

Punjab IT Policy 2018



Government
of the Punjab



Punjab IT Policy-2018



**Punjab Information Technology Board,
Government of Punjab, Pakistan**

Executive Summary

The number of IT companies in Pakistan has grown steadily during the last decade at a healthy rate of 7.4% and has culminated into \$560 million IT and IT-based exports during the fiscal year 2015-16 as per State Bank of Pakistan's statistics. Other estimates, provided by Pakistan Software Export Board and Pakistan Software Houses Association, indicate that this figure could be as high as \$2.4 billion with the total IT revenue, including exports and domestic revenues, closer to \$ 3.1 billion for the same year. Although significant gains have been achieved, yet according to the Global Competitiveness Index 2015, Pakistan falls behind most of the countries in terms of absorption of IT and IT enabled services.

Since the introduction of National IT Policy of 2000, a number of domains such as legislation on education, health, environment, taxation, rural development and etc. have devolved to become provincial subjects. Moreover, during these 16 years, there has been a paradigm shift in the IT industry and new ideas such as Big Data, IoT and etc. have taken a lead. There is, therefore, a need to revisit the IT Policy introduced in year 2000 and enable the provinces to take lead in the matter.

Furthermore, Punjab has invested heavily in ICTs during the last decade to promote accessibility, entrepreneurship, innovation and to encourage ICT adoption in businesses and governance. Punjab was the first province to take back the Broadband Tax, set up technology/business incubator and accelerator, created e-service and facilitation centers. The government has also worked diligently to automate government systems and processes through the involvement of leading IT companies of Pakistan. However, in order to ensure sustainability and demonstrate a long-term commitment to the cause, presence of a policy framework was deemed necessary.

With this backdrop in mind, Punjab Government is introducing the Punjab IT Policy 2018, which envisions Punjab as one of the top e-Governed, IT-enabled, e-Literate provinces in the region, a preferred destination for global IT businesses and a major supplier of skilled IT human resource.

For the attainment of this vision, the Punjab IT Policy 2018 is premised upon **five pillars** which are as follows:

1. Support to the Industry

Providing support and creating a conducive environment for the IT & other related businesses has been among the top priorities of the Government of Punjab. Various steps have been taken in this regard which include payment of government taxes such as stamp duty through e-stamping; collection of other government receipts through online mediums; gaining permission to start a new business under ease of doing business initiatives; acquiring hassle-free warehouse construction permits from e-Khidmat Markaz; tax exemptions for Telecoms sector & IT businesses; construction of technology parks and knowledge parks; and facilitation in setting up a new industry in any of the industrial zones in Punjab through One Window Service Centers (OWSC).

Government of Punjab will build upon this success and shall take further steps to support the IT industry in years to come. Some of the proposed initiatives are the establishment of the dedicated Special Economic Zones (SEZs) and Industrial Cities for Information Technology through which the industry will greatly benefit from tax breaks and exemptions in export duties, among other things; construction of technology parks in Lahore and other cities of the province; and reduction in taxes on IT & IT enabled businesses which will not only facilitate these businesses, but will also bring more businesses into the tax net. The government also plans to take extensive measures for the formation of the hardware manufacturing industry through ODMs along with proposing an e-commerce regime by means of technical and legal considerations.

2. Bridging the digital divide

Bridging the digital divide across different groups and segments of the society has been one of the key focus areas of the government and will continue to be. Some of the most significant schemes, in this regard, are meritocratic distribution of laptops among students; establishment of Chief Minister's e-Rozgaar Centers across Punjab which enables the recent graduates to polish and monetize their skillset; formation of e-libraries in Punjab where citizen from all walks of life and age groups are utilizing online knowledge base comprising of millions of resources; installation of Wi-Fi hotspots in big cities and availability of online textbooks under the E-Learn program as well as provision of tablets in schools. More of such initiatives will be implemented in the upcoming years. These include empowering citizens through online petitions platform which shall deal with social

and other relevant issues; setting up of regional offices of PITB across Punjab; providing trainings on emerging ideas such as Internet of Things (IoT); and serving the vulnerable groups of the society by providing them free and easily accessible ICT resources in an inclusive manner.

3. e-Governance

Being one of the main pillars of this policy, Government of Punjab has laid great emphasis on it and has extensively used technology in improving efficiency and governance across several sectors. There is a diverse range of initiatives which have been taken in the last five years, some of which are: computerization of all police stations in Punjab; creation of Police Khidmat centres in all 36 districts of Punjab; automation of Criminal Record office; introduction of Hospital Management Information System (HMIS) in DHQs/ THQs; verification of attendance of doctors and paramedics through biometric attendance system; supervision of the health, education, agriculture, livestock and irrigation field staff through SIM enabled phones and tablets; improvement of the vaccination coverage from 22% to 92% across Punjab under eVaccs; compilation of real time feedback from monitoring staff for 52,394 schools in Punjab; collection of government receipts in a transparent and accountable manner; implementation of e-filing & office automation systems in different public sector entities; upgradation of the development budget making and monitoring through Smart Monitoring of Development Projects (SMDP); establishment of a state of the art tier-III data center for Government of Punjab; initiation of video conference facility for better and efficient communication across public sector offices in Punjab; establishment of Government of Punjab's citizen contact center in order to run multiple helplines for several government departments; and computerization of land records of over 55.5 million agricultural land owners under land record management information system.

Government of Punjab will continue to automate its processes in order to ensure transparency, efficiency and accountability: E-Procurement regime will be introduced that will revamp the landscape of public procurements across the province; EFOAS will be implemented across public sector entities as the official communication platform in Punjab; HMIS will be fully deployed across all health facilities; monitoring of field staff will be extended to other government departments; Big Data analysis and other law & order initiatives will be integrated for the provision of a secured and environment to the citizens of Punjab; video surveillance and traffic management will be improved by the introduction of safe cities projects in other big

cities of the province; agricultural crops reporting will be done through remote sensing techniques by analysing satellite imagery for precise crop estimation and disease surveillance.

4. Citizen Centric Services

Providing better services in a respectable and transparent manner has been on the agenda of the government. One of the main initiatives, in this regard, has been the establishment of Citizen Facilitation & Service Centers (e-Khidmat Markaz) where citizens are getting hassle-free services offered by different government departments under one roof in the least amount of time. Initially, all divisional headquarters have been equipped with these centres. Government of Punjab plans to extend these facilities to all districts and tehsils of the province. Establishment of citizen contact center for citizen to interact with government departments and to provide feedback on the offered services is another important initiative. The government also plans to extend the outreach of this program. Moreover, Police e-Khidmat Centers have been established in all districts of Punjab along with the introduction of e-Stamping for the payment of stamp duty in an easy and secure way. The e-Stamping system will also be extended to the lower denominations in upcoming years. The role and scope of the Citizen Back Feedback (CFMP) programme will be further extended to include all services whereby citizens will be able to interact with the government. This will help the government to get an authentic and credible point of view of citizens about the service delivery. Introduction of e-Payment Gateway will make it easier for citizens to pay their taxes and other dues by sitting at their homes.

5. Entrepreneurship

Pakistan boasts of immense potential in this area. Realizing this fact, Government of Punjab initiated the first and the largest public-sector technology incubator, namely Plan9, in 2012. Plan9 has furnished tremendous results in a very short span of time. Uptill now, 160 plus companies have graduated from Plan9 and have collectively been valued at \$70 million. Plan9 has also helped in the establishment of 16 other such incubation centres in different universities of the country. Besides Plan9, an accelerated program was also launched by PITB, namely PlanX, that incubates the mid-stage companies. TechHub is another such initiative which provides a co-working space for freelancers.

In years to come, the government plans to extend the facilities accommodating entrepreneurial feats in the remaining universities along with the establishment of Regional Plan9 Centers. In addition to this, the government will set up Punjab Technology Fund

through which potential startups will be able to compete for tide matching grants to grow their businesses. Moreover, the government will also help in the formation of the venture capital fund and will facilitate the angel investments. Apart from this, training of freelancers will continue under the e-Rozgaar Program which will be helpful in the economic growth of the country.

Having outlined the pillars of the policy, Punjab IT Policy 2018 should be viewed as a set of policies focusing on 6 key areas: Industry, Education, Health, Governance, Citizens and Start-ups & MSMEs. Within these broad focus areas 30 key sub-sectors have been identified, and the policy aims to provide a comprehensive set of policies and incentives to boost growth and development in these areas. On the basis of this analysis and inspection, the document also presents 6Es of the IT Policy which are deemed as key principles for Punjab to become a leading IT hub of the world: Education, Engagement, Empowerment, Economy, Entrepreneurship and Employment.

In line with these principles, the policy posits 10 key goals which cover the aforementioned sectors. These are:

1. Bridge the digital divide across gender, region and economic classes and achieve accessible and affordable access for all.
2. Position Punjab as the IT R&D and innovation hub of Pakistan.
3. Establish Punjab as the preferred destination for local and international investment in the IT/ITES/EHM industries.
4. Enable the entrepreneurial ecosystem to flourish in the field of IT/ITES/EHM.
5. Increase financial inclusion and incentivise investment in innovative ICT technologies to promote e-commerce in the province.
6. Create an enabling environment for IT Technologies and their safe usage through policy reform and improvements in legal framework.
7. Use ICTs for enhancing the capabilities of citizens and setting forward a more inclusive and broader human development agenda.
8. To endeavour for rapid expansion and growth of the knowledge based economy in the province.
9. Strengthen and build human resource and increase employment opportunities through the use of ICTs.
10. To utilize ICT for a more efficient transparent and green governance model in Punjab.

Each of these goals is accompanied by a set of relevant objectives and policy commitments that the government shall take up in pursuit of these goals. These include declaration of broadband as a public utility, establishment of common resource and service centers and provision of internet facility to ensure accessibility of internet for everyone, setting up special economic zones for IT, financial incentives for start-ups, promotion of innovation in schools and universities, public procurements from MSMEs and introduction of a Digital First policy at the government level, etc. Emerging disciplines such as IOT, Big Data and Cloud Computing have been given special considerations in the document, with the aim of creating relevant and skilled human resource as well as local demand.

The Punjab IT Policy also identifies the need for introduction of policies that would complement the IT sector. The government shall, in the days to come, work diligently to introduce these policies as well. These include:

- Information & Data Security Policy
- Electronic Hardware Manufacturing Policy
- Right of Way Policy

During the policy formulation stage of Punjab IT Policy 2018, it was ensured that the process was inclusive, outward looking, joined-up and evidence based so that a well-rounded effective policy document could be produced. To maintain highest standards of input, several focus group discussions and individual consultation sessions were conducted along with rigorous in-house research. More than 150 individuals from across all key sectors have provided input in this document.

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Preamble:

During the last decade, the number of IT firms in Pakistan has almost doubled with an average growth rate of approximately 7.4%. During the same time, IT and IT-Based exports have increased from a paltry \$72 million to a substantial \$560 million during fiscal year 2015-16. Estimates by Pakistan Software Export Board and Pakistan Software Houses Association suggest that this number could be as high as \$2.4 billion while the total IT revenues, including exports and domestic revenues could be as high as \$3.1 billion, for the same year. During this time, Punjab has recorded an even higher growth rate than the national average, at about 12.6%. These entail significant gains which are a direct result of the National ICT Policy 2000 and are

Year	Total Number of IT Firms	New Firms Incorporated	Growth Rate (%)
1966-2004	477	--	--
2005	587	110	23.06
2006	688	101	17.21
2007	771	83	12.06
2008	865	94	12.19
2009	937	72	8.32
2010	1022	85	9.07
2011	1128	106	10.37
2012	1251	123	10.90
2013	1406	155	12.39
2014	1605	199	14.15
2015	1833	228	14.21
2016	1976	143	8.0
Average Annual Growth Rate = 12.6%			

worth commendation.

Table1: Total Number of IT Firms (Punjab) registered with the SECP

Source: Securities Exchange Commission of Pakistan 2016

Despite these significant gains, there is still room for considerable improvement. The Global Competitiveness Index 2015 suggests that Pakistan lags behind most countries in terms of

absorption of IT and IT Enabled Services (ITES) in education and everyday life. Similarly, Global IT Report 2015 ranks Pakistan at 112 out of 143 countries, suggesting considerable room for improvement. Furthermore, post 18th Amendment, the provincial governments have been entrusted with additional powers to act in certain domains which earlier fell in the federal domain. As Table 3 suggests, Pakistan lacks behind most of its regional and global competitors in many of the key domains, leaving considerable room for improvement.

Table 2: State Bank Export Statistics for IT & ITES (Thousand Dollars)

Year	Computer Services	Annual Growth Rate %	Call Centres	Annual Growth Rate %
2006	72,097	--	0	--
2007	104,610	45	10,242	--
2008	152,155	45	14,097	38
2009	183,439	21	17,528	24
2010	187,825	2	16,589	-5
2011	216,363	15	18,183	10
2012	247,898	15	26,811	47
2013	293,030	18	37,485	40
2014	329,952	13	40,126	7
2015	458,480	39	60,567	51
Average Annual Growth Rate for IT Exports= 24%				
Average Annual Growth rate for Call-Centre Exports= 23.5%				

Source: State Bank of Pakistan, 2016

A number of domains, such as the power to levy new taxes, legislate on education, health, environment and rural development etc. have now become provincial subjects. Furthermore, since 2000, the IT paradigm has changed significantly with new technologies and ideas such as IoT, Big Data etc. taking the forefront. There is, therefore, a need to revisit the IT Policy introduced in year 2000 and enable the provinces to take lead in the matter. With this backdrop in mind, Punjab Government is introducing the Punjab IT Policy 2018, which aims to position Punjab as the IT R&D and innovation hub of Pakistan.

Table 3: Country Comparisons: Global Information Technology Report Rankings 2015 (Rank out of 143)

Category	Indonesia	Turkey	Philippines	Sri Lanka	Malaysia	Bangladesh	India	Pakistan
Network Readiness Index	79	48	76	65	32	109	89	112
Political and Regulatory Environment	62	64	75	77	23	135	82	121
Business and Innovation Environment	59	32	85	92	21	112	115	97
Infrastructure	98	75	73	110	70	109	115	123
Affordability	99	6	103	38	79	21	1	49
Skills	63	55	61	30	57	125	102	133
Individual Usage	97	67	89	106	57	129	121	123
Business Usage	35	53	38	48	26	124	88	94
Government Usage	63	55	61	25	9	75	62	110
Economic Impact	78	4	55	75	31	106	92	102
Social Impact	72	1	67	47	28	105	68	108
Laws relating to ICTs	45	58	78	63	8	115	67	114
Software piracy rate, % software installed	93	54	66	91	47	99	54	95
Mobile network coverage, % pop	1	1	66	85	102	66	110	112
Secure Internet servers/million pop	103	60	99	93	55	134	104	123
Internet & telephony competition	85	1	1	128	1	111	1	1
Households w/ Internet access, %	118	61	86	103	46	125	102	110
Capacity for innovation	22	77	30	29	13	113	48	51
Business-to-business Internet use	51	41	52	57	21	123	119	97
Importance of ICTs to gov't vision	34	57	69	16	6	60	71	117
Gov't success in ICT promotion	49	68	53	13	6	76	81	89
Impact of ICTs on new organizational models	35	58	40	51	4	110	89	104
Impact of ICTs on new services & products	33	44	50	63	10	112	87	94
Impact of ICTs on access to basic services	59	40	77	38	15	102	76	119
Internet access in schools	48	58	66	101	34	120	87	89
ICT use & gov't efficiency	59	40	69	20	6	100	70	116

Source: Global IT Report 2015

The Policy Formulation Process:

In order for a policy to be realistic yet, at the same time, effective, it is imperative that the policy follows a systematic pattern of consultation, deliberation and revisions, allowing for constant improvement of the draft. The Punjab IT Policy 2018 builds on the following policy-making principles:

- **Inclusivity:** The policy process took into account the needs of all stakeholders involved and how they would be impacted by the policy.
- **Forward Looking:** The process focused on determining the emerging and upcoming opportunities and took a long-run view of things.
- **Joined-up:** The policy attempts to take a holistic view of the government policies and work across institutional boundaries.
- **Outward Looking:** The formulation process drew heavily on the experiences of other countries as well as global trends and challenges.
- **Evidence based:** A conscious effort was made to base this policy on the best-available evidence from a multiple range of sources and involve relevant stakeholders throughout the process.

In view of these principles, the policy formulation process was carried out through three major sets of activities which are discussed briefly as follows:

- **Focus Group Discussions:** Focus Group discussions were conducted at all stages of the policy-making process i.e. to identify the challenges in the status quo, to deliberate on the possible remedies and to chalk-up policy recommendations. More than 20 focus group discussions were conducted across Pakistan, bringing together members of the academia, IT industry, government departments, manufacturing industry as well as other relevant stakeholders, to make the process as inclusive as possible.
- **Individual Consultations:** In addition to the focus group discussions, it was realised that individual consultation meetings were required, especially in the case of emerging disciplines such as IoT, Big Data, Cloud Computing, Angel Investments etc. to obtain first-hand account of the challenges and opportunities in these sectors. More than 50

individual consultation meetings were held during the process to seek input from specialists in the relevant fields.

- **In-House Research:** One of the key components of the policy formulation was the research undertaken by the team of researchers and interns at PITB. Moreover, highly qualified young individuals with policy research experience at both national and international level were engaged to identify global trends, local challenges, opportunities and threats. A comparative research process was also initiated to determine best policy practices from across the globe, especially in the emerging economies and the developing world. Policy documents from more than 25 countries and states were reviewed during the policy formulation process.

Acknowledgements

This draft is the culmination of intense efforts by more than 150 individuals from different segments of the society. We would like to extend our heartfelt gratitude to each and every one of these individuals, who showed tremendous enthusiasm, support and participation to bring this draft to life.

We are especially grateful to Mr. Salman Ansari, Ms. Jehan Ara and Mr. Yusuf Hussain who reviewed this draft on our request and provided invaluable feedback. A special mention must also be made of McKinsey & Company who reviewed this draft and aligned it with the international best practices.

Attached in the annexure is a list of individuals who provided us with their valuable feedback and suggestions on how to improve the policy draft through individual feedback and focus groups. We have made an effort to include all the names that were available in the records, but there would be others who were a part of the process and might not find their name here. This list is our humble show of gratitude and an acknowledgment that this draft would not have been possible without the valuable input that we received from all of them and many others.

The Team

The Punjab IT Policy 2018 has been drafted by a group of highly motivated and dedicated team of individuals who worked tirelessly during the last year and a half to bring this policy draft to fruition. The members of the core team were:

#	Name	Designation
1	Dr. Umar Saif	Chairman
2	Sajid Latif	Director General e-Governance
3	Nabeel A. Qadeer	Director Entrepreneurship
4	Rana Hamza Ijaz	Policy & Research Analyst
5	M. Afzan Munir	Policy & Research Analyst
6	Sarah Tariq Gilani	Program Manager
7	Syeda Mehak Jamal	Senior Program Manager

In addition to the core team, a group of highly talented researchers was also engaged during the drafting stage of the policy. These include:

#	Name	Organisation
1	Junaid Ahmed Noor	Department of Economics, GC University Lahore
2	Ali Zafar	Department of Innovation Management, Frei University, Germany
3	Faizan Mehmood	Punjab Information Technology Board

We would also like to acknowledge the feedback provided by the Planning & Development Department, Government of the Punjab for the refinement of the policy document.

#	Name	Designation
1	M. Jehanzaib Khan	Chairman
2	Sadaqat Hussain Khan	Member IT
3	Haibat Ali Khan	Chief IT
4	M. Osman Nasir	Assistant Chief IT
5	M. Ibrahim	Planning Officer IT
6	Shehroz Khan	Planning Officer

Moreover, a group of highly talented young individuals, who interned with the core team for the IT Policy also needs to be acknowledged here. They were:

#	Name	Organisation
1	Ahmed Chaudhry	FCC University Lahore
2	Zaeem Saqif	Lahore School of Economic
3	Syed Raza Gillani	GC University Lahore

The Contours of the Punjab IT Policy:

This policy document should be seen as a set of ICT policies focusing on 6 key areas:

- Industry
- Start-ups and MSMEs
- Education
- Health
- Governance
- Citizens

Within these broad focus areas 30 key sub-sectors have been identified (see Table 4), and the policy aims to provide a comprehensive set of policies and incentives to boost growth and development in these areas.

Table 4: Key focus areas of the Punjab IT Policy 2018

<p>1. Industry</p> <ul style="list-style-type: none"> ➤ Software Industry ➤ Hardware Manufacturing Industry ➤ Special Economic Zones ➤ E-Commerce ➤ ICT Adoption in Non-IT Industry 	<p>2. Entrepreneurship</p> <ul style="list-style-type: none"> ➤ Entrepreneurship in Universities ➤ Incubators and Accelerators ➤ Startups ➤ Venture Capital Fund & Angel Investments ➤ Freelancers
<p>3. Education</p> <ul style="list-style-type: none"> ➤ ICT & Innovation at School Level ➤ ICT & Innovation in Universities <ul style="list-style-type: none"> ▪ IT Specialised degrees ▪ IT incorporation in non-IT courses ➤ Research & Development (R&D) 	<p>4. Health</p> <ul style="list-style-type: none"> ➤ E-Health & Tele-Medicine ➤ Health Information Systems ➤ Nutrition ➤ Disease & Risk Management ➤ Applications of Data Analytics
<p>5. Governance</p> <ul style="list-style-type: none"> ➤ E-service delivery ➤ Citizen Facilitation ➤ Green IT in Governance ➤ Regional Development ➤ E-Procurement ➤ Data & Intellectual Property Protection ➤ Cloud computing & Big Data 	<p>6. IT Policy for Citizens</p> <ul style="list-style-type: none"> ➤ Access to ICT Tools ➤ IT- Literacy ➤ Local Content Development ➤ Digital Rights & Security ➤ Internet of Things (IoT) ➤ Empowerment & Inclusive Growth

A number of pressing issues, such as intellectual property rights, e-commerce, angel investments etc. fall under the federal domain. An attempt has been made, therefore, to focus

on creation of an enabling environment through a set of fiscal and tax incentives and concessions, rather than delve into new regulations. The policy also outlines how the provincial government will coordinate and cooperate with the federal and provincial governments to facilitate our IT industry in a consistent manner.

The Punjab IT Policy 2018 can also be seen as an honest introspection into the current challenges that we face in becoming one of the leading IT hubs of the world. The document draws from the analysis and inspection of various global and local bodies to look at the status quo, and then uses these as a basis for charting our course for the future, both in the short and the long run.

Progress Made in Punjab:

Punjab, due to the Government's robust investments in infrastructure and human development, fares better than the national average on most indicators. Table 5 provides a province-wise bird's eye view of the health, education and infrastructure, which suggests that Punjab ranks better than other provinces as well as the national average in most cases.

Table 5: Provincial Comparison for some of the Key Variables

Variable	Punjab	KPK	Sindh	Baluchistan	National
Av. Household size (no. of members)	6.14	7.20	6.13	7.90	6.35
Av. Monthly Income (Rupees)	11849.71	10485.8	9764.36	11171.70	11040
Children fully immunized (%)	65	53	42	29	57
Pregnant women who've received Tetanus Toxoid injection (%)	81	65	63	31	72
Schools with electricity (%)*	81	53	34	-	51
Primary dropout rate (%)*	34	35	-	-	41
Out of school girls 5-16 age (%)*	30	41	46	62	37
Out of school boys 5-16 age (%)*	23	17	32	35	25
Adult Literacy*	60	47	58	38	57

Source: *Pakistan Social and Living Standard Measurement Survey 2014-15
Household Integrated Economic Survey 2013-14

Developments in the IT Sector:

The Government has, during the last decade, invested heavily in the creation of a knowledge-based regional economy as well as a more accountable and inclusive government through the use and adoption of technology. Government of the Punjab is one of the pioneers in promotion of ICT and ICT based governance in Pakistan. It has been at the forefront in implementing e-governance initiatives that focus on citizens' needs and ensure superior service delivery. Greater transparency and access to information on public administration processes have been the focus areas of ICT implementation in the province. Some of the main achievements of the Punjab government in terms of incorporating IT in governance and everyday life are briefly mentioned as follows:

- Punjab became the first province to take back the Broadband Tax, which made the cost of broadband 17% cheaper in Punjab as compared to other provinces.
- Smart Monitoring of Schools Program, which helps monitor teacher and student attendance as well as provision of facilities in 52,695 public schools encompassing more than 10 million students and 339,000 teachers.
- More than 5000 high schools have been provided with computer labs. Also, in order to overcome the challenges of ghost schools and poor learning outcomes, private sector enterprises such as Care Foundation and TeleTaleem have been handed the control of public schools and they have been leveraging ICT for e-education.
- Citizen Feedback Monitoring Program which received World Bank Innovation Fund Award and has, so far, recorded more than 9 million transactions.
- Model Police Stations initiative where 440 out of 709 police stations in Punjab now have computerised FIR filing mechanisms and allow for crime mapping, e-monitoring and much more.
- Use of Innovative technological approaches for disease mapping and child immunization coverage, where more than 6 million observations have been recorded and analysed till date.
- Automation of a number of government departments including Police, Transportation, Land Records Management, Counter-Terrorism Department etc.

- Introduction of E-learn Punjab Program, through which digitized textbooks for grades 6-10 are made available free of cost and are augmented with videos, animations and simulations for effective conceptual learning.
- Establishment of Plan9, Pakistan's first business incubator, which has graduated 160 start-ups till date, which have received a combined valuation of more than \$70 million.
- Community and Capacity building of different segments of the IT industry that were previously unrepresented such as freelancers, micro, small and medium enterprises MSMEs, angel investors and VC funds etc.
- A state-of-the-art Arfa Software Technology Park, the first dedicated IT Park in the country, has been established in Lahore.

However, there still remains considerable room for further growth, and the government recognises that access to IT services and their adoption in everyday life can lead to a socio-economic revolution in the province.

Vision:

The Government of the Punjab envisions Information Technologies as a vehicle for transforming the province into a knowledge-based, economically vibrant, democratic and inclusive society. Our vision is that Punjab becomes the top e-Governed, IT-enabled, e-Literate province in the region, regarded as a preferred destination for global IT businesses and a major supplier of skilled IT human resource.

Goals:

1. Bridge the digital divide across gender, region and economic classes and achieve accessible and affordable ICT services for all.
2. Position Punjab as the IT R&D and innovation hub of Pakistan.
3. Establish Punjab as the preferred destination for local and international investment in the IT/ITES/EHM industries.
4. Enable the entrepreneurial ecosystem to flourish in the field of IT/ITES and Electronic Hardware Manufacturing.
5. Increase financial inclusion and incentivise investment and promotion of innovative ICT technologies to promote e-commerce in the province.
6. Create an enabling environment for IT Technologies and their safe usage through policy reform and improvements in legal framework.
7. Use ICTs for enhancing the capabilities of citizens and setting forward a more inclusive and broader human development agenda.
8. To endeavour for rapid expansion and growth of the knowledge based economy in the province.
9. Strengthen and build human resource and increase employment opportunities through the use of ICTs.
10. To utilize ICT for a more efficient, transparent and green governance model in Punjab.

Goals, Objectives & Policy Commitments

This section provides an in-depth examination of the aforementioned goals of the Punjab IT Policy 2018, with specific objectives pertaining to the relevant sub-sectors. The section also provides specific incentives and policy instruments that would be deployed to attain these objectives allowing for the fulfilment of the government's vision.

Goal 1: Bridge the digital divide across gender, region and economic classes and achieve accessible and affordable access for all

Pakistan, as per the report by International Telecommunication Union in 2015, is one of the least connected countries in the world. It is therefore, important to understand various factors that influence and hamper access to ICTs. It is important to recognise that access has two dimensions i.e. a) availability of infrastructure such as broadband internet and b) ability to access the content. Significant progress has been made on the earlier front, but the latter has been largely ignored. While Telecommunication remains largely as a federal subject, the provincial government can nonetheless, offer incentives for reduction of costs to the end-user and readily available digital content that caters to local needs. Punjab was the first province to remove the Broadband Tax and the government is inclined to build on this further to ensure greater reach and accessibility across the province.

Objectives:

- Recognise provision of internet as a fundamental and basic right of all citizens.
- Reduce the percentage of offline population and establish basic digital connectivity in the province by ensuring uninterrupted internet access.
- Decrease the gap between the levels of internet connectivity in urban, suburban and rural parts of the province.
- Incentivize private telecommunication and carrier network service providing companies to upgrade connectivity in backward areas of the province.
- Facilitate the accessibility of content in local languages for all users.
- Digitalize the public sector to ensure the use of e-services in all parts of the province.
- Invest in providing basic digital awareness to the public through educational institutions as well as outside them to improve the usage of internet connectivity.

Policy Commitments:

The government shall endeavor to:

- categorize Internet/Broadband as a basic utility, similar to Electricity, Water and etc.
- introduce Right of Way Policy to acknowledge provision of broadband service as a key consideration to infrastructure development.
- map IT penetration, usage and firm presence across different cities to understand the extent of regional divide.
- launch Digital Literacy Program - under which, the Government shall aim to ensure that at least one member in every household be made digitally literate in the next 5 years
- facilitate the availability of all government services and online content in local languages
- provide access to internet facilities for all citizens in Punjab through establishment of common resource and service centers.
- consider exemption from sales tax for cellular broadband services to further lower the cost of internet and increase its affordability.
- provide equal opportunities for women and girls to study and work in the ICT sector and to develop their own ICT businesses.
- explore the possibility of partnering with private sector for provision of low-cost or free internet. However due consideration shall be undertaken on the issues pertaining to net-neutrality in this regard.
- facilitate the establishment of digital public libraries to digitise the already existing written, audio and video content in local languages and make it available online.
- Launch a digital content initiative through which relevant online content (audio and text) shall be produced in local languages.

Goal 2: Position Punjab as the IT R&D & Innovation Hub of Pakistan

In a rapidly changing world of constant innovation and developments, it is imperative that the government encourages as well as pioneers constant innovation. With the advent of Big Data and IoT, the possibilities of applications of IT in all domains of daily lives are endless. It is also the first step towards entrepreneurship which, in turn, allows for innovative ideas to be turned into commercially and socially viable solutions, addressing existing needs and issues

such as unemployment etc. Therefore, the Punjab government posits promotion of innovation as the most important goal of this policy.

Objectives

- Establish innovation and R&D as a fundamental principle and objective of education at all levels.
- Institute innovation clusters that will generate a critical supply of highly-skilled technical personnel required to drive the information society
- Encourage firms to indulge in in-house R&D activities.
- Encourage and facilitate the setting up of R&D labs in all universities.
- Promote research in emerging disciplines and encourage universities to offer specialized degrees in these fields.
- Create a conducive environment for transforming breathtaking ideas into products.
- Attract highly talented youngsters to take up careers in Research & Business Development

Policy Commitments

The government shall endeavor to:

- launch Punjab Innovation Challenge at both school and university levels to encourage students to think outside the box and develop innovative ideas.
- consider introduction of courses on innovation at school and college level to inculcate a culture of free-thinking.
- facilitate the launch of Punjab Innovation Fund, in order to provide funding for development of innovative ideas into smart and viable products.
- provide reimbursements on Sales Tax proportionate to the investment made in R&D by a firm
- set up a Common Resource and Research Centre under the PPP mode for sharing of prototype and testing labs as well as research activities.
- offer generous scholarships in the field of R&D as well as emerging disciplines to highly talented and deserving candidates
- provide low-interest and interest-free loans for start-ups and R&D firms.

Goal 3: To make Punjab the preferred destination for local and international investment in the IT/ITES/EHM industries

Studies from across the developing as well as the developed world suggest that while the government can kick-start the IT industry through initial investments and production of services itself, it is only through the involvement of local and private enterprise that the sector can truly take-off. It is, therefore, important to provide sufficient incentives for the private sector and ensure that the regulatory environment is conducive to such endeavors.

Objectives

- To positively raise the local and international visibility of Pakistan & Punjab businesses and encourage formation of global networks and partnerships.
- Attract local and foreign investment in the IT/ITES/EHM through provision of world-class infrastructure.
- To stimulate the proliferation of private sector-led information technology services and consequently generates meaningful employment opportunities for Pakistan & Punjab
- Encourage procurement of IT services and solutions from local MSMEs in order to strengthen the local industry.
- Provide incentives for adoption of IT solutions and services in local economy as well as socio-political ecosystem, so as to create local demand for these services.
- Set up and facilitate dedicated Special Economic Zones (SEZs) for the IT and Hardware Manufacturing industries.
- Enable IT to become a key employment sector as well as a major sector of the provincial economy.

Policy Commitments

The government shall endeavor to:

- declare 2018 as the year of Information Technology. The provincial government shall join hands with the federal bodies such as the Ministry of Commerce and Trade Development Authority of Pakistan (TDAP) to organize trade delegations, exhibitions, road shows, conferences etc. in key overseas markets.
- facilitate the undertaking of a nationwide census of the IT industry, so as to provide reliable data for the IT sector.

- devise a comprehensive Electronic Hardware Manufacturing Policy to provide a comprehensive set of incentives and enabling regulatory environment for the EHM sector.
- facilitate the provision of fee reimbursements on Quality Certification such as ISI, ISO, CMM, STQC, etc. for the local companies in Punjab, so as to improve their competitiveness in the global market.
- consider tax-breaks and reimbursement based on the number of jobs created by a firm.
- lobby for exemptions to the IT/ITES/EHM industries from the revenue tax for a period of 5 years.
- facilitate the establishment of special economic zones for the IT industry in Punjab.
- construct dedicated IT Parks in all major cities across Punjab, where the Government shall engage with national and international investment banks, financial institutions and private equity funds to develop viable financial models for these initiatives.
- provide subsidies for participation in international trade fairs and expos
- facilitate the establishment of a single-window facilitation cell for addressing matters pertaining to registration, taxes, exits etc.
- collaborate with other provinces and countries for active participation, linkages and investment activities, etc.
- consider giving preference to MSMEs in government procurement orders, encouraging the big companies to partner with MSMEs as front-end.
- institute annual awards for outstanding and innovative product companies.
- grant IPP status for IT/ITES/EHM Captive Power Generation/ Diesel Generation and on Solar Power Units

Goal 4: Create an Enabling Environment for the Entrepreneurial Ecosystem to flourish

The Government of Punjab has recognised the significance of supporting entrepreneurship from a very early stage. It pioneered the establishment of first technology and business incubator in the country and has helped propel the establishment of an entrepreneurial ecosystem in the country. With close to 30 incubators and more than 500 startups in the country, there is a need to provide sufficient incentives for it to grow further and match the start-up ecosystems established in other countries such as India, Turkey, Malaysia etc.

Objectives

- Create a world-class startup ecosystem in the state through strategic investment and policy interventions
- Provide national and international visibility to local startups.
- Reduce the regulatory burden on Startups thereby allowing them to focus on their core business and keep compliance cost low
- Make it easier for startups to enter and exit from the market so as to reduce the cost of failures.
- Provide funding and support for growth of startups and allow them access to finance.
- Strengthen incubation facilities in existing incubators and create a strong incubation network across the province.

Policy Commitments

The government shall endeavor to:

- encourage the provision of a comprehensive package of incentives and exemptions for start-ups.
- set up a one-stop centre for registration, facilitation and exits of startups.
- introduce self-certificate based compliance for startups.
- facilitate the launch of a government-backed venture capital fund for provision of finances to potentially viable startups.
- Provide a comprehensive set of incentives for VC funds and Angel Investors, to encourage investment in local startups.
- introduce Applied Entrepreneurship Training Program, with free trainings for managements of incubators and accelerators.
- facilitate partnerships with global accelerators/incubators to build facilities in PPP mode
- launch University-Incubator Partnership Programs to provide access to research and development facilities.
- encourage the development of specialised incubators in the vicinities of universities and specific industries.
- establish a common database for consolidation of information regarding incubators and accelerators in Punjab

- organise trade-fairs and road shows for Startups both locally as well as facilitate their participation in international events.
- facilitate the launch of Punjab Startup Awards, which shall provide seed funding to innovative startups that address pressing needs or solve a current problem.
- provide special considerations for startups operated by women, families of deceased soldiers/police officers, minorities etc.

Goal 5: Create an enabling environment for IT Technologies and their safe and fair usage through policy reform and improvements in legal framework.

In recent years, legislations in the realm of cybercrimes and IT related challenges have been undertaken by the federal government. Similarly, Intellectual Property Organisation of Pakistan has been set up and IP tribunals have also become functional. While legislation and regulations in fields such as IPR, cyber-crimes are largely federal domains, the provincial government can, nonetheless act as a facilitator and a bridge between different stakeholders. On the other hand, provincial government can legislate on matters such as data and information security and introduce reforms in the regulatory and taxation structures. It can also educate the population with regards to issues such as cyber-bullying, digital rights, censorship and other related matters.

Objectives:

- Establish joint Government/Private sector institutional framework for developing advisory standards and quality control.
- Develop a transparent, stable and effective legal operating environment that promotes private sector business and investment in IT
- Ensure communication, deliberation and collaboration with all relevant federal and provincial government departments so that a unified drive towards the stated objectives can be ensured.
- Incentivize development of capacity-building and trainings for IP officers, members of the judiciary and the lawyers' community for IT specific laws and disputes.
- Appropriately inform and protect citizens, government, infrastructure and assets from illegal and destructive activities found in the global electronic environment
- Protect citizens' rights relating to cybercrime, child protection and the right to information

- Encourage and lobby for legislations in the field of IP Laws, Digital Rights, , Data Security etc. by bringing on board all the stakeholders at a single platform.

Policy Commitments:

The government shall endeavor to:

- engage international legal and accounting firms to help build a IT-enabling and firm-friendly environment and build up confidence in the international market.
- extend assistance to the IPO Pakistan to automate IP application processes and back-end systems as well as provide trainings for the IPO Officers.
- engage international experts to provide trainings and workshops for IP lawyers as well as members of the judiciary.
- introduce an Information & Data Security Policy for Punjab in consultation with all relevant stakeholders.
- set up a Digital Advocacy Task Force, comprising of members from the civil society, industry and the government, who will provide recommendations on dealing with challenges such as cyber-bullying, harassment, net-neutrality, censorship etc.
- lobby for a Joint-Provincial Committee for Information Technology, so as to introduce a consistent and complimentary policy regime across the board.

Goal 6: Increase financial inclusion and incentivise investment in innovative ICT technologies to promote e-commerce in the province.

The increasing use of mobile telephony in developing countries has contributed to the emergence of branchless banking services, thereby improving financial inclusion. This increased access to financial services for underserved people helps narrow the financial infrastructure gap, especially in developing economies. ICT favors better information flows, and the data collected on depositors can be used to analyze credit worthiness more efficiently and to facilitate deposit taking. Therefore, ICT and mobile phone in particular improve access to credit and deposit facilities, allow more efficient allocation of credit, facilitate financial transfers, and boost financial inclusion. In turn, this would stimulate private investment, and hence economic growth.

Objectives:

- Decrease the percentage of unbanked population in the province

- Digitalize the financial transactions of the private sector and reduce the use of cash.
- Reduce the number of SME loans currently not registered in any banking record.
- Invest in the improvement of financial and digital awareness programs in educational institutions as well as outside them.
- Digitalize the government financial machinery and all its transactions including salaries, wages and government-to-person payments.
- Promote branchless banking ventures such as the Easypaisa & Jazz Cash and use the same to promote digital transactions.
- Digitalize the access to microfinance by introducing ICT reforms in microfinance institutions.
- Invest in R&D related to financial services and provide incentives for the fin-tech industry.

Policy Commitments:

The government shall endeavor to:

- shift from cash payments to digital payments while providing salaries as well as in major government financial services such as the Benazir Income Support Program.
- encourage the private sector to use digital payments in financial transactions as opposed to cash.
- consider tax-breaks for firms engaged in R&D pertaining to the fin-tech industry.
- launch awareness programs in educational institutions as well as outside them to include people having less financial and digital knowledge.
- facilitate the setting up of fin-tech research centers to test innovative solutions for increasing financial inclusion.
- lobby for legislations and facilitation of e-payments and the e-commerce industry.
- facilitate all financial institutions including the microfinance and SME institutions to launch ICT facilities to promote easy access to the users.

Goal 7: Use ICTs for putting forward a more inclusive and broader human development agenda.

The impact of ICTs has been felt in almost all sectors that are important in human development. It has shown to enhance learning and fill a large gap by encouraging distance learning; it is an apt means of distributing and accessing learning resources which in turn have great learning

potential in rural areas where resources such as books and libraries are scarce. ICTs offer new possibilities for improved health system, new ways of citizens' empowerment and active participation in the society at both social and political levels.

Objectives

- Create an easy and free access to government information
- Invest and incentivise private sector involvement in use of ICTs for development of innovative solutions for poverty alleviation and improvement of social well-being.
- Deploy ICTs in health program delivery with targets for health education, training and preventive detection.
- Support dissemination of preventive information for the general public, and in particular for communicable diseases.
- Improve the efficiency of health service delivery, improving cost effectiveness and planning, management and administration.
- Provide income and employment opportunities for citizens through the use of ICTs

Policy Commitments

The government shall endeavor to:

- facilitate the introduction of e-learning initiatives and incentivise private sector involvement in the same through tax-breaks.
- provide a framework for telemedicine and encourage investments in innovative startups in this domain.
- facilitate the investment in ICT-based healthcare systems to ensure that everyone has access to adequate, appropriate and timely healthcare services;
- facilitate the deployment and implementation of ICT-based programs that efficiently and effectively utilise scarce human resources in healthcare delivery system;
- partner with private sector and civil society in the deployment and utilisation of ICTs in the health sector;
- develop legal, regulatory and ethical frameworks for effective use of the health information and implement measures to safeguard the privacy of patient information;
- encourage the use of ICTs in the management and treatment of malaria, HIV/AIDS, maternal reproductive health, other diseases and pandemics
- encourage IT companies to undertake CSR in the field of human development.

- encourage the establishment of facilitation centres/helpline at the district and tehsil levels to provide information and support to citizens about all government departments and services
- set up dedicated research centres across Punjab that will work on ICT4Development.
- facilitate the investment in ICT based solutions for GIS mapping, weather and environmental forecasting and risk and threat analysis and develop mechanisms for information delivery to the relevant group.

Goal 8: To endeavour for rapid expansion and growth of the knowledge based economy in the province.

The government of Punjab believes that technology and industry policies should be formulated to maximize performance and drive towards “knowledge-based economies” – economies which are directly based on the production, distribution and use of knowledge and information. Recent developments in the fields of IoT, Big Data and Cloud Computing signify an emerging trend across the globe towards such economies. In this view, investments in research and development, education and training and new managerial work structures are key. Moreover, in addition to knowledge investments, knowledge distribution through formal and informal networks is essential to economic performance¹.

Objectives

- Provide unrestricted access to large amounts of data generated by the government
- Leverage data-analytics and IOT for provision of smart solutions to the citizens.
- Facilitate Human Capital Development in emerging disciplines such as IoT, Cloud Computing, Big Data.
- Create an enabling environment for growth of hardware industry that compliments these disciplines.
- Acknowledge the creation, management and utilization of knowledge as fundamental principles for decision-making and investment at all levels of government.

Policy Commitments

The Government shall endeavor to:

¹ OECD, 1996, *The Knowledge Based Economy*. Retrieved from <https://www.oecd.org/sti/sci-tech/1913021.pdf>

- launch “Open Data” initiative, through which access to large amounts of government data produced by different departments shall be provided at a single platform.
- build a pool of data analytics resources and develop in-house expertise for the same.
- encourage and incentivize private sector involvement in setting up local data centers for both the government and the private sector.
- recognize Data Centers as a part of the industry and ensure provision of utilities at the industrial rates rather than commercial ones.
- consider a tax-break for local clouds and data centers and firms working in Big Data Analytics.
- engage with lawyers and relevant stakeholder from the industry to chalk out standards for safe data sharing.
- partner with other countries to develop local capacity as well as to provide access to hardware manufacturing facilities.
- encourage formation of knowledge societies within universities and colleges to raise awareness regarding emerging technologies.
- introduce data management and analytics as core functions of all government departments to improve efficiency and encourage informed decision-making.
- incentivize students to take up careers in these disciplines by offering generous scholarships and training opportunities.

Goal 9: Strengthen and build human resource and increase employment opportunities through the use of ICTs.

There are two major dimensions with regards to the human resource considerations in the IT Policy. Firstly, it is imperative that the government invests in human resource specific to the ICT sector. Secondly, it is also important to recognise ICT as an enabling tool for human resource development in all sectors. Moreover, internet has enabled job seekers as well as providers to transcend national boundaries, allowing for a much larger pool of resources as well as opportunities to be available to everyone. It is critical, therefore, that the government encourages the adoption of IT skills from the very basic level and aligns its strategies according to the needs of the national as well as the global market.

Objectives

- Support and participate in regional ICT human resource development initiatives
- Facilitate development of localised content to improve learning outcomes.

- Introduce the idea of free-lancing to a wider audience so that those who are not employed directly by the industry can earn honourable and reasonable living.
- Reduce the academia-industry divide through curriculum reforms, internships and training opportunities.
- Inculcate ICTs in school curriculum and provide interactive education to school students through computers and e-learning programs.
- Intensive Computer Trainings of teachers in all government schools to maximise utilisation of ICTs.
- Collaborate with international institutes and platforms to provide professional trainings of international standards

Policy Commitments

The Government shall endeavor to:

- consider introduction of ICT and Soft Skills as compulsory subjects at high school and intermediate level
- acknowledge ICT literacy and skills as a core agenda of the Punjab Skills Development Strategy.
- engage with global learning platforms to provide quality content in localised languages and at preferential prices.
- encourage and facilitate the setting up of IT Training Centres in the province for training unemployed youth in specific IT skills.
- engage local industry in curriculum committees for both schools and universities, in order to bridge the industry-academia divide.
- establish distance education programs including participation in Global Development Learning and other networks.
- ensure that necessary equipment for digital content is made available on lease or easy instalments (interest free) for teachers, students and institutes.
- provide recognition to freelancers as members of the IT sector and take steps for extending the same benefits to them as the industry.
- engage with the State Bank of Pakistan to simplify the process of recording income by freelancers as export income and not remittances.
- partner with the private sector to identify and map demand for specific skill sets, and raise awareness about the same.

- encourage the provision of scholarships and research grants every year to students for Masters and Ph.D. in IT/ITES/EHM from international universities and facilitate their return in the public sector so as to build a pool of quality human resource.
- provide scholarships to the top-ranked IT Universities in Pakistan for brilliant and deserving students, so as to attract the best minds to the IT sector.
- leverage its network of training centres for provision of trainings for blue-collar jobs in ICT sector.

Goal 10: Utilize ICT for a more efficient and transparent governance model in Punjab.

Governments can act as a major catalyst for both creating a demand for production of ICT services as well as for their assimilation in the social, economic and political systems. Moreover, IT can be used as an effective tool to increase greater outreach, dissemination of information, provision of services and enhancing accountability. Government's actions can also provide necessary confidence to the private sector as it demonstrates a long-term commitment by the government to a particular cause.

Punjab has been steadily moving towards SMART (simple, moral, accountable, responsive and transparent) during the last 5 years. A number of government processes have been automated and technology is being used to gather and process data for efficient and effective decision-making. It is, nonetheless, necessary that the government continues on this path to establish itself as one of the leaders in e-governance and service delivery.

Objectives

- Maintain and strengthen the leadership of the province in the area of e-Governance and take it towards m-Governance.
- Enable the Government to function more efficiently and move towards a paperless environment.
- Establish and use the Data Center as common, shareable, secured, centralized hosting infrastructure for all applications and as a Cloud Computing environment and delivery centers for the citizens of the province.
- Create an easy and free access to government information and provide information and support to citizens about all government departments.

- Enable citizens to avail various services online, or at a place near their home, without having to visit Government offices at minimum possible cost.
- Utilise ICTs for dealing with security challenges pertaining to law and order.
- Encourage the use of ICTs for preservation and dissemination of local content and culture.
- Utilise latest developments in ICTs for urban and rural planning in the province.

Policy Commitments

The Government shall endeavor to:

- introduce a Digital First Policy whereby all upcoming government services shall be offered digitally so as to reduce the operational and management costs.
- direct all government departments to prepare ‘5-year IT plans’ with yearly deliverables containing information of investments envisioned in IT infrastructure, training of individuals and automation processes etc.
- provide ICT training to all relevant public officials and service providers and link service and promotion incentives with these trainings.
- ensure Horizontal Connectivity; connecting all Government offices in and around the province Secretariat through fiber-connectivity backbone and encourage digital consultations among district managements.
- set up Punjab Data Center as a common, shareable, secured, centralized hosting infrastructure for all applications.
- set up e-service centers across the province to facilitate access to government information and services.
- Create digital master plans for urban and rural areas to coordinate and identify development activities.

Applicability of the Policy:

The Punjab IT Policy 2018 provides a roadmap to the provincial government for the next decade and aligns itself with the Vision 2025 of the federal government.

The policy shall be applicable to any authority or body in Punjab established or constituted or delegated by any Central or Provincial law, any body owned and controlled by the Provincial Government and shall also include the bodies whose composition and administration are predominantly controlled by the Provincial Government.

The policy will be applicable in advisory nature to any other organization which receives any Government aid (aid shall include all aid in the form of Government land at concessional rates or any other monetary concessions like exemption from tax, etc., by Government as specified by Government, from time to time) directly or indirectly by the Provincial Government, or the functions of such body are of public nature or interest or on which office bearers are appointed by the Provincial Government.

In a case where any policy statement laid down in this document conflicts with the policy of the Government of Pakistan or directly comes under the legal and regulatory regime of the Federal Government then the policy of the Federal Government will prevail.

Development of an Action Plan

The Punjab IT Policy recognises the need for development of a comprehensive Action Plan that would chalk-out the road map for the short and long-term objectives and the mechanism for monitoring and evaluation of the same. The Action Plan will be formulated after the passage of the policy document, where the relevant stakeholders will be mandated with the task of coming up with sector-specific Action Plans which would subsequently be consolidated into a comprehensive document.

Annexure

Punjab IT Policy-2018

Economy, Education, Empowerment

Employment, Entrepreneurship, Engagement

List of Contributors



**Punjab Information Technology Board,
Government of Punjab, Pakistan**

1. Mr. Jonas Eichhorst (CEO, Silicon Straits)
2. Mr. Omar Zafar (CSO, Netsol Technologies)
3. Ms. Nighat Dad (Digital Rights Foundation)
4. Mr. Saad Idrees (Partner, DaftarKhawan, Social Innovation Lab)
5. Mr. Saad Hamid (Invest2Innovate)
6. Ms. Nimrah Dar (Public Relations Coordinator, Netsol Technologies)
7. Mr. Uzair Shahid (Program Manager, Plan9)
8. Ms. Shmyla Khan (Digital Rights Foundation)
9. Mr. Mughees Tahir (Program Manager, PlanX)
10. Ms. Javeria Najeeb (Cres Ventures)
11. Mr. Zubair Anwar (Beaconhouse National University)
12. Mr. Arzish Azim (Founders Institute)
13. Mr. Talal Burney (Co-Founder, Travly)
14. Mr. Omer Khan (Vivid Technologies)
15. Mr. Amin Baig (Optimaken)
16. Mr. Hamza Abbas Bakhsh (Autogenie)
17. Ms. Fatima Rizvi (Nspire)
18. Mr. Ahmed Khalid (Xgear)
19. Mr. Nabeel A. Qadeer (Director Entrepreneurship, PITB)
20. Ms. Sarah Tariq Gilani (Program Manager, TechHub Connect)
21. Ms. Jehan Ara (President, Pakistan Software Houses Association)
22. Mr. Badar Khushnood (Former Country Consultant Google, Former Country Consultant Twitter, BRAMERS)
23. Mr. Humayun Bashir (Former Country GM IBM)
24. Mr. Faisal Khan (CEO, Ovex Technology)
25. Mr. Waqar Saleem (Shana Bashana)
26. Mr. Atif Mumtaz (CEO, Crossover)
27. Mr. M. Usman Gulzari (CIO, Missing P)
28. Mr. Hasham Sarwar (Infomist Services)
29. Mr. Naeem Iqbal (Project Manager, NADRA)
30. Mr. Asim Waqar
31. Mr. Yalman Ansari (Assistant Professor, COMSATS)
32. Mr. Ahmed Aslam (Program Manager, SZABIST)
33. Mr. Obaid Saleem (GMIA)

34. Mr. Owais Zaidi (CEO, The HIVE)
35. Mr. Wahaj Siraj (CEO, Nayatel)
36. Mr. Saleem Rafiq (CEO, OpenWare Business)
37. Mr. Mohsin H. Malik (Director, Bahria University Karachi)
38. Mr. Shahjahan Ch. (CEO, Voostudio Pvt. Ltd)
39. Mr. Faizan Leghari (CEO, Forrun)
40. Mr. M. Nabeel (Manager, NEST)
41. Mr. Aafaaq Ahmed (President, PAF-KIET)
42. Mr. Waqqas Mir (NEST)
43. Mr. Imran Moinuddin (CEO, NexDegree Pvt. Limited)
44. Dr. Arshad Ali (Executive Director, Higher Education Commission)
45. Mr. Yusuf Hussain (CEO, National ICT R&D Fund)
46. Mr. Maaz Zahid (Head of Digital, Mobilink)
47. Dr. Naushaba Awais (Director, Higher Education Commission)
48. Dr. Faisal Aftab (Bahria University)
49. Ms. Amina Sadaf (Entrepreneurial Alliances)
50. Ms. Naima Atiq (Manager R&D, Quaid e Azam University)
51. Ms. Mavra Bari (WeCreate Pakistan)
52. Mr. Adnan Faisal (General Manager, NUST TIC)
53. Ms. Sundas Javaid (Program Manager, Jumpstart Pakistan)
54. Mr. Zouhair Khaliq (Teamup Pakistan)
55. Mr. Pervaiz Abbasi (Teamup Pakistan)
56. Mr. Bilal Sohaib (Manager, Bahria University)
57. Ms. Maleeha Kiyani (Ez Pz)
58. Mr. Jeremy Higgs (EcoEnergy)
59. Mr. Syed Abdul Qadir
60. Mr. Altaf Qureshi
61. Mr. Azhar Rizvi
62. Mr. Shoaib Zaidi
63. Mr. Muhammad Sohaib Saleem
64. Dr. Madani (Director COMSATS Virtual Campus)
65. Dr. Bilal (Associate Professor, Department of CS, COMSATS)
66. Mr. Salman Ansari (CEO SATC, National IT Policy 2000)
67. Dr. Riffat Hussain (Head of Department of Public Policy & Governance, NUST)

68. Ms. Kishwar Sameen Gulzar (Asst Professor, NUST Business School)
69. Mr. Khurram Jehanzeb (Chief Operating Officer, Punjab Higher Education Department)
70. Mr. Imran Sikander Baloch (Special Secretary School Curriculum, Schools Education Department of Punjab)
71. Mr. Jazib Zahir (CMO, Tintash)
72. Mr. Nevil Patel (VP, i2c Inc.)
73. Mr. Ali Gohar (Systems Limited)
74. Mr. Kashif Farooq (eLearn, Government of Punjab)
75. Mr. Yaqoob Bangash (Director Policy & Governance, Information Technology University)
76. Mr. Umer Maqbool (Director, Binex Solutions)
77. Mr. Mustafa Saeed (Founder, 3Restart)
78. Mr. Ali Ansari (Dewan Group)
79. Mr. Naeem Zamindar (Acumen Pakistan)
80. Mr. Syed Ahmed (DPL)
81. Mr. Khurram Rahat (Teradata Pakistan)
82. Mr. Rai Azam (Azam & Rai Associates)
83. Dr. Qaiser Durrani (GIFT University)
84. Mr. Ahrar Naqvi (Ebryx)
85. Mr. Sultan Hamdani (Maison Consulting)
86. Dr. Khurram Afzal Malik (Director, Punjab Board of Investment & Trade)
87. Mr. Sajjad Kirmani (Infogistics)
88. Mr. Shahid Muneer (GSC Pvt. Ltd.)
89. Mr. Abbas Ali Khan (Abacus Consulting)
90. Mr. Zeshan Qureshi (Haier)
91. Mr. Nadeem A. Malik (Microsoft)
92. Mr. William Wu (Managing Director, Haier)
93. Mr. Zaeem Yaqoob (Director, Beaconhouse National University)
94. Mr. Saboor Karamat (Haidermota BNR)
95. Mr. Umar Zafar (Netsol Technologies)
96. Mr. Rana Shehzad (Director, Trade Development Authority of Pakistan)
97. Mr. Mujtaba Paracha (Member, Punjab Revenue Authority)
98. Ms. Sana Taskeen Gulzar (Producer, BBC)

99. Mr. Ahmad Aslam (Program Manager, SZABIST)
100. Mr. Arsalan Kahlid (Social Innovation Lab, LUMS)
101. Ms. Rabia Chaudhary (ZEF Institute Bonn, Germany)
102. Ms. Fazila Qazi (Deputy Director, Air University)
103. Mr. Furqan Shamsi (Corporate Trainer)
104. Mr. Wadood Yahya (Cisco Systems)
105. Mr. Ch. Shoaib Akhtar (University of Lahore)
106. Mr. Farooq Ahmed (FAST University)
107. Ms. Momina Rajput (Telenor Velocity)
108. Mr. Richard Anderson (Washington University)
109. Ms. Ayesha Sohail (Care Foundation)
110. Mr. Najaf Ahmad Shah (Secretary Specialized Healthcare & Medical Education, Government of Punjab)
111. Ms. Warda Altaf (Punjab Information Technology Board)
112. Mr. Ahmad Islam (Punjab Information Technology Board)
113. Ms. Saira Hafeez (TechHub, Punjab Information Technology Board)
114. Mr. Junaid Ahmed Nizami (TechHub, Punjab Information Technology Board)



URL: pitb.gov.pk