PAKISTAN
PSEB
SOFTWARE
EXPORT BOARD

TECH
desti NATION
PAKISTAN

Ministry of Information Technology
& Telecommunication
Digital Pakistan

Pakistan's IT Industry
Overview

2020

Pakistan Software Export Board
Ministry of Information Technology & Telecommunication

TechdestiNationPakistan

TechDestPak

pseb.org.pk
moitt.gov.pk
techdestination.com

Pakistan's IT Industry Overview

Pakistan Software Export Board
Ministry of Information Technology & Telecommunication
Government of Pakistan

Minister's Message

Syed Amin ul Haque

Federal Minister
Ministry of Information
Technology &
Telecommunication

> "Our IT vision is to put in place an accelerated digitization ecosystem to enable socio-economic development, to expand knowledge-based economy and to spur the economic growth."

The rapid adoption of Information and Communication Technology (ICT) is immensely important for the socio-economic development of the country. In the spirit of democratic governance, revolutionary policies and visionary approach, the present government's main focus is to enhance the growth of Pakistan's economy. The efforts are paying off as the IT industry is growing in terms of the number of companies, revenue, exports and workforce every year thereby demonstrating clear confidence in the ability of the local companies to deliver IT solutions and services which meet the expectations of foreign clients.

I am pleased to inform you that with more than 10,000 software houses and call centers at present, Pakistan's IT industry is now a well-established IT services provider to clients across the globe. Many Pakistani IT companies serves the world's largest companies as their clients. You might find it interesting to note that according to Global Gig Economy Index 2019, Pakistan is ranked as the 4th most popular country for freelancing in the world. Pakistan's ICT Industry has been a resounding success story for Pakistan, having achieved a stellar remittance inflow growth rate and being the largest net exporter in the services sector.

The Government believes in leading initiatives pertaining to IT Growth. Honorable President of Pakistan is leading Ministry of IT's initiatives regarding Emerging Technologies and allied verticals. The Government believes to facilitate investment in IT/ITES Sector. To match this spirit, Ministry of IT & Telecom has an open door policy to provide facilitation round the clock, be it any foreign or domestic investor interested in IT/ITES Business growth.

I invite you to consider Pakistan's IT industry for investment and outsourcing at substantial annual cost savings but with the same IT service quality and standards as in other countries and to capitalize on the economic growth in the local economy.

Secretary's Message

Shoaib Ahmad Siddiqui

Federal Secretary
Ministry of Information
Technology &
Telecommunication

PSEB is mandated to promote Pakistan's IT industry across the globe. IT companies have largely benefited from PSEB's initiatives by generating valuable business leads, establishing strategic linkages in foreign locations and signing outsourcing contracts with their foreign counterparts.

Pakistan's IT industry has indeed done well and due credit goes to the enterprising entrepreneurs and skilled workforce for coming up with creative and imaginative solutions. Pakistani IT companies consistently receive recognition at International competitions such as Asia Pacific Information and Communication Technology Awards (APICTA) in different categories including startup, mobile applications, e-learning, e-health, e-government, security, supply chain management, communications, and financial applications.

The Ministry of IT & Telecom, through Pakistan Software Export Board, continues to support all credible private sector initiatives aimed at bolstering the local IT industry and to attract foreign investment. We believe in ensuring fast track approach to facilitate IT foreign companies for business expansion. With an open door policy, we are here to facilitate companies interested in business investment/ growth in IT/ ITES Sector, E-Commerce, E-Governance and other IT' related verticals. This Ministry is working hard to ensure pro-investment IT policy initiatives with an inclusive policy development process in the country. The Government realizes that it has an important role in terms of providing a conducive environment to IT industry through infrastructure and HR development. PSEB has been playing a key role in promoting IT industry in the past and I hope that it will continue to play an even bigger role in the future to contribute towards Pakistan's economic growth.

MD's Message

Osman Nasir

Managing Director
Pakistan Software Export Board

The IT sector has achieved consistent, consecutive year on year growth that can be the envy of any industry anywhere in the world and is a superstar on its way to possibly becoming the largest foreign exchange earner for Pakistan. Already, the IT industry is among the top five net exporters of the country with the highest net exports in the services industries. Pakistan's IT industry is exporting products and services to the world's largest entities in over 120 countries. PSEB is being modernized as a front leading global business development and marketing organization to supercharge the growth of Pakistan's technology exports, which would address the supply-side issues such as physical and digital infrastructure availability, human resource enablement, access to capital, marketing initiatives, and policy initiatives from behind the borders. Taking the momentum of our supply-side initiatives, we will be looking to execute business development efforts to generate demand from beyond the borders.

PSEB recognizes the fact that our technology industry has traditionally been focused around the Karachi-Lahore-Islamabad factor, including only 17% of the country's population. It is critical to understand that we can only get to our $10 Billion of technology exports target by triggering the tech ecosystem across the remaining 83% of the population. Secondary cities of Pakistan are now being given priority for establishing Software Technology Parks, while the PSEB registration fee for IT & ITeS companies, including call centers and IT startups, belonging to underserved areas of the country has been waived. PSEB is also evangelizing the possibility of revitalizing defunct industrial units for conversion into Business Process Outsourcing Centers/ Software Technology Parks, and potential Cloud data centers, through Public-Private Partnerships.

The immense global demand for technology solutions and services generated through the COVID-19 inflicted enterprise digital transformation, and the steady handling of COVID's impacts by the Government of Pakistan calls for immediate training of thousands of new IT professionals to sustain the flow of orders. PSEB is launching several programs to train the bottom of the pyramid and the middle of the pyramid technology professionals in partnership with the IT industry's trade body P@SHA and industry training partners.

Software Houses and BPO centers registered with PSEB have reached a figure of 2860 by 31st December 2020, out of more than 10,000 tech companies actively registered in Pakistan. The increased business demand has seen the revenues of these entities soaring significantly and consistently, crossing $1.23 Billion.

The sustained growth of the technology freelancing phenomenon is now prominently registering itself on the export scoreboard. Bringing in approximately 10% of the total technology revenues, PSEB is working on a comprehensive facilitation package, in partnership with various organizations which could potentially include collateral-free business loans and health insurance subsidy to freelancers in partnership with the relevant government programs.

Several PSEB initiatives are in various stages, including the new PSEB web portal, branding of the Pakistan tech industry, development of new marketing collateral and industry whitepapers, and establishment of 40 additional Software Technology Parks. PSEB is also preparing to sign a partnership with Pakistan Stock Exchange for enlisting medium-and-large sized technology companies on the private trading floor enabling these companies to raise capital. PSEB is also launching a major business development initiative involving the foreign resident Pakistani technology professionals to offer their services as sales leaders for the Pakistani technology companies in their respective countries of residence. This program will be launched with the new country-branding slogan, logos and a dedicated website for the tech industry "TECH destiNATION PAKISTAN."

Cooperation and coordination between academic institutions, IT Industry and provincial tech boards are being enhanced significantly to ensure holistic growth of the IT Industry across Pakistan.

Keeping in view the importance of Pakistan's IT industry, the government is placing top priority on the growth of Pakistan's IT sector and is making all possible efforts to sustain and enhance its growth.

Contents

IT Industry of Pakistan

The 2019-2020 fiscal year has been a difficult year for the Pakistani economy. Despite the economic downturn, the ICT sector in Pakistan has continued to grow, providing quality services at affordable prices to the public. The World Economic Forum ranked Pakistan among the best countries in terms of affordability of ICT services. Regulators have continued to play their pioneering role in the country's digital transformation while also supporting the economy.

Information technology has assumed an enabling role in the emerging dynamics of a knowledge society and knowledge economy. It is a key lever of economic development. Pakistan's IT sector has a promising future, brimming with talent, and with the potential to become the largest export industry of the country. It is carving a differentiated position as the preferred source for software developers, programmers, designers and BPO specialists. Over the last 5 years, IT export remittances have increased by 137% at CAGR of 18.85%. Already, **IT industry is among the top 5 net exporters of the country with the highest net exports in the services industries.**

There is an enormous human and knowledge capital potential with 64% of 207 million in population under the age of 29 and almost 30% in the 15 to 29 age group. Pakistan is ranked **5th most financially attractive location in the world for offshore services,** according to A.T. Kearney's Global Services Location Index 2019. Several international companies including Global enterprises like Bentley®, IBM®, Mentor Graphics®, S&P Global®, Symantec®, and Teradata® have established global consulting services centers, research & development facilities and BPO support services centers in Pakistan.

The Government of Pakistan (GoP) continues to facilitate the IT industry through numerous sustainable development and accelerated digitization projects, research and innovation, software technology parks, subsidized bandwidth, international marketing, international certifications, internships and training.

Pakistan's IT Industry has achieved robust growth metrics and counts world's largest entities among its regular clients. Pakistan's IT industry now has a mature ecosystem that can serve the needs of global entities at among the lowest of costs, nearly 70% lower than developed markets such as North America.

There are more than 10,000 IT & ITeS companies currently registered with Securities and Exchange Commission of Pakistan (SECP) comprising of both domestic and export-oriented enterprises. There are 500,000+ English-speaking IT & BPO professionals with expertise in current and emerging IT products and technologies, and **over 25,000 IT graduates and engineers are being produced each year.** The number of IT companies is expected to surge with the rise of entrepreneurship in the younger population of the country.

The cellular mobile companies represent a huge market, reflecting a promising IT landscape in Pakistan. Over 85% of telecommunication infrastructure is on fiber-optic cables and internet access is available in over 2,000 cities/towns across Pakistan. Tele-density in Pakistan has crossed 79.65% with 3G/4G users totaling 85 million (40%). Broadband penetration is already over 40.95% with 87 million users.
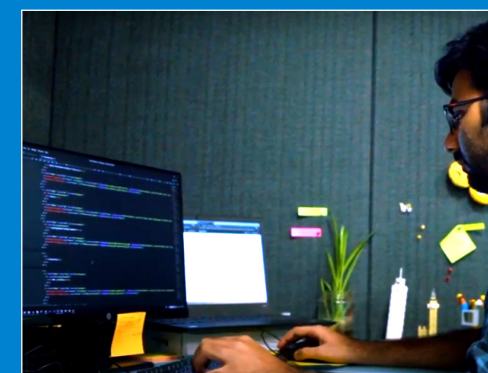
Pakistan I CT Exports

Pakistan's IT & ITeS-BPO exports at present are estimated to exceed US$5 billion, according to industry analysts.

The IT & IT' enabled Services (ITeS) export remittances, as reported by SBP, comprising of computer services and call center services have s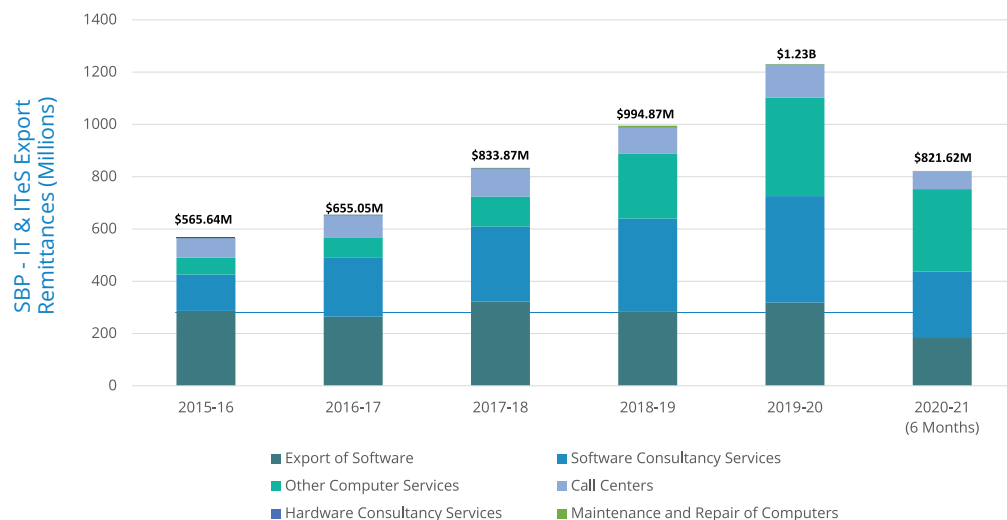urged to US $1.230 billion at a growth rate of 23.71% in the FY 2019-20 in comparison to US $994.848 million during the same period despite current global economic challenges thereby demonstrating the resilience of Pakistan's IT sector.

The domestic market accounts for over US$1 billion in annual revenue and growing rapidly as ICT adoption in Pakistan is increasing across verticals. The government considers the startup community, freelancers, developers and IT students as an important pillar of government strategy. As mentioned before, the IT industry is growing at a phenomenal rate, earning valuable foreign exchange for the country, creating high paying jobs, improving nation's productivity and quality of life in general through innovative technology solutions.

IT & ITes Export Remittances
(Source: Trade in Services data, State Bank of Pakistan)

Chart — SBP - IT & ITeS Export Remittances (Millions) by fiscal year:
- 2015-16: $565.64M
- 2016-17: $655.05M
- 2017-18: $833.87M
- 2018-19: $994.87M
- 2019-20: $1.23B
- 2020-21 (6 Months): $821.62M

Legend: Export of Software; Software Consultancy Services; Other Computer Services; Call Centers; Hardware Consultancy Services; Maintenance and Repair of Computers

Top 5 export destinations of Pakistan

As per recent available export figures, IT & IT' enabled Services (ITeS) export remittances comprising of computer services and call center services have surged to US $821.62 million at a growth rate of 41.26% during July-December of FY 2020-21, in comparison to US $581.633 million during July-December of FY 2019-20.

Country	FY 2018-19	2019-20
USA	667.19	828.19
UAE	96.85	127.40
UK	80.33	111.23
Singapore	35.14	50.81
Canada	30.97	40.68
TOTAL	910	1,158

(US$ million)

Ecosystem of Pakistan IT Industry

Pakistan's IT industry is an evolving ecosystem of IT companies, professionals, academia and policymakers that has delivered results, as is evident from sustained revenue growth of 20-30% every year over the past decade.

Pakistan's IT industry is now a well-established destination in the global IT industry for outsourcing and investment. IT resources in Pakistan are available at approximately 70% annual savings when compared with Europe or North America. Pakistani IT companies have expertise in different IT services including high end, enterprise grade software development, systems integration, mobile apps, gaming, animation, consulting and BPO services such as telemarketing, technical support, medical transcription and billing. Pakistan's IT exports have grown exponentially over the last five years with a growth of 137%.

Information technology has assumed an enabling role in the emerging dynamics of a knowledge society and knowledge economy. It is a key lever of economic development. Pakistan's IT sector has a promising future, brimming with talent, and potential to become the largest export industry of the country. It is carving a differentiated position as the preferred source for software development. Pakistan is the world's 6th most populated and Asia's 4th most populated country. With an approximate population of more than 220 million, Pakistan is one of the leading countries from where students enter the world's most prestigious universities in large numbers. Pakistanis are also rank high on intelligence scales and are therefore multitalented and multifaceted good English accent with and is commonly used language in country. More often than not, most of the IT professionals, IT executives and company founders in Pakistan have graduated or lived in the West. Finding a skilled workforce in Pakistan in the technology field does not present a problem for foreign investors and there are no cultural barriers to overcome as Pakistani professionals are used to interacting with clients based in developed countries. There are significant benefits in terms of cost as well and the employee turnover rate in Pakistan is very low which shows the devotion of its professionals.

There is an enormous number of human and knowledge capital potential with 64% of 207 million in a population under the age of 29 and almost 30% in the 15 to 29 age group. Pakistan is ranked 5th most financially attractive location in the world for offshore services. Several international companies including Global enterprises like Bentley®, Ciklum®, IBM®, Mentor Graphics®, S&P Global®, Symantec®, Teradata®, and VMware® have established global consulting services centers, research & development facilities, and BPO support services centers in Pakistan.

TOP IT EXPORTERS

The number of IT companies is increasing every year as the younger population prefers to run their entities instead of attempting to seek public sector jobs like their predecessors. This is helped by solid support from the government and a plethora of public and private sector entities are prioritizing the growth of the IT Industry. The startup culture has come of age at a breakneck speed with success stories coming out every year. The government considers the Startup community, freelancers, developers and software, and IT students an important pillar of its strategy. Pakistan's IT industry counts the world's largest entities among its regular clients and is providing services to 120 countries around the globe. Pakistan's IT industry is vibrant, and the industry has its interest watching association (P@SHA). Multiple entities at both provincial and federal levels are working to ensure that the industry growth is enhanced and that friction points that may impede industry growth are minimized. Bentley, Ciklum, IBM, Mentor Graphics, S&P Global, Symantec, Teradata, and VMware had established consulting services centers, research & development facilities, and BPO support services centers in Pakistan. Pakistan became the first country in South-East Asia to have tested 5G in 2019. The developments would impact Pakistan's technology sector and other industries.

Pakistani companies have state of the art expertise in Mobile Apps Design & Development, Game Development & Animation, Product Design, Development & Testing, Embedded Systems, Software, ERP (General, Specialized – Verticals), Banking (Core Banking, Banking, Information Security, IT Governance & Strategy, IT Consulting & Systems Integration, Data Warehousing & Business Analytics, CRM software (Sales & support automation),BPO:Outsourced Support Services, Managed Services, Tech Support, Customer Interaction, HR Services, Finance & Accounting, Marketing Services, Data Analytics, Transaction Processing, Medical/Legal Transcription Services, Billing & Payment Services,Travel/Transport Support Services, Virtualization & Computing Web Businesses & e-Commerce, Office Productivity & Document Management E-Learning & Education Software, Telco & Billing Software Exploration & Production software (Oil & Gas), Health-related Software, Open Source Customization Investment Opportunities in Pakistan's IT & ITeS Sector are abounded. Both local and domestic investors can capitalize on the opportunities that the growth in the IT sector of Pakistan presents, these include Company acquisitions and mergers, IT startups, Venture capital funds, IT parks, Software development centers, Software testing centers, Technology incubators, Gaming and animation studios, IT global consulting centers, Data Centers, BPO.

Broadband
- Broadband subscribers 95 million
- Cellular subscriber 178 million
- 3G/4G subscribers 93 million

Springboard Pakistan
- Internet corridor for Central Asia, Eastern part of China, GCC, Africa, South East Asia, Oceania
- 5 Hours Advantage – 5 hours behind Melbourne, 5 hours ahead of London
- Destination for IT services excellence centers and back offices

Pakistan's IT & ITES Sector

300+ International Companies

Bently®, Ciklum®, IBM®, Mentor Graphics® S&P Global®, Symantec®, Teradata®, VMware® etc. have established BPO support, developing & global consulting centers

16 Software Technology Parks

These buildings are located in safe and accessible prime real estate and provide office space at affordable rentals

Exporting to 120+ Countries

Pakistani companies are providing state of the art IT products and services around the globe and count world's largest entities among their regular customers

5th Most Financially Attractive Country

in the world for outsourcing services (A.T. Kearney's Global Services Location Index 2019)

3rd Most Popular Country for Freelancing

(2019 Global Gig-Economy Index)

Well Developed Telecom Infrastructure

6 international cables & 4 mobile operators

Companies Registration Analysis according to SECP

There is a consensus among private and public sector industry experts that the IT industry has the potential to become the largest foreign exchange earner for Pakistan. The multipronged efforts are bearing fruit as the number of IT companies registered with the Security and Exchange Commission of Pakistan has surged to more than 10,000 active companies making information technology the second largest sector in Pakistan's economy after trading. The Year 2020 witnessed the largest number of IT company registrations, with 2,826 companies registered with SECP compared to 395 companies registered in 2014. The trend is expected to continue as efforts are underway to expand Pakistan's tech ecosystem beyond Karachi, Lahore, and Islamabad.
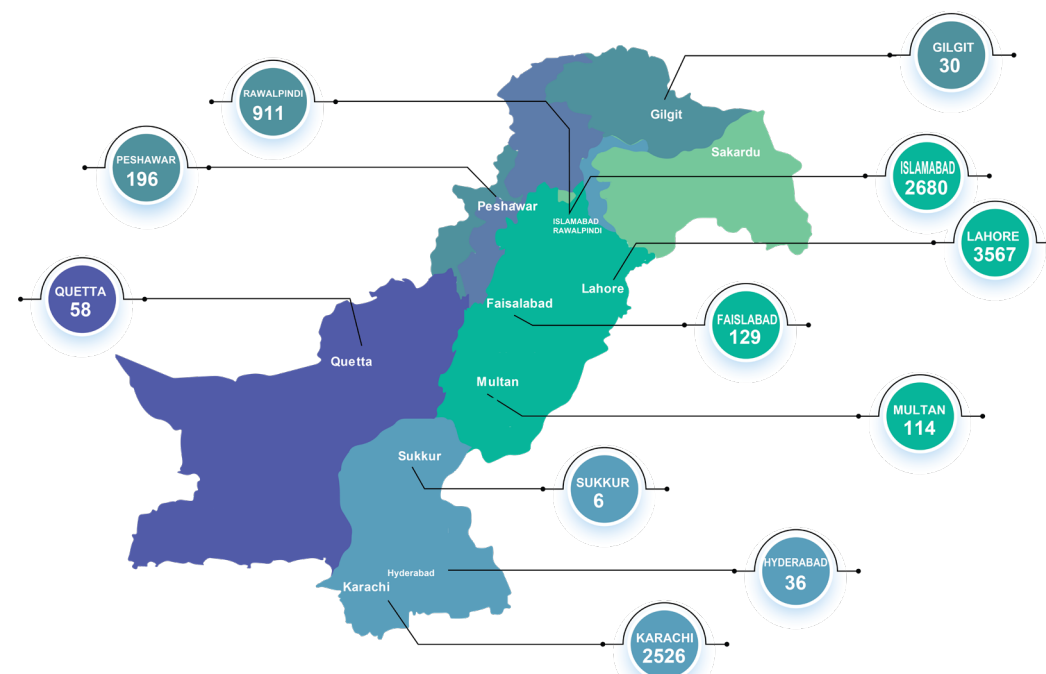
New Companies registered with SECP between 2014-2020

Year	Companies
2014	395
2015	492
2016	581
2017	1035
2018	1452
2019	1748
2020	2826
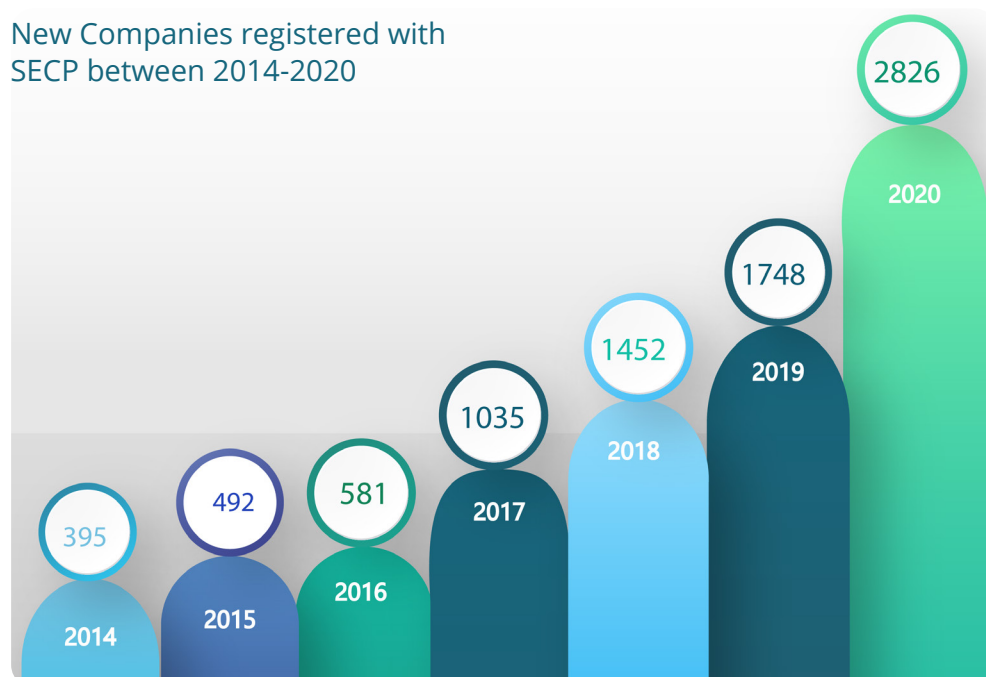
Break Down of Companies by City

The largest concentration of IT companies in Pakistan is in Pakistan's second-largest city, Lahore, with 3,567 companies. The federal capital of Pakistan, Islamabad, comes in second with 2,680 companies. Islamabad, Rawalpindi, Lahore, and Karachi currently account for around 90% of all IT companies registered with SECP.

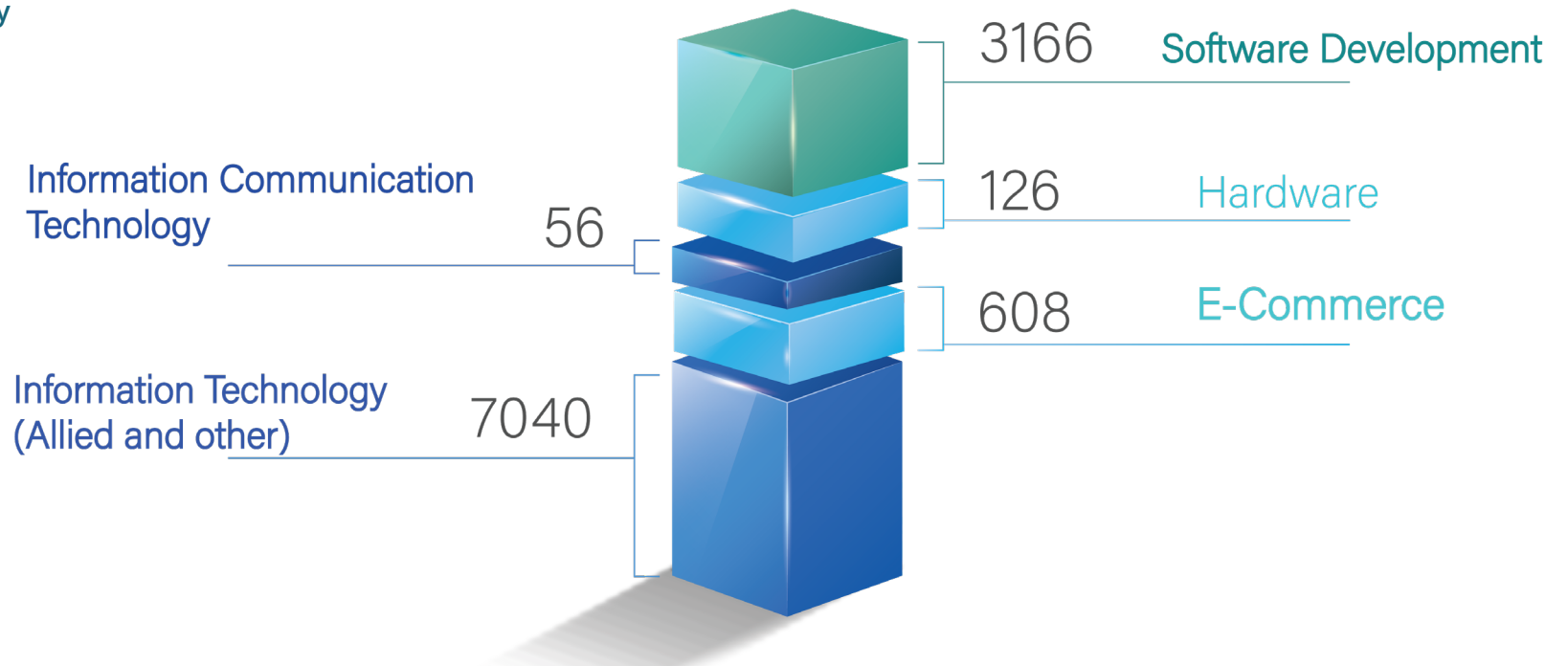| City	Companies
GILGIT	30
RAWALPINDI	911
PESHAWAR	196
ISLAMABAD	2680
LAHORE	3567
QUETTA	58
FAISLABAD	129
MULTAN	114
SUKKUR	6
HYDERABAD	36
KARACHI	2526

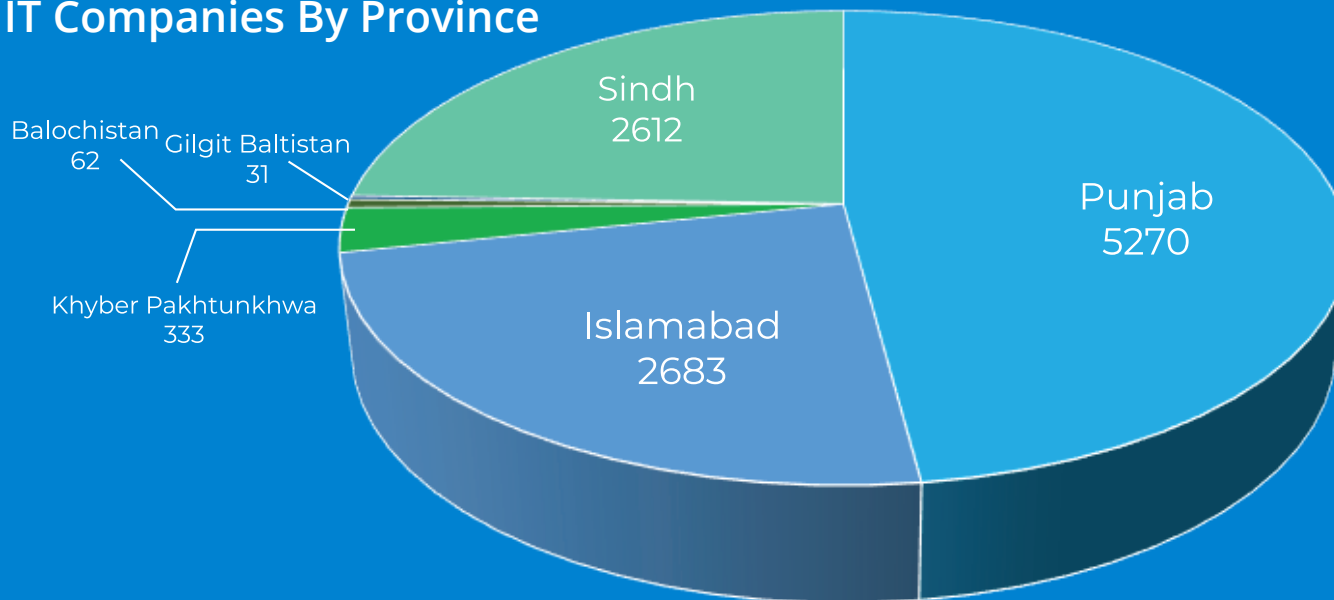## Companies by Registration Type

The IT Industry in Pakistan comprises SMEs. For this reason, majority of the companies registered with SECP are private limited companies, single-member companies accounting for 98% of registrations with SECP (single-member companies 2,100, private limited companies: 8,691). One of the reasons for the rapid growth of Pakistan's IT industry is burgeoning entrepreneurship in Pakistan's IT sector. A majority of the companies, being SMC or private limited, have significant room for growth, thereby presenting opportunities for prospective investors looking for solid returns.

IT Companies in Pakistan by Business Specialization

3166	Software Development
126	Hardware
608	E-Commerce

Information Communication Technology — 56

Information Technology (Allied and other) — 7040

IT Companies By Province

Sindh
2612

Balochistan
62

Gilgit Baltistan
31

Khyber Pakhtunkhwa
333

Punjab
5270

Islamabad
2683

An estimated 30% of the companies are registered as sole proprietors or partnerships and are thus not included in the SECP total of over 10,000 active IT companies.

The subsequent reports on the IT sector would also have the sole proprietors and partnerships.

International Clients

Pakistan IT companies have many Fortune 500 companies amongst their clients including
Hallburton®, Motorolla®, GE®, BMW®, Toyota®, Daimler Chrysler®, AT&T®, Vodafone®, e-Bay®, Pepsi®, Deutsche Telecom®, DHL®, KPMG®, ABN Amro®, NYSE®, British Petroleum®, Petronas®, Caltex®, Sears®, Telenor®, and many more.

Certified IT Companies

More than 150 IT companies are certified in IT quality standards such as ISO 9001, ISO 27001 and CMMi
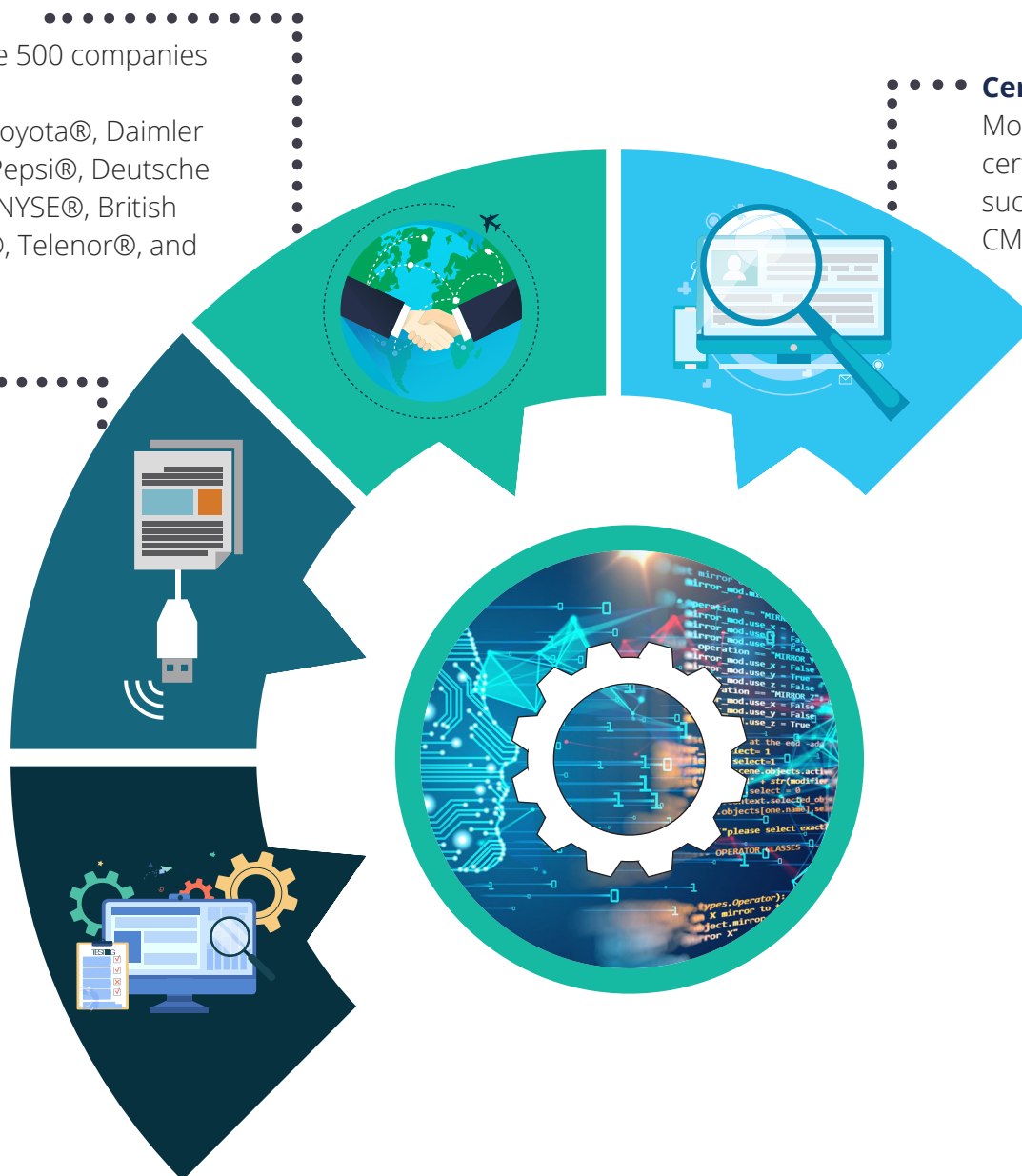
Emerging Technologies

Blockchain, AI, Big Data, IoT, AR/VR, Cloud Computing, 5G, Quantum Computing

Excellence Centers

Many international IT firms have established offices in Pakistan including IBM®, HP®, Dell®, Intel®, Microsoft®, Oracle®, Siemens®, NCR®, Teradata®, Mentor Graphics®, and many more

GovTech

The GovTech term refers to the efforts made to digitize public administrations through innovative technological solutions. GovTech aims to make the public sector more innovative, more nimble, more light-footed and responsive to effectively address the needs of citizens. GovTech aims to utilize the limited resources to deliver public services better. Technology and Artificial intelligence are the tools that finally have the power to radically reengineer the governments.

Slow or lackluster adoption of technology fosters inefficiency, poor quality of government services, dissatisfied public. The use of technology by Pakistani entities needs to be accelerated and government entities pushed to adopt technology to make the public sector better and more responsive while enhancing efficiency and accountability. Faster adoption of Gov tech would enhance Pakistan's economic growth, reduce poverty and surely improve Pakistan's ranking on vital charts such as ease of business besides radically enhancing interaction between citizens and public sector entities. It would also force upon Pakistani entities to improve their respective capacity and therefore competence in achieving the mandates assigned to them.

Transparency and Accountability metrics also skyrocket through the correct adoption of GovTech. The adoption of technology by public sector entities is typically slow because of resistance to change and a preference towards the comfort of the status quo. Within Pakistan the adoption of technology varies greatly between various government entities whether federal or provincial but significant progress has been made with Pakistani IT companies delivering state-of-the-art GovTech solutions to Pakistani and overseas entities.

The Government of Pakistan is moving towards GovTech. Several public sector entities such as NADRA make effective use of GovTech. Many Pakistani public sector entities have online methods to submit applications, view updates, pay vehicle registration dues As mentioned earlier, Pakistan's international ranking in the rooster of countries would improve significantly with the adoption of GovTech. The need of the hour, therefore, is to ensure a central channel that would push the public sector entities to accelerate the process of adoption of the latest technologies such as AI and machine learning. This would also help enhance the development of GovTech companies in Pakistan and this helps in developing strong clusters of GovTech companies.

The Government of Pakistan is taking proactive measures to be more responsive to its citizens. For instance, National Database & Registration Authority (NADRA) has gained international recognition for its success in providing solutions for identification, e-governance and secure documents that deliver multi-pronged goals of mitigating identity theft, safeguarding the interests

TURNING
DIGITAL PAKISTAN
INTO REALITY

of our clients and facilitating the public. In-depth Research and Development efforts have enabled NADRA to become the trailblazer in the areas of Software Integration, Data Warehousing and Network Infrastructure. Raast, created by the State Bank of Pakistan, is Pakistan's first instant payment system that will enable end-to-end digital payments among individuals, businesses and government entities instantaneously. The state-of-the-art Pakistan's Faster Payment System will be used to settle small-value retail payments in real-time while at the same time provide cheap and universal access to all players in the financial industry including banks and fintech. E-Office, an app developed by the Government of Pakistan, is helping the Government departments to go paperless. It is aimed at improving internal efficiencies in an organization through electronic administration.

Securities and Exchange Commission of Pakistan (SECP) has launched an electronic certificate of incorporation which is yet another step to make the company incorporation process fully electronic and hassle-free and is in line with corporate registries of developed countries. End-to-end automation of services through the use of modern technology is on top of the agenda of SECP. E-Office is a step forward into an era of paperless administration in the government offices. It is a digital workplace solution that replaces the existing method of manual handling of files and documents with an efficient electronic system.

Key Performance Indicators (KPI's)
· Active Users 6760
· DR Poll up to 500 million
· Up to Rs. 300 million savings on stationary
· Up to 80% Operating Time-saving
· Up to 80% increase in efficiency

Currently, the GovTech market is estimated to be worth over US$ 400 billion. With an extraordinary growth rate of 15%, it is expected to hit US$ 1 trillion by 2025. This market value exceeds other popular industries, such as FinTech or Cybersecurity, with estimated values of US$ 130 billion and US$ 150billion respectively.

Skilled Workforce

The tech industry requires highly skilled and requires state of the art expertise. IT industry operates on the cutting edge and hence manpower the skills need to be constantly updated.

The IT industry's dependence on skilled labor is a matter of survival, far more so than traditional industries. The growth of IT Industry is, therefore directly dependent on the availably of a highly skilled labor force. Approximately, 25,000 IT graduates enter Pakistan's workforce each year, thus providing Pakistani IT industry with the much-needed workforce. Pakistan's IT Industry growth has been augmented by the fact that costs remain low for the IT industry due to a plethora of factors such as low labor cost and strong government incentives. The average annual cost of a software engineer in Pakistan is one fifth of the cost in USA and Europe. Pakistan is ranked 5th most financially attractive location in the world for offshore services, according to A.T. Kearney's Global Services Location Index 2019.

The tech industry requires technical, domain intensive expertise for producing high value IT products and services that are needed by world's largest entities. It also needs innovative entrepreneurs who can take risks and can operate at the bleeding edge of technology and rapidly evolving business models.

The need of the hour therefore is to ensure that Pakistan can provide trained manpower to the IT Industry as per its requirements. For this to happen effectively, there needs to be strong collaboration and collaboration between IT industry, academia and other relevant public and private entities. Pakistan also needs to nurture support and encourage tech entrepreneurship in the industry among the youth of the country as traditional industrialists are more often than not, reluctant to foray into new areas of technology and the same is true for the older entrepreneurs.

Pakistan needs to develop, support and sustain a culture of innovation.

This is necessary to ensure growth of cutting-edge IT industry in Pakistan and to move up the value chain in rapid succession.

Universities need to be more focused on encouraging entrepreneurship and all need to have viable entrepreneur support/startup support ecosystems. They also need to develop and nurture minds with a skew towards innovation and positive disruption. Pakistan also needs to have strong Venture Capital Support ecosystem for entrepreneurs and to develop this, economists and finance experts should be enlisted for developing strong and solid venture capital funding channels for the development of Pakistan's IT Industry.

According to the information available, funding is a significant bottleneck in Pakistan. "There is only US$ 0.06 per capita of venture capital money in Pakistan per year, while Bangladesh has US$ 0.07, Nigeria US$ 0.18 and India US$ 3.72. In 2017, only nine Pakistani startups received venture capital funding compared to 34 in Nigeria, 38 in the UAE and approximately 790 in India. Overall, Pakistan's tech start¬ups raised under US$ 30 million in 2018 compared to countries such as Indonesia (excluding unicorns) raised over US$ 274 million in 2018".
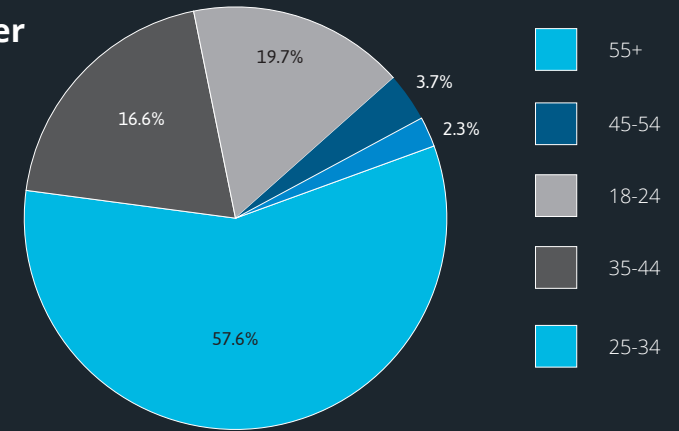
Freelancer: A Workforce in Acceleration

During the last several years the number of freelancers has been increasing exponentially in Pakistan, and the number of clients and projects has been increasing. The most popular positions of the orders in the freelance market are web development, logo designing and programming. The steady growth in the number of freelancers in Pakistan has been identified. During FY 2019-20 with exports to 120+ countries, including the US$ 150 million earned by freelancers. Additionally, Pakistan has not only accomplished to secure the top slot in Asia it has also ranked 4th in the world in the growth of freelance earnings in the second quarter, shortly behind the United States at 78 percent growth, the United Kingdom at 59 percent growth and Brazil at just 1 percent more than that of Pakistan. The enormous mainstream of Freelancers in Pakistan are in their 20s and 30s (over 60%). Payoneer's Head of Business Development in Pakistan Mohsin Muzaffer says, "There have been many public and private initiatives that have resulted in a better quality of freelancers", further adding, "Pakistan's digital workforce is recognized as one of the best and Payoneer will continue to be a part of this growth."

Pakistani Freelancer Earnings by Age

Pie chart values: 57.6%, 19.7%, 16.6%, 3.7%, 2.3%

Legend: 55+, 45-54, 18-24, 35-44, 25-34

Top 8 Freelancing Countries

1-USA	2-UK	3-Brazil	4-Pakistan
78%	59%	48%	47%

5-Ukrain	6-Philippines	7-India	8-Bangladesh
36%	35%	29%	27%
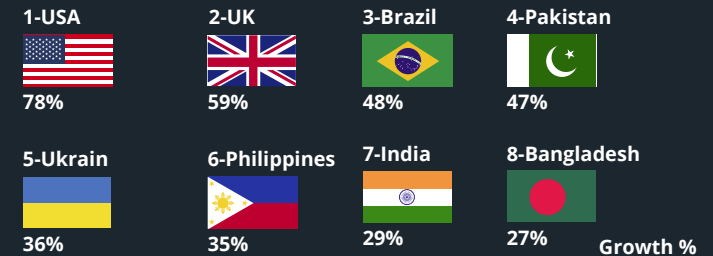
Growth %

Growth in Pakistani Freelancers Revenue 2020

	FEB	MAR	APR	MAY	JUN
-5%	2%	21%	16%	36%	47%
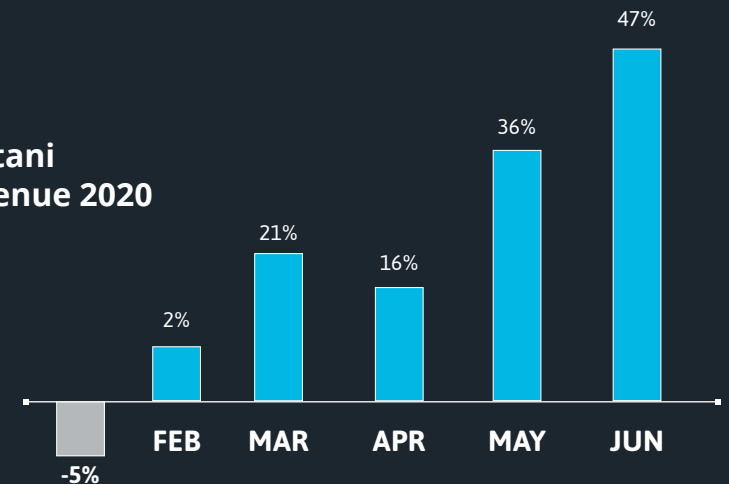
Startup Ecosystem

The Government has a vision of accelerated digitization and transformation of Pakistan into a knowledge-based economy to spur economic growth through innovation and entrepreneurship. Keeping in mind the critical role of startups in economic growth, job creation, financial inclusion, reducing the income divide, and building a knowledge economy, Ignite under the auspices of Ministry of IT & Telecom, launched a program to build a network of National Incubation Centers (NIC). IGNITE has successfully established 5 National Incubation Centers (NIC) in the Federal Capital and all Provincial Capitals of the Country.

To date, in five NICs (Islamabad, Lahore, Peshawar, Karachi & Quetta) 440+ promising Startups have been inducted. Startups have been provided mentorship and networking by leading entrepreneurs, corporate chieftains, top professionals, investors and global entrepreneurial organizations through numerous events and meetups. Other facilities include rent-free office space, high speed broadband Internet, makers lab, usability labs, Fintech Lab, Design Thinking Lab etc. These centers also offer curriculum that teaches pitching and learning by doing. Legal assistance, coaches, vertical mentors, financial experts and trainers are also available to nurture the Incubatees.

FinTech — Largest Round: Finja ($9,000,000)

FoodTech — Largest Disclosed Round: Byte ($150,000)

SaaS — Largest Round: Integry ($1,000,000)

HealthTech — Largest Round: MedznMore ($2,600,000)

E-commerce — Largest Round: Retailo ($2,300,000)

121 Incubated

30 Graduated

290 + Founders

42 Women Entrepreneurs

1,200 + Hours of Curriculumn

1,830 + Hours of Mentoring

1,700 + Jobs Created

PKR 370 M+ Investment Raise

PKR 407 M+ Revenue Generated

(Image source: ignite.org.pk)

National Incubation Center Lahore

National Incubation Center Karachi

National Incubation Center Quetta

Software Technology Parks in Secondary Cities

Pakistan has a burgeoning IT industry that has grown year-on-year basis, even during Covid 19 global pandemic. It is pertinent to note however, that IT industry remains concentrated in Karachi, Islamabad and Lahore which are responsible for the majority of the IT industry exports from Pakistan.

As a consequence, Pakistanis seeking jobs in the tech sector flock to Karachi, Lahore and Islamabad in search of opportunities thereby further expanding and cementing the status of the aforementioned tech hubs at the expense of tertiary and secondary cities economic growth.

The IT industry which by its very nature, is not dependent on a vast eco system of supply chains and is not bound by geographical constraints as well. The IT companies can be set up anywhere without significant regard to the location, however the IT companies do prefer a location that has an ecosystem capable of delivering a concentration of tech companies, a ready supply of manpower and strong and infrastructure for their mission critical operations.

PSEB is making strong efforts to establish Technology Parks all over the country, with particular focus on secondary and tertiary cities of Pakistan. This includes far flung locations such as the Northern Areas of Pakistan, where thought of establishing a Software Technology Park would not have crossed anyone's mind just a few years ago. In order to expedite establishment of Software Technology Parks, PSEB is also making efforts to convert unused and defunct buildings in to Software Technology Parks in order to expedite the process.
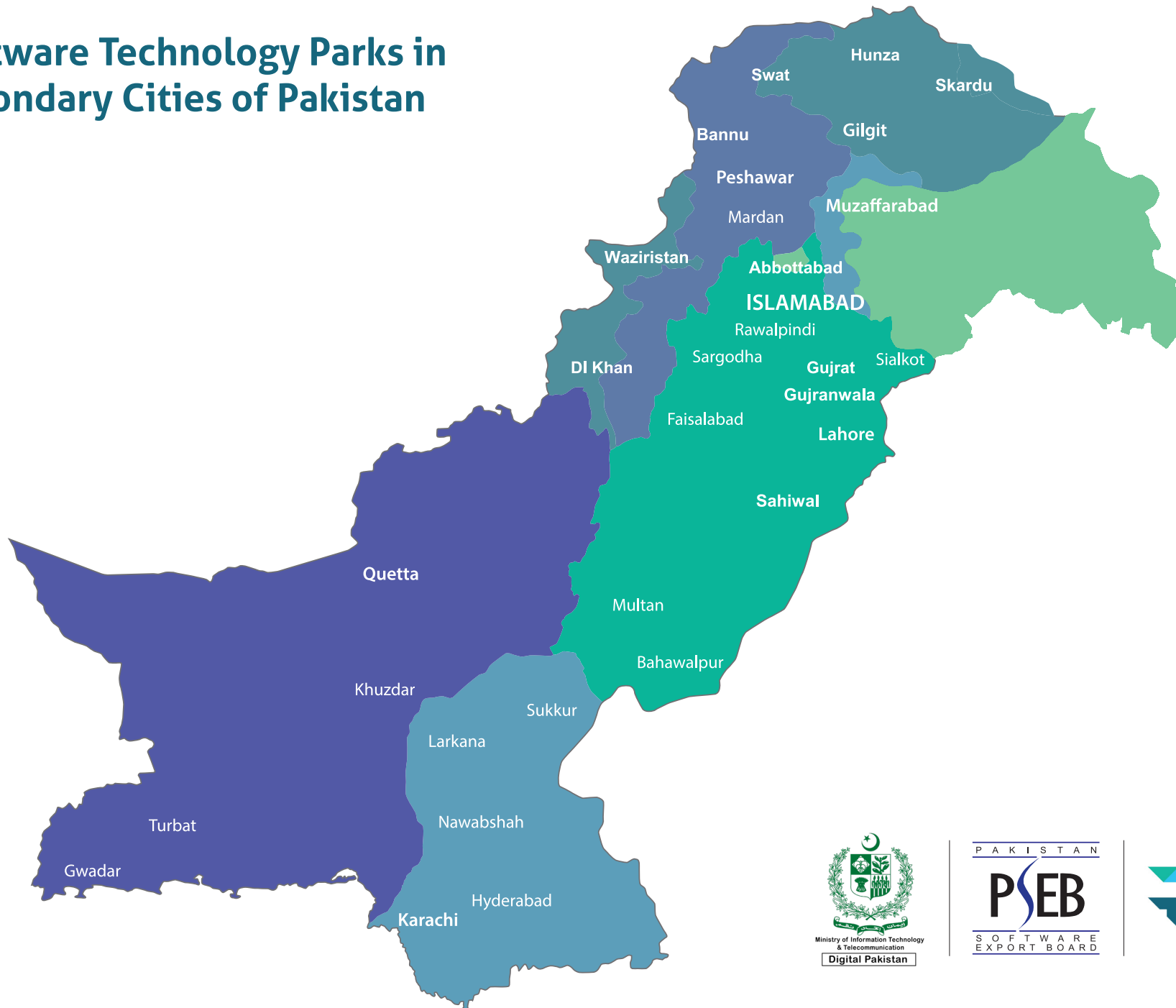
The development of IT industry in secondary and tertiary cities of Pakistan would have significant positive repercussions for their economic growth in terms of generating economic growth and preventing brain drain to major tech hubs. Other benefits of a technology park include development of a related ecosystem, such as a strong science base in the surrounding areas of a science and technology park. The tenants of a technology parks drive this growth out of necessity and hence benefits the surrounding areas. It also results in development of the city as has been the case with many cities around the globe, most famous of which is Silicon Valley. It also allows for development of an entrepreneurial culture as tenants of the technology park nurture talent which results in fostering startups technology experts and entrepreneurs. Over time, it also results in the development of financial ecosystem, especially seed and venture capital. These resources are critical to support long-term STI initiatives and build upon existing research.

Software Technology Parks in Secondary Cities of Pakistan

Hunza

Swat

Skardu

Bannu

Gilgit

Peshawar

Mardan

Muzaffarabad

Waziristan

Abbottabad

ISLAMABAD

Rawalpindi

DI Khan

Sargodha

Sialkot

Gujrat

Gujranwala

Faisalabad

Lahore

Sahiwal

Quetta

Multan

Bahawalpur

Khuzdar

Sukkur

Larkana

Turbat

Nawabshah

Gwadar

Hyderabad

Karachi

Ministry of Information Technology & Telecommunication

Digital Pakistan

PAKISTAN
PSEB
SOFTWARE EXPORT BOARD

TECH destiNATION PAKISTAN

Software Technology Park in Gilgit

A state-of-the-art Software Technology Park was established in Gilgit recently. Several IT companies have already relocated their business operations to the Gilgit STP providing services to customers around the globe and the facility currently has fully occupied by IT companies. In four months, since the inception of Gilgit Software Technology Park, 8 companies have expanded from 73 professionals to nearly 200 professionals. Previously, due to a lack of viable IT industry in Gilgit, young software experts and engineers from these areas had to move to other cities.

Among many success stories from Gilgit is an IT company, Dot Austere, a software & design agency. Another example is SheDev, which is an all-female company providing tech solutions to customers. They are currently providing services to local and international customers.

The Gilgit Software Technology Park has been a roaring success and would contribute to the efforts to create a robust IT ecosystem in Gilgit and contribute to the efforts to develop the economy of the region.

Pakistan has improved its position in the World Bank's Ease of Doing Business Index for the second consecutive year as per World Bank's latest rankings. Pakistan's position on the index improved by 28 points from 136 to 108 which is an "unprecedented improvement", as quoted in the World Bank report.

As per World Bank Report, Pakistan improved its position by 58 points in the "Starting a Business" indicator. Pakistan's ranking in this indicator has improved from 130 to 72 and is placed at second position in South Asian countries in terms of ease of starting a business.

Way Forward

The IT sector is immensely important to Pakistan's economy. It has achieved consistent, consecutive year on year growth rates that can be the envy of any industry anywhere in the world and is a real superstar on its way to possibly become the largest foreign exchange earner for Pakistan. Already, IT industry is among the top 5 net exporters of the country with the highest net exports in the services industries. The Government has assigned top priority to the IT sector and has provided strong incentives for the growth of IT industry.

Multiple projects have been launched to enhance the depth, capacity and capability of the IT Industry in Pakistan which include accelerated establishment of IT parks all across Pakistan. The government has a 17-member task force on IT and telecommunications comprising members of the tech sector to advise policy changes and develop strategic plans to strengthen the technology ecosystem of Pakistan. There is strong collaboration and cooperation between the Public and private sector entities which is a precursor for strong IT Industry growth.

Digital Pakistan Policy

Pakistan introduced its first 'Digital Pakistan policy' back in 2018. The primary aim of this policy was to bolster the IT industry by building a digital ecosystem. Taking a step forward PM Imran Khan launched 'Digital Pakistan Vision' in December 2019 to enhance connectivity, improving digital infrastructure, increasing investment in digital skills, promoting innovation, and tech, job creation, ending corruption as well as increasing economic growth. The Policy focuses achieving these objectives through access & connectivity, digital infrastructure, e-government, digital skills, training & innovation and entrepreneurship".

Start-Up Incubators

Start-up ecosystem has come of age rapidly in Pakistan. There are both public and private sector entities supporting the startups by providing both financial and mentoring support. There has been significant startup success from Pakistan such as Bykea, Careem and Daraz. A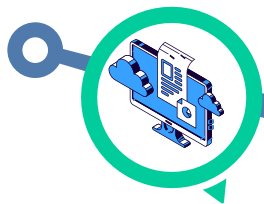ttitudes towards entrepreneurship has changed drastically in Pakistan in the past few years. The younger generation prefers to choose the startup, entrepreneurship and freelance route as opposed to seeking jobs. One of the reasons for this change is widely published success of Startups both in Pakistan and internationally. Other reason for this change is a solid telecom sector in Pakistan which allows Pakistanis, even those residing in remote areas to access the international market. The current situation is such that a budding entrepreneur has a choice of which incubator would he/she prefer. These include Plan 9, NUST I/O, LUMS Centre of Entrepreneurship, i2i, Plan X, Microsoft Innovation Center, National Incubation Center among several others.

Why Invest in Pakistan's IT Industry?
Government Incentives

Other Benefits
Up-to 70% savings on annual operational expenses (OPEX) as compared to North America and Europe.

Repatriation
100% repatriation of dividend and investment allowed to foreign IT investors

Start-up Tax Holiday
Three-year tax holiday for IT startups with no minimum tax and withholding tax.

Software Technology Parks
16 IT parks with IT-enabled infrastructure and state of the art redundant facilities

Equity
100% equity allowed for foreign investors

VC Tax Holiday
Tax holiday for venture capital funds till 2024.

Zero Income Tax
Zero Income tax on IT exports till June 2025.

Depreciation
Accelerated depreciation of 30% on computer equipment

Ease of Doing business

2020's Ranking

2020 — 108

136 — 2019

2018 — 147

144 — 2017

indicator	Positions Jumped	DB20 Rank	DB19 Rank
Overall - out of 190	28	108	136
Starting a business (reform)	58	72	130
Dealing with Construction Permits	54	112	166
Gettings Electricity (reform)	44	123	167
Registering Property	10	151	161
Paying Taxes	12	161	173
Trading Across Borders	31	111	142
Getting Credit	(7)	119	112
Protecting Minority Investors	(2)	28	26
Enforcing Contracts	0	156	156
Resolving Insolvency NegativeData Correction)	(5)	58	53

Financial Facilitation

International e-Payments/Merchant Accounts

- Merchant accounts are enabled
- 06 banks and 02 e-commerce merchant aggregators are providing internet payment gateway services
- Rules of Digital On-Boarding of small merchants with simplified due diligence in place

Facilitation of Freelancers

- Inward remittance limit for freelancers enhanced to $25,000/individual/month
- 35% of export earnings received through home remittance channel can be used to make payments abroad
- Opening of bank accounts after fulfilling KYC/CDD requirements
- Export remittances of IT & ITeS Freelancers are being reported and merged with industry's export remittances

Bank Loans/Financing

- Secured Transactions Registry (SME access to credit using movable assets as collateral: stocks, receivables, patents, trademarks, copyrights
- Foreign currency loans from abroad: working capital, project financing, bridge financing, import/export loans
- Working capital financing for SMEs (Small: Rs. 25 million, Medium: 50 million.)

Bank Financing

- Export Finance Scheme
- Transaction based facility: Firm Export Order / Export Letter of Credit, for a maximum period of 180 days
- Revolving finance limit equivalent to 50% of export performance during last year)

Global ICT Industry Overview

- Among global regions, western Europe remains a significant contributor, accounting for approximately one of every five technology dollars spent worldwide.
- China has established itself as a major player in the global tech market. China has followed a pattern that can also be seen in developing regions, where there is a twofold effect of closing the gap in categories such as IT infrastructure, software, and services, along with staking out leadership positions in emerging areas such as robotics.
- Many APEC countries enjoy the twofold effect of the bulk of technology spending stems from purchases made by corporate or government entities.
- The allocation of spending will vary from country to country based on a number of factors. In the mature U.S. market, for example, there is robust infrastructure and platforms, a large installed base of users equipped with connected devices, and available bandwidth for these devices to communicate. This paves the way for investments in the software and services that sit on top of this foundation.
- Tech services and software account for nearly half of spending in the U.S. technology market, significantly higher than the rate in many other global regions. Countries that are not quite as far along in these areas tend to allocate more spending on traditional hardware and telecom services.
- The traditional categories of hardware, software and services account for 56% of the global total.
- The other core category, telecom services, accounts for 26%
- The remaining 17% covers various emerging technologies that either don't fit into one of the traditional buckets or span multiple categories include elements of hardware, software, and services, such as IoT, drones, and many automating technologies.
- The global Information Technology industry encompasses the sectors of hardware, software and services, telecom, and emerging tech including 'as-a-service' solutions under the umbrella of the Internet of Things (IoT) and automating technologies.
- The continuing investment in industrial automation and digital connectivity around the world ensures that technology would remain a growth market during this decade as companies shift focus from cost reduction to innovation.
- The United States is the world's largest tech market, accounting for around one-third of the total market, and exceeding the gross domestic product of most other industries. Although the US market is large, 68% of the global of tech spending happens outside of the US and is made by enterprise or government entities. Western Europe is a major contributor in the global tech market, and China is also a significant player with focuses on robotics, infrastructure, software, and services.

Global Statistics

US$ 5
trillion
global technology industry
(2021 projection)
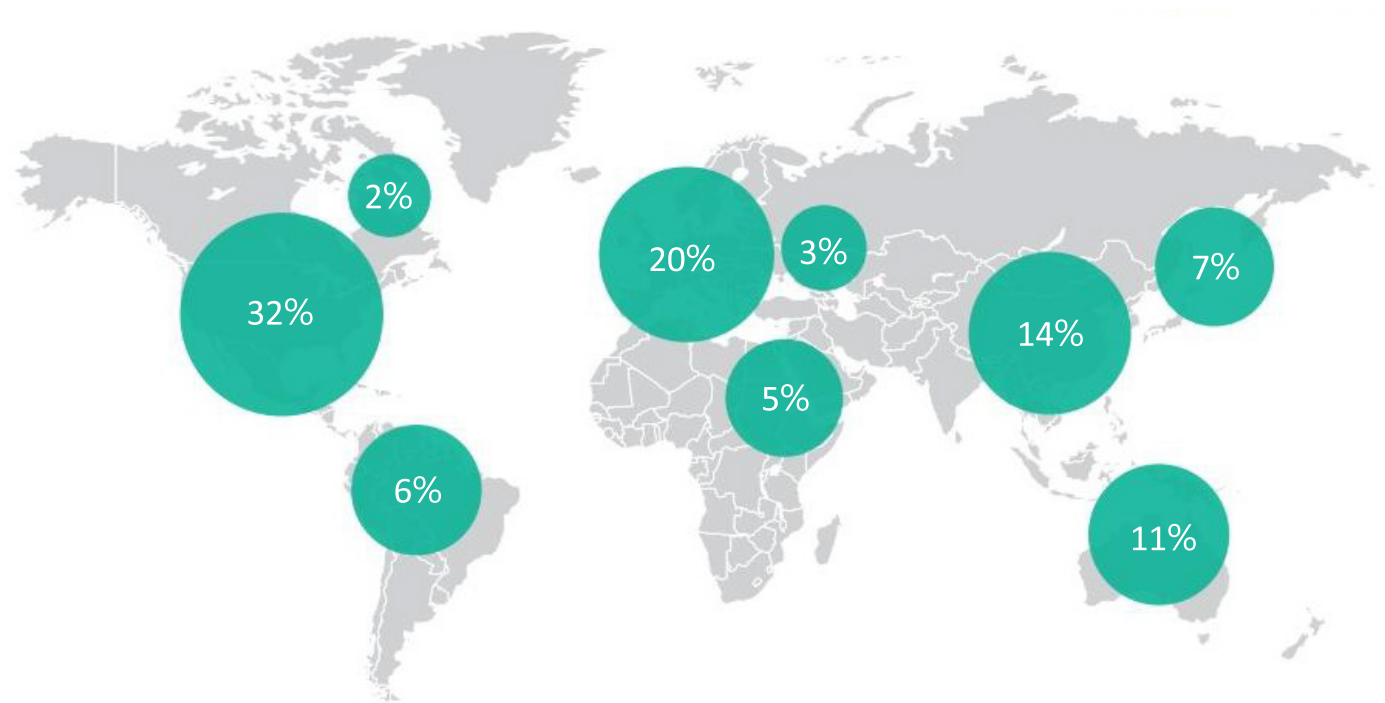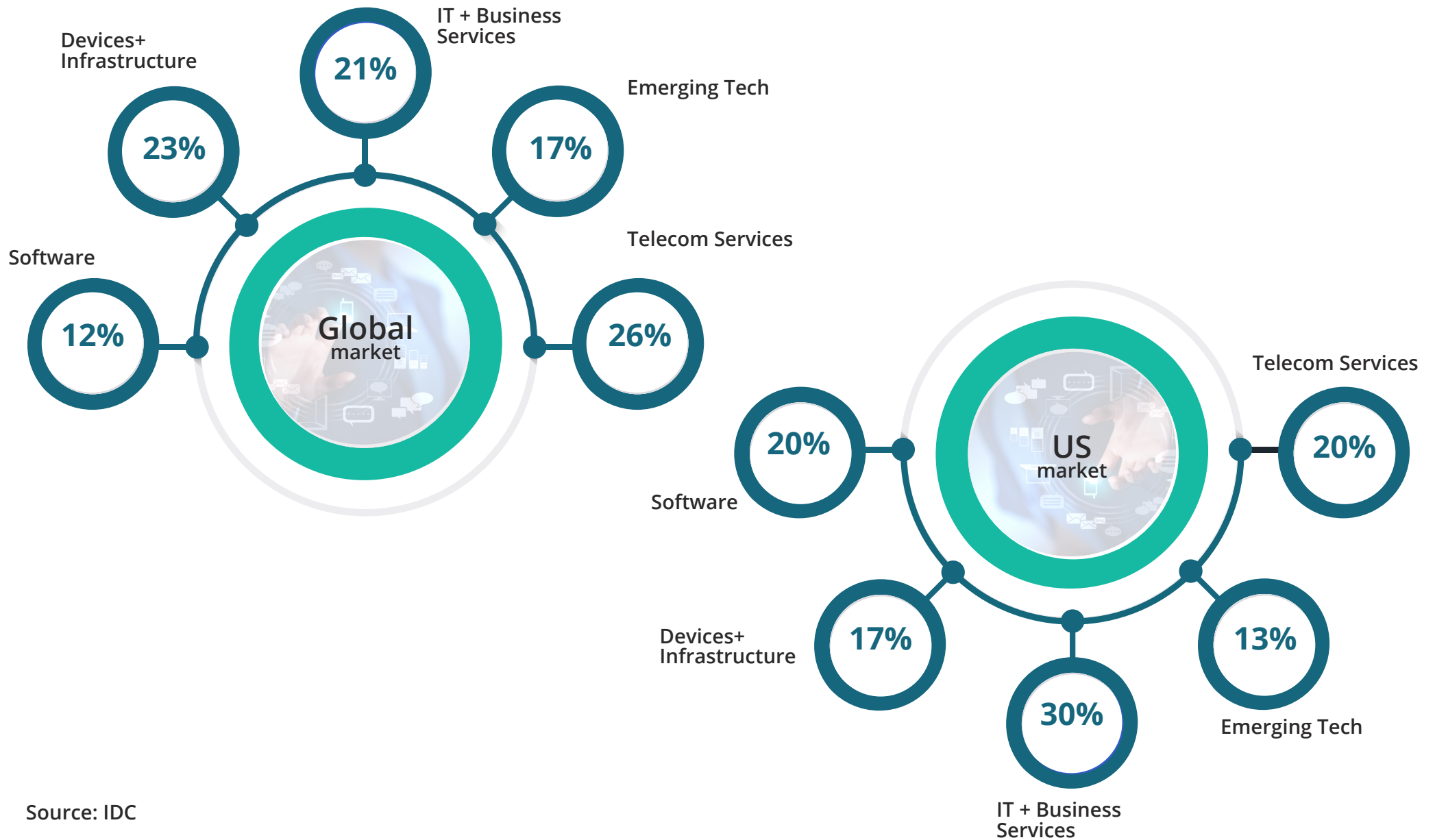
4.2%
global growth projection
(2021 projection)

US$1.6
trillion
U.S technology industry
(2021 projection)

**Top 10 ICT Exporting
Countries FY 2019 - 2020**

2%

20%

3%

7%

32%

14%

5%

6%

11%

(Image source: Comptia.org)

Key Categories of the Information Technology Industry

Devices+
Infrastructure

23%

IT + Business
Services

21%

Emerging Tech

17%

Software

12%

Global
market

Telecom Services

26%

Software

20%

US
market

Telecom Services

20%

Devices+
Infrastructure

17%

IT + Business
Services

30%

Emerging Tech

13%

Source: IDC

Pakistan's IT Industry Overview

TechdestiNationPakistan

TechDestPak