization of new business ideas and job creation, support for technological entrepreneurship, and overcoming obstacles to accessing venture financing. The target policy for improving access to financing, as a key factor in building and developing the innovation ecosystem under Specific Objective (i), is based on the lag of Bulgarian SMEs compared to European ones regarding the implementation of innovations in processes, marketing, and organizational structure, whether it concerns in-house innovations or collaborations with other enterprises.

The focus of the "Enterprise Innovation Fund" is to encourage the creation and use of innovations by enterprises, focusing on the early phase, in the form of equity and quasi-equity investments. Through it, investments will be made to implement a new or significantly improved product (goods or service), including processes, new marketing methods, new organizational methods in business practices, workplace organization, or external relations.

Participants in the market consultations noted that SMEs in Bulgaria face challenges in their innovation processes, emphasizing the importance of risk financing as an effective tool to support these activities. They highlighted that although larger companies have easier access to resources for investing in innovations and demonstrate impressive successes in this field, the challenge for startups remains to find suitable sources of funding due to the high risk associated with early-stage investment decisions.

Main risks

During the market consultations, participants identified several key risks associated with the implementation of Financial Instruments (FIs), as well as the management of FIs with public funds in general. Participants identified a major market problem as the existing mismatch between the goals and focus of business activities and scientific organizations, as well as the lack of established lasting and constructive relationships between them, which is a major factor in the low levels of market commercialization.

Another major issue is the lack of specialized fund managers with relevant experience in the field of technology transfer, as well as the highly limiting small scale of the Bulgarian market. Additionally, participants highlighted the high risks of investment loss when funding startups with a low level of Technology Readiness Level (TRL). Also noted was the lack of competent experts to explore innovations, their potential development, and application.

Many participants in the market studies noted their observations regarding the significant shortage of qualified personnel, especially in the less developed regions of the country.

Other identified risks regarding the successful implementation of FIs included:

- Difficulty in attracting private financing at the fund level, given the economic consequences of the war in Ukraine and forecasts of recessionary processes at European, regional, and local levels;
- Difficulties in identifying investment opportunities in the less developed regions of the country, as well as the highly limiting small size of the Bulgarian market;
- The absence of similar financial instruments (specifically TTF), which would prompt the market towards a more stable market orientation and realization of material return on products created based on scientific developments.

According to the feedback received, each of the risks mentioned above could have a negative impact on the overall implementation of the FIs and the achievement of the objectives of the respective programs. Mitigating factors were proposed regarding some of them, which are discussed in the following sections of this report.

Target investments segment

FI "Enterprise Innovation Fund"

The FI aims to provide support for the creation of new and development of innovative enterprises, primarily with a main activity in the high-technology or medium-high technology sectors of the manufacturing industry and knowledge-intensive services, support for ensuring access to R&D and innovations (including through the attraction of foreign researchers), as well as their internal implementation in enterprises with the goal of increasing the number of market-realized 'in-house' innovations. According to the Investment Strategy of the signed Financial Agreement with the Managing Authority (MA) of the PCIE, the focus of the investments will be primarily directed towards enterprises in the early stages of development, supported by the high target number of final recipients (40, half of whom are to be newly established enterprises), and the maximum permissible size of investments of 1 million euros in public resources.

From the perspective of the target segment of the final recipients, market participants identified as particularly important to support innovations that would have a market realization, and given the current situation in the venture financing market, a positive assessment was given to the possibility of overlapping investment opportunities across all venture financing funds under the PCIE 2021-2027 (the 'Entrepreneurship' Funds, those supporting digitalization and projects in Industry 4.0, as well as the Enterprise Innovation Fund).

Definition of Innovation, as well as eligible investments in innovative enterprises

In the indicative Technical Specification for the FI "Enterprise Innovation Fund" provided for market review, FMFIB has defined the term "innovation" according to the Oslo Manual (4th edition), where the concept is set very broadly in order to cover all possibilities for investments in innovations, namely products/services/processes/operational activities, which in turn is a prerequisite for greater diversification of the investment portfolio and supported final recipients, and also achieving the objectives of the operational program.

During the process of market consultations (on March 7, 2024), at first reading in the National Assembly of the Republic of Bulgaria, a draft Law on the Promotion of Scientific Research, and Innovations (LPSRI) was adopted, and Article 2, Paragraph 5 of it provides a definition of "innovation".

The definition in LPSRI focuses on new or improved products or processes that significantly differ from their previous state and that have been made available for use by potential users or have been put into use. This definition emphasizes the significant changes to products or processes that lead to new or enhanced solutions. On the other hand, the definition of innovation according to the Oslo Manual includes the implementation in the enterprise of new or improved business processes (including marketing and organizational), thus expanding the concept of innovation by including not only new or significantly improved products and processes but also

the introduction of new organizational approaches, which may involve changes in business practices, workplace organization, or external relations.

As far as both definitions encompass the core idea of innovations leading to product or process improvements, the main difference between them is that the definition in LPSRI focuses mainly on these two aspects (products and processes), while the Oslo Manual presents a broader view of innovations, including marketing and organizational innovations as separate but important components of the innovation process. In this context, the definition in LPSRI can be seen as part of the broader framework offered by the Oslo Manual, which provides a more comprehensive understanding of the diversity of innovation activities within enterprises and organizations.

In exploring this issue during the market studies, it was confirmed by most of the participants that the broader application of the definition of "innovation" is the most optimal solution, given its broader scope of application. The feedback received shows that while the law may emphasize specific areas of innovation, it is important to consider innovation in its broader context, encompassing all aspects of an organization's activity. According to a small portion of the participants, specifically associations with a specific sectoral focus and scientific organizations, it is advisable to narrow the scope of permissible innovations to be more profiled and targeted at specific sectors. In addition to this, the expert potential in the field and accordingly the capacity and opportunities for analyzing and categorizing innovations when applying the narrower definition were discussed, and the application of this requires specific specialists in the respective field to be provided.

FI “Technology Transfer Fund”

The Technology Transfer Fund is aimed at supporting a specific market segment, focusing on spin-off companies, high-tech startups, and knowledge-based enterprises. The primary goal is to facilitate the transformation of scientific discoveries into commercially successful products and technologies, emphasizing the importance of commercialization and intellectual property management. The Fund plays a critical role in the acceleration and expansion of startups that develop within and around industrial startup ecosystems and clusters, thereby promoting intensive knowledge sharing and benefits from scientific research and innovation.

This strategy not only aids in technological advancement and innovation but also contributes to the economic development of sectors and regions in the country. By stimulating the creation and development of enterprises that are closely linked to scientific developments, the Technology Transfer Fund provides the critical support necessary for overcoming the challenges in transitioning from idea to market. This includes financial support specifically targeted at developments with high commercialization potential and support in managing intellectual property to ensure the maximum utilization and protection of innovations.

Feedback from the market consultations makes it clear that limited funding for scientific research and development from both the public and private sectors represents a significant obstacle to developing modern research infrastructure in the country. This leads to difficult collaboration between the scientific community and business for the practical application of scientific developments, as well as for attracting and even more so for retaining qualified specialists. In response to these challenges, the market underscores the need to enhance technology transfer from public research institutions, improve the functioning of existing technology transfer offices and centers of excellence, and strengthen the connection and interaction among all stakeholders in the scientific innovation process.

Market participants identify a major problem with discovering intellectual property owned by universities, due to concerns from academic institutions about the potential appropriation of their innovations by businesses. In this context, the Technology Transfer Fund could contribute to its effective use to stimulate a change from the long-standing grant culture towards commercial development of the developments and thus, build sustainable competitive advantages. It was noted that such an FI would be useful for changing the standards imposed on the management of technology transfer, with an emphasis on an integrated approach to improving communication within the academic community and strengthening the processes for development, validation,

and commercialization of innovations. Furthermore, participants emphasized the need for clearly defined conditions for collaboration between scientific institutions, investors, and business, to facilitate patenting and market realization of inventions.

Regarding the collaboration between research organizations and business, the numerous Technology Transfer Offices (TTOs) created several years ago were also discussed, with the prevailing opinion being that they still lack sufficient capacity and expertise. Universities and their TTOs often face challenges related to the commercialization of scientific developments, due to a limited understanding of market processes and a lack of strategies for accessing international markets, as well as a complex legislative framework. In many cases, academic institutions perceive the funding of their projects primarily as an opportunity to receive grants, without seeing them as opportunities to develop sustainable business models. This perspective limits the potential for using innovations in a practical, market-oriented environment. It was identified as critically important for universities and academic centers to actively seek collaboration with business, which can offer not only funding but also practical experience in developing and executing successful business strategies. Such partnerships can significantly enrich the commercialization process, introducing new market skills and distribution strategies that facilitate access to global markets and strengthen the positions of universities as active participants in the business ecosystem. In this way, the academic community can rethink its approach to commercialization, viewing it not only as an auxiliary activity but as an integral part of its mission to increase innovation potential and take an entrepreneurial approach to scientific developments.

Some participants in the consultations paid special attention to the need to focus on intellectual property and the market realization of scientific developments, which play a critical role in transforming innovations into commercially successful products. In this context, protected patents are fundamental to creating value and sustainable competitiveness, not only guaranteeing the legal protection of intellectual property but also serving as a key tool for attracting investments, offering investors visibility into potential returns and growth.

According to some participants, the financial intermediary selected to execute the TTF should pay special attention to considering the market potential of protected patents, and it is important to assess current and future market needs, as well as the potential of the innovation to address these needs in a unique and effective manner. Patented technologies that meet unmet market niches or improve existing products and services have significant potential to generate revenue through licensing, partnerships, and/or direct sales. In addition, for the successful market realization of patented scientific developments, effective interaction between scientific teams and industry is required, using strategic approaches to marketing and sales, developing business models that maximize the value of patents, and building market positioning strategies. Furthermore, the capacity of the financial intermediary to understand the regulatory environment and patent legislation in various markets can significantly impact the commercialization strategy and global distribution of technological innovations.

Investment strategy and structure

FI "Enterprise Innovation Fund"

Structure and design of FI

As part of the market consultations, the FMFIB team presented participants with the concept for structure of the FI "Enterprise Innovation Fund," with maximum committed resource from FMFIB amounting to a total of 32.17 million euros, including management fee for the Fund Manager. According to the participants who expressed interest in this FI, the most optimal option for the implementation of the FI is within a single fund, managed by one financial intermediary, considering the necessary funds from the management fee for the maintenance of a venture capital fund during its investment period. Although FMFIB does not plan to place a restriction on the eligible final recipients in terms of their development stage, it was discussed that the size of

the fund, the number of companies to be supported, and the maximum size of the investment tickets will largely give a natural direction to the FI's focus on supporting enterprises at an early stage of their development.

All participants expressed a positive attitude regarding the presented structure, with the general opinion being that, given the current market situation and the objectives set by the PCIE regarding the sectors of investment within the scope of the ISIS 2021-2027, the expected number of enterprises receiving support, and regional segmentation, the financial instrument is adequate and will assist in the development of companies and the innovation ecosystem in the country. Also, nearly all participants commented that given the total committed resource, splitting the FI into several separate funds would lead to a decrease in interest from potential financial intermediaries in managing it.

During the market studies, representatives of organizations from various sectors and financial intermediaries discussed the possibility of dividing the fund into specific sectors, aiming to ensure the creation of a clear matrix by which different innovations can be surveyed, admitted, and supported. Creating such a mechanism requires specific expertise and a team to provide the relevant research and classification of needs in the different sectors.

Some participants pointed out the important aspects of enhancing the mentoring role of the financial intermediary and suggested establishing a sub-fund to assist and guide the final recipients in the process of developing and implementing innovations. The creation of a pre-accelerator program was discussed, which within a short period would audit and examine the potential opportunity for successful realization and functioning of the entrepreneurial team and the potential for realizing innovations.

Number and size of individual investments (Tickets)

According to the Investment Strategy of the Financial Agreement signed with the Managing Authority of the PCIE, the maximum size of investments in a single final recipient should not exceed 1 million euros of public resources, and for the purposes of the market consultations, an average ticket size of 700 thousand euros was also surveyed. Participants felt that this size of individual investment is reasonable for companies in the early stages of development, but this largely depends on the type of innovation, whether it is "in-house", or a new product/service being developed for the market, as well as the specifics of the sector in which it is developed. An example given was the field of information technology, automation, robotics, where the envisaged amount would hardly cover all necessary aspects for the successful development of the project.

The general opinion regarding the size of the investments was that they reflect the needs of the market, but the need to allocate funds for subsequent investments was also highlighted, aiming for continued support for companies with the highest potential. On the other hand, the higher size of investments in other countries in Europe and the USA was pointed out as a factor that could influence the competitiveness of Bulgarian innovative enterprises in foreign markets.

Geographical scope of investments

The equity and quasi-equity financial instruments implemented to date provide broad support focused on the entrepreneurial ecosystem, which is a prerequisite for achieving one of the main goals of public funding, namely improving market participants' access to financing. Lessons learned, supported by real data about the economy in Bulgaria and the performance of the FI under the Operational Program Innovation and Competitiveness (OPIC) 2014-2020, indicate the need for a balanced and focused territorial distribution of support, strengthening policies based on local specifics that match the local needs and specific potentials of each region in the country. In this regard, for the FI under PCIE, Priority 1 "Innovations and Growth", Specific Goal (i) "Development and enhancement of the capacity for scientific research and innovation and the introduction of

modern technologies", the investments should be distributed equally (50/50) between transitional regions (Southwestern region) and the other less-developed regions in the country.

As a result of the market tests conducted regarding the potential and set goals for achieving 50% of the investments outside the Southwestern region, various comments were given. Many participants expressed the opinion that introducing territorial targeting of investments would have a limiting effect on the organic growth of the entrepreneurial ecosystem, but significant benefits were also mentioned, which would have a positive impact on the less-developed regions of the country. Some of the benefits listed by participants were related to stimulating entrepreneurial activity, ensuring sustainable growth of enterprises, creating new and preserving existing jobs, retaining, and attracting experts and qualified personnel, improving the conditions, and living standards in the respective regions, and creating conditions for reducing demographic decline.

Attention was also drawn to the fact that the planned number of companies outside the Southwestern region to be supported is high and might be challenging to realize.

The existing concentration of professionals in certain regions serves as a guiding mechanism that positively influences the potential for regional targeting of investments. Some representatives of potential final recipients expressed confidence that there are companies with high innovation potential in the less-developed regions. Examples were given and comments were made on private investments already made in innovative projects concentrated in areas outside the Southwestern region.

FI "Technology Transfer Fund"

Structure and design of FI

The Technology Transfer Fund will have resources for investments and a management fee totaling 56.6 million euros of public funds, including grants for non-repayable financial aid.

During market discussions, two options for structuring the Financial Instrument (FI) were considered: the first, splitting the funds into two separate funds, one with a specialized focus on early stages of development (proof-of-concept; TRL 2, 3, 4, and 5) and another to support projects at the "commercialization" stage (TRL 6 and above), managed by different management teams; and the second, consolidating the investments into one fund, divided into two sub-funds covering the entire spectrum from initial development to "commercialization," managed by one manager.

Opinions among participants were divided, with some pointing out that more funds could lead to unnecessary increases in assessments for potential final recipients and thus unwanted market imbalances. Arguments were also made in favor of one fund, divided into two sub-funds, that would integrate investments at different stages of development, thereby facilitating the creation of a diversified portfolio. Others united around the idea of a specialized accelerator fund (for the earliest stages of development) with a more limited resource volume, which would feed investments into the "commercialization" fund. Regarding the management of the funds, participants highlighted the challenge for one management team to cover a broad spectrum of investment goals and stages of development, emphasizing the need to adapt to the specific requirements of different phases of business growth.

Grant component

According to the Investment Strategy, part of the Financial Agreement signed between FMFIB and the Managing Authority of SRIDST 2021-2027, the FI is to be implemented in combination with a non-repayable financial aid (grant) amounting to approximately 9.4 million euros, including in one operation, where the size of the grant cannot exceed the funds for the investment and the operation is carried out under the rules of the financial instrument (i.e., supported activities must comply with the Eligibility Requirements).

As of now, there is no similar product on the market that combines equity or quasi-equity investment with a grant. Therefore, significant emphasis was placed on the application of the grant component of the FI during meetings with stakeholders. Considering European practices, FMFIB has identified several opportunities for applying the grant as follows:

- Technical Assistance Grant - for early developments (proof-of-concept; minimal viable product), capacity building, licensing and patents, market testing, business plan preparation, Technology Readiness Level (TRL) assessment, etc.;
- Convertible Investment Grant - where, in the case of successful implementation/development of the project/technology, the grant converts into a share of the company's equity, and the funds can be used to finance costs for acquiring long-term tangible and intangible assets designated for R&D, etc.;
- Accelerator Program - a specialized program aimed at supporting and accelerating the development of startups in the early stages of development based on scientific developments, aimed at transforming innovative scientific ideas into successful and market-oriented enterprises by providing comprehensive support, including funding, mentoring, training, and access to a broad network of business partners and investors.

Market participants' opinions were divided, as some saw the most logic in supporting early developments (proof-of-concept; minimal viable product), capacity building, licensing and patents, market testing, business plan preparation, TRL assessment, which would be performed through technical assistance and improve the connection between business and applied science, intended for scientific organizations, as they lack capacity and specialists, especially in the area of intellectual rights.

Another group of participants supported the idea of an accelerator program, which could offer a number of key benefits fundamental to accelerating the development and increasing the market potential of ideas and developments originating from professionals in the scientific community, who rarely have the business experience needed for successful market realization. Participants receive not only initial funding and access to additional investments but also mentorship and access to an extensive network of contacts, intensive training, and workshops on critical business areas. Within such a program, opportunities are provided for optimizing developments and transforming them into marketable products/services, increasing visibility, and positioning the startups in the market. According to participants, accelerators play a critical role in overcoming initial challenges and accelerating the success of science-based startups by providing comprehensive support and guidance for rapid market development. Also, the accelerator program would have a significant positive effect on creating and developing ecosystems in less-developed regions of the country.

Another group of participants united around the idea of a convertible (investment) grant, where in case of successful development of the project/technology, the grant converts into a share of the company's capital, for financing costs of acquiring long-term tangible and intangible assets. This type of funding, combined with investment, which provides initial financing without immediate dilution of ownership, allows companies to retain more control over their business while simultaneously offering investors the opportunity to realize the investment based on the project's success. Additionally, the convertible grant encourages the entrepreneurial spirit among innovators and scientific developers, thus effectively contributing to eliminating the prevailing grant culture and stimulating the pursuit of innovations with real market potential.

Geographical scope of investments

As mentioned earlier regarding the territorial distribution of the FI under PCIE, the balanced distribution of resources and targeting of policies adapted to the specific needs and opportunities of different regions is also enshrined in SRIDST 2021-2027. According to Priority 1 "Sustainable Development of the Bulgarian Scientific Research and Innovation Ecosystem," Specific Objective (i) "Development and enhancement of the capacity for

scientific research and innovation and the introduction of modern technologies" of the Program, at least 55% of the investment funds are to be distributed to less-developed regions in the country.

Representatives of scientific and academic organizations shared that they see potential in collaboration with the business not only in the Southwest Region but also beyond it. Good practices in Plovdiv, Sliven, Gabrovo, and other cities in the country were examined, and it was also noted that the majority of research universities in Bulgaria are outside the Southwest Region.

As for the "Enterprise Innovation Fund" and the innovation potential of enterprises in less-developed regions of the country, as well as the possibility of generating a viable pipeline of investments outside the Southwest Region from the TTF, the opinion prevails that in order to develop innovations and technology transfer, it is necessary to significantly improve the living conditions and infrastructure in these regions to attract and retain high-quality personnel.

On the other hand, attention was drawn to the fact that regional organizations actively working in less-developed regions support development at the local level and are familiar with the difficulties faced by the scientific research community and the entrepreneurial ecosystem. It was recommended to establish connections with such organizations to better target investments.

Development stage

In terms of final recipients, the TTF has a very broad investment scope that aims to support enterprises at various stages of their development, not limited by their size. The investment focus of the TTF is directed in two directions: initial support for projects at the earliest stage of development, primarily for proof-of-concept (TRL 2-5) and investments at a more advanced stage (TRL 6 and above), aimed at commercializing products and services based on scientific research and innovations.

Given that there is no FI like the TTF in the market, participants united on the good applicability of the defined stages of development of the companies to be financed, thus encouraging investment in innovative developments at the earliest stage of development and subsequently supporting the actual performance of technology transfer. Participants in the consultations support this approach, believing that the highest return is achieved when focusing on companies in the initial phase and those that are at a more advanced stage and ready for commercialization. Representatives of the scientific community emphasize the importance of considering the technological readiness of the projects, noting that higher levels of technological readiness reduce the investment risk. Ultimately, the success and growth potential of enterprises must be assessed based on their market outlook and business model.

Number and size of individual investments (Tickets)

Regarding the number and size of individual investments (Tickets), according to SRIDST 2021-2027, one of the main indicators for the performance of the FI is the number of companies it supports.

Regarding the minimum number of 57 enterprises that should be supported within the investment period until the end of 2029, participants united around the opinion that this represents an ambitious task, given the need for intensive strategic support and other specifics of risk financing. Such a large commitment requires an in-depth assessment of the potential of each company, as well as adaptation to the dynamic market conditions and the specific needs of science-based enterprises. Developing personalized support strategies and monitoring progress is critical for ensuring successful realization and maximizing the return on investment. The main thesis expressed by participants was that the commitment to support such a large number of companies requires careful planning and precise expertise to ensure that each investment contributes to the overall strategy for technology transfer and innovative development.

Regarding the size of individual investments, FMFIB presented to participants in the market consultations a concept for the average size of investments in the stages of development to be supported with the FI "Technology Transfer Fund" under SRIDST, as follows:

- Accelerator program (acceleration) – 150,000 euros;
- Early stage (Pre-seed/Seed) – 1 million euros;
- Commercialization – 2.5 million euros;

These average sizes are determined based on lessons learned in the implementation of the FI under OPIC 2014-2020 and are aligned with market practice for investments in companies from various sectors developing products/services based on innovations or scientific developments. According to the Investment Strategy of FMFIB, part of the signed funding agreement with the Managing Authority of SRIDST, the range in which investments can be made by the TTF is between 25,000 euros and 5 million euros of public resources.

Considering the specifics of investments in technology transfer, participants in the market consultations defined them as adequate and in line with market needs, noting that their applicability will largely depend on the sector in which the project is being developed. Examples were given of companies developing deep tech solutions, as well as those aiming to create and commercialize innovative solutions in the healthcare sector, which would require significantly higher levels of funding. Nevertheless, the prevailing opinion is that the values are suitable for initial investments and that to ensure sustainable development of an enterprise, sufficient funds should be provided for subsequent investments.

FI "Enterprise Innovation Fund" and FI "Technology Transfer Fund"

Sectors of investment

Projects supported by the Technology Transfer Fund and the Enterprise Innovation Fund should focus on the areas defined by the Innovation Strategy for Smart Specialization of the Republic of Bulgaria for the period 2021-2027. During the meetings held by FMFIB, some participants had a pronounced focus on key sectors such as mechatronics, healthcare, mechanical engineering, biotechnology, the chemical industry, clean technologies, and robotics. Participants were united in the opinion that the Strategy provides a comprehensive set of directions that will facilitate the investment strategy of financial intermediaries and will have the opportunity to support a wide variety of companies.

Private capital

During the discussion on the need to mobilize additional capital from independent private investors at the Fund level, some participants united around the position that the dynamics of the current economic environment at national and global levels, combined with unexpected force majeure situations (the consequences of Covid-19 and the war in Ukraine), could significantly limit the potential for attracting private capital, both from Bulgarian and international investors. This is particularly relevant to investors seeking opportunities in the sector of applied scientific research and technological innovations, given their characteristically high risk. Such a perspective imposes an additional need for strategic planning and innovative approaches to attracting and managing investment capital in the complex and rapidly changing economic conjuncture.

Regarding the TTF, participants believe that the grant component could significantly increase the interest of private investors in the FI, both at the fund level and at the level of the final recipient.

State Aid Regime and Risk Sharing Mechanism Among Investors

When structuring FIs financed by European Funds under shared management (EFSI), as well as from the state budget, it is necessary to comply with the applicable requirements of the state aid rules. This was one of the

main elements that were examined during the market consultations, and for both FIs, "Technology Transfer Fund" and "Enterprise Innovation Fund," the following regimes were discussed:

- De minimis aid regime in accordance with the de minimis Regulation for investments, incl. subsequent, together with other received de minimis aids, no more than 300,000 euros for a period of three years before the date of granting the aid;
- "Non-aid" regime when support is provided under market conditions; and
- State aid regime in accordance with the General Block Exemption Regulation (GBER), where financial instruments must meet the requirements of Art. 21 ("Aid for risk finance") or Art. 22 ("Aid for start-ups").

Participants with investment experience and especially those with the management of investments with public funds confirmed the benefits and applicability of the de minimis Regulation, especially for investments in enterprises at an early stage of development and the possibility of not requiring additional private funds beyond the participation of the fund manager.

The need to attract at least 30% private funds on a pari passu principle at the Final Recipient level when applying the "non-aid" regime for investments over 300,000 euros was discussed from the perspective of the high-risk profile of the investments and the additional market validation given to projects with the attraction of independent private investors.

As an additional option, the application of the state aid regime according to the requirements of the GBER was considered, where financial instruments should either meet the requirements of Art. 21 ("Aid for risk finance"), where raising private capital between 10% and 30% is necessary, depending on the development stage of the final recipient, or Art. 22 ("Aid for start-ups"), which does not require securing additional private capital beyond the participation of the fund manager.

In these GBER regimes, the possibility of asymmetric distribution, both revenues and the risk, is introduced, which according to participants with investment experience would make the instruments more attractive and would significantly improve the opportunities for attracting private funds. A potential downside highlighted was the possibly greater administrative burden that would arise in surveying the additional requirements of Art. 21 and Art. 22 of GBER regarding the eligibility of investments and final recipients, which was cited as a main reason for the lower interest in applying this type of aid.

Share of the financial intermediary in the fund's capital

As part of the financial proposal assessment for each candidate managing the "Enterprise Innovation Fund" and "Technology Transfer Fund," the fund manager must commit to a financial stake of at least 1% of the committed resource. Participants discussed a range for the fund manager's participation in the fund's capital, managed by its size up to 7%. According to participants, these levels are slightly lower than market averages, which are appropriate from the perspective of regulating the financial intermediary's risk appetite given the public nature of the funds and the need for their full investment by the end of 2029.

Management Fee

Unlike the 2014-2020 program period, during this multi-year framework (2021-2027), the management fee that the fund manager can receive as compensation for the execution of the financial instrument will be entirely based on the fund's achieved results and formed as a percentage of the funds invested in final recipients during the fund's investment period. The maximum size of the management fee is fixed in the financial agreement and is determined based on the results of the tender procedure for selecting a financial intermediary. This indicator

is examined during the procedure as a key financial parameter, along with the minimum participation of the financial intermediary in the fund's capital and the minimum rate of return, among other financial parameters, at the discretion of FMFIB. Separately, after fixing the parameters regarding the structure of the financial instruments, FMFIB will consider the appropriateness of establishing a limit on the management fee, in accordance with Article 68 (4) of the EC General Provisions Regulation (GPR), which states that the management fee should not exceed 15% for the entire term of the Fund.

In connection with the above, participants expressed the opinion that this fee level is quite low compared to market levels but supported the possibility of providing advance compensation to financial intermediaries based on the achievement of formally set intermediate goals. It was noted that the management fee is an important factor in engaging the interest of financial intermediaries and is one of the main elements through which the financial security of operational expenses is ensured in connection with the autonomy of the intermediaries and the successful management of the investment portfolio.

All participants with investment experience discussed the possibility of receiving a management fee after the investment period, with such a fee being paid only when there are returned funds related to realized exits from investments.

Participants positively assessed the structure of the management fee, without providing additional specific suggestions for changes or adjustments regarding its size.

Minimum Rate of Return

The Minimum Rate of Return (hurdle rate) is one of the elements part of the financial proposal assessment for participants in public tenders for the selection of financial intermediaries to manage funds financed with PKIIP and SRIDST resources. The range of the minimum rate of return that should be achieved by the fund manager for the managed portfolio, from over 0% to 7% annually depending on the investment orientation of the two Funds concerning the development stage of the supported companies, was pointed out as lower than the market averages, but no specific proposals were given for changing the stated values. Additionally, market feedback was that due to the specific orientation of the Funds for innovation and technology transfer and the absence of similar instruments on the market, as well as given the high-risk profile of the investments of TTF and FIP, correspondingly lower levels for the hurdle rate should be envisaged.

Revenue Distribution Cascade

During market consultations, FMFIB provided two main options for revenue distribution. The first is the standardly applied cascade, where after the distribution of funds from realized investments up to the amount invested by the investors and after the payment of the minimum rate of return (hurdle rate) and the catch-up payment, all investors in the fund are entitled to deferred compensation (carried interest) at a ratio of 80:20 (20% for the financial intermediary and 80% for the other investors in the fund). Another option considered was regarding the support from the planned financial instrument for financing projects in an early development stage (proof-of-concept/prototype development) to provide an opportunity for an approach to revenue distribution in the funds that applies on a deal-by-deal basis, based on *pari passu*. Participants united in the opinion that a deal-by-deal cascade for distribution could bring potential for more easily attracting additional private funds at the level of each of the funds, as well as would make the FI more attractive from the perspective of potential financial intermediaries for their management.

Fund Duration and Indicative Investment Schedule

The end of the investment period for the two financial instruments is December 31, 2029, by which all funds must be invested. It was discussed that delays in structuring them and the procedure for selecting financial intermediaries to execute them could significantly compromise the successful achievement of the goals for the number of supported final recipients set in PCIE and SRIDST. Participants in market consultations were positively inclined towards a fund duration of ten years (with the possibility of extension up to a maximum of two years), although according to them, investments in companies with greater technological orientation and

in certain sectors (for example, companies developing deep tech technologies) require the investment of patient capital for development and may require significantly more time for realization. Additionally, regarding TTF, market practice at the European and global levels shows that the average duration of such funds is about 15 years.

Investment Team and Experience

In reviewing the opportunities for forming a management team for the "Technology Transfer Fund," due to the specificity of the FI and the sectors it will support, a large part of the market participants emphasized the need for the team of the financial intermediary to have a person with experience in scientific research to provide expertise regarding the assessment and validation of potential viable projects in the technology sectors.

The need for at least one key person with experience in the commercialization of products and services derived from scientific developments was also highlighted, as this would play an important role in the success of the fund.

Additionally, regarding the "Enterprise Innovation Fund" the need to appoint experts in the field of innovation was also emphasized, but unlike the team of key personnel necessary for the execution of TTF, with "Enterprise Innovation Fund" it is possible to achieve very good results from a team with expertise exclusively in risk financing and engaging a project base of innovation experts. Some participants considered situations where at least one key person should be an expert in surveying innovations and providing opinions on potential investments. As an example, it was shared that a team of 5 key personnel and 3 operational staff could service a portfolio of approximately 35 companies. With the presence of diverse final recipients and more specific economic activities, it may be necessary to attract additional expertise to the team of fund management, through which the necessary capacity is ensured. The financial intermediary should strive to create an optimally balanced team that does not compromise the quality of the investment process and ensures easier execution of the management process. Some representatives of potential financial intermediaries paid attention to some of the criteria by which the experience of Key Persons should be considered. According to them, it is advisable to increase the period of experience considered and to allow experience from individuals. From the participants' side, key aspects were identified regarding the assessment of potential fund managers, as follows:

- Experience with equity and quasi-equity investments;
- Experience in the respective investment segment (early stage/commercialization stage);
- Entrepreneurial experience and/or experience in the commercialization of products/services;
- Successful exits from investments;
- Assessment of the ability to mobilize additional private resources from independent investors;
- Assessment and validation of specialized scientific developments and products;
- Assessment and analysis of the innovativeness of products and processes.

Summary

From February 19 to March 15, 2024, the FMFIB held 41 individual meetings with stakeholders to optimally structure the FI "Enterprise Innovation Fund" under the PCIE 2021-2027 and the FI "Technology Transfer Fund" under the SRIDST 2021-2027. The feedback from the market, summarized in this report, shows that the main goal of these financial instruments is to catalyze the innovation potential and accelerate technological progress in the Bulgarian economy. This emphasizes the importance of synergy between academia and business, and the need for clearly defined conditions for collaboration between research institutions, investors, and businesses to facilitate patenting and market realization of inventions.

The specific feedback from the market consultations outlines a significant improvement in the dynamics of interaction among them; however, there are still significant barriers to the successful development and market realization of products from the academic sectors, which could provide returns to the originating organizations.

Identified risk factors and challenges stemming from the relatively limited size of the national market remain significant obstacles to the effective implementation of the funds.

A main theme of the consultations was the imperative need for market orientation of the country's innovative and scientific potential, as well as strengthening the collaboration between research institutions and the industrial sector as a fundamental element to promote innovation and technological progress.

With the structuring of the two funds and the subsequent achievement of the goals of PCIE and PNIIDIT through them, FMFIB aims to create conditions for improving the environment for the creation and development of new and innovative enterprises, as well as for establishing effective mechanisms and platforms for technology transfer, which will help overcome existing barriers to innovation and unlock the scientific and research capacity of the country.

Appendix 1: List of individuals who participated in the market consultations.

Appendix 1

List of participants in the market consultations:

- Givechev Technology Ltd. - UIC: 207117556
- Iris Solutions Ltd. - UIC: 204997709
- STELION Ltd. - UIC: 206104538
- Blueberry Software Ltd. - UIC: 206335210
- PD Solutions Ltd. - UIC: 202733277
- Paisii Hilendarski University, Office for Technology Transfer
- AlphaStar Ventures JSC - UIC: 206501205
- Sofia Tech Park JSC - UIC: 202099976
- Integrator JSC - UIC: 207573718
- First Investment Bank JSC - UIC: 831094393
- Technical University of Sofia
- Innovation Capital JSC - UIC: 205457880
- Bulgarian Entrepreneurs Association (ASSOCIATION) - UIC: 177239971
- America for Bulgaria Foundation - UIC: 175562698
- Eura Sofia Ltd. - UIC: 207240078
- Sofia International Securities JSC - UIC: 121727057
- Biotechnology and Health Cluster (ASSOCIATION) - UIC: 205448753
- Urban Impact Ventures Ltd. - UIC: 206347419
- Center for Hydro and Aerodynamics, IMSTCHA - BAS
- Agricultural Academy - Sofia
- Kelvin Health JSC - UIC: 206127056
- United States Patent and Trademark Office
- Sofia University "St. Kliment Ohridski"
- Cluster Microelectronics and Industrial Electronic Systems (ASSOCIATION) - UIC: 175862910
- NV Health Ltd. - UIC: 205393716
- Professional Association of Robotics and Automation (ASSOCIATION) - UIC: 205319541
- Water and Energy Savings JSC - UIC: 205954475
- AE SOLAR HORIZON JSC - UIC: 206876073
- Patent Office of the Republic of Bulgaria
- UniCredit Bulbank JSC - UIC: 831919536
- Serdika Capital JSC - UIC: 206307038
- National Center for Mechatronics and Clean Technologies
- Cleantech Bulgaria Ltd. - UIC: 203637577
- LAM'ON Ltd. - UIC: 205345397