

# CYBERSECURITY



# WHY CYBERSECURITY?

As technology gave access to information, the opportunity to connect and better communication means, it also gave us virus threats. Virus threats are dated back to the dawn of computing, and are now gaining ample attention due to increase in cybercrime. According to the US Department of Justice, cybercrime is

**“ANY ILLEGAL ACTIVITY THAT USES A COMPUTER FOR THE STORAGE OF EVIDENCE.”**

As per the definition, any unlawful activity such as theft, hacking or identity fraud committed through a network and a computer will fall under cybercrime. Cybercriminals will use malicious code or anonymous IDs to hack into or steal personal and corporate data.

Other criminal activities made possible by computers include network intrusions, identity theft, stalking, bullying and terrorism which have become a cause for concerns for nations globally. As the number of internet users and computer owners increases, so does the prevalence of cybercrime. According to Avast, it was in the 1950s, when hacking first started to show its appearance through phone phreaking. However, as technology started to evolve in the 1960s, cybercrime received its first reference in the Massachusetts Institute of Technology’s student newspaper. Researchers, experts and computer scientists started to develop solutions to tackle cybercrime, which lead to the outbreak of cybersecurity. In 1987, cybersecurity was officially born through antivirus software including McAfee, NOD and UVK.<sup>i</sup>

Cybersecurity or information technology security (IT security) is the protection of computer systems, devices, networks and programs from information disclosure, theft, damage or attack to software, processes and programs.<sup>ii,iii</sup>



The preservation of confidentiality, integrity, and availability of information in the Cyberspace.<sup>iv</sup>

*International Organization for Standardization*

Governments, institutions, organizations and individuals are storing large amounts of data on their devices. A lot of this data is sensitive and confidential. With the increase in shared network spaces, Apps and communication platforms, the need for security also increases. The need for cybersecurity is also a global right that falls into the right to privacy. Maintaining cybersecurity is tricky and comes with its challenges. With the digital revolution and innovation in technological solutions, cybercriminals are also innovating their viruses which then requires consistently new and improved protection.

# ELEMENTS OF CYBERSECURITY



Source: TechTarget, 2021

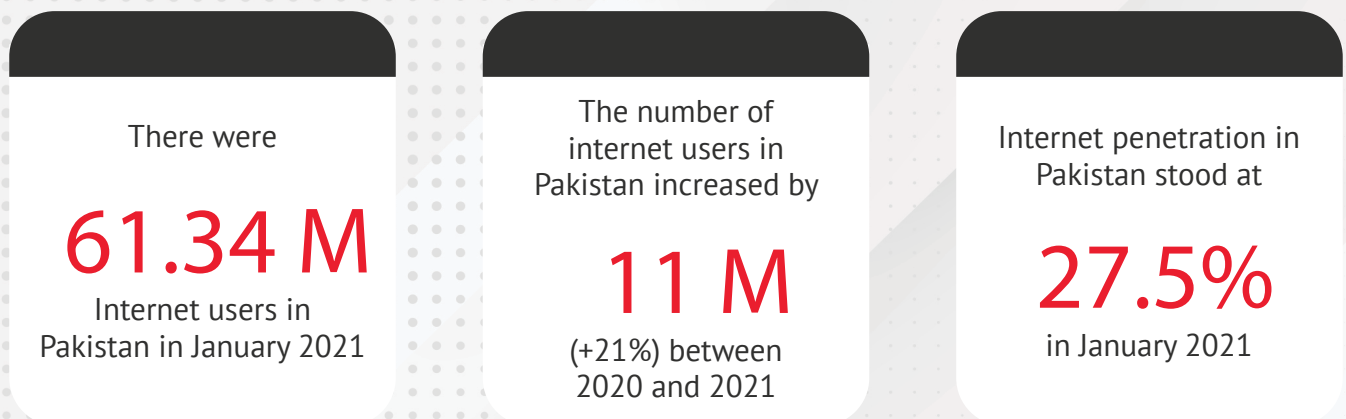
With the increase in demand, spending in cybersecurity has tremendously increased as well. In 2020, it was forecasted that the five-year spending in cybersecurity will be over a \$1 trillion.<sup>v</sup> On the other hand, it has also been reported by Forbes that a sheer number of security breaches and cybercrime has been conducted through emerging technologies, including machine learning and artificial intelligence. According to Milkovich, 2020, 9.7 million healthcare records were compromised in September 2020 alone.<sup>vi</sup>

## Did You KNOW? The most common malicious attachment types are:



Source: Purplesec, 2021

Pakistan's internet usage has increased tremendously.



Source: Digital Pakistan, 2021



With the increase in internet usage and the usage of social media platforms including Twitter, Instagram and Facebook, cybersecurity threats have reached a significant level. Many institutions, including the National Response Centre to Cyber Crimes, have devised a complaint cell for local as well as overseas Pakistanis to lodge complaints. These complaints are then resolved through their expert team specialized in forensics. In January 2021, the National Cybersecurity Policy was launched by the Government of Pakistan to strengthen existing cybersecurity frameworks, install newer versions and develop partnerships and awareness for cybersecurity in the country.<sup>vii</sup> Apart from the government response to cybersecurity, there are startups and SMEs working in the field to provide effective and efficient services to local and international clients.

<i>Service(s)</i>	<i>Company(s)</i>
<b>DLP, DNS, SOC PROVIDERS</b>	Cydea Tech, Rewterz, Security Beans, Secure Networks, GSNI, PRIVO, Cansol Security, KPCERC, Veiliux
<b>PENETRATION TESTING AND VULNERABILITY ASSESSMENT</b>	Tranchulas, OMNI Academy and Consulting, PakCert, Tier 3 Cybersecurity, Catalytic Consulting, Secisys, Delta Tech, Security Beans, Di8it, Onsite, Commtel, KPCERC
<b>APPLICATION AND CLOUD SECURITY</b>	Tranchulas, Secure Networks, Tier 3 Cybersecurity, Cybercom, Onsite, Student Shelter in Computers, Cansol Security, Rapid Compute
<b>NETWORK SECURITY AND INTERNET OF THINGS (IOT) SECURITY</b>	Access Group, Trillium Information Security Systems Private) Limited, Tranchulas, Secisys, Catalytic Consulting, OMNI Academy and Consulting, PakCert, Compliance Wing, Securing Information System (Pvt) Ltd., Tier3 Cyber Security, Secure Networks, Prudentials, Commtel, KPCERC



# PAKISTANI COMPANIES WORKING IN **CYBERSECURITY**

## *Trillium Information Security Systems (Pvt) Ltd*

Trillium Information Security Systems provides a pack of solutions falling under Predict, Prevent, Detect and Respond. Under these categories, antimalware, threat detection and activity tracker software are provided to businesses. These solutions are offered by IBM, Kaspersky, Forcepoint, Rapid 7 and others.<sup>viii</sup>



**SYED FAHAD ALI**

**SENIOR INFORMATION SECURITY OFFICER  
AT PAKISTAN PETROLEUM LIMITED**

Tremendous quality of service provided by your company. We sincerely appreciate your efficient, gracious customer service, the level of detail and accountability that you have demonstrated.



## *Cydea Tech*

Cydea Tech provides products and services at affordable rates to tackle the increasing speed of cyber-attacks. One of their products Cydea Deception Platform (CDP) is a platform that is able to perceive threats, deceive attackers and predict incoming threats. CDP can provide 24x7 monitoring, efficient detection, prevention against targeted attacks, fast responses, dissemination and prevention. Another product is the Cydea TIP, which is a single unified platform that converts threat data into actionable threat intelligence. Apart from cybersecurity, Cydea Tech also offers enterprise product development services.<sup>ix</sup>

## *Access Group*

Access Group is a technology solution provider of robust satellite broadband connectivity, IT security and digital payment solutions. As a part of its vast portfolio, the organization also provides IT security services. These services, offered in partnership with Gemalto, are able to protect critical business data, communications, financial transactions, and digital identities through a full spectrum of encryption technologies. Access Group has been providing scalable technological solutions for over 25 years and is committed to

delivering next-generation cybersecurity solutions with renowned global partners including Thales, Centrifry, Tripwire, Trend Micro, Forcepoint and Ivanti. The organization has worked with notable organizations including Engro Foods, Pakistan State Oil, GlaxoSmithKline and Muslim Commercial Bank.<sup>x</sup>



## Tranchulas Private Limited

Islamabad-based Tranchulas is specialized in hacking networks, systems, applications and devices by providing cybersecurity essentials and services. Their services include penetration testing, application security, offensive cyber initiative, compliance, security operation center (SOC) as a service and training. The organization has a presence in 4 countries. Tranchulas also provides training and capacity building in penetration testing, ethical hacking, information security management, windows forensic analysis and OSINT.<sup>xi</sup>



## Compliance Wing



Karachi-based Compliance Wing is a specialist in cyber and information security services. They address the key information security threat landscape challenging organizations today, the tasks of securing infrastructure, maintaining compliance, and cultivating awareness and security education across the board level. The organization has its own professional solutions team with over 10 years of cybersecurity solutions deployment experience, helping organizations fight cyber-crime, protect data, reduce security risk and mitigates evolving threats.<sup>xii</sup>

### TIM BIGARLAN

We are very happy with our relationship with Compliance Wing. With their help, expanding our risk assessment, vendor management and information security projects were easy yet thorough. CW is extremely helpful and always there with a quick, accurate answer.



## Tier3 Cyber Security Services

Tier 3 works towards digital freedom and cybersecurity. They offer a range of services including cybersecurity consultation, ransomware removal and penetration testing services. Tier 3 also offers a Cyber Threat Intelligence Pakistan platform which helps to organize, aggregate, correlate and analyze cyber threat data from multiple sources and aids towards a solution-oriented approach. The organization also offers cyber alerts to raise awareness regarding cybersecurity trends worldwide.<sup>xiii</sup>







## ***Ebryx***

Ebryx provides cybersecurity services as well as research and development in security. These services include security assessment, detection and response, incident response and cloud security. Ebryx also provides tailored security solutions for startups. Some notable clients that have benefitted from Ebryx's services include Frag Games, Sahara, Verizon, Zeta and Randstad. Ebryx has international technology partners and offers its products and services at an affordable rate. These technology partners include IBM, Oracle, Carbon Black, Tenable, Alien Vault, Weston and HP.<sup>xiv</sup>

## ***Catalytic Consulting***

Specializing in cybersecurity, Catalytic Managed Security Services is a full-fledged methodical approach to manage the security of an organization. This includes a 24/7 monitoring and management of intrusion detection systems and firewalls, over-seeing patch management and upgrades, performing security assessments, security audits and active response to emergencies.<sup>xv</sup>



### **MANAGER QUALITY, IAPPS CONSULTANCY DEPARTMENT**

We strongly recommend our prestigious service provider "Catalytic" who are equipped with skillful people having a strong background of software engineering, management and quality standards



## ***Secisys***

Securing Information System (Pvt) Ltd. is an IT Services and Information Security Company focused on delivering next-generation information security solutions that help enterprises across the world to overcome their business challenges. The organization provides cost-effective Information Security designs and solutions, technical resources management, trainings & implementation of ISO standards including 27001, 22301, 27017, 20000 and GDPR regulation. Secisys offerings span Cyber security and audit services, cybercrime investigations and the entire spectrum of IT security trainings on pen testing, ethical hacking, information system auditing, GDPR, CISSP with impeccable expertise and products. The organization provides a range of security products from well-known international vendors like F-Secure, Zemana, Kaspersky and Symantec.<sup>xvi</sup>



## **Delta Tech**

Delta Tech is Pakistan's leading cybersecurity solutions provider. It brings a world-class set of consulting, next-generation products and customized training to protect organizations against cyber-attacks. Delta Tech provides consultations on cybersecurity transformation, gap analysis and assessments, penetration testing and vulnerability assessment. Some of Delta Tech's products include Redwolf, MicroFocus, Qualys, Fortinet, TrendMicro and ESET. Its rich and diversified experience in implementing world-class cybersecurity for the telecoms, banking, enterprise, and government sectors within and outside Pakistan including Saudi Arabia, Qatar, Bahrain, UAE, Kuwait and Oman.<sup>xvii</sup>

## **PakCert**

PakCert, a project of Advanced Mission Sciences & Technologies (AMSAT), a division of Arpatech Pvt. Ltd., one of Pakistan's leading technology companies provides cybersecurity services. PakCert has been established for businesses to receive timely updates and alerts regarding any security breach. PakCert's services can be accessed through a membership and personal engagement platform. Categorically, some of the services that PakCert provides include vulnerability assessment and penetration testing, cyber security operations centre, cyber threat intelligence, digital forensic analysis, ISO 27001 compliance and malware reverse engineering.



## **Rewterz**

Rewterz is a cybersecurity company based in Pakistan, also serving customers in UAE, Oman, Saudi Arabia and Dubai. The organization provides security information and event management, security orchestration, automation and response, endpoint detection and response, advanced malware protection, vulnerability management, web application firewall, email security and privileged access management. The organization also publishes research-based articles on different cybersecurity attacks, such as the NetWalker Ransomware attack on Pakistan's K-Electric, and breaks them down into problem, solution and result.<sup>xviii</sup>





## Di8it

Di8it is an information security consultancy specialized in offensive, defensive and advisory security services. The organization provides tailored solutions to cybersecurity as well as standardized ones, falling under professional security services and managed security services. Additionally, some of the extended services that they provide include breach and attack simulations, penetration testing, social engineering assessment, compromise assessment, threat hunting, network architecture review, system hardening and configuration, review risk assessment and several others. Di8it has partnered with leading security service providers including LogRhythm, Beyondtrust, AlgoSec and IBM Security. <sup>xix</sup>

**ERIK STRAUB**

**CHIEF MARKETING OFFICER, KICKFURTHER**

We love the interface, the experience, and most importantly... the results.



# THE FUTURE OF CYBERSECURITY

Cybersecurity exists since the late 1970s and is continuously growing, as technology is expanding. Globally as well as within Pakistan, companies are investing a large amount of data and financial resources in their businesses and storing them online. Furthermore, people are using networks and online spaces to secure their data as well. Emerging technologies are expanding the abilities of attackers as well which creates the need for an increased security system, hence a game of cat and mouse. Pakistan's cybersecurity landscape is focused on excellent customer services as well as top-notch products obtained through partnerships with global cybersecurity leaders. These products are delivered to clients at an affordable rate, the reason why international clientele in Pakistan for cybersecurity is large.



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# TALK TO US



## DO YOU RUN A BUSINESS IN THE CYBERSECURITY INDUSTRY?

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OR ERRORS IN THIS WHITEPAPER.**

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# ABOUT THIS INDUSTRY ROUNDUP

Pakistan Software Export Board developed this paper by hiring services of an independent consulting firm to prepare this roundup on Pakistan's Cybersecurity sector. The paper focuses on Pakistan-based companies in this vertical and appraises the reader of the expertise available in Pakistan in the Cybersecurity domain.

## DISCLAIMER

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