

The cover art features a large, stylized circular graphic composed of several segments in shades of blue and teal. Overlaid on this is a dark, semi-transparent image of a hand holding a smartphone. The background is a complex digital collage with various elements: a grid pattern, a line graph, a DNA helix, and several virus-like particles. Text elements are scattered throughout, including 'X-RAY' in the top left, 'HOSPITAL No:' and 'ART ROOM' near the hand, and 'ONLINE-P' at the bottom right. The year '2021' is prominently displayed in large white digits on the right side of the circle.

2021

ISSUE 48 | JAN - MARCH

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ADNAN KHAN
Managing Editor

Dear Readers,

Pakistan's IT and telecom scene has been quite promising. The government has taken numerous steps to facilitate the current players and attract further foreign investment in the country as well. PTA has finally decided to release fresh spectrum and has appointed an international spectrum consultant for the purpose. USF has sped up the deployment of subsidized rural optic fibres to connect the unconnected. While local mobile device manufacturing policy provided much-needed relief that helped to raise the number of plants in the country to 16. Over the last few months, the government has already approved several long-awaited policies. We have outlined some of the very important policies that have been formulated over the last few months and shed some light on the benefits that these policies will bring in our feature article, "Charging towards the Future through Effective Policy Formulation."

Today telecommunication sector is Pakistan's fastest-growing sector, and PTA has played a significant role in creating an investment-friendly environment for foreign investors. How foreign investment in the ICT industry has shaped the overall economic landscape of the country has been discussed in detail in our article, "State of FDI in Pakistan's ICT Industry." Tik Tok has been banned once again in Pakistan. The censorship route seems to be quite dominant in our society based on immoral content. We have tried to dig deeper into this censorship culture to assess its repercussions on our society in our article, "TikTok Ban in Pakistan: Is it good or bad?"

Abdulrehman Mahmood is the CEO of Digit and Swift Biz Solutions. In a short but exclusive interview, he shared his aspirations for Pakistan's tech ecosystem and his brand Digit. Like always, our regular sections, including phone reviews, Smart moves, TVC reviews, top applications, and smartphone wish list are also part of our current issue. We always try to bring something new and exciting for our readers and hope you guys will appreciate our efforts and give us your feedback to improve further.

We hope you are staying healthy and safe.
Enjoy Reading...!!!

Thank you,
Adnan Khan
Managing Editor

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Issue 48

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Charging towards the Future through Effective Policy Formulation

Technology has gone through tremendous leaps of progress throughout the past century. From the first four-word message over the copper wire in 1844 to today's worldwide daily converse on wireless phones with cameras and access to a library's worth of data in seconds via broadband connections; IT and telecommunication has evolved into something highly miraculous.

The social and financial value of this persistent data stream can't be stressed enough. Information is for sure force when applied by business firms to decisively gauge real-time market conditions across the globe, or by people downloading news and data from assorted sources to improve their lives.

The reliance on telecommunications requires public strategies that advance the development and guarantee network dependability and security

This reliance on telecommunications requires public strategies that advance the development and guarantee network dependability and security. But at the same time, policies need not be unpredictable.

A suitable regulatory process always keeps up with the changing pace of technology. Consumers today are not at the mercy of the government-sanction monopolies anymore; competition among various technology providers has opened up venues of opportunities for consumers.

A suitable regulatory process always keeps up with the changing pace of technology

Pakistan's IT and telecom scene has been quite promising. The government has taken numerous steps to facilitate the current players and to attract further foreign investment in the country as well. PTA has finally decided to release fresh spectrum and has appointed an international spectrum consultant for the purpose. USF has sped up the deployment of subsidized rural optic fibres to connect the unconnected. While local mobile device manufacturing policy provided much-needed relief that helped to raise the number of plants in the country to 16. In the recent past, the government has been quite active on the policy formulation front. Over the last few months, the government has already approved several long-awaited policies.

The government has taken numerous steps to facilitate the current players and to attract further foreign investment in the country as well



Right Of Way Policy

The Right of Way (ROW) Policy for the telecom sector was recently approved by the federal cabinet. The policy has cleared a large number of hurdles that were faced by the telcos and internet service providers in the installation and maintenance of their telecommunication equipment and expansion of systems across the country. Once the policy is in place, all the provinces and their concerned agencies will be bound to facilitate ROW for the telecom sector. The new ROW policy has categorized telecom installations as "critical infrastructure" which means that damaging telecom infrastructure would be considered sabotage and cases under criminal and anti-terrorism laws would be filed against the culprit.

The best thing about the ROW policy is that an official fee structure has been set up to operate in the required areas. This will prevent overcharging and ensure affordable services for all



The best thing about the ROW policy is that an official fee structure has been set up to operate in the required areas. This will prevent overcharging and ensure affordable services for all. Moreover, the latest regulations will encourage more players to enter the local market because of the legal security offered under the new policy. Also, existing players will be motivated to expand their business setup.

National Electric Vehicle Policy

In November last year, Pakistan approved its very first National Electric Vehicles Policy (NEVP). The policy appears quite aggressive as it aims at seeing electric vehicles capture 30% of all the passenger vehicle and heavy-duty truck sales by 2030 and 90% by 2040. It sets even more ambitious goals for two- and three-wheelers and buses; 50% of new sales by 2030 and 90% by 2040. In times when the inflation rate has just reached 12.7% while the rupee is down almost 50% against the dollar, it seems like an odd decision to import Teslas. But in reality, an EV policy could not only further Pakistan's climate goals and help with the dangerous air pollution problem in the cities, but also has the potential to breathe new life into Pakistan's economy.

The policy appears quite aggressive as it aims at seeing electric vehicles capture 30% of all the passenger vehicle and heavy-duty truck sales by 2030 and 90% by 2040

There are already five domestic electric vehicle manufacturers in the market have been making significant investments in the sector, often partnering with established international automobile companies. The policy will help to incorporate new foreign direct investment incentives to stimulate investment in EVs.

Data Protection Bill

Pakistan prepared a draft of a personal data protection bill in 2018, but it has yet to be vetoed by the parliament. After the WhatsApp privacy debacle, data protection once again became a topic of hot debate. The government decided to speed up the bill formulation process. MoITT is currently reviewing a draft bill on personal data protection after receiving input from national and international technology and business stakeholders. Therefore, it is expected that a comprehensive policy on personal data protection will also be approved this year.

MoITT is currently reviewing a draft bill on personal data protection after receiving input from national and international technology and business stakeholders

According to the drafted data protection bill, the federal government will establish a Personal Data Protection Authority and impose a fine of up to 25 million rupees on anyone found guilty of a data breach.

Cybersecurity policy 2021

A very important step is taken towards cybersecurity and a draft of National Cyber Security Policy 2021 has been presented for public opinion and stakeholders will be consulted on the proposed policy draft. The policy focuses on developing secure and resilient cyber systems and networks for national cybersecurity and response.

Cybersecurity policy focuses on developing secure and resilient cyber systems and networks for national cybersecurity and response

The policy also aims to mitigate cyber threats the country faces today and to improve the national cybersecurity outlook.

National Broadband Policy

The Ministry of Information Technology and Telecommunication (MITT) has outlined 'National Broadband Policy-2021' targeting the contribution of digital and broadband development on the economy. The draft policy also envisions an 8% contribution towards the GDP from digital and broadband development in the next four years.

One of the draft policy objectives is to ensure that 100% of the population living in tier-2 and tier-3 cities should access high-speed internet

One of the draft policy objectives is to ensure that 100% of the population living in tier-2 and tier-3 cities should access high-speed internet. Moreover, the facilitation of 75% of the internet users with digital bank accounts by 2025.

The user-centric policy has four major pillars. The first pillar will focus on the digitally divided people who are yet to be digitally included. It will also provide guidelines regarding the use of existing fiber resources, facilitating infrastructure sharing, introducing national broadband networks, and its role in the sustainable development of broadband infrastructure. The second pillar will help organize matters related to enhancing the use of the internet and market enablement. It includes a roadmap for service-based competition, a review of licensing framework, and content management. The third pillar will emphasize the privacy and security of users consuming the internet. The fourth and final pillar of the policy would benefit users by providing a transformational roadmap for legacy services and technologies. It also includes reviewing the role of different public sector organizations responsible for facilitating various telecommunication services.



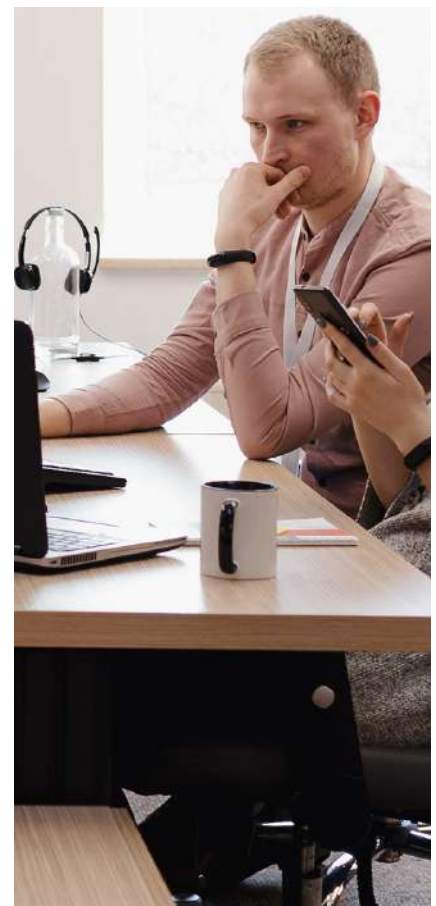
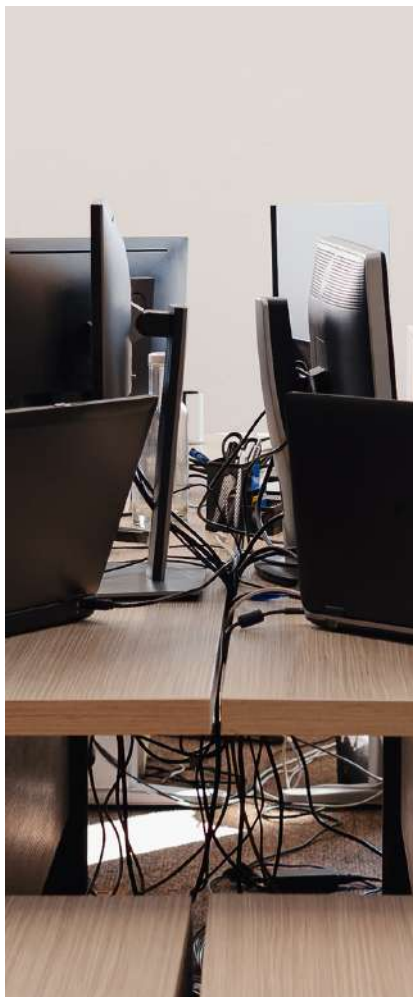
Communications are an essential means for reaching the -Bottom of the Pyramid and enabling individuals to reduce poverty and improve the quality of their lives. This widespread technological dissemination has created new opportunities across all segments of society but also has presented new challenges requiring adaptable strategies.

Well-trained, informed, and independent individuals in ministries, regulatory agencies, companies, and universities play a critical role in shaping the future of the communications landscape, thereby creating more opportunities for open collaboration, innovation, and economic growth

Technology is changing telecommunications markets by merging, converging, and re-organizing them from the inside-out. Communications technologies alone, however, will not drive the innovation that the developing world needs. As a result of the rapid rate of technological development, business innovation and changes in social attitudes continue to push communications in unpredictable, innovative directions. Well-trained, informed, and independent individuals in ministries, regulatory agencies, companies, and universities play a critical role in shaping the future of the communications landscape, thereby creating more opportunities for open collaboration, innovation, and economic growth. Therefore, well-thought and forward-looking policies are something that our country desperately needs right now to match the pace of the technological whirlpool that has taken over the world today.

Our industry needs a level playing field and an environment in which communications can reach its potential as a powerful enabling tool for supporting innovation and achieving inclusive sustainable development. In all this process, the government holds the most important role as it is the one that can create an environment that is conducive for technology development through its policies and regulations. The newly formulated policies and regulations will definitely pave a path in the right direction and enable our IT and telecom industry to reach its full potential and create value for the end consumers.

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Xiaomi Redmi Note 10

A Steady and Reliable Performer

Design

Xiaomi has introduced a new “Evol” design language which freshens up the Redmi Note 10 series a bit. There's little scope for differentiation on smartphones, and the main bit of design flair we see is the camera module on the rear. The four lenses, all of different sizes, are arranged in a chunky but rounded panel that protrudes by about 1mm from the rear.

The rear panel curves at the sides to offer a comfortable grip. I liked the matte texture of the rear panel, and it doesn't get smudged very easily which means this phone still looks good after being used for a while.

Thanks to the 6.43-inch screen and its relatively narrow borders, the Redmi Note 10 is actually quite easy to hold and manage. At 8.3mm thick and 178.8g in weight, even one-handed use isn't much of a problem.

The fingerprint sensor is integrated into the power button on the side. It's quite small and shaped like a regular button rather than being slightly recessed. It seemed quick and accurate enough in use, even with such a small surface area.

Cameras

You get a very standard 48-megapixel $f/1.79$ main rear camera, an 8-megapixel ultra-wide camera, and the very basic 2-megapixel macro and depth sensors which companies use to fulfil that “quad camera” marketing requirement on budget phone. You can record 4K 30fps video, and slow-motion capture goes up to 960fps at 720p.

Daytime camera performance is fairly good, with adequate sharpness and detail. Colors pop a little and exposures are generally fine. Close-ups tended to be crisp and detailed as long as the subjects weren't brightly colored. Portrait mode usually did a good job of gently blurring the background to emphasize the subject, and portrait shots looked noticeably better. Night mode can boost brightness and balance exposures nicely, but results depend heavily on ambient light and shot composition.

Selfies looked ok, but skin textures and details are weak when seen at full magnification. Beautification is on by default. The selfie portrait mode works well enough and separated the background accurately.

Video recorded in the daytime is relatively smooth. At night, the lack of stabilization is evident if you're moving around while recording, but detail even in moving objects is decent if you stand still.



Display

The 6.43-inch display has a full-HD+ resolution and 60Hz refresh rate. Brightness goes up to 1100nits peak which is enough for apps like YouTube to display HDR videos with boosted brightness.

The screen is made of Corning Gorilla Glass 3 and an adhesive protective film is pre-applied. You also get a simple plastic case in the box. What's most interesting is the IP53 rating for splash and dust resistance which is very uncommon at this price level.

Performance

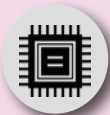
The Redmi Note 10 has more than enough power to run every day apps and tasks smoothly. It's also relatively light and convenient to use. The fingerprint sensor is responsive and quick.

The Redmi Note 10 has a 5000mAh battery. It can be charged at up to 33W, and a USB Type-C charger matching that rating is included. You also get dual-band Wi-Fi ac, Bluetooth, dual simultaneous 4G, multiple navigation systems.

As of now, Redmi Note 10 units in the market will come running MIUI 12 based on Android 11. The biggest change coming with MIUI 12.5 will be the removal of all promotional content, advertising notifications, lock screen ads, and bloatware. Xiaomi says it wants to give power to the users, and so nearly all apps will be removable – with the exception of the absolute essentials such as the dialer, camera, clock, and settings apps.



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**Qualcomm Storage 678
Chipset, 64/128GB Built-
in Storage, 4/6GB RAM**



**(Li-Po Non removable),
5000 mAh**



**6.43 Inches
(AMOLED 409 PPI)**



**Front Camera: 13MP
Rear Camera: 48MP
+8MP+2MP+2MP**

Pros

- Relatively slim and light
- Good battery life
- Good display and speakers
- Decent daytime camera performance

Cons

- Average overall camera performance

Verdict

The Redmi Note 10 doesn't push any major new boundaries but it is still a very competent phone and offers good value for money in 2021.



OPPO F19 Pro's Hands-On Videography Features Enable Users To Have Fun With Every Shoot

OPPO the leading smart device brand is set to launch its latest edition to the F series – OPPO F19 Pro. The latest smartphone is expected to be equipped with AI Color Portrait video enabling users to expand their creative horizons. OPPO F series have been a huge hit and the latest editions AI Color Portrait Video makes it stand out in a crowd.

OPPO F19 Pro inherited the consistent image quality of the F series, providing users with surprising shooting effects. Through users' research, we found that users have needs for personalized expression. Therefore, AI Color Portrait Video function that can make portraits stand out in your screen was born. This series, the function is optimized for video portraits, allowing the phone to cover more aspects of using experience in terms of image.

In the development of the AI Color Portrait Video, the team worked closely for several months to solve a series of technical problems on refined portrait recognition, namely keying and will continue to follow up after the product goes to the market. For example, unsatisfying keying effects usually appear in certain scenes, engineer's debugged algorithm through trial and error. When it comes to gesture recognition, they need to dig out the solution of improving edge definition. It may also be items in a person's hand which will influence the effect of recognition. We need to train an AI model to recognize more complex portrait edges such as hand gestures and portrait attachments (water cups, etc.) to improve the accuracy and clarity of the keying.

Moreover, based on the actual needs of users and the balance of imaging effects, we specify the keying scene into portrait limited to one or two persons, to make the keying of a close-up movie more accurate and personalized. The most distinctive feature is that while we support the color retention of video portraits, we still support turning on the beauty effect, so that users can use simple operations to take beautiful and personalized portrait effects.

Dual View Video allows users to capture moments from more than one perspective. It is a new feature that enables users to simultaneously record a video from both the rear camera and front-facing camera. Previews from both camera perspectives can be viewed on-screen at the same time. Both the environment and the user's expression are recorded at the same time to make shots come to life through the user's expressions. Users can sing along with an idol during a concert and record both their performance and themselves in the same moment. The front-facing camera supports beautification, while the rear camera supports zooming. Dual-View Video is only available for ColorOS cameras.

OPPO products will continue to optimize effects in portrait photography, such as handling the balance of highlights and colors in portrait photo. It is also planned to introduce more interesting and high-quality shooting functions in OPPO F19 Pro on 21st March 2021. Stay tuned for more details.



State of FDI in Pakistan's ICT Industry

The role of investment, particularly foreign direct investment (FDI), is regarded as one of the most important contributors to economic growth. The past quarter century has witnessed remarkable growth in FDI flow all over the world. This is due to the fact that many countries, especially developing countries, see FDI as an important element in their overall strategy for economic development. Over the last few years, foreign direct investment has shown twofold progress in trade. Developing countries usually require capital for the improvement of their industrial and economic sector.

Similarly, the developed countries try to benefit from the high productivity factor by investing in developing countries, thus making FDI put a collective impact on the development of both the countries and their respective industries.

The government of Pakistan had first introduced changes in its trade policies to attract foreign direct investments in the early 1980s. These modifications in Pakistan's trade policies were aimed to attract the inward flow of FDI in the country. Concessions in trade tax, tariff reductions, and credit facilities made Pakistan a favorable region for foreign investors.

The best thing was the currency exchange rate, which was a prominent trade advantage for the investors. The investors were further granted more incentives and protection according to the policy reforms introduced in the 1990s, which helped the country develop its various sectors, including its telecom sector.

Concessions in trade tax, tariff reductions, and credit facilities made Pakistan a favorable region for foreign investors

Today telecommunication sector is Pakistan's fastest-growing sector, and Pakistan Telecommunication Authority (PTA) has played a significant role in creating an investment-friendly environment for foreign investors. PTA, together with the government's support, has been successful in improving the country's socio-economic conditions through FDI. Foreign investment has also produced an atmosphere of competition in the telecom sector. The telecom sector of Pakistan has flourished very rapidly in recent years. The overall net addition of subscriber base, large number of OEM players and technological developments indicate the sector's positive growth. All these factors put a positive impact on Pakistan's FDI growth. According to UNCTAD's 2020 World Investment Report, Pakistan reported increased FDI inflows from USD 1.7 billion in 2018 to USD 2.2 billion in 2019. The investments made in Pakistan's ICT sector throughout 2019-2020 have been estimated at over US \$ 622.5 million.

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At the same time, the total FDI stood at USD 34.8 billion at the end of 2019. According to the State Bank of Pakistan (SBP), in the first half of the 2019-20 fiscal year, FDI inflows rose by 68.3% to USD 1.34 billion, against USD 796.8 million in the same period last year. Similarly, Inflows were also at a 30-month high of USD 487 million in December 2019, primarily boosted by high Chinese investment. FDI has made a drastic impact on Pakistan's economic condition, particularly for the last few years.

According to a report by GSMA, Pakistan's telecom sector contributed about 5.4 percent to the national GDP in 2019. According to PTA's latest figures, the telecom sector contributed PKR 278 billion in FY 2020 compared to PKR 121 billion in FY 2019, registering a year-on-year growth of 129%

In its Annual Report, PTA also revealed that total broadband subscriptions grew by 175% in the last five years. Today broadband subscribers have crossed 90 million, showing a growth of around 8% in FY2020. Pakistan has a total broadband penetration of 42.2% in FY2020.

According to the economic survey 2019-2020 for July 2015 to February 2020, the sector attracted over \$1.5 billion worth of FDI inflows, whereas telecom players have invested \$8.5 billion in Pakistan since 2002. Similarly, the communication sector, mainly the 3G/4G service providers, attracted the most significant foreign investment of \$73.5 million in May 2020.

In 2019 alone, investors invested \$36 million into 14 Pakistani tech startups across 15 deals

In the first six months of 2020, Pakistan's tech startups raised \$18 million, a 13 percent year-on-year increase. According to the National Incubation Center (NIC) Report, there were 101 deals recorded between 2015 and 2019 in Pakistan-based companies. In 2019 alone, investors invested \$36 million into 14 Pakistani tech startups across 15 deals. Startups raised seed funding in 2019, with Tello Talk, Eat Mubarak, and Airlift securing the largest ticket size. Four startups-Airlift, Cheeta, Bykea, and Knowledge Platforms secured Series A funding.

So far, China is the biggest investor in Pakistan. Recently, the United Kingdom, Japan, and South Korea have also amplified their investments.



Still, Pakistan is behind India in attracting foreign investment; however, it stands with its neighboring countries like Bangladesh and Sri Lanka. According to the World Bank's 2020 Doing Business Report, Pakistan ranked 108th out of 190 countries, up by 28 points earlier. Pakistan has also improved its position in the same indicator from 130 to 72 and got second in South Asian countries.

No doubt, Pakistan has many strong points to attract foreign investment over the other countries. Some of the critical points which attract the investors in the country are as follow;

Population and workplace:

Pakistan has a vast domestic market with a population of 207 million with a decreasing level of poverty. Also, the country has an inexpensive and abundant workforce to attract foreign investors. Pakistan possesses a large pool of experienced and trained engineers, bankers, doctors, and other professionals, with many having substantial international experience. Similarly, Pakistan's consumer market is increasing by teledensity, which has now reached more than 150 million.

Pakistan possesses a large pool of experienced and trained engineers, bankers, doctors, and other professionals, with many having substantial international experience



Investment Policy:

In recent years, the government has announced an FDI attraction policy. Pakistan's policy trends have been consistent, with liberalization, privatization, deregulation, and facilitation being its significant cornerstones. The Government of Pakistan has also designed special export-oriented zones called export-processing zones (EPZs) to boost foreign investments. Some of the incentives offered to EPZ investors include exemptions from all federal, provincial and municipal taxes.

The Government of Pakistan has also designed special export-oriented zones called export-processing zones (EPZs) to boost foreign investments



Economic Outlook:

Pakistan's economy has shown resilience to the shocks in the global financial crisis. Moreover, the country maintained global and regional patterns and performed better than some neighboring countries. International Reports of repute have shown that Pakistan ranks ahead of regional countries.

International Reports of repute have shown that Pakistan ranks ahead of regional countries

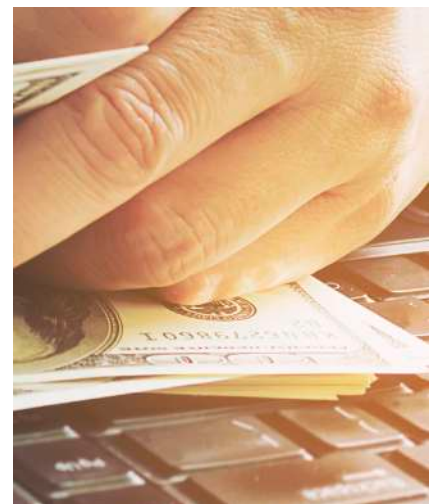
On the other hand, there are some obstacles to the economic development of the country. The main obstacle is the low fiscal resources with poor prospects for expansion due to the informal economy's continuing importance. The other main hindrance in the way of progressive development is the lack of security. In the calendar year 2007 and 2008, Pakistan received FDI inflows of \$5.6bn and \$5.4bn, respectively. However, Pakistan could not sustain itself because of the terrorism and militancy engrossed the country, hence complicating economic challenges. In 2012, FDI hit \$860m but remained on the track of growth for the next two years before the Dec 16, 2014 attack on Army Public School in Peshawar. The consequent launch of a nationwide crackdown on terrorists made everything topsy-turvy.



Currently, the situation is under control but the FDI inflows must increase to boost the economy. It is a well-known truth that FDI is a crucial tool required to develop the country's economic and technological development. FDI plays a vital role in accomplishing the country's socio-economic goals. Unfortunately, Pakistan is considered one of the countries that are deficient in physical capital, and FDI could improve its overall economy. No doubt, FDI brings along different employment opportunities for the people of Pakistan and allows them to improve their skills by transferring technological and strategic managerial skills and integrating the domestic economy with the global economy.

To increase Pakistan's economic growth by attracting more and more foreign cash inflows, the policymakers and governments should focus on improving infrastructure, creating transparency in the trade policy, stabilizing the political environment, increasing human resources, and creating a stable macroeconomic framework.

To increase Pakistan's economic growth by attracting more foreign cash inflows, the policymakers and governments should focus on improving the overall macroeconomic conditions in the country





The Galaxy A32, A52 and A72 Make Innovation Accessible to All

Samsung Electronics Co., Ltd has unveiled the Samsung Galaxy A32, A52 and A72, making powerful innovation accessible to everyone.

Create, communicate and express yourself with an awesome camera

Samsung has set the bar high for camera quality, and the Galaxy A32, A52 and A72 are no different. By making exciting camera innovations available for the new Galaxy A series, you can enjoy more fun and versatile photos and videos.

- **Powerful Camera's** – The Galaxy A32 will feature a 64MP Main Camera, 8MP Super Ultra-Wide camera, 5MP Depth Camera and a 5MP Macro camera. The Galaxy A52 and A72 will both feature 64 MP main cameras and 12MP Super Ultra-Wide cameras, the A72 will feature an 8MP Telephoto lens with Optical Zoom which ensures that far away objects can be captured with great detail. The A32 features a 20MP front camera while the A52 and A72 both feature 32MP front cameras.
- Instantly turn your favorite moments from 4K videos into 8MP high-resolution images with **4K Video Recording**. **123 Degree Ultra-Wide Shoot** to get the most amount of content in one shot without losing detail.
- **Stable day or night** – OIS (optical image stabilization) ensures pictures and videos come out sharp and steady. No need to miss an important moment anymore because of low lighting. **Bright Night mode** uses multi-frame processing, resulting in a bright and crisp image even in the dark.

See and be seen with an awesome display and refined design.

Samsung enhances experiences and style with a vivid display and sophisticated design to fit and reflect your life.

- **Brighter and Smoother** – Enjoy your favorite show on the Samsung's beloved Super AMOLED display. Now with 90Hz refresh rates on the Galaxy A32, A52 and A72 as well, the scrolling experience is even smoother.
- **Refined design** – The new Galaxy A series features a refreshed design that is simple yet purposeful with a soft-edge design and minimal camera housing.
- **Large Screens** – The A32 will feature a large 6.4" Infinity-U display, the A52 will feature a large 6.5" Infinity-O display and the A72 will feature a 6.7" Infinity-O display.

Expect more and get more with awesome Galaxy foundation.

The new Galaxy A series comes with the Galaxy essentials that all Galaxy users deserve to have.

- **Peace of mind** – Take chances and get messy without worry as the Galaxy A52 and A72 are water and dust resistant with an IP67 rating. Protect the things that matter with built-in Samsung Knox—Samsung's defense-grade security system that safeguards personal information and data in real-time.
- **Two-day battery** – Capture, create, and consume without slowing down with a large battery capacity that lasts two days with A32's and A72's 5,000mAh and A52's 4,500mAh battery capacity.
- The A32's 15W and A52 and A72's 25W super-fast charging adapters ensure that charging is not a tedious or time-consuming affair.
- **Large Storage Space** – The Galaxy A32, A52 and A72 are equipped with external memory up to 1TB with 128 GB internal memory in all three models. The A32 has 6GB RAM while the A52 and A72 have 8GB RAM for the truly fast and immersive usage experience.
- **Powerful Processors** – The Galaxy A32 features a 2.0 GHz Octa-Core processor while the Galaxy A52 and A72 feature a 2.3 GHz Octa-Core processor to give a truly powerful and enjoyable usage experience.



**Our Focus Is To Improve
Digitalization In Pakistan**

A decade ago, a young Pakistani had the dream of making digital products accessible to Pakistanis at an affordable price. When Mr. Abdul Rehman Mahmood established the company Swift Biz Solutions, the sector was undergoing transformational change globally. He realized that change in Pakistan will be imminent and therefore he decided to be an agent of this transformational change in Pakistan. Consequently, the company under his leadership introduced several new products in the country. These products include mobile broadband devices with telecom operators and the first of its kind 4G tablet with PTCL in 2016 named GadgeIT CharJi Tab.

Swift Biz Solutions is a decade-old company working in the technology space in Pakistan. The company held a major market share in mobile broadband devices in the year 2019. He built a local brand “Digit” under the umbrella of Swift Biz Solutions and initiated discussions with KaiOS which is an ideal operating system for smart feature phones. It is easy to use and customizable for local usage and language as well as has all the necessary apps required for daily use and adding more apps constantly. Similarly, discussions were held with Jazz to introduce a quality smart feature phone affordable for every Pakistan. Thus Jazz Digit4G was launched at the price of Rs. 1,799 only with a monthly package offered by Jazz.

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In a short but exclusive interview with the Phoneworld team, Abdulrehman Mahmood CEO-Digit and Swift Biz Solutions shared his aspirations for Pakistan’s tech ecosystem and his brand Digit.

Q.What is Digit?

Digit is a disruptor in Pakistan’s mobile market.

Following the legacy of Swift Biz Solutions of introducing innovative smart products, most notably, Mobile Broadband (MBB) devices, Digit has introduced the most economical mobile phone in Pakistan. Digit is the next big name in the mobile industry with products directly impacting 50% population of this region.

Following the legacy of Swift Biz Solutions of introducing innovative smart products, most notably, Mobile Broadband (MBB) devices, Digit has introduced the most economical mobile phone in Pakistan

Our focus is to improve digitalization in Pakistan by tackling the barriers, such as affordability, digital literacy, slow smartphone penetration, and relevance heads-on. Digit smart feature phones are fully equipped with all the popular apps and with every passing day, new apps are coming on-board to provide a complete user experience. Digit is not just focused on introducing mobile phones, but we are pushing forward towards the development of a complete digital ecosystem.



Q.What is the distinctive feature of Digit handsets? Now that world is moving towards the 5 G revolution, what role Digit can play in the Pakistani market.

Digit handsets are vital for migration from 2G to 4G. The world is at the brink of complete commercialization of 5G. Comparatively to the rest of the world, we still have almost 85 million people on the 2G network. It is evident that without migrating 2G users to a 4G network, we will not be able to truly accelerate our journey towards digitalization. Digit handsets are equipped with 4G technology, which might come as a surprise because currently there is no 4G enabled mobile available in the same price bracket. Digit phones are also equipped with WiFi and a hotspot.

Digit handsets are vital for migration from 2G to 4G



Q.What role Digit is playing in the overall digital ecosystem?

Digit is not just a mobile manufacturing company. Digit proudly declares itself as a technology company. We are working on developing a complete ecosystem. We have partnered up with KaiOS, an emerging operating system that has worked wonders around the globe in the technology emerging countries, most notable in India, in partnership with JioReliance. We focus on developing localized content and our handsets are already equipped with apps to educate consumers about the internet, health, education, and agriculture. Our handsets are not only targeted towards individuals but for SMBs as well. During COVID times, we designed educational apps for customers, and not only that; we have a digital health platform ready to be launched as well.

We have partnered up with KaiOS, an emerging operating system that has worked wonders around the globe in the technology emerging countries, most notable in India, in partnership with JioReliance

Q.What are the currently available models of Digit handsets?

Digit initially launched “Digit4G Classic” which received overwhelming success in the market with the overall sold units exceeding 300,000. Digit4G Classic was most notably the first-ever mobile phone of its kind which was available on the financial assistance model. It was made available to consumers for just Rs. 1,799/-. It is called “Pakistan Ka Smartphone” because it is designed delicately for the market segment which has been neglected for so long.

We have recently launched 3 more mobile models, which are;

- Digit4G Elite
- Digit4G Defender
- Digit4G Bold

Digit initially launched “Digit4G Classic” which received overwhelming success in the market with the overall sold units exceeding 300,000

Digit4G Elite and Digit4G Defender are available in the local mobile markets nationwide; however, Digit4G Bold is available at Jazz franchises and business centers. For distribution, Digit has partnered up with M&P and onboarding other renowned stakeholders for greater coverage.

Q.What are the Future Plans of Digit?

The launch of 3 more handset models is in the pipeline for the second quarter this year.

We are also targeting the launch of the complete smartphone series by the end of this year. From what we believe in, it is evident that our main goal is to connect every citizen in the digital world, and to accomplish that, we have to introduce smart products at affordable prices. We are in final discussions with many popular apps to enhance the user experience. Our R&D team is working tirelessly, day and night to ensure we design and develop products with maximum features and at minimum price. We understand the importance of affordability, so we are in the final stages of setting up local manufacturing. It is our mission to contribute to the development of this region and for that; we are geared up for a very successful year.

Our main goal is to connect every citizen in the digital world, and to accomplish that, we have to introduce smart products at affordable prices





Redmi Note 9T

The battery champ with 5G

Design

The face of Redmi Note 9T is nearly all display, save for a slight chin at the bottom. The display glass is set into a plastic sub-frame. The frame stands out plainly from the polycarbonate unibody chassis that makes up the rest of the outer shell. The overall shape of the phone, however, is decent. The sides have a smooth surface and are pleasantly rounded. Xiaomi gave the Redmi Note 9T a mostly flat rear panel, though it narrows a bit as it reaches the side edges. The top and bottom edges of the phone are flattened, but not so much that it can stand on-end. The rear of the phone is plastic, but it has a textured effect to make it feel nicer in the hand than your 'standard' plastic back.

Display

The display measures 6.53-inches across the diagonal. It is a Full HD+ panel with an aspect ratio of 19.5:9 and a 60Hz refresh rate. Xiaomi pegs the brightness at 450nits. A punch hole placed in the upper left corner gives away the location of the selfie camera. As noted, the screen covers the vast majority of the phone's face except for a sliver along the bottom edge.

Camera

The Redmi Note 9T has a 48MP main camera with a 1/2-inch sensor. Xiaomi bins the camera down to 12MP at f/1.79 in a six-element lens. This main shooter is joined by a 2MP depth sensor for bokeh shots and a 2MP macro camera for extreme close-ups.

Most people should be able to learn how to use the camera application quickly enough. It's a fairly standard app. There are several modes available from the main screen, including portrait, video, and pro. You can tap an icon to access additional modes, such as full 48MP resolution, panorama, slow-motion, time-lapse, and more. The camera app felt fast. I was worried it might get bogged down, but it never did.

The Redmi Note 9T can capture video up to 4K at 30fps. A 13MP selfie camera graces the front of the phone. It has a five-element lens at f/2.25.

Battery

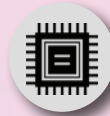
The Xiaomi Redmi Note 9T battery has a 5,000mAh capacity, which is certainly on the high side for a smartphone. It easily runs 1.5 days with eight-plus hours of screen-on time.



Performance and Software

The Xiaomi Redmi Note 9T takes over its predecessor in terms of performance power - the 9T is comparatively great.

The Redmi Note 9T sports an octa-core MediaTek Dimensity 800U clocked at up to 2.4GHz. This processor relies on a 7nm manufacturing process and is paired with the latest Mali-G57 GPU. The phone comes with two variants of storage, a 64GB model and 128GB model with 4GB RAM. The phone is also 5G-enabled and comes running Android, but with Xiaomi's MIUI 12 laid over the top.



Qualcomm Snapdragon 662
Chipset, 64GB/128GB
Built-in Storage, 4GB RAM



(Li-Po Non removable),
5000 mAh



6.53 Inches
(FHD+)



Front: 8MP
Rear Camera: 48M + 8M
UW+2M Macro +2M
Depth

PKR. 34,999/-

Pros

- Solid battery life
- Simple design
- Dual 5G SIM support
- Fast fingerprint reader

Cons

- Mediocre display
- MIUI 12 not for everyone

Bottom Line

If you're looking for 5G and the best battery life for the price, look no further than the Note 9T.



Vivo Launches Y31 Featuring 48MP Rear Camera, 6.58-Inch Halo Full View™ Display & 5000mAh Battery

Vivo, the leading global smartphone brand, today announced the launch of its latest entrant in the youth-oriented Y series, Vivo Y31 in Pakistan. With the launch of Y31, Vivo strengthens the brand's Y series product portfolio and reinstates its focus towards meaningful innovation for evolved consumers.

The Vivo Y31 flaunts an AI-powered Triple Rear Camera set-up with a 48MP main Rear Camera supported by outstanding photo processing algorithms and multiple built-in shooting modes that ensures ultra-clear shots, day and night. It comes along with a 2MP Bokeh Camera, Super Macro Camera, and Super Night Mode for an enhanced photography experience.

The smartphone features a rich and immersive 6.58-inch Halo FullView™ Display with FHD+ (2408×1080) resolution and P3 color gamut that provides a wide and immersive view for both videos and games.

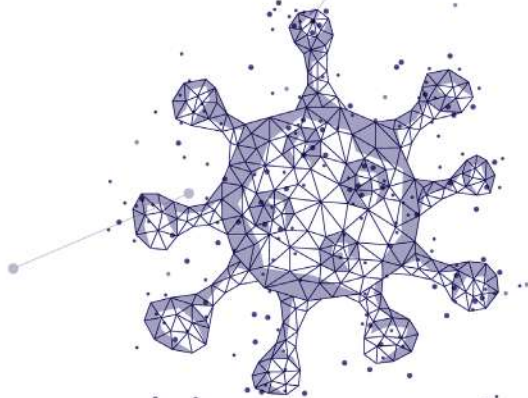
For long-lasting usage and seamless performance, Y31 is powered by a massive 5000 mAh battery supported with 18W Fast Charge technology. It also features an Audio Booster that enhances sound and creates a more wholesome experience for all that you love to hear.

The all-new Vivo Y31 raises the bar for photography experience higher with its AI-powered Triple Camera set up. The primary 48MP main rear camera is supported by outstanding photo processing algorithms to deliver ultra-clear master shots, day and night.

It comes along with a 2MP Bokeh camera that delivers accurate and sophisticated results. Owing to the updated bokeh algorithm, portraits captured by the Y31 not only look more alive but also boast of a greater depth in photographs. The triple rear camera setup is also inclusive of a 2MP Super Macro camera that captures wonderful shots with a focus that draws as close as 4cm.

The brand new Vivo Y31 provides an ultimate visual experience with an immersive 6.58-inch Halo FullView™ Display with FHD+ (2408×1080) resolution. The thoughtful Eye Protection Mode also filters out harmful blue light to prevent eye strain and protect your eyesight throughout the day when eye protection mode is switched on. The Vivo Y31 smartphone features an Audio Booster that enhances sound and creates a wholesome audio experience, be it of ringtones, music, or videos. For the same, Vivo has intelligently injected bass dust and elevated the equivalent volume of the sound chamber to produce sounds of up to 73dB. The Super Audio sound effect has also been designed to boost the user's audio-visual experience to a higher level. Powered by an advanced Qualcomm® Snapdragon™ 6-series processor, the Y31 delivers a steady performance for applications and games with a vast 4GB RAM+128GB ROM memory back up to avoid lag and accounts for a smooth experience.

Pricing & Availability: The retail price for Vivo Y31 in Pakistan is Rs. 34,999 and the phone is now available for sale across Pakistan in two dazzling color options – Racing Black and Ocean Blue. Customers who pre-ordered the phone will also get special Vivo gifts with their purchase.



How Pandemic 2020 Has Given Birth To Working From Home Technology

There is a great saying by Calvin Coolidge, "All growth depends upon activity. There is no development physically or intellectually without effort, and effort means work." but now this Pandemic has proved that it is possible to manage our lives in the comfort of our home with only one click. When the Pandemic started and we all got restricted to our home's boundaries, it was the time when we realized that it is not necessary to get out from our home to the workplace to carry out our official daily assignments. Plus, the official meetings started on Zoom, Skype, and other social apps. Though, this Corona Virus outbreak caused a massive loss to many businesses too.

When the Coronavirus hit different countries in the World and authorities put a strict lockdown, people started to avoid going out. Companies directed their employees to start work from home. Initially, everyone got Jittery and anxious and wondered how it would be possible to run routine life as before? But the advanced technology helped the people carry out most of the activities as they were doing before the lockdown.

The Pandemic and all the events associated with the coronavirus outbreak compelled many businesses around the World to quickly switch to remote work

The Pandemic and all the events associated with the coronavirus outbreak compelled many businesses around the World to quickly switch to remote work, and they started to move their operations online. This was the time when remote working technology suddenly became the center of everyone's attention.

It is essential to mention here that the tech companies were the first to ask their employee to start work from home. Snapchat CEO Evan Spiegel asked all employees to work from home; Amazon allowed the work from home and other tech companies, including Facebook, Twitter, and many others did the same.

The uncertain environment has promoted a reassessment of the spatial configuration of work and the adoption of new ways of working

The Pandemic disrupted the work nature, created a culture of ambiguity with shifting priorities for individuals and organizations. This subsequent uncertain environment has promoted a reassessment of the spatial configuration of work and the adoption of new ways of working.

The previous major world events profoundly impacted workplaces and the nature of work the people did. These events in the past led to the downfall of some markets and businesses but created new ones. This Pandemic is no different. We have experienced a change in work in fundamental ways.

People have learned to work in ways dramatically different than previous generations.

Overall, the coronavirus pandemic has profoundly changed workplaces and the nature of work itself. Many companies have planned a new combination of remote and on-site working, a hybrid virtual model in which some employees are on-premises, while others work from home. This new model introduced great talent, increased productivity for individuals and small teams. Furthermore, it reduced the companies' costs and brought more individual flexibility, and improved employee experiences.

Many companies have planned a new combination of remote and on-site working, a hybrid virtual model in which some employees are on-premises, while others work from home

Moreover, in this Pandemic, people realized the importance of different tools that enable telecommuting and other technological advances. It is worth mentioning here that despite the temporary nature of the changes caused by the Pandemic, remote work and full-on online services have become a new trend in many industries to some extent.

However, in many businesses, it is important to conduct face-to-face meetings, and it became a big challenge for the companies to find an efficient substitute. Thanks to the platforms like Zoom, Skype, and Google Hangouts, it is easy to stay in touch with co-workers or clients across the country/ globe. Although video chats cannot be an exact alternative to in-person meetings, they have provided an adequate substitute in this challenging time.

Other than that, video chats were not enough to resolve every problem regarding the official matters as the professionals were also in need to communicate with their co-workers textually. Twenty-eight percent of the average workday is spent on email, but constantly refreshing the inbox and formatting the messages took a lot of time. People started to look for substitutes and began to rush towards the instant chat tools such as Slack, Telegram, and Quip that allow users to simulate the ease of in-office communication over the web. With the ability to communicate privately or in groups, users can instantly see whoever needs to see their message.

To ease their lives, professionals started to adopt digital assistant products such as Amazon Echo, a Google Assistant, or a Siri-enabled Apple product to make calls, send emails, take notes, and much more.

Well, work from home is not a new concept. During SARS (Severe Acute Respiratory Syndrome) outbreak 17 years ago, people also worked from home.



At that time, Alibaba also asked all its employees to work from home, and as a result of that, it gave birth to its Taobao consumer-facing website, which became one of the World's most prominent platforms. Other internet startups such as retailer JD.com and online travel agency Trip.com came in to being and implemented remote working policies.

During this Pandemic, we have observed that the trend of work from home has encouraged many tech startups to launch their products and services successfully. That helped the people to carry out their routine stuff with ease.

The work from home technology has driven the engagement, achieved organizational agility, maintained alignment, and empowered teamwork across all disciplines and locations. It will bring a competitive advantage in this new era of work.

One thing to keep in mind is that though the tech advancements have brought comfort in our lives that we can see that in this digital-first World, but the opportunities for digital transformation are expensive and wide-ranging. It can give benefits to those who can afford. Nevertheless, it has created a juicy new market for tech firms to exploit. You can expect more special work from home packages to be offered by internet service providers and other tech firms. Which will eventually make the digital services cheaper and widely accessible to everyone.

The work from home technology has driven the engagement, achieved organizational agility, maintained alignment, and empowered teamwork

The work-from-home technology is heavily dependent on computer screens, which has increased the complaint of new or worsening aches and pains

Though there are some dark sides to the work from the home scenario, the work-from-home technology is heavily dependent on computer screens, which has increased the complaint of new or worsening aches and pains such as back and neck pain, poor posture, headaches, difficulty sleeping, and eye strain. However, the matter of fact is that, during this Pandemic, working from home has become an essential reality for almost all workers worldwide. At the same time, some may struggle to adapt to the new environment.





Redmi Note 10 Series Launched in Pakistan, Starting at PKR 31,999

Global technology leader Xiaomi has announced it is expanding its lineup of mid-range smartphone devices to include Redmi Note 10 Pro and Redmi Note 10. From The 108MP Voyager to the AMOLED Explorer, these two smartphones continue Xiaomi's commitment to providing the latest smartphone advancements to all and redefining the mid-range king in the industry.

Redmi Note 10 Pro ups the ante as one of the highest resolution cameras for smartphones, making it the mid-range king in mobile photography. The phone's 108MP sensor with 9-in-1 binning technology and Dual native ISO combine to capture the finest details, provide a higher dynamic range and offer an array of photo editing possibilities. Thanks to the Night mode 2.0 powered by RAW multi-frame algorithm, users can capture stunning visuals even in low-light settings.

Redmi Note 10 Pro will offer both pro and tele macro time-lapse video shooting. Other new additions in Redmi Note include Photo Clones, Video Clones, Dual Video and Long exposure modes for extra fun photo or video sharing on your favorite social media apps.

Following a seamless redesign, including an Arc side fingerprint sensor and a 6.67" 120Hz AMOLED Dot Display, the device grants an all-around smooth user experience. Available in three head-turning colors – Onyx Gray, Glacier Blue and Gradient Bronze – Redmi Note 10 Pro is as elegant as it is durable, with its Corning® Gorilla® Glass 5 on the front protecting from unsightly scuffs and scratches.

On the performance end, Redmi Note 10 Pro truly packs a punch with one of the most powerful 4G processors on the market, Qualcomm® Snapdragon™ 732G. Thanks to the 5,020mAh (typ) battery and advanced 33W fast charging, users' time spent powering up will be kept to a minimum.

Providing optimal viewing experiences, Redmi Note 10 is equipped with a 6.43" AMOLED Dot Display. As with the Redmi Note 10 Pro, the device touts a seamless redesign and updates including an Arc side fingerprint sensor, 33W fast charging, a 360-degree light sensor setup and immersive dual speakers. Redmi Note 10 comes in three classic colors: Onyx Gray, Lake Green and Pebble White.

Redmi Note 10 is ready to capture all life's moments with their quad camera setups featuring 8MP ultra-wide angle camera for group shots, 2MP macro camera for close-ups and a 2MP depth sensor for supporting portraits. Powered by 48MP, the Redmi Note 10 main camera is great when it comes to taking impressive photos. This device is also equipped with Pro time-lapse capabilities, this marks an addition to the previous slow motion, night mode and regular time-lapse features.

Redmi Note 10 Pro and Redmi Note 10 come in three variants – 4GB+128GB, 6GB+128GB and 8GB+128GB. Redmi Note 10 (4GB+128GB) will be available at Xiaomi's official sale channels online on Mistore.pk, Airtat.pk and Daraz.pk and offline at Mi Exclusive Stores and Preferred Partner shop at 9 PM for just PKR 31,999. There will be a Free Surprise box for early birds only.



10 Best WhatsApp Alternatives That Protect Your Privacy

Over the years, WhatsApp has become one of the most popular applications. This Facebook-owned messaging app has prioritized the users and has ensured to never compromise on ensuring a great user experience. However, over the last update, it has faced criticism from users all over the globe. The app opened up about their privacy policy where the data of the device shall be collected. This gave a setback to a large population that is now seeking an alternative to WhatsApp. So, here are 10 WhatsApp alternatives that are equally good to use.

1. Telegram Messenger

This newly emerging App has already been accredited as the top competitor for WhatsApp. It has about 200 million active users that use similar WhatsApp features like a double tick when receiving a message. It is recommended as it is very user-friendly and has cloud-based storage that preserves material that never gets lost. However, the end-to-end encryption for messages in the app needs to be manually turned on to prevent storage. It offers secure voice calls, as well as multimedia files to be shared.

Telegram



2. Signal Private Messenger

Signal Foundation provides end-to-end encryption technology and has numerous security benefits and offers screen security that prevents anyone from taking screenshots. Another benefit is that Signal does not link data to your identity. The signal is very popular with journalists as it allows you to converse securely. This is available on both Android and iOS for free. So, if you are looking for a secure WhatsApp alternative keep Signal Private Messenger in mind.



3. Discord

Discord is a platform where you can engage with people all across the world. There is a variety of servers that you can choose from whether it's related to education or if it's for the latest video game. Direct messages can be used to send messages, emojis, etc. You can make voice and video calls, and you even share your screen. You can connect your account to YouTube, Facebook, etc. You can create a group chat with up to 10 members and you can always make a server if you want to add more people. It is available on Android, iOS, Windows, macOS, Linux, and Web for free.



4. Bridgefy

Bridgefy is one of the coolest WhatsApp alternatives. It is an offline messaging app that lets you communicate when you don't have access to the Internet, and you can use it by simply turning on Bluetooth. It is ideal for situations like music festivals and natural disasters when you know that you will not have a stable mobile service. This also allows end-to-end encrypted messages and in my opinion, is the best offline WhatsApp alternative.



5. Kik

If you are like me and you don't want to give your number out to the public, Kik is the app for you. You can simply register by using your email ID and afterward you'll get a unique username that you can share with others. There is a unique feature in Kik that you have bots that you play quizzes and get the latest news. It is available on Android and iOS for free and if you want your phone number to be private this is the alternative for you.



6. Snapchat

Snapchat is one of the most recommended WhatsApp alternatives by tech experts. It has some very splendid features that are my favorites. My most favorite is self-destructive messages. It also notifies that whenever someone takes a screenshot or replays something. Other than that, it has a wide range of filters that you can use to take pictures and videos of yourself and your friends. It offers you the luxury of group voice and video calls. Snapchat is available on Android and iOS for free, and you can download it immediately.



snapchat

7. Skype

Skype is one of the original voice and video chat apps. It is powered by Microsoft and hence it is one of the best chatting apps in the market. It is widely used by organizations and offices when they have to make calls overseas. Skype gives you the liberty of having group video calls with no limit so you can add as many people as you like to your group call. This is a step up from WhatsApp.



8. Keybase

Keybase offers end-to-end encryption. My favorite feature of Keybase is that it doesn't allow you to take a screenshot of the chat. It is perfect for you if you are just looking for privacy. You don't need anyone's number or email ID to connect with someone.



9. Viber

Viber is one of the best WhatsApp alternatives out there. It is one of the early apps that has competed with WhatsApp. It provides end-to-end encryption in calls, messages, and shared media. It provides multi-device support. You can make international voice and video calls to non-Viber users at a minimal rate called Viber Out. All the data backs up to your Google Drive, so when you shift your device all of your previous data is already there.



10. Threema

Threema is an app that gives you complete privacy. Messages are deleted when they get delivered. You can connect using an 8-digit Threema ID instead of your phone number and you can use unique QR codes to connect with people. You can use Threema on your browser and it uses passwords to protect your chats. However, the only con is that you have to pay about \$2.99 but let me tell you the security is worth the money.





International

By Rizwana Omer

Tags NFC – The Neglected Technological Innovation

NFC Tags is one of the coolest but highly neglected technological innovations. Near Field Communication, known as NFC, sound like a dry, technical specification. In many ways, it is. However, the applications of NFC are worth considering.

They can be attached to posters, cards, stickers, keychains, devices, and more. Its uses are endless, and its utilization relies on your imaginative and innovative capabilities. Android smartphones have had access to NFC for many years, while Apple's iPhones previously had a feature-limited version. However, both platforms use wireless technology for contactless payments, headphone pairing, and some level of automation.

NFC uses are endless, and its utilization relies on your imaginative and innovative capabilities

If you want to make the most of NFC applications, we'll show you how.

What Is NFC?

Near Field Communication (NFC) permits remote correspondence between two electronic gadgets that are near one another. Formally, NFC can uphold distances of up to 1.5 inches apart, but it tends to be up to 4 inches in practice.

(NFC) permits remote correspondence between two electronic gadgets that are near one another

For the most part, this comes in two configurations; gadget to gadget correspondence or readable tags. While it is conceivable to cause two devices to connect using NFC, there are better strategies for accomplishing this either through actual links or other remote options like Bluetooth or Wi-Fi.

That being said, contactless payments are facilitated via NFC.

When you go to your nearby store and pay with your phone utilizing Google Pay or Apple Pay, the transaction is initiated via NFC.

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The essential connection method, at that point, is between a gadget like a cell phone and a readable NFC tag. These tags are tiny, cheap, and unpowered. This is made possible because the reading gadget, usually your cell phone, can produce a Radio Frequency (RF) field that power the tag.

NFC Compatibility

Android gadgets have upheld NFC since the beginning of cell phones. However, Apple decided to withhold support on the iPhone. When Apple revealed Apple Pay, a contactless payment framework empowered by NFC, they started including these wireless chips for iPhones.

Android gadgets have upheld NFC since the beginning of cell phones. However, Apple decided to withhold support on the iPhone

Before iOS 11, Apple restricted its utilization just to Apple Pay. Nonetheless, iPhone models from the iPhone 7 and more recent running iOS 13 and above now support contactless payments, the ability to read NFC tags, and the capability to write them, too.

This brings both mobile platforms into step with one another, allowing you to use NFC on your Android smartphone or iPhone. However, the specifications of Android phones vary considerably, so NFC support isn't guaranteed. This is especially true of the affordable end of the market, where other features are given priority.



The Best Ways to Use NFC

Once you've got a compatible smartphone, rewritable NFC tags, and downloaded a tag writing app, you can then begin to make the most of what NFC can offer. As the tags can be rewritten, you can experiment with your automated setup. That said, there are plenty of NFC uses that you can get started with right away.

Once you've got a compatible smartphone, rewritable NFC tags, and downloaded a tag writing app, you can then begin to make the most of what NFC can offer

1. In a split second, Connect to a Wi-Fi Network

Wi-Fi passwords are extensive and confusing. This makes connecting with your network an agony. If you'd instead replace that cumbersome process with a single tap, you can write your Wi-Fi password to an NFC tag. Android and iOS support this feature, so a tap on the tag will pre-populate Wi-Fi connection details and get you online without any fuss.

2. Get Yourself Out of Bed

Getting up toward the beginning of the day can be a considerable challenge. For some individuals, even the most relentless alarm clock doesn't help. In that case, consider using an NFC tag to spur you up out of bed instead. Applications like Sleep as Android incorporate alarms with NFC tags through the use of in-app captchas.

These expect to confirm that you have acted by causing you to connect with an actual thing. Utilize the application to compose an NFC-based captcha, then the only way to disable the alarm is to venture out of bed, find the NFC sticker, and tap your phone against it.

3. Launch a Website

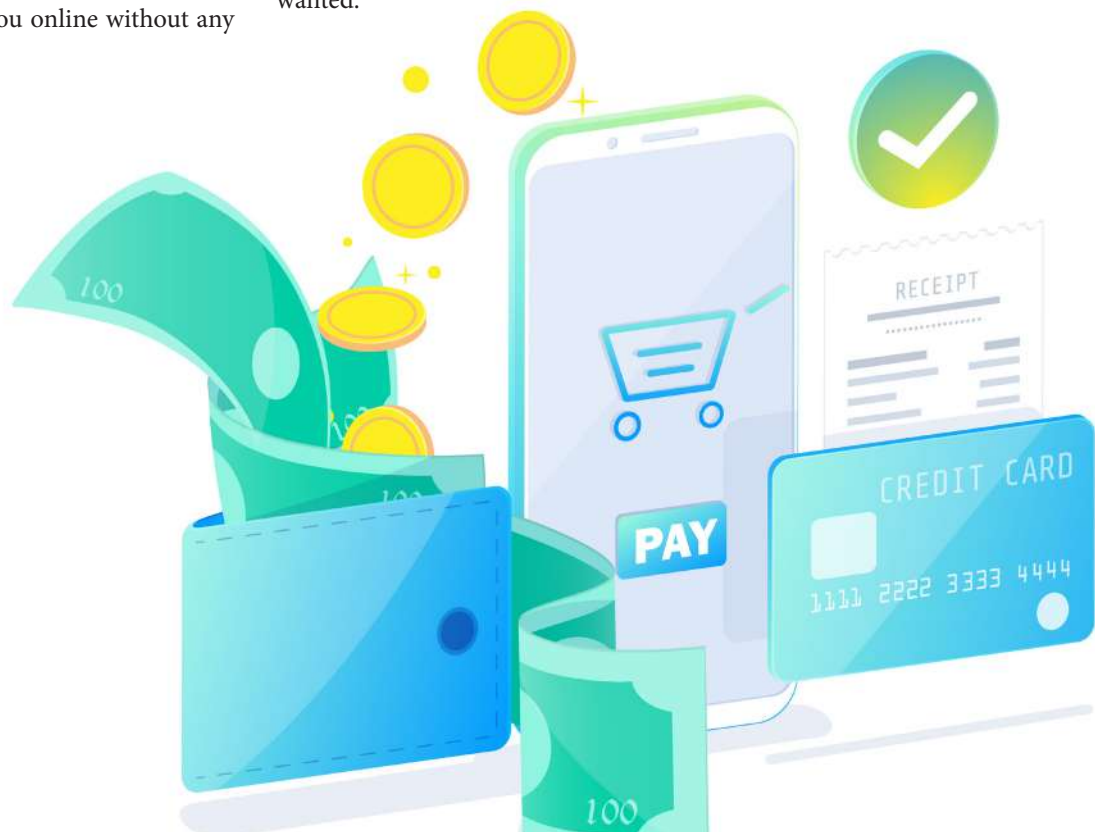
There may be times when you need to guide somebody to a particular site. This can be somewhat tricky, mainly if it is anything but a basic site address. Rather than having them type out a long arbitrary URL, you can compose the URL to an NFC tag. When tapped, it loads the user's mobile browser and directs them straight to the site you wanted.

4. Automatically Enter Driving Mode

iPhone users understand that when they get into the vehicle and connect to their in-car entertainment system, their phone will automatically enter Driving Mode. This silences notifications and optimizes your arrangements for your journey. Although some Android cell phones can do this, the dominant part don't.

If you'd prefer to automate this process, you can write the tasks to an NFC tag. When put inside the vehicle, a tap of your telephone can perform activities like empower Do Not Disturb, turn on or off information, and open your route application.

Some NFC tag composing applications, similar to Trigger on Android, let you set up a flip change to turn around the activities. Along these lines, the main tap will enable Driving Mode, while a second can disable it and return your phone to normal operations.



5. Make Payments

As mentioned before, NFC empowers contactless payments when utilizing administrations like Google Pay or Apple Pay. In numerous places around the world, contactless payments have become conventional. Indeed, in many food and convenience stores in the US, contactless is the preferred payment method.

Both Apple Pay and Google Pay permit you to monitor your spending, dissect your propensities, and store coupons. Furthermore, settling on NFC installments implies you presently don't have to convey other installment techniques close by your telephone.

6. Automate Common Phone Tasks

Android and iOS presently have techniques for automating usual errands, yet they don't generally offer the sort of flexibility you're after. Utilizing NFC, you can set up shortcuts for activities like calling a particular companion or relative, opening your camera, or running your streaming service as you take off from the house.



7. Share Media

If you create videos for YouTube, stream on Twitch, or release music on Spotify, one of the biggest challenges is getting people to see your content in the first place. You can overcome this hurdle with NFC.

It's possible to embed a link to your work on the NFC tag and then strategically stick it somewhere that'll get people interested. Just be sure to explain what is on the tag, as people may be wary of the significant NFC security issues.

The Best Uses for NFC

NFC chips have changed how we now engage with the world around us. These modest electronic components have empowered contactless payment frameworks like Google Pay and Apple Pay, made some physical tickets redundant, and made home automation an affordable reality.



Even though NFC is, without a doubt, valuable, similar to all innovations, it is vulnerable to security issues, too

Though NFC communication happens within proximity, it doesn't mean that NFC is resistant to eavesdropping, jamming, data corruption, and other attacks towards wireless connection. Plus, NFC shares the basic standards and techniques with the proximity RFID technology.

Some of the attacks that could be launched against RFID communications are significant threats to NFC. How to defend against relay attack is an open problem in NFC communications, just like it's an unresolved problem in other wireless communications.



TECH TWISTS



The use of the word “surfing” alongside “internet” started in 1992. Jean Armour Polly, an upstate New York librarian, coined the term. She was also known as the “Net Mom.”

1



August 6, 1991 is the publication date of the first website in the world. Tim Berners-Lee, a British physicist, invented today's World Wide Web. Queen Elizabeth knighted him on July 16, 2004.

2



Hacking by creating big-company fake emails to reach internet users is called phishing. If successful, they trick users into sharing personal information via emails, fill-out forms and personal information inputs like passwords, social security numbers, and credit card numbers.

3



Private browsing is not as “private” as you think. A popular example is Google's Incognito mode. An investigation by USA Today revealed that such modes only wipe your own computer of visited sites and saved information. However, your history remains visible on your Internet Service Provider (ISP).

4



UNIVERSITY OF
CAMBRIDGE

Back in 1991, Cambridge University of England students grew tired of finding an empty pot every time they get up to fill a coffee cup. They solved the issue by setting up a “webcam” and hooking it to all the desktop computers in the office. To monitor the coffee pot, the webcam would take a picture per second, or what is now known as “a frame per second” or “FPS.”

5

Samsung Galaxy A12

A Budget-Friendly Smartphone with Amazing Features

Design

This Samsung Galaxy A12 comes with a resolution of 164.00 x 75.80 x 8.90 mm, which is approximately 205.00 gms in weight. It is available in an Aluminium alloy covering with glass protection in the front and the backside is made from plastic which is very attractive. Yet the phone is slim and undoubtedly easy to manage. This is a Capacitive Touchscreen, Multi-Touch smartphone with all the 4G, 3G, and 2G Network availability. A Bezel-less display is included for a better view and on the left side of the phone, there is an area for Nano or Dual SIM Slot. The TFT Type display phone is 6.5 inches (165.1 cm) in size with an aspect ratio of 19.5:9.

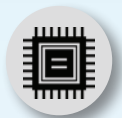
Performance and Battery Life

The Samsung Galaxy A12 runs on the Android PowerVR GE8320 platform, followed by Qualcomm SM4250 Snapdragon 450 (11 nm) and the CPU is an octa-core processor 2.3GHz + 1.8GHz. The 32-bit architecture with 4 GB RAM makes it an excellent combination. The best part lies in its massive battery life which is 5000 MAh, can easily go for days. You will also get proprietary fast charging in this pack.

Camera

The Samsung Galaxy A12 has a stunning Main as well as a Selfie camera. The Main camera comes with 48-megapixel width with LED flash, 5-megapixel (ultra – wide-angle), 2 MP macro, and 2 MP intense (depth) view in the Quad Camera Set-up, and then comes the Selfie camera with 8 MP front view. This Samsung product has LED flash with a video quality of 1920×1080 @ 30 fps, 1280×720 @ 30 fps. Additionally, it has front video recording of 1920×1080 @ 30 fps, 1280×720 @ 30 fps, and High Dynamic Range Mode (HDR) Continuous shooting mode. The camera quality is really good especially when we are talking about a phone in this price range and the Company is Samsung.





MediaTek Helio P35 Chipset,
64GB Built-in Storage,
4GB RAM



5000 mAh,
(Li-Po Non removable)



6.5 Inches
(720 × 1600 pixels)



Front Camera: 8MP
Rear Camera: 2MP
+ 5MP+ 48MP
+ 2MP

Pros

- 48MP main camera which is unbelievable under this price range.
- Gigantic 5,000 mAh Battery.
- It has a side-mounted fingerprint reader which makes its design more elegant and decent.

PKR. 28,999/-

Cons

- The RAM of the phone is a bit low, 4GB.
- For a gigantic battery of 5,000 mAh, the charging speed of 15W is also low.

Verdict

This is Samsung, a trusted company, for years we rely on this company for different technology products. Samsung products will always be better than any other in this range.

Michael Dell

Innovator of the Personal Computer Industry

Michael Dell, (born February 23, 1965, Houston, Texas, U.S.), American entrepreneur, businessman, and author, known as the founder and CEO of Dell Inc., one of the world's leading sellers of personal computers (PCs). In 2016 he became CEO of the newly formed parent company, Dell Technologies.

As a student of the University of Texas at Austin, Dell started his computer business (originally called PCs Limited) in 1984 with \$1,000 in start-up capital. By the second half of his freshman year, Dell had sold \$80,000 worth of computers. He dropped out of college at age 19 to run his company full-time, eventually going public in 1988. PCs Limited later became the Dell Computer Corporation and ultimately Dell Inc., when the product line expanded to include more than personal computers.

Dell's business philosophy was to gain PC market share through a combination of cutting costs, reducing delivery time, and providing excellent customer service. To do so, he hired experienced executives, both to fill jobs in the company and to act as personal mentors, and he emphasized direct sales outside the usual retail outlets. In 1992 Dell became the youngest CEO in history to have his firm enter Fortune magazine's list of the top 500 corporations. In his book *Direct from Dell: Strategies That Revolutionized an Industry* (1999), Dell outlined the story of the company's development and provided strategies applicable to all businesses.

In 2004 Dell stepped down as CEO of the company, but he remained chairman of the board. He served on the Foundation Board of the World Economic Forum and the executive committee of the International Business Council. He also was on the U.S. President's Council of Advisors on Science and Technology.

After experiencing setbacks in 2006—including a 4.1-million-unit recall and an overhaul of



the customer service division struggling with complaints—Dell Inc., lost the title of world's largest PC manufacturer to Hewlett-Packard. In response, Dell was reinstated as CEO in 2007 to oversee Dell 2.0, a far-reaching revamp of the company as he moved the focus from PCs to corporate software and services as well as other electronic devices. The company continued to struggle, however, and in 2013 Dell announced plans to buy out investors and take the company private. A heated battle with shareholders, led by Carl Icahn, ensued over the price of stock. Dell and the investment firm Silver Lake Partners ultimately purchased (2013) the computer company for nearly \$25 billion. In 2016 he oversaw what was then the largest tech deal as Dell acquired the computer-storage corporation EMC for some \$67 billion. The public parent company Dell Technologies was formed, with Dell as CEO.



TikTok Ban in Pakistan: Is it good or bad?

Pakistan has a patchy history with social media apps and the country's regulatory authorities repeatedly urge the social media companies to comply with its guidelines. Following the legacy of banning apps, the Pakistan Telecommunication Authority has banned China's video-sharing app, TikTok for the second time in less than a year. PTA banned the app after a high court order. According to the court, the app is spurring "unethical and immoral content" which is not good for the future generation and spreading obscenity in society.

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Following the Peshawar High Court's order, the media regulator said, "Pakistan Telecom Authority (PTA) has issued directions to the service providers to immediately block access to the TikTok app." Moreover, this is not the first time the video-sharing app has been banned in the country as previously it was banned for a 10-day period in October 2020.

PTA didn't clarify that whether the latest ban was temporary or permanent. On the explanation of why the video-sharing app was banned in Pakistan, the Peshawar high court said that content uploaded on TikTok was "unacceptable" for our society.

The ban came into effect after two high court lawyers sought the ban for videos "contrary to ethical standards and moral values of Pakistan." They appealed to the court to block the video-sharing app until it operated according to the guidelines provided by the PTA in 2020.

PTA lifted the 2020 ban after TikTok's management guaranteed the Pakistani government that they would block all accounts "repeatedly involved in spreading obscenity and immorality."

It is evident in the TikTok transparency report for July to December 2020, which illustrates that globally, the 2nd highest number of videos approximately more than eight million were taken down from TikTok in Pakistan. The content which was removed was not in line with the enforcement of its community guidelines, which involves no tolerance of sexually explicit content or violence, bullying, and harassment.

According to TikTok transparency report for July to December 2020, globally the 2nd highest number of videos approximately more than eight million were taken down from Tik Tok in Pakistan

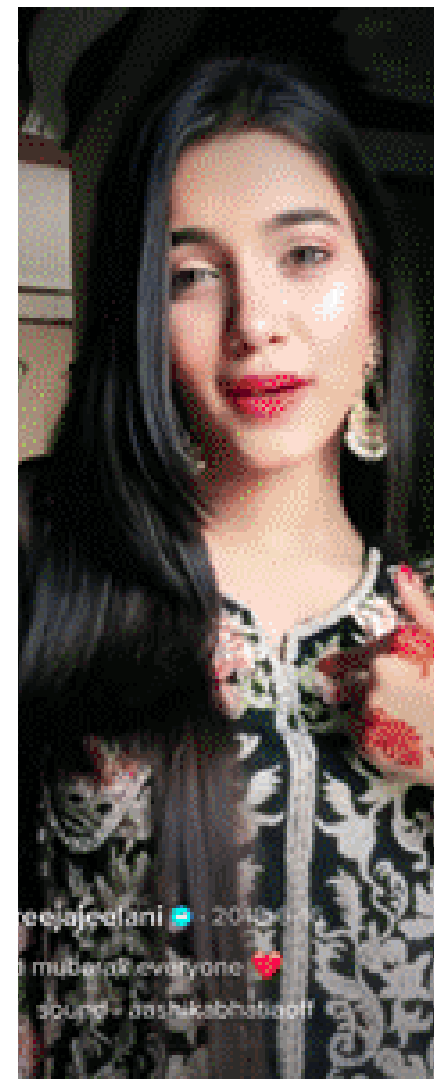
This clearly implies that TikTok is adhering to the guidelines provided by the Pakistan Telecommunication Authority. This is something PTA presented before the Peshawar High Court recently.



However, the censorship route seems to be quite dominant in our society based on immoral content. This is a critical precedent for the basic rights of Pakistani citizens, as well as for the economy with its developing tech ecosystem.

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TikTok challenged the recent and stated that "TikTok is built upon the foundation of creative expression, with strong safeguards in place to keep inappropriate content off the platform."



Is the ban good or bad? (Impacts and Implications)

TikTok is a widely used application in Pakistan with a total user base of around 50 million users.

The most captivating aspect of the app is its user-friendly interface which does not need high literacy to use effectively. This aspect demonstrates the fame it has earned specifically in the remote areas of Pakistan. It is also best-suited for the underprivileged social class that does not manage to attract much attention on elite-dominated social media platforms such as Instagram, Snapchat, etc.

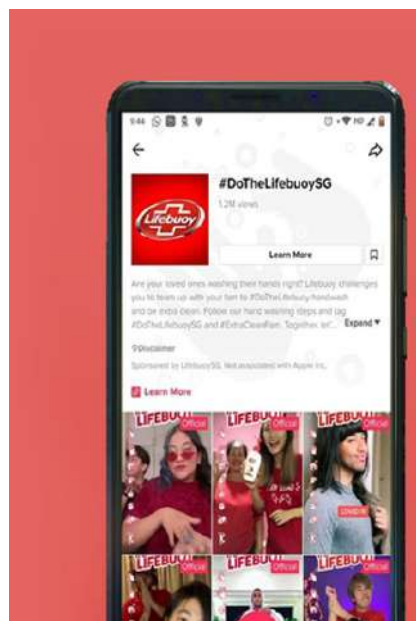
TikTok generates purely local entertainment that draws forth culture, humor, values, and varied lifestyles at the palm of the user's hands

TikTok can be used for a number of reasons. Similar to the other social media platforms, all the content is generated by users. The entertainment is the largest market for TikTok, and the best thing is that you can just start producing content on TikTok without any investment in the production of the content unlike the entertainment on television with its multimillion-rupee productions showing mostly vested lifestyles. On the other hand, TikTok generates purely local entertainment that draws forth culture, humor, values, and varied lifestyles at the palm of the user's hands. It has also been utilized for public messaging. For example, the incumbent governor of Punjab had hired top influencers on TikTok to propagate the message of COVID SOP, something they did very effectively and in a new catchy manner. The video-sharing app is used by thousands of Pakistanis to earn revenue through different means. Many underprivileged people who were living hand to mouth have been able to transform their lifestyles because of TikTok. For them, TikTok has provided a platform where they can showcase their talent to the whole world and get acknowledgment and monetization.

Many underprivileged people who were living hand to mouth have been able to transform their lifestyles because of TikTok

In these perilous times when the COVID-19 pandemic has badly affected the economy and increased the unemployment rate amongst the youth, tech platforms act as saviors by rendering opportunities to the young people to show their prowess so that they can earn and become supportive of their families. TikTok has transformed the career of many individuals and made icons in society. This should be admired as it assists in increasing talent recruitment via personal networks to one based on organic popularity based on talent, skill, and creativity. So certainly, the app does not deserve the curse of moral policing in case if the platform itself is adhering to the guidelines

Furthermore, TikTok is also used frequently by businesses for the marketing of their products. These firms market their products through influencers on the app who use innovative ways to promote products and earn through them. You must note that this is different from the advertisements that businesses promote through TikTok directly.



After all the above discussion, I would like to ask a question. Is it justifiable that the authorities who have most likely never used the platform themselves, should resort to moral policing and ban TikTok for millions of citizens who are earning through it and making their livelihoods besides getting basic entertainment?

In such an ecosystem where authorities of the state are so keen to ban and block entire technology platforms, it is diminishing the confidence of investors, or those seeking to do business in Pakistan

Apart from being a reason of concern for TikTok users and violating the right to freedom of speech and livelihood which are affirmed by the Constitution of Pakistan, such kinds of bans have broader implications for the economy. In such an ecosystem where authorities of the state are so keen to ban and block entire technology platforms, it is diminishing the confidence of investors, or those seeking to do business in Pakistan.



Apart from investors and founders, the TikTok ban also has serious repercussions for the millions of people who use the platform for creative expression, connection, and revenue generation. Much like the other developing countries, the major portion of TikTok's users in Pakistan are associated with lower-income households and less educated than typical users of Facebook, YouTube, etc. TikTok is an accessible and easy-to-use app and anyone can use it from a man named Phoollu who earns just 600 rupees a day but has over a million followers, to Romaisa Khan, a university student who has nearly three million followers and earns in thousands.

Conclusively, we would say that the TikTok platform is assisting many in revenue generation and also complying with the PTA guidelines which the latter also mentioned in the court so it should not be completely banned on the account of a few videos with obscene content. As it will shut doors on the income of the majority of people thus forcing them to live hand to mouth.

What else can be done other than a complete ban?

- The authorities can devise a new warning system that will directly warn the parent company if anything goes out of the order or if the company appears to be non-compliant.
- Secondly, individuals who found involved in the propagation of obscene content must be held accountable without any blame being put on the platform. He/she can be penalized for the first mistake and more intensive punishments for the repeaters.
- The guidelines issued by the PTA must be revised and new sections should be added in line with issues spotted by the high court and rectify them.
- If it appears that the platform itself is responsible then it should be fined with a new warning and call for stricter action next time in case of non-compliance.
- The federal cabinet should make a separate committee to overlook the bans imposed on the apps.



Desi STARTUP

Unity Retail

A Pakistani logistics aggregator for online sellers

Unity Retail Network is the world's first Omni-Retail network which is aimed at empowering all types of sellers to scale their sales without expanding physically. Unity Retail offers an end solution for e-commerce platforms to automatically process orders eliminating the need for manual verification. It even integrates directly with couriers to make your life easier.

Founded by Atif Sami and Shoaib Ahsan in 2017, incubated at The Nest I/O in batch 5, as a startup offering marketplace integrations such as Technifai, the founders saw an opportunity in connecting e-commerce platforms directly to courier services streamlining order processing as well as delivery and relaunched the company in 2019.



Since then the company has processed orders worth \$90 million. With the pandemic providing a big boost to the e-commerce industry in Pakistan and the world, the startup is in a unique position to provide end services to e-commerce platforms allowing them to provide quality services at a lower cost. The company already has almost 200 clients benefitting from their services.

Unity Retail has received a 6-figure USD seed investment led by Boston Equity partners. The investment will be used for marketing and product development. After the success in Pakistan, the startup is looking to expand further in Pakistan as well as the Middle East and North Africa (MENA) region.

Mohammed Atif Sami, the co-founder and CEO of Unity Retail in a statement said, "Empowering merchants to fully leverage the potential of e-commerce is at the core of Unity Retail's mission. The growing interest in our platform with zero marketing spend is a testament to the market demand for our offering and we are very proud to onboard investors that share our vision of democratizing access to e-commerce."

Shoaib Ahsan, the co-founder and Chief Product Officer of the startup said, "We are keen on democratizing ecommerce for Pakistan. Our solution allows any local or international player to have out of the box access to the biggest fulfillment network in Pakistan overnight as well as realize best in the business ecommerce operations practices."



Vivo Y51s

A Decent Performer

Design

As far as the design is concerned, Vivo Y51s blends a decent mid-range device and a sturdy budget phone with a clean rectangular design.

Vivo Y51s has a 6.58-inch Halo FullView Display with FHD+ resolution. Its dimensions are 162 x 76.6 x 8.5 mm. It has a wider display to enjoy the videos and games fully. It also comes with an eye-protection feature to ease your eyes from harmful radiations. The backside of the Y51s has an interesting and distinctive two-tone design going on. Also, it has come with quite slim bezels under the affordable price tag. Overall, the look of the phone is really impressive.

Performance

Vivo Y51s comes with a Snapdragon 662, with an Adreno 610 GPU. The 11nm Snapdragon 662 chipset has a four by four CPU configuration, a modest Adreno 610 GPU. Additionally, the phone runs Android 10 out of the box with Funtouch 11 UI support.

It has the same chipset, just like many other mid-rangers. Overall, the phone has a fast performance to carry out your daily tasks efficiently. In the real-life test, the phone doesn't disappoint with multitasking. Gaming turns out smooth as well.

In Pakistan, the phone has come with 8GB RAM with 128GB of storage. The storage is of the UFS 2.1 variety, though, which provides a boost. You can also expand the storage using a microSD card up to 1TB.

Camera

Vivo Y51s features a 48MP wide-angle lens, 8MP super wide-angle, and a 2MP depth sensor for bokeh shots. Selfies use a 16MP camera on the front that does not feature an LED flash. The in-built camera app is easy to navigate, giving most of the commonly used modes on the default screen. With a single tap, you can switch to super wide-angle, bokeh, and super macro modes. The camera offers a night mode as well, which was missing in the basic model Y20s.

The digital zooming on Vivo Y51s can take you 8x closer to the subject but only 2x can give you decent quality. The camera does a great job with still images at night.



Lens glare is a common issue on mobile phones, but Y51s handles it quite well.

For videos, the front and rear cameras are limited to 1080p videos. The video quality in good light – day and night – is impressive on Y51s. The colors look natural, and the sound capturing is decent as well. Since the camera lacks a stabilization mode, we noticed the camera struggled to maintain the same quality while moving.

Battery

Vivo Y51s features a massive 5,000 mAh battery capacity, which is more than enough for a single day away from the charger. Its battery charges fully in 1 hour and 59 minutes with its 18W charger connected through a USB Type C port.

Smartphone Review



**Qualcomm Snapdragon 662
Chipset, 128GB-Built in
Storage, 8GB RAM**



**5000 mAh
(Li-Po Non-Removable)**



**6.58 Inches
(2408 × 1080 FHD+)**



**Front Camera: 16 MP
Rear Camera: 48MP+
8MP+2MP**

Pros

- Massive battery
- 48 MP AI camera
- Remarkable memory and storage

PKR. 39,999/-

Cons

- 18w charging

Verdict

Vivo Y51s has more pros than cons. A simple but beautiful design language, a decent battery consumption, and a well-performing chipset are great selling features. The camera is good with still images.

SMART MOVES

for Smarter Nation

ePay Punjab

ePay Punjab is the first ever government payment gateway for citizen facilitation and ease of business is a collaborative endeavor between Punjab Information Technology Board and Finance Department of Punjab. The solution is an integrated and centralized system powered by GoPb web and mobile application that include all the scheduled banks, State Bank of Pakistan (SBP), and 1-link for interconnectivity. Catering to all kinds of Business to Government (B2G) and Public to Government (P2G) payments, ePay Punjab enables citizens across



Raast: Pakistan's Instant Payment System

Raast is Pakistan's first instant payment system that enables 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 a cheap and universal access to all players in the financial industry including banks and fintechs.

Online Retirement System for Teachers in Punjab

PITB and School Education Department (SED) have collectively introduced a new service for the teachers which is "Online Retirement System for Teachers (ORST)". This online retirement system will help the teachers to complete their retirement process without any third person involvement.

Previously, SED Punjab had introduced an online transfer facility. Because of the online facility, the department made over 50,000 transfers in the province. Moreover, SED Punjab has also introduced an online registration portal for the registration of private schools in the province.

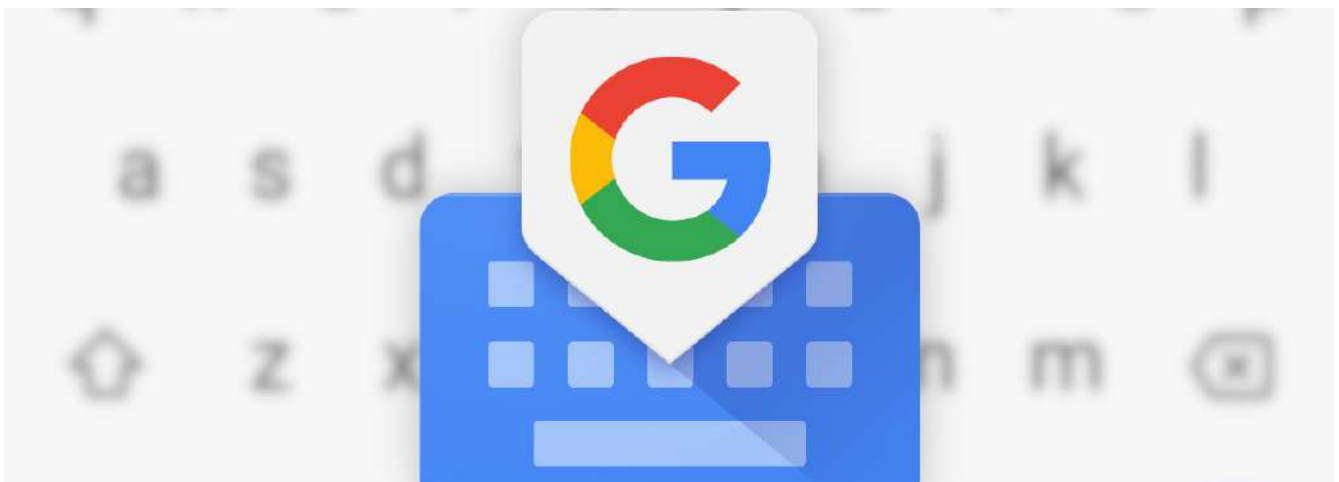


HOW TO!

How to create Emoji Mashup Stickers on Gboard?

Following Snapchat popular disappearing photos or messages, Instagram has also introduced a similar function. It allows you to send photos or videos to someone on Instagram and once the photos or videos were viewed, it will disappear from the inbox. Unlike Snapchat, not all messages will disappear, it depends on the settings you have set for the messages to either disappear or remain. Here we show you simple steps on how to activate the disappearing settings.

Google began to test a new emoji mashup feature on Gboard at the start of 2020. Later, this was launched officially entitled as Emoji Kitchen. And now, the app is updated with the latest combo system that allows you to pick two emojis and make a sticker out of them. Here is how you can create emoji mashup stickers on Gboard.



Step 1

First of all, you need to download the latest version of Gboard and make it your default keyboard.

Step 2

Now launch any application that lets you share emojis and stickers like WhatsApp, Facebook messenger, Insta messenger etc. I am going to launch WhatsApp.

Step 3

(Note: Not all apps support the Emoji Kitchen feature, however, popular messaging platforms support it.)

Step 4

If your Gboard app supports the Emoji Kitchen, you will be able to see a blank box at top of the Gboard as shown in the image.

Step 5

Afterwards, choose the first emoji you want to create your sticker. Some of the auto-generated suggestions will appear in the Emoji Kitchen section.

Step 6

Now select the second emoji, and your desired emoji mash-up sticker will appear at the left with some more suggestions on the right side. You can also select the same emoji twice to get its intensified version.

Step 7

Click on the mash-up sticker you want to use and by just tapping it will be sent to the recipient as shown in the image.

TELECOM CAMPAIGNS

Careem- Mun Khol Kar Khao:

Careem always comes up with some great idea when designing a TVC and this time the marketing team of Careem has gone beyond our expectation with a new thought provoking advert related to Covid. With “Bus Dil Khol Kar Mangwao, mun khol kar khao and Support” campaign, the company made us see how the hotels and restaurants industry is struggling due to Covid-19. In an Advert Sidra Iqbal, Juniad Aqam, Sharmla Faruki, Nezihe Hussain, and Asad Sheikh ask viewers to support these struggling entities by ordering food during such pressing period. At the end Careem reveals that it has reduced its commission to help this industry.



Verdict: Good Advert- Excellent theme

PUBG - DIL PE PUBG TAARI HAI:



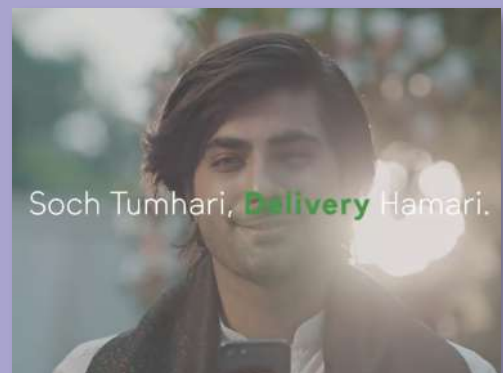
PUBG has released “Dil Pe PUBG Taari hay” advert which is no doubt very true to reality these days. Since this game is very famous among Youth, the advert focuses on youth showing how everyone is playing the game with each other at every place be it restaurant, home, classroom and etc. The overall theme of the advert is good and actors have also done justice to the advert. The music behind the advert is alluring as well. However, this advert is almost same as Jazz’s which shows the Youth dancing here and there with mobile phones. I believe PUBG should have come up with something new.

Verdict: Theek advert hay

Soch Tumhari, Delivery Hamari TVC:

Usually the TVCs of Careem are great but this one is not up to the mark. The advert starts with the bride and groom who are looking around. On focusing little bit we came to know that Joota Chupai rasam is going on and suddenly the Joota was torn, as the doolha was kanjoos and was not giving money. The kanjoos dulha in advert ordered new shoes by using Careem App. At the end its written “Sooch Tumhari, delivery Hamari”. Like seriously? Is it actually an advert? It is an extremely meaningless advert. Sorry but not sorry!

Verdict: Na koi Sar, na koi Paoon.



Food Panda: Hat trick Deal:

The new ad of Food panda hat trick deal is small but contains unique content that delivers the message smartly. The ad highlights the new hat-trick deal of Food Panda as well as the fastest delivery. In the ad, the creator a bit exaggerated that how a delivery boy brings the order in a fraction of seconds when the player in the ground was waiting to catch the ball. But, overall, the ad is good and Fahad Mustafa performed well. The overall idea is also impressive

Verdict: Good concept!

**ZONG-Let's Get Digital!**

The new ad of ZONG gave goosebumps as the song sung by Atif Aslam touches your heart. The ad delivers a message to the viewers that we can make our dreams true if we struggle sincerely and put all efforts in play. The performers in the ad also performed well and gave extra ordinary performance which expressed what they are feeling inside. The ad focus on the fact that you can get and do everything in your life if you have good internet connection, something that you can get with only ZONG 4G.

Verdict: Loved the ad!

**JAZZ-Women's Day 2021:**

The new ad of Jazz focuses on women empowerment by providing free SIMS to them. The great minds always give simple and great ideas. And the new ad of the JAZZ is projection of that. The performers delivered the message in a few words and highlight how women in Pakistan are treated in some regions if they use mobile phones. The ad raises voice against this inappropriate act and encourages women to use mobile phones to get connected and carry out their routine task without any hurdle.

Verdict: Simply yet Great ad!



KEY TECH AND CONNECTIVITY TRENDS

2021

TREND 01.



ACCELERATED ADOPTION OF 5G TECHNOLOGY

Amidst the coronavirus pandemic, we've witnessed a rising need for remote interactions. These remote interactions amongst your employees signal the need for 5G technology, accelerating its adoption in the long-term. Increased dependence on [telehealth](#) and teleconferencing strengthens the appeal of 5G.

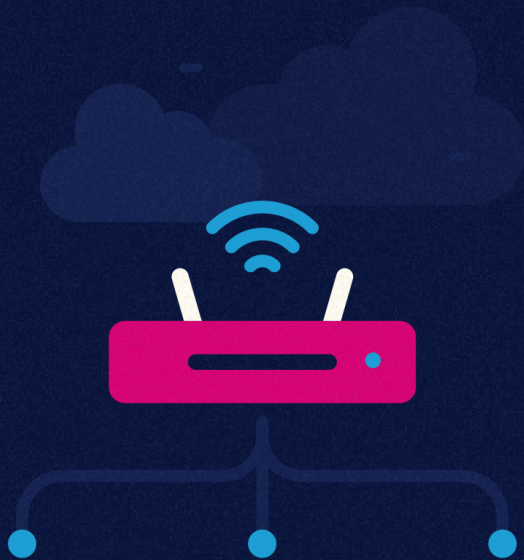
TREND 02.



VIRTUAL REALITY (VR) BECOMES THE ULTIMATE TRAINING TOOL

About half of businesses look to use VR and other extended reality tools to reflect real-world employee training conditions. Employees will be able to sharpen their skills with hands-on tutorials. Effective meetings can even be organized remotely through VR, resolving the challenges of collaboration and communication that employees face in today's times.

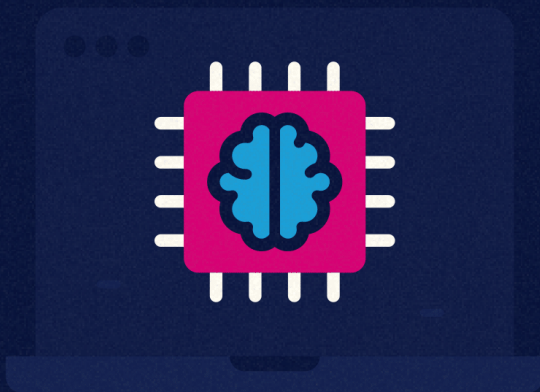
TREND 03.



EDGE COMPUTING TAKES THE NEXT BIG LEAP

According to a MarketsandMarkets report, the global edge computing market size is anticipated to grow to USD 6.72 Billion by 2022. Blue-chip companies, such as Microsoft, are known to invest billions into the faster-emerging edge computing revolution. More advanced than the **cloud services for business**, edge computing includes preventing the latency present with cloud computing.

TREND 04.



ARTIFICIAL INTELLIGENCE WILL BE OMNIPRESENT

In 2021 and the years to come, you can expect AI technologies to witness exponential growth and be featured within almost all tech products and services. Visual AI or **computer vision** can be found in applications across industries. Robots and drones are a few of the AI-ML based applications that are heavily used to control the spread of coronavirus in today's times.

TREND 05.



CYBERSECURITY WILL RULE THE ROOST

Cybersecurity dominates the priorities of every organization as they adapt to the novel economy. Identities and devices of remote workers are the new security parameter with cybersecurity technology continuously evolving in line with hackers who are threatening your crucial data. Note the global cybersecurity market will grow to \$270B by 2026*.

* Australian Cyber Security Growth Network, SCP - Chapter 1 - The global outlook for cybersecurity, 2020.

Top Applications and Games for your Smartphone



Apple TV

Get all your favorite TV, all in one app. Watch exclusive Apple Originals from Apple TV+. Buy or rent new and popular movies. Subscribe to premium channels. All curated and personalized to you.



Bobble Heads | Live Wallpaper

Bobble Heads is a free Live wallpaper app which makes your phone more fun to use. One of a kind live wallpaper app which lets you play with Bobble Heads on your phone home-screen.



Brightness Control Free - Brightness per app

Brightness Control allows to configure the brightness level for every apps you want. so when you open particular app, brightness control changes automatically as per the setting you configured for the app.



FocusReader - News & RSS Reader

A clean (No Ads), modern, beautiful material design news reader application with a lot of great features.



Empires Mobile

Welcome to Empires Mobile, a fantasy themed real-time strategy mobile game.

In this world, the war horns have sounded, and a battle between Elves, Dwarves, and Humans is unavoidable. You must lead a race and build a nation while training units, each with their own unique traits.



MARVEL Realm of Champions

High-action Marvel multiplayer mayhem for your mobile device!

Join this bold new imagining of the Marvel Universe, gear up your Champions and play your part in this epic real-time Action-RPG brawl!



Shining Beyond

From the creators of the hit mobile RPG 'Valiant Force', comes Shining Beyond - an epic adventure into a new realm within the shared universe of Valiant Force!



Weather on the Way: Trip Radar

- Never again be stressed on a drive
- Say NO to weather delays
- Know EVERYTHING about weather conditions at any point of your road trip
- Be smarter than 99% of drivers around you!



Capo - Learn Music by Ear

Learn your favorite songs without tabs or sheet music.

Whether you play for the world or yourself, all musicians need a good ear for harmony, melody, and rhythm. Using the songs in your music collection, Capo guesses the beats, chords, and key of songs to help you break them down to their individual parts. Capo's unique technology helps you to learn your favorites quickly as you improve your ear along the way.



Inkwork

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Inkwork instantly transforms your photos into unique and expressive ink drawings. Choose from over 90 style variations, select an ink and paper color, then share your art on Instagram, Twitter, Facebook, and more.



Samsung Galaxy A52

Display: 6.5 Inches
Memory: 128GB Built-in, 8GB RAM
Camera: 64MP+12MP+5MP+5MP



Samsung Galaxy A72

Display: 6.7 Inches
Memory: 128GB Built-in, 6GB RAM
Camera: 64MP+8MP+12MP+5MP

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Samsung Galaxy M31s

Display: 6.5 Inches
Memory: 128GB Built-in, 6GB RAM
Camera: 64MP+12MP+5MP+5MP



Oppo F19 Pro

Display: 6.43 Inches
Memory: 128/256 GB Built-in, 8GB RAM
Camera: 48MP+ 8MP+2MP+2MP



Oppo Reno5 Pro

Display: 6.55 Inches

Memory: 128/256 GB Built-in,
8/12 GB RAM, UFS 2.1

Camera: 64MP+8MP+2MP+2MP



Xiaomi Redmi Note 10

Display: 6.43 Inches

Memory: 64/128GB Built-in,
4/6GB RAM, UFS 2.2

Camera: 48MP+ 8MP+2MP+
2MP



Xiaomi Redmi Note 10 Pro

Display: 6.67 Inches

Memory: 64/128 GB Built-in,
6/8 GB RAM, UFS 2.2

Camera: 108MP + 8MP
+ 5MP + 2MP



Vivo Y31

Display: 6.58 Inches

Memory: 128GB Built-in,
4/6/8 GB RAM

Camera: 48MP + 2MP + 2MP



Vivo Y51s

Display: 6.53 Inches

Memory: 128GB Built-in, 6/8GB
RAM, UFS 2.1

Camera: 48MP+2 MP + 2MP



Realme Narzo 30A

Display: 6.5 Inches

Memory: 32/64 GB Built-in,
3/4 GB RAM, eMMC 5.1

Camera: 13MP + 2MP



INCREASING GROWTH OF MOBILE ACCESSORIES IN PAKISTAN

Mobile phone accessories demand and usage have been increasing drastically over the years. With the increasing technology awareness and the growing purchasing capacity of the masses, Pakistan as a market has shown a potential for growth of the technology sector.

Driven by systematic operation and constant innovation, Riversong has developed a creative product portfolio ranging from basic smart gadgets to AI innovation. Their products are enjoyed in more than 25 countries, serving over one-fifth of the world's population.

RIVERSONG's devices with cutting-edge technology, housed in attractive cases, are the perfect lifestyle partners that one would love to flaunt. RIVERSONG is committed to bring premium products with people-oriented designs and excellent customer services with a vision to become a brand that deserves your love.

According to the RIVERSONG's Global COO - Sales, Syed Ali Yousuf, "this rising smartphone usage in the region has accelerated the growth of the relatively new segment. This provides an opportunity for RIVERSONG to further penetrate the regional market with its unique and premium qualitative products with best possible pricing. Riversong products are not only of great quality but also the very first brand to introduce 1 year replacement warranty in Pakistan."

"We are constantly working towards making Pakistan a smarter country by offering latest technology in our products and keeping up with the tech trends globally. Our aim is to reach every nook and corner of the country through the rapid expansion plans we have". Syed added.

"We are aiming to target 25% of the market share in Pakistan by end of 2022. Our competitive product portfolio, ranging from basic smart accessories to smart devices, are indeed a perfect fit the region's constantly evolving demands." noted Syed.





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