**HIGH TECHNOLOGY PARK OF THE KYRGYZ REPUBLIC
CASE STUDY AND RECOMMENDATIONS**

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Executive Summary

The High Technology Park (HTP) of the Kyrgyz Republic was created in 2011 to support the domestic software development industry, grow new and high end Information Technologies (IT), and provide interactive services through IT. From its inception, the HTP residents' revenues grew from USD 3 million in 2013 to USD 15 million in 2020. Despite the pandemic, during which many economic industries faltered, the HTP revenues in the Kyrgyz Republic increased by 20%. More importantly, in the last three years, the share of exports from the aggregate revenues were consistently above 85%. IT exports covered more than 30 countries, including the USA, Kazakhstan, Russia, United Kingdom, and Japan[1].

Drawing from the Kyrgyz Republic's successful experience in building a special legal framework and incentivising mechanisms, this paper aims to describe how to establish an HTP legal framework and institutional setup that incentivizes the growth of IT industries. It discusses associated risks and the ways of managing them, describes high impact interventions that can bolster IT industries, and proposes possible action plans to set-up a vibrant HTP. The paper is intended to be an actionable policy guide for relevant decision makers, development agencies, and the private sector in new contexts.

At the early stages, IT industries face systemic challenges, such as a high proportion of informal IT businesses, a fragmented IT community, IT talent shortages, and other binding constraints. Addressing these constraints requires policies that go beyond building physical technoparks. The HTP Kyrgyz Republic described in this paper is one of the most recent successful examples of establishing such a legal framework and institutional design.

In setting up the legal framework, it is recommended to pass a pertinent legislative package at least at the level of Law. The fiscal mechanisms that incentivize the growth of IT industries have to be identified and agreed upon with relevant authorities. In the Kyrgyz Republic HTP, residents are exempted from Value Added Tax, Income Tax, and Tax on Sales. Residents' employees receive tax benefits in terms of decreased Income Tax (down from 10% to 5%) and decreased Social Security duties (a fixed amount defined annually instead of 27.5%)[2].

It is important to clearly define, in the legislation, industries that will receive government support. Relevant industries can be identified through collaboration with the private sector and analysis of statistical reports provided by authorized government bodies. Ideally, the supported industries will have high potential for growth and historically low deductions to the government budget. Selected industries may include higher valued software development, as well as lower valued backend services through IT (e.g. outsourced bookkeeping, Call Centers). The latter is important at the initial stages of IT sector development, since a larger pool of talent will be able to internalize IT skills and tools in their work.

The geography of the special tax regime should be exterritorial: i.e., without a designated zone. As IT companies require a certain degree of freedom in choosing their work location, the legislation should accommodate such preferences. An exterritorial regime likewise allows IT industries to grow in multiple locations and clusters more organically.

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[1] Latest facts and figures about HTP Kyrgyzstan can be found at: http://htp.kg/news_items
[2] The Law on the High Technology Park of the Kyrgyz Republic can be found at: http://cbd.minjust.gov.kg/act/view/ru-ru/203327?cl=ru-ru (in Russian)

The special tax regime may have definite duration, given that government support mechanisms needed to demonstrate its viability and achievement of results. It is important to clearly define performance indicators that would measure the desired results. Such indicators could be the number of registered IT companies, the number of employees, aggregate revenues, the share and countries of IT exports, and disbursements to the government budget. Setting up the growth expectations for each key performance indicator will identify agreed metrics of success.

Once supported industries are identified, eligibility criterias for IT companies to qualify for the government support are needed. Eligibility criterias may include certification of intended economic activities, both legally and actually (e.g., 90% of revenues from IT services), that have to be within the identified industries. The companies need to be registered within the country where the legislation is being passed, apply to be registered with the HTP, and provide supplementary materials that exhaustively describe the nature of their businesses.

Policymakers can set liabilities for registered companies, once they are registered in the special regime. Those liabilities may include exports requirements, meaning that companies will have to export a minimum share of their IT services. In the Kyrgyz Republic, HTP residents must receive more than 80% of their revenue from exports after 1.5 years. IT companies might also be required to earn 90% of their revenues from the identified industries, file special types of periodical reports about their economic activities, do cashless business, and deduct 1% of their revenues to the HTP Administration. Deductions are needed for effective functioning of the regime and for high impact interventions to accelerate growth. Reasons for deprivation from the special status need to be clearly articulated.

Well thought leadership and management setup will ensure the effective functioning of the regime. Involving important stakeholders into the Board of the special regime will play a critical role in the institutional design of the HTP and ensuring needed representation. A Supervisory Board can be formed with the participation of highly professional government, parliament, and private sector representatives that have strong competence in IT, economics, and jurisprudence. The Board is responsible for registering qualified IT companies, strategic development and general supervision of the functioning of the regime. To support activities of the Board and provide relevant expertise, an Expert Council can be formed with participation of highly professional IT specialists. The Kyrgyz Republic's HTP Supervisory board has 9 members, and the Expert Council consists of 5 members. It is important for these management bodies to develop policies and procedures that would ensure transparent and accountable operations of the regime[3].

HTP Administration, HTP's authorized executive body, ensures the effective operation and functioning of the regime. The Administration needs to be a separate legal entity, registered as an institution, that has financial, economic, and legal independence. The Administration provides organizational, technical, informational, and methodological support for the activities of the Supervisory Board and Expert Council, executes Board decisions, maintains the register of HTP residents, issues certificates, engages with the resident companies on various matters, works with investors and education providers, and performs other activities to bolster the growth of the IT sector within its allocated budget. The Administration is led by a Director, appointed by the Supervisory Board for a four-year term. The Director executes

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[3]The Kyrgyz Republic's Government Resolution on the HTP can be found at:
http://cbd.minjust.gov.kg/act/view/ru-ru/93557?cl=ru-ru (in Russian)

an approved annual plan within an allocated budget, approves staff structure, hires employees, presents annual reports to the Supervisory Board, and performs other duties.

The Administration performs registration and compliance checks of IT companies in the regime, as well as high impact programmatic activities that help accelerate the growth of the IT sector. Programmatic activities can be divided into four domains: 1) supporting IT companies and startups; 2) development and acquisition of IT talent; 3) creating an enabling physical environment; and, 3) strengthening connections to international IT value chains.

Supporting IT companies begins with providing exhaustive information about the special regime. There are many uncertainties that the IT companies face before registering, and the Administration should be able to guide them on such matters (e.g., legal). Once a critical mass of IT companies are registered within the regime, the Administration can facilitate knowledge and experience sharing among the companies and beyond. Activities related to IT community building play a crucial role in catalyzing growth within the IT sector.

Special emphasis should be placed on the Software Development industry, which creates clusters around itself. Supporting this industry will spur growth and interest in IT education, accelerate domestic digitalization, increase the quality of IT specialists, and develop domestic IT products. Product development will play an important role in switching to highly marginal global markets, thus the Administration needs to actively partner with and build up specialized incubation and acceleration programs. It is likewise important to facilitate mentorship networks and access to venture capital.

Within the domain of IT Talent development, the Administration's main task is to drive significant interest in IT, especially among young women and men. The Administration and IT community can collaborate by holding information campaigns that emphasize high earning opportunities and international exposure within the IT sector. High interest in pursuing a career in IT will help increase demand for IT education. The Administration can work with the private sector to respond to this demand, which can yield quicker results in IT course development, given the private sector's high adaptability, academic freedom, and ability to pay higher salaries to tutors. Collaborating with formal education institutions will have broader effects given their access to a large pool of students.

Creating enabling physical infrastructure to support IT industries does not imply building investment heavy technoparks. The Administration can work with the private sector, universities, and development agencies, in creating a favorable physical environment for IT companies. An expanding IT industry means that more people are being hired, and subsequently, more office space is needed. IT companies might have multiple preferences with regards to office spaces, including the ability to organize and participate in IT-related events, communicate with peer IT companies, the existence of conference halls, meeting rooms and a coffee shop, and other amenities. The HTP Administration can communicate such joint preferences of the IT sector to landlords that specialize in such businesses.

There are ample opportunities for improving the participation of HTP residents in global value chains. This includes organizing events to increase competence of IT companies in lead generation and sales. Events can include topics related to finding and increasing sales on platforms such as Upwork, Clutch, and Toptal. Organizing international conferences to market domestic IT companies can increase the country's visibility.

Strengthening a banking system that complies with the Financial Action Task Force (FATF) standards, partnering with intermediary banks in developed countries, especially the U.S., and accelerating the integration to international financial and payment systems, are all essential for creating frictionless partnerships between domestic IT companies and international customers.

The last section of this paper provides an action plan for building an operational HTP regime that can be divided into three main stages. The first stage involves establishing an HTP working group that will collectively identify IT industry needs, supported economic activities in the IT industry, fiscal mechanisms, registration eligibility criteria, management structure, and other configurations of the HTP regime.The second stage involves activities required to develop and pass the HTP legislation package. In this stage, authorized government entities need to develop discussed legislation and work with the legislative body to pass all due processes. After passing the legislation package, the third stage involves activities to launch and ensure the proper functioning of the HTP regime. At this stage, it is needed to develop a charter, policies and procedures, and other documents that would regulate operations of the HTP. This paper provides insights for each of these stages of HTP development.

Introduction

Policy mechanisms that stimulate the growth of innovation and the Information Technologies (IT) sector are not straightforward. At the early stages, the IT sector faces challenges such as a high proportion of informal IT businesses, fragmented IT community, IT talent shortages, and other binding constraints. Addressing these issues requires policies that go beyond physical technoparks and that provide a special legal framework for, and support to, the IT sector to consolidate and grow. One such policy model, the High Technology Park of Belarus, introduced in Belarus in 2005, provided a special legal and tax regime for IT companies, and resulted in the growth of IT exports from 22mln to 2.7bln USD in 15 years[4].

Learning from the success of Belarus, the Kyrgyz Republic passed its own legal framework in 2011, establishing the High Technology Park (HTP) of the Kyrgyz Republic. Within this special regime, IT companies can gain exemptions from three main taxes (VAT, Taxes on Sales and Profit), and significantly decrease payroll taxes (Income Tax and Social Security Duty). With its unique institutional design and active administration, the HTP can significantly contribute to the development of the country's IT sector[5].

From the HTP actual launch in 2013 to 2020, residents' revenues grew from USD 3 million to almost USD 15 million. Despite the COVID-19 pandemic, during which the majority of economic industries faltered, the HTP revenues in the Kyrgyz Republic increased by 20%. More importantly, in the last three years, the share of exports from the aggregate revenues were consistently above 85%. IT exports covered more than 30 countries, including USA, Kazakhstan, Russia, United Kingdom, and Japan. The services provided by the residents in 2020 covered Software Development (above 65%), Interactive Services (above 15%), Technical Support (above 6%), and Computer Animations (above 5%), among others. The number of operational HTP residents grew to 73 (65% growth in the last 3 years) and residents' employees totaled nearly 700 specialists (20% growth over 3 years). Payroll tax

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[4] Belarus HTP exports growth can be found at: https://park.by/en/htp/about/
[5] The Law on the High Technology Park of the Kyrgyz Republic can be found at: http://cbd.minjust.gov.kg/act/view/ru-ru/203327?cl=ru-ru (in Russian)

payments for government increased on an average of 30% YoY over the last three years, reaching almost USD 500,000 in 2020[6]. This is a considerable increase given negligent taxes were paid by the listed industries before the establishment of the HTP.

Drawing from the Kyrgyz Republic's HTP experience, as a case study of the potential for growth of IT exports with the right policy framework in place, this paper aims to guide policymakers in creating a special tax regime and robust institutional setup that would incentivize the growth of a nascent IT industry in a new context. The paper is laid out in three sections, and is intended as a case study of HTP Kyrgyz Republic and an actionable policy guide for relevant officials, development agencies, and the private sector.

Section 1 includes a detailed description of the legal framework and institutional design of the special tax regime, explanation of the HTP's governance and management requirements, and analysis of the associated risks and risk management measures.

Section 2 includes recommendations for HTP administrators on building the HTP ecosystem to accelerate the growth of the IT industries. The section outlines actions related to the support of IT companies and Startups, IT talent acquisition and development, creating favorable physical infrastructure, and strengthening participation in global IT value chains.

Section 3 lays out an action plan and steps required to create the legislation and functioning of the special legal and tax regime. This section also includes an estimated budget to kick-start the special legal regime.

Section 1: The HTP Legal Framework

Legal Framework and Government support of the IT cluster

Government authorities have a number of instruments they can use to support the growth of the IT sector based on available resources, ranging from the development of costly science/techno parks, to the establishment of more cost-efficient special legal regimes for companies within the selected industry. The performance of science/ techno parks has shown mixed results within the international experience[7], whilst the establishment of a country wide special tax regime has proven remarkable growth of the IT sector. Belarus is an excellent example of the latter.

In 2005, in Belarus, a HTP was created and has since become one of the leading IT clusters in Central and Eastern Europe. In the last three years, HTP annual IT exports grew by 40% on average, reaching USD 2.7 billion in 2020. During the same period, the number of HTP residents grew fivefold from 192 to 1021, adding more than 37,000 employees. With a total of 69,000 employees, HTP residents now contribute 4% of Belarus's GDP[8].

Using the Belarussian HTP model and other international practices, in July 2011 the Kyrgyz Republic established its own special legal and tax regime to stimulate the growth of its high-tech industry, with a special emphasis on sectors such as software development and

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[6] Latest facts and figures about HTP Kyrgyzstan can be found at: http://htp.kg/news_items
[7] Policies to promote collaboration in science, technology and innovation for development: The role of science, technology and innovation parks. (UNCTAD 2015) - https://unctad.org/system/files/official-document/ciid30_en.pdf
[8] Belarus HTP introduction - https://park.by/en/htp/about/

interactive service centers (Annex 1). Since then, the HTP special regime has demonstrated significant results in stimulating the growth of the IT sector[9].

While setting up the legal framework for a special legal and tax regime to stimulate the growth of the IT sector seems to be a relatively easy task, important considerations need to be taken to maximize the effectiveness of the regime, ensure institutional sustainability and proper implementation of the legal provisions.

The status of the legal framework of the HTP

Identifying the right status of the legal framework is important to provide the basis for specific intervention mechanisms. In the Kyrgyz Republic, the HTP regime was passed as a Law, and relevant amendments were introduced in the Tax Code and Law regulating Social Security tariffs, to provide a legal and tax regime for registered resident companies. The Law status of the HTP regime inspired confidence in the private sector about the long-term commitment of the government of the Kyrgyz Republic's to the IT sector[10].

HTP special tax and legal regime

It has been demonstrated that a special tax regime for qualified IT companies stimulates the growth of the IT sector, and there are multiple ways to design the tax regime. The HTP of the Kyrgyz Republic provides the following tax exemptions for resident companies to encourage and promote the growth of IT companies:

1. Tax on profits
2. Tax on sales
3. Value Added Tax

Additionally, HTP provides tax benefits for employees of resident companies, whilst income tax is decreased from 10% to 5%. The amendment of the Social Security Tariffs Law is a further incentive. The normal contribution to the Social Security Funds entails companies paying 17.5% from salaries paid, and employees paying 10% from salaries received. Under the HTP regime, companies pay a fixed amount for each employee per month, calculated from 12% of the average monthly salary identified by the Social Security Fund authorities annually. This means that companies and employees receive considerable deductions.

Income tax and social security benefits have the greatest impact, since in the IT industry, especially for software development companies, the majority of costs comprise payments of salaries to employees. Thus, the IT companies are incentivised to report their actual employee payrolls without fear that they will incur significant tax costs. As a result, listed tax exemptions and benefits increase the quality of financial reporting to the tax authorities and contribute to the transparency and accountability of companies' operations. That in turn increases credibility with international clients and further drives the growth of IT companies.

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[9] In the last three years, average YoY growth of aggregated HTP revenues and residence constituted more than 30%, from around 7M USD (2017) to 15M USD (2020).
[10] The Law on the High Technology Park of the Kyrgyz Republic can be found at:
http://cbd.minjust.gov.kg/act/view/ru-ru/203327?cl=ru-ru (in Russian)

Types of industries supported within the HTP

Once the incentivizing fiscal mechanisms (tax benefits) have been worked out, it is important to identify the companies who would benefit from these mechanisms. On one hand, there are already thriving companies[11] that pay duly taxes and thus providing fiscal benefits might be unnecessary. IT companies, especially in the Software Development industry, that are struggling to formalize and are constrained by the general tax regime, would need government support and thereby benefit from such a tax regime. Policymakers should analyze data from the National Statistical Authorities to see which IT industries, whilst not significantly contributing to the tax revenue under the normal structure, have high growth potential. These would profit from the proposed tax regime and would likely contribute to increased tax revenues in the medium and long term.

In the case of the Kyrgyz Republic, three industries (economic activities), listed below, were selected for the HTP regime.

1. Software development, including: analysis, design and programming of information systems, including those ready for implementation, analysis of information needs and problems of users, design, development, delivery and documentation of individual and / or finished software, including those that meet orders of specific customers adjusting programs as directed by the user[12];

2. Export of information technology and software[13];

3. Creation and provision of services of interactive service centers[14].

These industries include companies and groups of IT specialists with high growth potential, and revenue streams largely from international markets as determined by Government and industry experts, that initially do not contribute significant amounts to the state tax revenue. Whilst groups of IT specialists tended not to register as a company, existing companies were reluctant to report their actual revenue and pay taxes. As a result, the IT industry struggled to grow further, since many of these companies were unable to take on larger projects from international customers that were subject to strict compliance policies.

The HTP regime primarily targets such companies and groups of IT specialists and incentivizes them to establish healthy businesses complying with international requirements. After registration in the HTP, these companies were able to include NDAs in employee contracts, keep an official track record of their operations, and issue financial documents through valid bank accounts. This has greatly strengthened these companies and elevated their competitive position in the international market.

It should be noted that providing back-end services through IT involves a broad range of economic activities such as accounting, human resource management, and customer relations management and support. Such services, when enabled through IT, have a high export potential but relatively low entry level requirements for employees. For example, call center services, which are included in the Kyrgyz Republic HTP. Residents within this industry can

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[11] For example, Information Communication Technology (ICT) subsidiaries of large national corporations in Banking and Energy sectors.
[12] For example, Software Development Outsourcing companies.
[13] For example, companies that generate revenue from selling software and digital products abroad.
[14] For example, companies that are providing call center services to other countries.

train call center operators in a relatively short period of time and provide their services to foreign countries. There are many other services which fall into this category.

Geography of the HTP regime

Traditionally, special economic zones tended to have a determined area to stimulate the growth of specific geographical locations where certain manufacturing facilities were established. In comparison, IT industries do not require specific geographical zones, and can hire IT specialists and establish branch offices in a wider zone, which provides more opportunities. The HTP regime in the Kyrgyz Republic is exterritorial, which means that IT companies are exempt from the territorial jurisdiction and can operate from anywhere within the territory of the country and have residence in the HTP regime. This is important because IT companies want to be mobile in establishing and expanding their company. The exterritorial condition of the HTP regime also encourages the growth of the IT sector in smaller cities and regions of the country. The emergence of IT companies in smaller cities may take a longer time, but in the Kyrgyz Republic a number of IT professionals from abroad decided to establish a company within their own city.

It should be emphasized that while the exterritorial condition gives freedom of mobility for HTP residents, it is important to achieve a critical mass of IT companies in close proximity to each other, to allow more networking and collaboration for greater IT development. In the Kyrgyz Republic IT companies are naturally concentrated through the private sector,[15] especially in Bishkek. The importance of physical infrastructure in consolidating the IT sector will be further discussed under the "enabling physical infrastructure" section below.

Duration of the HTP regime

In the Kyrgyz Republic, the duration of the HTP regime is 15 years from the creation of HTP, thus the regime is scheduled to end in 2026. This limitation was set as a test, to determine whether the HTP regime would have a significant impact on IT sector development in a given period of time. The HTP regime can be extended if it demonstrates viability and success. In Belarus, the HTP regime has been extended until 2049.

Eligibility of IT companies for the HTP regime

After determining fiscal mechanisms, scope and geography of the HTP regime, it is important to define eligibility criteria for registration. These include:

1. Existing or intended business activities have to be within the domain of economic activities identified in the law of the country. An existing company must show 90% of its revenue as arising from one or more of the HTP economic activities.

2. The company has to be officially registered within the country.

3. The company has to file a special registration application in order to become the resident of the HTP.

IT companies must provide relevant documents to prove compliance with the above eligibility criteria, and exhaustive background information.

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[15] For instance, Ololohaus is playing a major role in bringing IT companies together: http://ololo.city/

The registration process which can take up to a month to process, is a two step process. Preliminary registration is valid for 6 months. Upon verification that the company operates within the identified economic activities and has valid revenue streams, registration is extended until the end of the HTP regime period.

It is expected that at the initial stages existing and operating companies will be registering to the HTP, while in the later stages most of the registered companies will be new.

It should be noted that electronic HTP application and registration can play instrumental role in the information exchange between HTP, legal entity registration, and tax authorities and significantly simplify and accelerate the registration processes.

Legal liabilities of the HTP resident companies

After registering, IT companies incur a number of legal liabilities that are identified in the HTP legislation and are mandatory, in order for them to retain their HTP resident status. Legal obligations include:

1. Registered companies have to pass accounting tax registration with the tax authority, and duly provide tax reporting and make tax payments.

2. At least 90% of the company income is derived from economic activities that fall within the three listed industries(page 8). This is important to ensure that companies are not swayed to other economic activities while enjoying HTP privileges.

3. All the revenue payments of the IT company have to be done on a cashless basis. This is important to track from which economic activities and from where revenues were formed using transactions of a bank account.

4. A year from the final registration, at least 80% of the income of the HTP resident company should be from the export of goods and services. Compared to the Belarus HTP (where exports are 90%) and similar regimes in other countries, 80% requirement is not considered too ambitious, while it should be noted that the level of export requirement is subject to in depth IT industry research.

5. HTP residents have to submit quarterly reports on their economic activities, which must be certified by an annual independent financial audit.

6. HTP residents must make quarterly deductions in the amount of 1% of their quarterly proceeds from their activities. These payments are required to finance the activities of the HTP authority.

HTP residents may be deprived of their resident status for the following reasons:

1. Based on a statement from the HTP resident;

2. Failure to fulfill the liabilities mentioned above;

3. In case of liquidation (termination of activity) of HTP resident.

All rights and obligations of HTP residents and other legal aspects are determined by a template agreement, signed between HTP authority and the company. If the HTP resident company loses its HTP status, the agreement is terminated.

HTP Governance and Management

The preceding section described the legal framework for the HTP regime, including details on fiscal mechanisms, priority industry support, and liabilities of resident companies. However, it would be hard to put into effect the described legal framework without proper leadership and institutional setup that ensures the sustainability of the HTP regime, transparency, and accountability of HTP operations, and most importantly trust of the private sector and general public. While there is natural competition between the private sector that tries to cut costs, whilst authorities seek to increase government revenues, it is critical to set up a win-win arrangement for both sides. That requires close collaboration of private and public sectors in establishing the leadership of the HTP regime.

<u>Leadership and Institutional Setup</u>

On the question of leadership of the HTP, the best solution is to have representation from both the private and public sector, as it is clear that both are needed for an effective HTP regime. Leadership from the private sector is important to voice the needs of the industry, bridge IT companies with the HTP regime, and pursue long-term growth. The private sector is usually represented by associations. Leadership from the public sector at the highest possible level is just as important for the HTP to ensure effective coordination with the President's office, Government authorities, Legislature bodies, and other relevant decision-makers. While industrial development falls under the mandate of Economics regulators, IT industries have a cross-sectoral nature and involving other stakeholders in the HTP establishment process can play an important role. An important leader of the HTP in the Kyrgyz Republic, is the Kyrgyz Software Development and Services Association (KSSDA) that initiated and advocated for the HTP legislation.

The highest governing body of the Kyrgyz Republic HTP is a Supervisory Board that consists of nine members which include[16]:

1) Three members appointed by the Parliament of the Kyrgyz Republic, of which:
   a) one must have at least five years of professional experience in the field of information and communication technologies;
   b) one must have at least five years of professional experience in the field of economics;
   c) one must have at least five years of professional experience in the field of jurisprudence;

2) Three members appointed by the Prime Minister of the Kyrgyz Republic, of which:
   a) one is a representative of the Office of the Government of the Kyrgyz Republic, who has at least five years of professional experience in the field of information and communication technologies;
   b) one is a representative of the authorized executive body of the Kyrgyz Republic, implementing state policy in the field of communications and information system development, who has at least five years of professional experience in the field of information and communication technologies;

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[16]The Kyrgyz Republic's Government Resolution on the HTP can be found at:
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c) one is a representative of the authorized executive body of the Kyrgyz Republic, implementing state policy in the field of economic regulation, who has at least five years of professional experience in the field of economics;

3) Three members from the private sector with at least five years of professional experience in the field of information and communication technologies, appointed by a professional association of software products manufacturers - the Kyrgyz Software Development and Services Association (KSSDA).

The Chairman of the HTP Supervisory Board is appointed by the Prime Minister of the Kyrgyz Republic from among the members of the HTP Supervisory Board.

All persons appointed to the members of the Supervisory Board must have a university degree and at least three years of professional experience in a senior management position.

The Supervisory Board therefore consists of a strong team of leaders and visionaries, who contribute to the development of the IT sector both as HTP management board and senior position holders. The Supervisory Board is responsible for strategic planning, general management, budget control, final registration and dismissal of the HTP residents, and others. The Supervisory Board is appointed for three years and for no more than two consecutive terms. Supervisory Board members are not paid for their service.

Another important body is the HTP Expert Council appointed by the Supervisory Board for a two-year term. The Council consists of five industry experts, either from the private or public sectors with a university degree and at least five years of experience in the ICT sector.

The Council conducts analysis of prospective HTP applicants, by reviewing the documents submitted, and providing an expert assessment on whether the applicant qualifies for inclusion in the HTP regime. The Council also reviews reports from the resident companies and assesses compliance of resident companies to the HTP economic activities.

The executive body that ensures the effective operation of the HTP is the HTP Directorate (Administration), led by a Director appointed by the Supervisory Board for a four-year term, to oversee the execution of an approved annual plan. Within an allocated budget, the Director is responsible for, among other tasks, approving staff structure, hiring staff, presenting annual reports to the Supervisory Board.

The Directorate is a legal entity, registered as an institution, that has financial, economic, and legal independence and thus HTP is not considered to be the part of the Government structure. Such degree of independence is a critical factor that enures protection from political volatility and change of government members, autonomy from the government budgeting processes, and freedom in decision making. The Directorate provides organizational, technical, informational, and methodological support for the activities of the Supervisory Board and Expert Council. It executes decisions of the Supervisory Board, maintains the register of HTP residents, issues certificates, engages with resident companies on various matters, works with investors and education providers, generally bolsters the growth of the IT sector.

Its main goals are:
1. To ensure the proper functioning of the HTP regime;

2. To increase the export of software products and ICT services;

3. To attract domestic and foreign investments;

4. To increase the competitiveness of the IT industries of the country, and other;

The above three management and executive bodies play important roles in ensuring institutional sustainability of the HTP regime and growth of the IT sector. Together they bring political pluralism, relevant expertise, and professional staffing to support the connection to the international IT value chain, build physical infrastructure, guide stakeholders on IT education, and coordinate with government bodies to support IT growth.

HTP Directorate initial Human Resources requirements

The effective operation of the HTP and execution of annual plans approved by the Supervisory Board requires a high calibre of Directorate staff. Initial Human Resources may include (with brief descriptions of responsibilities):

1. **Director** - Responsible for general management of the HTP, including execution of annual plans, recruitment of staff, allocation financial resources, signing documents, presenting annual reports, partnering with government bodies and organizations.

2. **Deputy Director/HTP resident engagement manager** - Serves as acting Director during the absence of the Director. Responsible for the HTP resident engagement: consults on HTP regime, supervises residents reporting, and reaches out to potential residents. Organizes meetings of the Supervisory Board and Expert Council.

3. **Financial Accountant -** Responsible for bookkeeping, procurements, and payments. Oversees financial discipline.

4. **Lawyer -** Provides legal advice to HTP Administration and Residents. Represents the HTP Administration on legal matters. Drafts HTP related legal documents.

5. **Public Relations/Social Media Manager -** Responsible for informing the public and private sector about the HTP regime through Mass Media. Liaises with journalists, writes articles and press releases, prepares visuals, and organizes interviews. Maintains the HTPs social media accounts.

6. **IT Education Development Manager -** Leads HTPs IT education development programs. Responsible for coordinating HTP residents with educational institutions. Researches needs for the IT talents, organizes internship programs, consults IT education operators, and recruits volunteers.

7. **International Relations Manager** - Responsible for connecting the HTP Administration with international entities and residents to the IT global value chain. Liaises with international development organizations, reaches out to foreign IT companies, organizes trips to international conferences, organizes sales events, etc.

8. **IT Events Manager** - Responsible for organizing and facilitating IT related events. Organizes meetups, workshops, and conferences, builds IT communities, moderates and facilitates experience sharing.

The HTP Administration's activities may progressively increase with the growth of the HTP, thus each of the roles above may be turned into departments. The HTP Administration should offer competitive salaries to attract the best talent from the relevant fields. It is preferred that

all employees have some IT background. More details on the HTP Administration's activities will be discussed under the section "Building the HTP ecosystem".

Challenges and managing associated risks

Setting up a special tax regime with an exterritorial scope and passing relevant legislation can be a challenging task, especially when there is a perceived belief that the Government will be forfeiting tax revenues. Natural opponents of such regimes would be stakeholders that are in charge of increasing the Government revenue, such as budget and tax authorities. Analytical research findings should be shared to mitigate misunderstanding of the goals of the special tax regime. For instance, conducting cost-benefit analysis (in terms of current and potential tax revenues) of selected economic activities in the IT sector, assessing the "demand" from the private sector for the special regime, reviewing international experience, and projecting future impact are important to build understanding and buy-in. Effective communication is critical to convince relevant stakeholders and accelerate the establishment of the special regime. HTP Leadership needs to clearly articulate costs and benefits of the regime, institutional design and the legal framework.

After the passage of discussed legislation, there can be significant delays in launching the operations and functioning of the regime. This risk is associated with uncertainties around the timeline of passing the legislation. That, in turn, affects budget allocation periods, staffing of the Supervisory Board and Expert Council, and recruitment of operational officers. To manage this risk, a clear roadmap of activities needs to be developed with exact dates and identified responsible parties. Financial resources from the government budget to establish the HTP Administration may introduce additional uncertainties, thus ascertaining funding from development organizations or the private sector for at least 3 years will provide solid initial support. Once legislation and funding are in place, the staffing and recruitment process should be launched in the shortest time.

When the HTP management bodies and special regime start functioning, it is important that the initial leadership develop operational procedures and policies. Especially important are policies relating to the selection of qualified companies and monitoring HTP residents' compliance to the Law. To ensure that the special tax regime is serving its purpose and goals, only qualified companies should receive designated benefits. In the application phase, it is important to have ready the list of documents that need to be submitted and that give exhaustive information about the nature of the work and background of the company. Submitted documents have to be reviewed by an expert council and supervisory board and approved/disapproved through voting, as described earlier. In the company's residence phase, companies need to provide reports about their operation that are subject to audit by independent companies. Reports and other documents may also be reviewed on a periodic basis by the Expert Council and Supervisory Board.

Proactive measures can deter possible illicit intentions such as money laundering and fraud within the special tax regime, and the education of law enforcement agencies and financial auditors on the complex nature of IT businesses and latest business practices that are emerging in the Internet will aid this. For instance, receiving payments for in-app purchases, subscriptions, or viewership that are transacted under Internet public offerings are normal in the IT world, but could be easily misunderstood by authorities. Thus, the HTP Administration should explain modern legal and financial practices of doing IT business through the Internet.

If needed, relevant provisions can be made in the HTP Legal Framework to better inform relevant stakeholders.

Target performance indicators must be set at the outset of HTP operations, to inform on progress. Indicators may include:

1. Number of registered HTP companies

2. Number of employees of HTP residents

3. HTP residents' revenues

4. Share of exports by country

5. HTP residents' payroll amounts

6. Taxes and other duties paid to the Government by residents

7. Types of services provided as a revenue share

8. Others

This data can be collected from the HTP resident reports, which are provided on a quarterly basis. Aggregated indicators would help in understanding whether the HTP is meeting its targets. Most importantly, the figures form a basis for the evaluation of the HTP Administration and other management bodies. If desired outcomes are not delivered, supervising authorities may make personnel changes.

The risk management measures, outlined above that should not be overly bureaucratized, will result in increased trust in the HTP and its management, a critical ingredient for IT companies to apply. Increasing trust in every possible way through transparency and accountability measures of the management is vital for the private sector.

Once relevant legislation, governance bodies, the administrative team, the approved budget, and regulated operations are in place, outreach activities explaining how the special tax regime functions will mobilize initial demand from IT companies.

Section 2 - High Impact Interventions

Building the HTP ecosystem

Once the special tax regime (HTP) is in place, the role of the executive branch of the HTP (the Administration) becomes more salient in the growth and development of the country's IT sector. While initial funding of the executive branch may come from the state budget or/and development organizations' support, in the middle term perspective, the Administration should strive to cover its expenses from the 1% disbursements of HTP residents that are required by the HTP Law. The Administration's activities can be classified into two broad categories: operational and programmatic..

Operational activities are related to registration and reporting from the HTP residents, organizing and technical assistance of the work of the HTP Supervisory Board and Expert Council, keeping relevant registry books, liaising with government bodies, proposing annual HTP budget and plans, among others. These activities are defined within the policies and procedures of the HTP and are important for proper functioning of the special regime.

Programmatic activities are related to the high-value interventions that the HTP Administration can make in order to accelerate the growth of the IT sector. These activities can be related to supporting IT companies and startups, coordinating IT talent demand and supply, building physical infrastructure, bolstering participation in the global value chains, among others. Such interventions are necessary to remove major bottlenecks that may hamper the growth of IT companies.

Domains of operational and programmatic activities are listed within the HTP legal framework. This is how the HTP Administration is able to identify its priorities.

Supporting IT companies and Startups

There is a common misconception that the IT companies would be eager to join a special tax regime immediately. In fact, it might be far from the truth for different reasons. Firstly, companies may not be informed enough about the regime to understand its benefits. Secondly, companies may not see value in entering the special regime, because they are working fully online for foreign companies and possibly with foreign bank accounts. Thirdly, they might be cautious about financial reporting to the tax authorities. Whatever reasons there might be, it is the Administration's primary task to engage with IT companies to share information and convince them to join the HTP.

The Administration's primary task is to inform and educate IT companies in the initial stage. This includes, setting up an office where representatives of IT companies can reach out, both in person or digitally, to learn about the HTP; setting up an HTP website, joining IT related group chats, organizing meet-ups, etc.

One of the major uncertainties that IT companies face when registering with the HTP is transforming (more often introducing) internal processes to "legally" operate in the country. The company, therefore, needs to set up proper financial accounting procedures, sign official contracts with customers and employees, open company bank account(s), and organize reporting to tax authorities and the HTP. This can be painful, especially for IT companies working in the Software Development industry, since global practices of doing business in the IT sector have dramatically changed over the last years. For example, Software Development companies rarely sign paper contracts, having either a digital contract or just accepting digital public offers. These are not deemed valid for accounting purposes, thus the HTP Administration needs to constantly improve the HTP legal framework to incorporate latest business practices in IT and educate relevant stakeholders.

One way of mitigating this is by establishing consulting services to cover a number of aspects, including legal, financial and accounting, tax, and other practices. Legal services may include consulting on HTP registration, structuring contracts with employees and customers, intellectual property protection, and reviewing existing contracts. Financial and accounting services may include consulting on proper accounting and bookkeeping, financial reporting, audit requirements, mergers and acquisitions, and opening bank accounts. The HTP Administration can hire professional consulting managers that will help companies to restructure their internal business processes. It is important to note that such restructuring of the IT companies will have a tremendous effect on the growth of the IT sector, since formal registration will increase trust among IT companies' international customers. Consulting

services may even provide an opportunity to collect feedback from the companies, to inform the government on what needs to be done to better support the IT sector.

Once a critical mass of IT companies are registered within the HTP, the Administration can facilitate knowledge and experience sharing among the companies and beyond. Activities related to IT community building play a crucial role in catalyzing and accelerating the growth of the IT sector. Each company within the HTP and invited industry leaders may have interesting experiences to share that help other businesses improve their operations. Moreover, potential resident companies can build partnerships with each other that have a further catalytic effect. Activities within this category may include organization of periodic events (online or offline) with participation of IT companies and invited guests where particular topics are presented and discussed. Events may be structured in different formats, depending on the theme, such as meetups, bootcamps, guest lectures, workshops and others. Organizing events, engaging with the public, and facilitating experience sharing will strengthen the country's IT community.

Beyond knowledge sharing, organizing specialized professional training or workshops can bring valuable results. The HTP Administration's status allows it to bring in high-caliber specialists in specific domains. For example, topics such as sales and marketing in IT, product management, Agile project management, Artificial Intelligence, Blockchain, and others are in high demand among companies who are willing to increase their special skills. These events are likely to have spillover effects that will also benefit youth and students seeking a profession in the IT sector.

We have been referring to HTP residents without further classifying them into industries. Special emphasis should be placed on the Software Development industry, which creates clusters around it. Supporting this particular industry will have large side effects by boosting IT education, stimulating domestic digitalization, increasing employment, and contributing to IT product development. Incentivizing and supporting IT product development, for instance B2B and B2C software products, can increase the IT sector's volume, since product development has significantly higher earning margins compared to other IT industries.

It may take a while for the domestic IT industry to create successful IT products, and even longer for successful international tech startups to emerge. The innovation ecosystem of the country needs to grow to a certain level to generate quality products. To nurture such an ecosystem, the HTP Administration can focus on facilitating the provision of IT services, especially to the international market. This is important because IT companies and freelancers will become important agents of technology and business experience transfer into the country. Emphasis can be put on such services as Software Development, Graphics and Design, Video & Animation, Digital Marketing, and Customer Service - growing industries globally. Both freelancers and companies need assistance on where to find a job, how to handle financial interactions, and how to market their services.

As the IT community continues to accumulate IT business acumen and gain knowledge in tech, it would be the right time to support innovative startups and incentivize IT product development. Activities within this domain can range from facilitating the creation of startups to assisting mature startups in getting late stage investments.

There are multiple ways of facilitating product development among IT companies. Different industries, including the banking sector, telecom industry, business incubators or accelerators,

or even government agencies, may hold "hackathons" on various types of business challenges. The HTP Administration is in an excellent position to organize and host these types of events. Engaging with IT companies will bring distinct value; companies can become participants or can mentor teams in their effort to develop a product. The IT community will have an opportunity to learn more about how products are built, and some of the participating teams may even form a new (startup) IT company.

Encouraging and supporting IT startups will play a vital role in building a vibrant IT ecosystem. Organized groups, regardless of whether they are incorporated or not, should receive initial support such as, office/coworking space, free internet, and cloud storage access, and most importantly mentorship from local and international industry leaders. Employees of the HTP resident companies can be excellent mentors and coaches and share their experience in product development and eventual market launch. Early-stage startups may be in need of funding, and the Administration can facilitate pre-seed and seed investments from its partners. These activities can be organized as Incubators (seed to start-up stage) programmes that systematically and methodically assist new startups.

Once startups gain some traction and start earning income, it is important to accelerate their growth. While there are a growing number of accelerator programs (early growth stage) that are offered by international development organizations,venture capital companies, or corporations, the HTP Administration has to learn how to navigate within these programs and direct startups to the right accelerator programs. For example, some programs are specialized in the domestic market, others in European or American markets expansion. Accelerator programs can be differentiated by industries such as Fintech, E-Commerce, MedTech and many others. Such programs help companies to build relevant networking, strengthen organizational capacity, gain access to foreign markets, and secure capital. Being able to invite and start operations of high quality accelerator programs within the country would be an important asset for IT sector development.

As Startups grow and enter new markets, they will have a growing demand for financing. Within the Incubator and Accelerator programs a special emphasis can be put on connecting them with potential investors (VC companies) who can provide financing at different enterprise stages. It should be kept in mind that providing venture capital investment may require special legislation that regulates the rights and liabilities of each party. The HTP Administration can work on creating a favorable legal environment for VC investments.

Talent Acquisition and Development

One of the healthy signs of the growing IT sector is a growing demand for qualified specialists. Rapid expansion of IT companies that are actively recruiting and lack supply of needed specialists from education institutions will result in talent scarcity. The HTP Administration can play a leadership role in matching HR supply and demand in the IT sector. Employing additional specialists has a direct impact on the growth of the IT sector, since human capital is considered to be the main revenue-generating resource. Thus, IT sector development is directly related to the number and quality of IT specialists available in the market.

IT talent is usually associated with Software Developers. Though Software Developers may constitute a large share of the demand in the job market, other professions in IT can be equally vital for the HTP companies. Those professions include Project Managers, DevOps,

Quality Assurance Specialists (QA), Graphic and Web Designers, IT Analysts, and many others[17]. The availability of such professionals will increase revenue margins of the IT companies, since they will be able to take on more complex projects. Overall, the diversity of IT professions also means that more people with different backgrounds will be able to join the IT workforce. Gender diversity in business management and governance have been found to increase business performance and revenues, and mobilizing women to join the IT workforce will significantly increase the talent pool.

Lack of IT talent supply can be addressed in multiple ways. Potential strategies can include both facilitating extensive growth of IT talent and intensive growth of IT talent. An extensive growth strategy implies that IT specialists are brought in from other industries or from outside[18]. For instance, the HTP Administration could communicate that domestic IT companies are willing to pay comparable salaries and work on international projects to bring back talented specialists from other countries. Some foreign IT specialists may be willing to come into the country and some may want to establish their own IT company in the country. Thus enabling a favorable environment for legal immigration for foreign IT talent could be one way of supplying specialists and facilitating extensive growth of IT talent .

An intensive strategy implies that IT specialists are grown within the country. There are multiple challenges related to why the supply and demand for IT talent do not match. The first challenge is that young people might not be interested in pursuing IT professions or that they may perceive that it is difficult to join the IT sector workforce. The HTP Administration in collaboration with IT companies can act on this challenge by popularizing IT professions. Activities may include information campaigns about career prospects, international exposure, social mobility, average salaries,and other advantages of pursuing a profession in the IT sector. Campaigns should involve different channels of information dissemination, including TV shows, daily news, social media marketing, interviews, etc. The greater the outreach, the more youth will be informed about work opportunities in IT.

With a growing interest among young people in pursuing a career in IT, there will be an increasing demand for IT education. Meeting this demand requires competent education providers. Depending on the country, it is possible that school education does not sufficiently teach programming skills, professional colleges lack IT education courses, and universities have outdated computer science programs. This problem is exacerbated by the fact that a growing number of new IT professions are not prepared in the national education system at all. In such an environment, the HTP Administration can be a mobilizing force that increases demand for IT education, improves opportunities of education providers, coordinates scholarship programmes for IT professions, and responds to the needs of IT companies.

Stimulating private sector education providers

High salaries within the IT sector and general readiness of youth to invest in education, may incentivise the private sector to invest in educational institutes. Companies can quickly adapt to market needs, hire professionals from the industry and pay competitive salaries and offer

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[17] Descriptions of IT professions listed can be found at: https://resources.workable.com/job-descriptions/information-technology-job-descriptions/

[18] "In Belarus, higher salaries and tax benefits have significantly reduced the outflow of IT specialists to other countries and reversed the trend." The IT Industry in Belarus: 2017 and Beyond (EY - 2017) https://assets.ey.com/content/dam/ey-sites/ey-com/en_by/topics/consulting/ey-it-industry-in-belarus-2017-and-beyond.pdf

courses that train different types of professionals starting from entry level Quality Assurance Specialists to more advanced Back End Software Developers. Courses may vary in duration from intensive boot camps to one-year vocational training. This flexibility will allow for better response to the demands of the industry and offer a much higher quality education in IT, as compared to formal education. Thus close collaboration with private IT course providers may yield relatively quick medium term results.

The HTP Administration can help by encouraging partnerships between IT companies and private education providers, and coordinating discussions on issues such as the number and types of specialists needed, anticipated duration of training, education quality requirements, and mentors & teachers required from the industry. There are a number of cases when such collaboration has enhanced the students' employment opportunities. Partnerships also helped education companies to build high quality IT courses and most importantly IT companies to swiftly recruit the required junior specialists.

Since private IT courses require students to pay tuition fees, some promising students may be excluded due to the prohibitive costs. The HTP Administration can propose different types of financing mechanisms, such as IT companies paying for interns as prospective employees, reaching out to banks for long-term loans that can be repaid from a percentage of a graduate's salary, and third party organizations that provide students with a grant to cover tuition fees. Such mechanisms are important, especially for students from disadvantaged backgrounds, who can eventually become role models and agents of change within their communities.

It should be emphasized that along with hard skills and knowledge in IT, language and other soft skills play an equally important role. For instance, English and other main foreign languages can significantly increase employment opportunities for graduates. Skills related to teamwork, life long studying, algorithmic thinking, and problem-solving are important for future career growth. Thus it is important to invite private education providers to fill these gaps both as a part of any main IT course or as a complementary course.

Lastly, private education providers may struggle in obtaining education licenses from the designated authority. The HTP Administration can collaborate with government bodies in devising new mechanisms that ensure licenses are swiftly and easily obtained. That in turn will stimulate investments into the private IT education sector.

To sum up, the private sector will play a crucial role in building a talent pool. The Administration has to leverage its position and contacts, to decrease entry barriers in establishing IT courses, coordinate with IT companies, market among the youth, and propose new financing mechanisms.

Supporting Universities and other formal education institutions

With a growing number of youth that want to study in IT, and increasing competition from private courses, formal education institutions will also be incentivised to change and strengthen their IT education programs to increase the number of incoming students. The HTP Administration can play a proactive role in helping education providers that lack relevant expertise to navigate in this emerging environment, and seek opportunities to better connect with the IT industry.

There are a number of entry points where the HTP could bring value, especially at University level education. Advocating for a change of IT education standards and programs would be a good place to start. Renewing IT education standards would require expertise, and involving IT companies and other industry experts would be essential. IT companies could advise on what courses to teach, the content of the courses, and required skills and knowledge for graduates in the industry. The collaboration between the HTP Administration, IT companies, and Universities can be broader than just Computer Science domains, and may include Business Administration, Law, Engineering, Mass Communications, and other disciplines. The cross disciplinary nature of the IT sector will help reach a broader pool of students and motivate them to join the IT workforce.

The HTP Administration can build partnerships that go beyond updating IT education programs. HTP resident companies and Universities can work together directly through mutually beneficial arrangements. For example, IT companies may provide their senior staff as part-time course instructors, open completely new software engineering course tracks, provide scholarships, or organize learning opportunities through internships, as long as they have access to the talent pool.

While some IT companies can afford active partnerships with Universities for recruitment, smaller resident companies would also be interested in acquiring talents from Universities. The HTP Administration can coordinate with such companies and University partners to broaden employment and internship opportunities for students. The Administration can propose internship programs that would help match students and employers.

The HTP can also organize annual or bi-annual career fair events with the participation of HTP residents. Such events are especially important for youth, allowing them to learn about career prospects in IT, network with potential employers, and meet with peers. Engaging with parents at these such events is equally important, since they have a large influence on their childrens' education and career plans.

While we stressed the importance of the University education, there are other important stakeholders among IT education institutions. For instance, schools nurture foundations for coding skills and aspirations toward IT professions. That is why it is important to pay close attention to the quality of coding classes, the degree of availability of studying materials and equipment, and the general awareness of pupils about IT in schools. In collaboration with schools, the HTP Administration can popularize new learning tools, such as Scratch, Code.Org, or building Robots, to stimulate interest in IT from the early ages. Public events including school students and resident companies may have an impact on the future job aspirations of youth. Together with the HTP Administration, schools can organize fundraising campaigns among IT residents to better equip their computer classes .

Technical schools, also known as technical colleges, typically provide up to 2-years of education to obtain specific professional qualifications. Traditionally these colleges prepare auto mechanics, welders, plumbers, technicians, among other vocations. Some technical schools could be reoriented toward preparing Software Developers and other IT professionals. Such reorientation needs the coordination of education authorities, the private sector, and the colleges themselves.

Enabling physical infrastructure

Often, techno parks struggle to generate traction without sufficient numbers of IT residents, meaningful and frequent events, and a large IT community. Whilst there is a popular tendency among government authorities to build grand techno parks with advanced equipment as a policy measure to support the IT sector, sectoral growth depends less on physical infrastructure, and more on a favorable legal environment and available human capital. IT sector development policies require careful sequencing, and when done right, investing in physical infrastructure can yield considerable results in strengthening the IT ecosystem.

Before becoming an infrastructure investor itself, the HTP Administration can work with the private sector in creating a favorable physical environment for IT companies. An expanding IT industry means more employees, and therefore a need for more office space. Multi-purpose office spaces are desired, to enable room for hosting IT-related events, meeting with peer IT companies, conference halls, perhaps a coffee shop, and other amenities. The HTP Administration can coordinate the needs of the IT sector with companies that specialize in the development of office and coworking spaces. The Administration may even partner with office landlords in periodically holding HTP events. Modern office spaces, concentration of IT companies, frequent meetups, and engagement with tech leaders will create a favorable physical environment for collaboration, new partnerships, and creativity - necessary ingredients for the growth of the IT sector. Thus landlords that provide spaces for office, coworking, and events, are important stakeholders in the IT ecosystem.

Through partnerships, universities and other educational institutions can play an important role in providing spaces and resources for students and recent graduates in IT to establish co-working zones, Fabrication Labs (Fablabs), and Research Centers. Coworking zones are important for students who have internships at IT companies, which have office space constraints. Coworking zones which create an excellent environment for peer-to-peer learning and collaboration are usually established in collaboration with the private sector,

For some companies that work at the edge of software and hardware development, the existence of university level FabLabs plays a valuable enabling role. In such designated Labs companies can produce 3D printed plastic/metal parts, printed circuit boards, and other electronic prototypes necessary for their work. University-level Research Centers might be in their nascent stage but can help companies to temporarily hire students and collect & label data for AI-related projects. The HTP Administration can become an important coordinator in shaping university spaces to the needs of the IT sector. In turn, this can have a great spillover effect on students and university professors.

There is a growing number of development agencies that provide incubator and accelerator services for newly established companies, including companies in IT. Along with learning programs, they provide offices and other types of spaces that can be especially helpful for startups. The HTP Administration can work with such development agencies in placing startups into such programs, and help them gain initial traction.

Inevitably, the private sector, educational institutions, and development agencies will not be able to cover all of the pressing needs of the IT sector. The HTP Administration can navigate and detect such unresolved needs and consider establishing its own physical space (physical techno park / HTP space) as a policy response. It is important to establish an HTP space that

can collaborate with other mentioned stakeholders, and integrate within the general IT ecosystem. The HTP space will be especially valuable in resolving situations where there is a lack of availability of IT enabled working space for the private sector.

There are different ways of how HTP space can bring distinct value. First of all, as a supporting policy, tech startups can be hosted within the HTP space for a limited time for free. In most cases, groups of IT specialists who want to establish a startup would want to work together in one space but would not have financial resources to rent an office.Such startups would need of fast internet, specialized video conference and meeting rooms, and other amenities that the HTP could provide on a co-sharing basis.

There would also be a number of IT communities who would want to host events, but could not afford to rent private event spaces. As part of its community building efforts, the HTP Administration could provide conference halls for such groups and help communities in the organization of such events. The HTP resident companies would appreciate the use of HTP conference halls for organizing public events, meeting with students and other needs.

The development of an HTP space, could significantly cut the HTP Administration's cost of renting spaces from the private sector, other operational costs and support HTP services, revenues and ecosystem building efforts. However, detailed planning is needed in terms of how and which building spaces will be allocated to the HTP, on what terms, and the volume of investment needed. Ultimately, the benefits would have to outweigh potential costs.

Participation in the global value chain

There are ample opportunities for improving the participation of HTP residents in global value chains to promote the export of IT services and products. Most IT companies would welcome activities that would increase their revenue from the international markets. However, there are a number of factors that could hinder IT companies in freely engaging in foreign markets, including lack of expertise in sales and institutional constraints.

The HTP Administration can help to mitigate those constraints, including holding events to increase the competence of IT companies in lead generation and sales. Such events may include themes such as finding and increasing sales in such platforms as Upwork, Clutch, Toptal, and many others. So-called freelance platforms are ideal for almost all types of industries in IT, and suitable for individual freelancers to large companies. The HTP can tap into international sales trainers and mentors in accomplishing this task.

Organizing and participating in international conferences to market domestic IT companies is a good way to increase the country's visibility. A number of global forums such as TechCrunch (USA), Slush(Norway), Emerge (Belarus), Digital Bridge(Kazakhstan), and many others can provide a venue for the HTP and its residents for marketing purposes. Participation in these events would help IT companies to increase sales, startups to get investment and traction, and the HTP in inviting international companies to establish their branch offices in the country. It should also be emphasized that countries such as the United Kingdom, Latvia, Estonia and others have designated special programs that invite foreign IT companies to open international offices. Tapping into those opportunities can help HTP residents expand their geographic reach.

In collaboration with development partners and diplomats, organizing international business conferences with the participation of international tech companies, leaders, and investors allows valuable opportunities for networking. Such events can have side exhibitions where guests will be able to personally meet with the sales representatives of the HTP resident companies.

The HTP Administration needs to actively participate in the country's government and business delegations to foreign countries, as a possible opportunity for international exposure. Such missions allow it to reach out and partner with innovation authorities in advance. There are also ample opportunities for resident companies to participate in trade missions and B2B meetings.

Depending on the country's context, competitive tech startups will look for opportunities to offer their product in countries with developed Internet infrastructure, large markets, and a convenient e-payment ecosystem. Assisting such aspiring startups is important, and there are a number of opportunities for them. For instance, countries with advanced innovation ecosystems offer special programs to help foreign startups to gain traction in their land. So-called soft-landing programs offer free office spaces, legal consulting, marketing researches, and even tax benefits to promising startups. Skolkovo and GenerationS (Russia), Astana Hub (Kazakhstan), Soft Landing (EU Countries) provide such programs.

There are more ways of connecting HTP residents to the global tech ecosystem. Digital Distribution Services such as Google Play and Apple App Store provide great opportunities for product developers. These App markets open doors to such IT industries as FinTech, Game Development, E-Commerce, and others to instantly distribute their app to a global market. However, there are a number of challenges that hamper HTP residents from using these platforms. Such challenges include Developer Registration availability, when developers are able to upload and distribute their Apps, and Merchant Registration availability when developers can collect payments for sold apps or in-app purchases. It is important to enable such registrations for HTP residents to accelerate growth of local IT products distributed globally.

Developing payment systems

There are also other platforms such as YouTube, Amazon, and Shopify that provide their ecosystem for earning opportunities through digital means. Economic activities involving YouTube content creation, Amazon Drop-Shipping, and Shopify widget development can be promising streams of income for local IT companies. However, to actually receive payments there must be an advanced banking system that is connected to international payment systems. Availability of payment platforms such as Stripe, Payoneer, and others play an important role in connecting to such e-commerce and content platforms.

Developing banking and payments systems that serve the needs of the IT ecosystem requires regulatory support from the Monetary Authority (Central Bank). Building a banking system that complies with the Financial Action Task Force (FATF) standards, partnering with intermediary banks of developed countries (especially the U.S), and accelerating the integration to international financial (payment) systems are key long term goals that have a vast effect on the IT sector. Creating a favorable regulatory framework for domestic electronic payment systems and involving the banking system, cellular operators, and IT

companies will further contribute to the development of e-commerce, IT services, and innovation within the country.

Finding the relevant market niche

It is not easy for a country to differentiate itself globally given competition in the international IT market. Thus at the nascent stage of IT development, it is important to track what industries in the country have a competitive edge. While it may take time to build a distinct industry, there are some rules of thumb in finding a relevant market niche. For instance, specializing in Front End development (JavaScript, TypeScript, and others) might be promising since it has relatively low entry level and is in high demand globally. Other specialization could be in Software Testing, Graphic Design, and Mobile App development.

It should be reemphasized that initial competitive advantage can be also built by supporting relatively low barrier backend services that can be provided to international clients through IT. Call centers have proven successful especially in foreign markets. Services such as Accounting, Human Resource management, and other business process operations that are provided through cloud technologies and/or ERP systems are worth consideration.

Section 3 - Next Steps

The Action Plan

Planning for an operational HTP regime can be divided into three main stages. In the first instance, the government authority responsible for the development of the HTP regime should set up an HTP Working Group (WG) to identify IT industry needs, support economic activities in IT, HTP fiscal mechanisms, registration eligibility criteria, management structure, and other configurations of the HTP regime and give it it's full support. The results of the working group's research and recommendations should be documented in a paper that would form the basis for the HTP's Legal Framework.

The second stage involves activities required to develop and pass the HTP legislation package, which includes the drafting of the HTP Law and required amendments in the related legislation (e.g. Tax Code). Once the legislation package draft is developed, the lead government authority can officially introduce the draft to initiate public discussions. Following the review and incorporation of suggestions and comments from the industry and government bodies, the legislation package will be ready to be sent to the Legislative Authority, (e.g. Parliament) for review in line with the country's regulations. It is important that the lead government authority actively participate in the Parliament discussions to explain costs and benefits, and goals of the HTP regime. After the discussion and review process, it is expected that the Legislative Authority would approve the HTP legislation package.

The third stage involves activities related to launching and ensuring the proper functioning of the HTP regime. At this stage, the HTP WG can further develop charters, policies and procedures, and other documents that would regulate operations of the HTP, which can be introduced by the lead government authority, and passed at the Government Level (e.g. by Government Decree), although it is a matter of institutional design as to how and at what level the HTP's regulatory documents can be passed. This should be followed by the formation of the Supervisory Board by an authorized body. The Supervisory Board is

responsible for fundraising to secure the HTP budget, appoint the HTP Director and Expert Council, and approve the HTP annual budget and work plan. The HTP Director can then begin to hire required staff and open an office to begin the functioning of the HTP.

Suggested Action Plan

Action Description	Responsible actors	Time frame	Outcomes	Comments
Goal #1 : The HTP Working Group has identified the HTP's scope, incentive mechanisms, and institutional design.				
Formation of the HTP Working Group	Lead government authority	1 week	HTP Working Group (WG) established with the participation of IT industry leaders, heads of government bodies, and international development partners.	Government authority responsible for establishing the HTP regime can organize a conference with IT companies, government bodies and development organizations to form the HTP WG
Identifying IT industry needs and priority IT economic activities	HTP Working Group	2 weeks	Research on: Situation Analysis of the IT sector, priority IT industries to be supported, and analysis of HTP impact on the IT sector.	The HTP Working Group with assistance of the research agency can explore the current state of the IT sector, IT industries with high potential, and the impact of an HTP.
Identifying HTP fiscal mechanisms, registration eligibility criteria, management structure, and other configurations of the HTP regime	HTP Working Group, relevant government authorities	2 weeks	A recommendation paper that identifies fiscal mechanisms and institutional design of the HTP	Based on the research, the HTP WG and relevant government authorities can recommend fiscal mechanisms and institutional design to form a special HTP tax regime.
Research and recommendation documents are sent to the Lead	HTP Working Group	1 week	Listed documents are sent to the Lead government authority.	The WG achieves the first goal of the action plan, providing the

				necessary information to draft a legal framework for the HTP
government authority				

Goal # 2: HTP legislation package has been developed and passed.

Drafting of the HTP Law and necessary amendments in the related legislation (e.g. Tax Code).	Lead government authority, HTP Working Group	4 weeks	The HTP legislation package draft has been developed	The lead government authority has legislation power and with the assistance of HTP WG, can draft the HTP Law and needed amendments in the related legislation (e.g. Tax Code)
Official introduction of the HTP legislation package draft for public discussion and compilation of recommendations and comments of the IT industry and government bodies	Lead government authority, HTP Working Group, IT companies	As required in relevant regulatio n	The draft HTP legislation package is amended with the comments and recommendations of the IT industry and government bodies.	The HTP WG needs to amend the draft HTP legislation package incorporating recommendations and comments of the IT industry and government bodies.
The HTP legislation package draft is sent to the Legislative Authority (e.g. Parliament)	Lead government authority	As required in the relevant regulatio n	The draft HTP legislation package has passed public discussions, been reviewed by relevant government bodies, and sent to the Legislative Authority (e.g. Parliament) .	All government procedures need to be passed before sending to the Legislative Authority (e.g. Parliament) .
Review of the draft HTP legislation package by the Legislative Authority	Legislative Authority, Lead government Authority	As required in the relevant regulatio n	The Legislative Authority approves the draft HTP legislation package and passes the bill.	The Legislative Authority reviews and discusses the draft HTP legislation package and passes the bill. The Lead government agency needs to actively

				participate in discussion processes.

Goal #3: The HTP has been launched.

Development, introduction and approval of regulatory documents for the HTP, including charters, policies and procedures, and others.	HTP Working Group, Lead government Authority	4 weeks	Relevant regulatory documents have been passed.	HTP WG can develop, and Lead Government Authority can introduce relevant regulatory documents that are passed at Government level (e.g. Government Decree) or other level.
Formation of the HTP Supervisory Board	HTP Working Group, Lead government authority	1 week	The HTP Supervisory Board has been formed.	HTP WG and other relevant bodies can offer candidates for the lead government authority to approve and appoint members to the HTP Supervisory Board.
Fundraising and securing funds for the HTP to start operations	HTP Supervisory Board, Working Group	4 weeks	Three year funding for the HTP Administration has been secured.	HTP Supervisory Board together with the WG fundraise with government and/or international partners to secure funds
Hiring of the HTP Director and Expert Council members	HTP Supervisory Board	4 weeks	Director and Expert Council members are hired.	HTP Supervisory Board announces vacancies and hires a Director and Expert Council members
Approving HTP annual budget and work plan	HTP Director, Supervisory Board	2 weeks	Approved annual budget and workplan	The HTP Director can propose the annual budget and workplan, for the Supervisory Board to review and approve.
Hiring of HTP employees	HTP Director	2 weeks	HTP key staff has been hired	The HTP Director can issue vacancy notices for open competition and hire

				the best candidates
Opening HTP office and launching of operations	HTP Director, HTP staff	2 weeks	HTP starts its operations.	The HTP Director can look for suitable office space and begin operations.

Estimated annual runway HTP budget

Budget Article	Unit	Quantity	$ Per Unit	Total
Staff Remunerations				
Director	a month	12	1500	18,000
Deputy Director/HTP resident engagement manager	a month	12	1200	14,400
Financial Accountant	a month	12	1000	12,000
Lawyer	a month	12	1000	12,000
Public Relations/Social Media Manager	a month	12	700	8,400
IT Education Development Manager	a month	12	700	8,400
International Relations Manager	a month	12	800	9,600
IT Events Manager	a month	12	800	9,600
Fees for the members of the Expert Council	in hours	400	20	8,000
SubTotal				**100,400**
Equipment & Furniture				
Equipment and Software	units	8	1500	12,000
Furniture	units	8	500	4,000
SubTotal				**16,000**
Contractual Services				
Financial Audit	units	1	1500	1,500
Translation Services	units	200	10	2,000
Marketing and Promo materials	month	12	1000	12,000
Web Site Development	units	1	5000	5,000
Security and Cleaning	month	12	400	4,800

Costs related to organizing events (Coffee and Space)	month	12	1000	12,000
SubTotal				**37,300**
Business travel expenses				
Travel and per diem	units	1	10000	10,000
SubTotal				**10,000**
Administrative Costs				
Telephone and Internet	a month	12	300	3,600
Office Rent	a month	12	1,200	14,400
Utilities	a month	12	100	1,200
Transport Costs	a month	12	300	3,600
Stationery and other expenses	a month	12	100	1,200
Other costs	unit	1	5,000	5,000
Bank Service		1%		1,737
SubTotal				**30,737**
Total				**194,437**

Annex I - The Law on HTP of the Kyrgyz Republic - Unofficial translation

Bishkek city as of July 08, 2011 № 84

LAW OF THE KYRGYZ REPUBLIC
About the High Technology Park of the Kyrgyz Republic

Article 1. General provisions

This Law determines the legal basis of state support of the software development industry, as well as the functioning of the High-Tech Park, its governing bodies, residents, the basic principles of forming the regime of the High-tech Park, including the basic principles of taxation of residents.

Article 2. Concepts and definitions used in this Law

The High Technology Park of the Kyrgyz Republic is a zone with the regime of the Hi-Tech Park for legal entities and individuals who are residents of the High Technology Park and operate in accordance with Article 4 of this Law.

The High Technology Park regime is a special legal, tax regime applicable to residents of the High Technology Park, establishing exemption from taxes and benefits on insurance premiums in accordance with the legislation of the Kyrgyz Republic, effective for 15 years from the date of creation of the High Technology Park, applicable to residents of the High Technology Park, provided that they carry out the types of activities of the High Technology Park listed in Article 4 of this Law.

A resident of the High Technology Park is a legal entity or an individual registered as a resident in the manner prescribed by this Law and other acts provided for therein.

Interactive service center (call-center) is a center that provides services for processing incoming and outgoing calls using hardware and software systems, as well as providing virtual office services, technical support regarding rental of workstations and software.

Professional Association of Software Product Manufacturers is a public association representing the interests of developers and manufacturers of software products.

Article 3. The main objectives of the High Technology Park

The main objectives of the High Technology Park (hereinafter - HTP) are:
- development of the domestic industry of software development, new and high information technologies, as well as the provision of services of interactive service centers (call-centers);

- creation of an integrated system of state support for domestic high-tech business;

- promoting the results of scientific and technical activities of companies in the domestic and international markets, increasing exports of software development and services in the field of information technology;

- attracting investment by creating a favorable tax and business environment for international representatives of the information technology development industry;

- creating a favorable environment and infrastructure for the legalization of the domestic information technology industry;

- stimulating the development of science and education to increase the number of specialists in the field of information technology;

- promoting the implementation of modern world standards for the quality of software development.

Article 4. Types of HTP activities

Types of HTP activities:

- software development, including: analysis, design and programming of information systems, including those ready for implementation, analysis of information needs and problems of users, design, development, delivery and documentation of individual and / or finished software, including those that meet orders of specific customers adjusting programs as directed by the user;

- export of information technology and software;

- creation and provision of services of interactive service centers.

Article 5. Structure and governing bodies

The Supervisory Board consists of 9 members, is elected for 3 years and is formed in the following order:

- 3 members are appointed by the Jogorku Kenesh of the Kyrgyz Republic;

- 3 members are appointed by the Prime Minister of the Kyrgyz Republic;

- 3 members are appointed by a professional association of software manufacturers.

The Chairman of the HTP Supervisory Board is appointed by the Prime Minister of the Kyrgyz Republic from among the members of the HTP Supervisory Board. If the votes are equal, the vote of the chairman of the HTP Supervisory Board is considered decisive. The

Supervisory Board carries out its activities on the basis of regulations approved by the decision of the Government of the Kyrgyz Republic. The Supervisory Board appoints and removes the director of the HTP, approves the budget of the directorate of the HTP, makes decisions on the final registration of the resident and deprivation of resident status.

The direct management of the HTP is carried out by the executive body of the HTP - the directorate of the HTP, headed by the director.

Article 6. Residents of HTP

A legal entity or an individual can be registered as an HTP resident, whose income is at least 90% composed of income derived from the activities listed in Article 4 of this Law.

Foreign legal entities or individuals can also be registered as a resident of HTP.

To register as an HTP resident, a legal entity or an individual applying for such registration shall submit an application in the form established by the Supervisory Board.

A legal entity or an individual who, as its main activity, in accordance with its charter (if any) has one or more activities specified in Article 4 of this Law, has received the relevant conclusion of the authorized governing body of the HTP directorate, is subject to initial registration as an HTP resident for a period of 6 calendar months from the date of initial registration. Initial registration is certified by a certificate.

After 6 calendar months from the date of initial registration, the HTP resident submits a report in the form established by the HTP Supervisory Board. If the authorized management body of the HTP directorate establishes the conformity of the types of activities carried out by the HTP resident during the initial registration period to the types determined by the Article 4, and also if the resident meets the conditions specified in the first paragraph of this article, the HTP resident is subject to final registration as an HTP resident and information about him is entered into the unified register of HTP residents. Final registration is termless and is certified by a certificate.

With respect to HTP residents, the legislation of the Kyrgyz Republic is valid in so far as it does not contradict this Law, and regardless of the place of actual residence and / or registration of a legal address provided that activities are carried out in the territory of the Kyrgyz Republic.

If facts of HTP resident carrying out activities other than those of HTP are revealed, if this leads to a violation of the conditions specified in the first paragraph of this article, the initial registration as an HTP resident is canceled and the legal entity or individual entrepreneur is subject to taxation on a common basis, including the period of initial registration.

An HTP resident may be deprived of HTP resident status only if it reveals that it has carried out activities that differ from the HTP line of business, if this leads to a violation of the conditions specified in the first paragraph of this article, or other violation of the provisions of this article, or repeated evasion of quarterly deductions in accordance with Article 7 of this Law. The registration of an HTP resident can be canceled by the Supervisory Board from the moment of identification of the implementation of activities that are contrary to Article 4 of this Law, or from the moment of their implementation.

The decision to deprive the HTP resident status, as well as the decision to cancel the primary registration of the HTP resident can be appealed in accordance with the legislation of the Kyrgyz Republic.

Deprivation of the status of an HTP resident can be carried out on the basis of an application by an HTP resident.

The legal regulation of labor relations of employees of HTP residents is determined by the legislation of the Kyrgyz Republic on labor, as well as by the conventions of the International Labor Organization that have entered into force in the manner established by the legislation of the Kyrgyz Republic.

When making settlements for goods and services rendered, an HTP resident uses exclusively non-cash payments.

After one year from the date of final registration, at least 80% of the goods and services should be exported and / or at least 80% of the income of the HTP resident should be earned as a result of the export of goods and services.

The fundamentals of legal relations between the HTP resident and the HTP directorate are determined by the concluded contract.

Article 7. Activities of the HTP Directorate

In order to effectively ensure the functioning of the HTP, the budget of the Directorate of HTP is formed.

The activities of the HTP Directorate will be financed through quarterly deductions by HTP residents in the amount of 1% of the proceeds received for the previous quarter as a result of the activities of the HTP, other income and receipts.

The HTP Directorate is subject to the HTP regime.

Article 8. HTP regime

For HTP residents, a special tax regime is established, determined by the tax legislation of the Kyrgyz Republic. Employees of HTP residents in the prescribed manner are subject to state social insurance determined by the legislation of the Kyrgyz Republic.

Article 9. Legislation of the Kyrgyz Republic on HTP

Relations arising in connection with the activities of the HTP and the registration of HTP residents are regulated by this Law, tax legislation, other regulatory legal acts of the Kyrgyz Republic and international treaties that have entered into force in the manner established by the legislation of the Kyrgyz Republic.

 If an international agreement that has entered into force in accordance with the legislation of the Kyrgyz Republic establishes other rules that are contained in this Law, then the rules of the international agreement shall apply.

Article 10. Entry into Force of this Law

This Law shall enter into force one month after the date of its official publication.

To the Government of the Kyrgyz Republic:
1) bring their decisions in accordance with this Law;
2) ensure the adoption of regulatory legal acts arising from this Law;
3) make proposals to the Jogorku Kenesh of the Kyrgyz Republic on bringing the legislation of the Kyrgyz Republic in accordance with this Law.

President of the Kyrgyz Republic R. Otunbaeva

Adopted by the Jogorku Kenesh Kyrgyz Republic June 10, 2011