

# Phone World

Jan-March 2023

ALTERNATIVE STRATEGIES  
FOR 5G SPECTRUM  
ALLOCATION IN PAKISTAN

PAKISTAN'S APP MARKET  
SURGES: FASTEST GROWTH  
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**ADNAN KHAN**  
Managing Editor



Dear readers,

In yet another issue of our magazine, we bring you some insightful articles and features from Pakistan's tech industry.

The first article highlights the challenges faced by Pakistan's startup ecosystem in 2023. The article delves into the various roadblocks faced by entrepreneurs in the country, such as the lack of funding opportunities, bureaucratic hurdles, and the absence of a favorable regulatory environment. Despite these challenges, the article highlights the resilience of Pakistan's startup community and the potential for growth in the coming years.

Our next article explores the importance of women's entrepreneurship for national development. The piece emphasizes the need for more women to participate in the country's economy, both as entrepreneurs and employees. It highlights some of the key challenges faced by women entrepreneurs in Pakistan, such as the lack of access to finance and limited networking opportunities.

The third article in this issue discusses alternative strategies for 5G spectrum allocation in Pakistan. The article examines some of the different approaches being considered for the allocation of spectrum, including auctions, and hybrid models. The article also explores the pros and cons of each approach and offers recommendations for policymakers and industry players.

In our fourth article, we talk about how the rising cost of smartphones is affecting digitization in Pakistan. With smartphone prices on the rise globally, the article looks at how this trend is affecting the country's efforts to digitize its economy. It explores the implications for low-income individuals and the challenges faced by the government and the private sector in ensuring access to affordable technology.

Last but not least, we have an exclusive interview with the Country Head of Careem, one of Pakistan's most successful startups. In the interview, Feroz Jaleel shares his insights on the future of the ride-hailing industry in the country, the challenges faced by the company, and its plans for expansion. It's an inspiring read for anyone interested in the startup ecosystem in Pakistan.

Our regular sections include phone reviews, Smart Moves, TVC reviews, top applications, and the best smartphones list. We hope you find these articles informative and insightful. As always, we welcome your feedback and suggestions for future issues.

Sincerely,  
**Adnan Khan.**

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legal and regulatory landscape. There's difficulty obtaining licenses and permits, even after complying with local laws and regulations.

The point worth mentioning is that due to the lack of infrastructure, adequate internet connectivity, and a robust transportation system, startups have been facing challenges in terms of logistics and operations. The fact is that Pakistan's infrastructure is already underdeveloped, with poor road networks, inadequate public transportation, and limited access to reliable internet connectivity. So, it has made it difficult for startups to operate efficiently and expand their businesses.

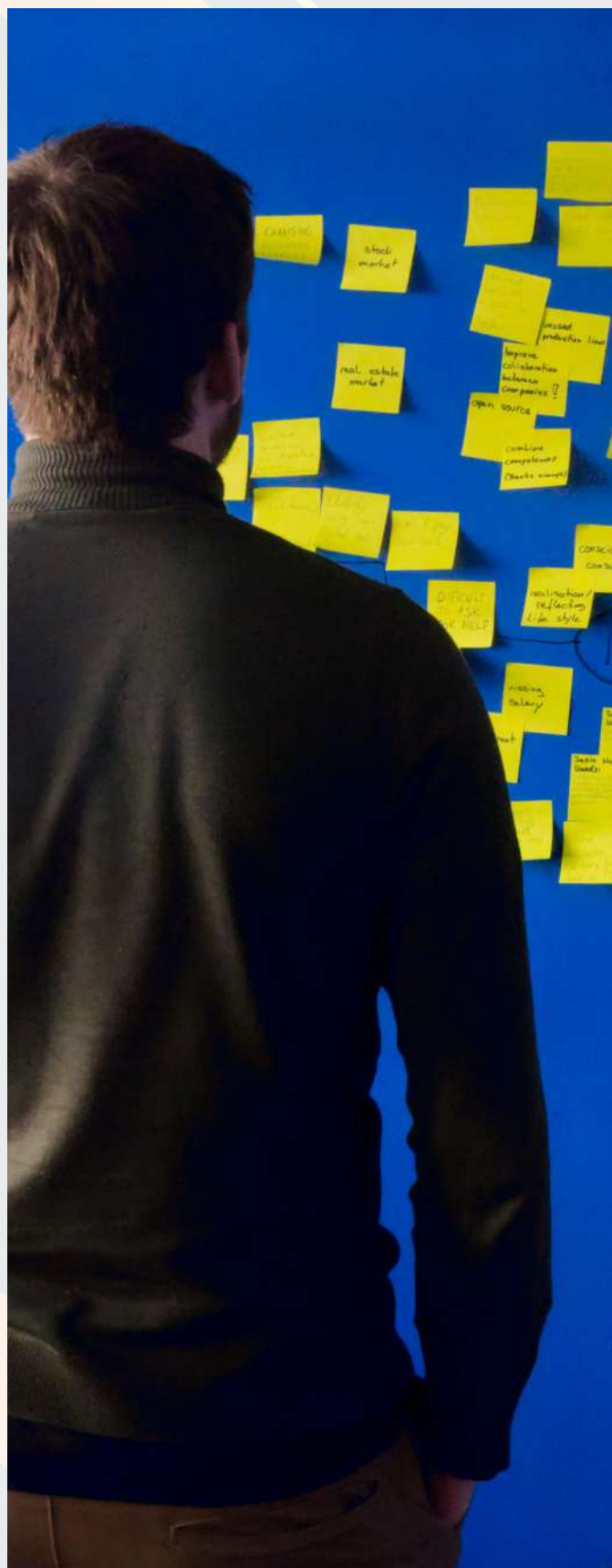
The startup industry is also facing big problems because there aren't enough skilled workers. We all know that Pakistan's education system is inadequate. It lacks emphasis on entrepreneurship and innovation, due to which startups have difficulty finding qualified and skilled professionals to join their teams. In addition to that, there is gender inequality in the national workforce structure. In addition to that, women are not preferred to work in technical fields as compared to men, which is also a great hurdle in the growth of Pakistan's startup ecosystem.

There is also a lack of a strong culture of innovation and entrepreneurship. On one hand, there is a rise in the number of startups, however, many entrepreneurs still face a lack of support and resources to scale their businesses up. The inadequacy of support and mentorship programs, along with a shortage of incubators and accelerators, has resulted in severe problems for startups trying to grow and succeed.

**The inadequacy of support and mentorship programs, along with a shortage of incubators and accelerators, has resulted in severe problems for startups trying to grow and succeed**

Despite all the challenges, there are still a lot of opportunities that can be cashed in. Pakistan has a large population and a growing middle class, which is no doubt a significant opportunity for startups in areas such as e-commerce, fintech, and healthcare. However, there are a number of things that can be done to support the steps Pakistan's startup ecosystem needs to take in order to overcome these challenges and continue to grow.

The government needs to focus on building a strong regulatory framework that supports startups and creates a conducive environment for business growth. The government can introduce initiatives such as making the process of obtaining licenses and permits easy, introducing tax breaks for startups, and creating a regulatory environment that supports innovation and entrepreneurship.



More than that, Pakistan's startup ecosystem also needs to focus on building a strong culture of innovation and entrepreneurship. There should be mentorship programs, incubators, and accelerators to give startups the help and resources they need to succeed. It will help startups deal with the lack of skilled workers and build a strong environment that encourages innovation and entrepreneurship.

## **The government can introduce initiatives such as making the process of obtaining licenses and permits easy, introducing tax breaks for startups, and creating a regulatory environment that supports innovation and entrepreneurship**

Pakistan needs to change its education system by adding new technologies like AI, robotics, sustainability, carbon-neutral energy, and the Internet of Things. The integration of the latest technology in the education system is very important as it will help to build a talented work force that can help to bring innovation and new startup ideas into the future. Startups, universities, and businesses should work together so that ideas and knowledge can be shared. It will end up driving economic growth in the process under the "triple helix" model of innovation. Pakistani universities can help the startup ecosystem grow by developing talent, doing research and development, providing incubation and acceleration, bringing people together, and promoting an entrepreneurial culture. They can teach students the skills and knowledge they need to start and run their own businesses. The institutes can conduct research and development in areas relevant to the startup ecosystem. Startups will be able to commercialize the new goods, services, and technologies that result from this. The universities should collaborate with the private sector, government agencies, and other stakeholders in order to promote entrepreneurship and innovation. The creation of partnerships can help startups access funding, markets, and other resources.

Young Pakistani women should also take part in the digital economy to make a bigger mark on the economy and make more money. It will not only provide a source of income for themselves and their families but also leverage the potential of young women to drive economic growth.

Our country can also get numerous lessons from the successful startup ecosystems around the world, including Dubai Internet City, India, and China. The trio has created a supportive environment for entrepreneurship and startups that has resulted in the growth of innovative and successful businesses. Pakistan can adopt similar policies and create a conducive environment. Even so, it can facilitate G2G and B2B partnerships with international organizations to foster innovation and drive rapid economic growth.

The overall year 2023 poses significant challenges for Pakistan's startup ecosystem. No doubt, our country has made progress in recent years in creating an enabling environment for startups, but there are still substantial gaps and barriers that need to be addressed. It includes access to funding, regulatory hurdles, talent shortages, and a lack of infrastructure. The startup ecosystem in Pakistan can overcome the challenges with continued support from policymakers, investors, and other stakeholders. We hope that our country emerges stronger and more resilient in the years to come.

## **The universities should collaborate with the private sector, government agencies, and other stakeholders in order to promote entrepreneurship and innovation**







## The future

Truth being said, personal VR headsets are still a lot less popular than PCs and gaming consoles. Is that about to change? It's difficult to say. However, sales are increasing year after year, and we can nearly guarantee that this trend will continue.

According to IDC, more than 20 million VR headsets will be shipped in 2023, rising to 30 million two years later. More than 10 million XR headsets were sold in 2021, more than twice as many as in 2020! As a result, these projections for the coming years appear to be very plausible.

**AR and VR technology has the potential to increase social interaction and create new gameplay mechanics**

This surge in sales is due to the growing popularity of XR, as well as headsets becoming cheaper. Aside from that, new technologies, solutions, and peripherals are being introduced to the market. And the ones that already have a place there are getting more accessible.

PC and console games will continue to play an important part in the industry in the coming years. However, VR game production is becoming increasingly popular, and this trend is unlikely to alter very soon. People are eager for virtual reality entertainment, with more headsets delivered than ever before, continually advancing technology, and growing curiosity.

Not to mention that the digital world is slowly but steadily finding its way into the metaverse. This should accelerate the growth of virtual reality. After all, it's a key technology in this digital shift. AR gaming is an exciting new technology that is always evolving with new features and mobile gaming experiences. It might soon displace traditional gaming, where virtual reality games have failed.

AR mobile gaming requires no additional costs, specialist technology, or specific rooms. It's a mobile immersive experience that everyone, no matter where they are, may enjoy. AR gaming might be the future of gaming, as well as a viable tool to utilize in schools to engage younger generations that demand more from their learning and gaming experiences.



We all know that technology is one of the fastest-growing industries in the world. However, the fact is that the growing skill gap can be filled only with the equal participation of both men and women in tech roles. There is no doubt that women can bring diversity to the table. Women's participation in the workforce can add immense value to the economic world and the IT sector. According to the latest studies, gender-diverse teams have the power to boost your business performance by 31%. The reality is that half of the purchasing power lies in the hands of women, so we need to come up with ideas and products that solve the technical issues of both genders, making it directly proportional to business growth.

**According to the latest studies, gender-diverse teams have the power to boost your business performance by 31 percent**

Women think differently than men, and this can stimulate innovation. A diverse team results in smarter ideas. It tends to have better problem-solving and decision-making intelligence by bringing different perspectives to the table, which can boost performance at the individual and business levels.

So, it is very important for the economic growth of society to give equal importance to women in each sector.

Let us now discuss Pakistan and where it stands in women's entrepreneurship. Pakistan has produced great professionals and entrepreneurs in the field of technology, specifically in information technology, since the last decade. But in the race for success in entrepreneurship, men led the way. Around 99.3–99.7% of the ideas in technology are backed by men. The low rate is just because there are so few female entrepreneurs in Pakistan. However, things are changing and now there is proper education for entrepreneurship in Pakistan, which can surely improve women's participation in technology.

Pakistan has a population of almost 200 million, which is far greater than Germany, Sweden, Israel, and the UK, and only 0.75% as compared to the United States of America. However, the fact that could put Pakistan in the race with such advanced countries is "women entrepreneurship." Silicon Valley has a great number of success stories of women who made it through. In the same way, Israel has Silicon Wadi, which is desperately trying to compete with the growing entrepreneurial cities of the United States of America.

On the other hand, Germany is also preparing Berlin, while Sweden is willing for Gothenburg to join the race. What's so common in this race is that they're all endorsing women's entrepreneurship in technology.

**Tech has done wonders in modern society, especially for female empowerment, whether by providing job opportunities or simply helping with groceries, ride hailing, or paying bills**

Over the past few years, there has been an expeditious development in the field of women entrepreneurship in Pakistan due to changes in the social and economic environment. These changes have come due to unemployment, technological advancements, inflation, media exposure, and globalization. Pakistani women have certainly walked out of the typical framework of life and excelled in many fields like journalism, philanthropy, IT, engineering, politics, etc.

They have ultimately proved themselves to be both great mothers and well-reputed and significant businesswomen. JehanAra, the mastermind behind PASHA (Pakistan Software Houses Associations), RabiaGarib, the Chief Executive of Toffee TV, Sabeen Mahmud, the President of TIE (The Indus Entrepreneurs), Kalsoom Lakhani, the CEO of i2i (invest2innovate), and Maria Umar, the founder of "The Women's Digital League," are just to name a few.

Women have enormous potential to help improve the global economy. According to the 2017 Pakistan census, women make up 48.76% of the population. The inclusion of even a lower percentage of women in Pakistan's workforce could have dramatic effects, just like the rise of China has driven the global economy and helped lift hundreds of millions of people out of poverty. It is therefore in the interest of the global economy for foreign aid initiatives to prioritize and help women around the world, particularly when it comes to education.

As more women are now becoming financially independent due to technology, this is indirectly playing an important role in the economic growth of our country as well. Women are more likely to invest a large portion of their household income in their children's education as compared to men, and as those children grow up, their improved status presumably benefits society and the economy as well.



The increase in knowledge and understanding of women's investing power and market impact lets countries, companies, and individuals take practical steps in order to develop inclusive economic growth.

**The inclusion of even a lower percentage of women in Pakistan's workforce could have dramatic effects, just like the rise of China has driven the global economy and helped lift hundreds of millions of people out of poverty**

Entrepreneurship does not mean the business has to be built on a large scale. It could also be a small-scale affair involving some entrepreneurial skills. In a developing country like Pakistan, most women join small businesses like embroidery, clothing, cooking, and baking. It does not matter whether women run large or small businesses, the thing that matters is their participation in each sector of the country in order to boost economic growth. While technology has become more prevalent in our daily lives, it has resulted in new opportunities for both men and women. Well-paid tech jobs have enabled more and more women to support themselves and be less dependent on men. The most amazing thing is that tech jobs give so many opportunities to work in fields that women are most interested in, whether it is social media marketing, graphic design, content writing, or web design. The possibilities are truly endless. Tech has done wonders in modern society, especially for female empowerment, whether by providing job opportunities or simply helping with groceries, ride-hailing, or paying bills. The future is looking bright indeed!

Pakistani women have proven that they have the ability to execute their entrepreneurial venture while facing different challenges such as cultural, social, and economic constraints. Moreover, they can play the best role in the welfare and uplift of society. Female entrepreneurial activities herald the optimization of their social and economic well-being, moreover, it also helps in wealth creation and poverty reduction.





# Kai- Fu Lee; the Chinese Rock Star of Artificial Intelligence

**Kai-Fu Lee** is a Taiwanese computer scientist, IT venture capitalist, micro-blogger, and executive. His most well-known title is “Information Technology Venture Capitalist.” Lee is considered one of the most prominent and influential individuals in the Chinese internet sector, despite the fact that he is Taiwanese.

Kai-Fu Lee is the Chairman and CEO of Sinovation Ventures and President of Sinovation Venture’s Artificial Intelligence Institute. Sinovation Ventures is a leading venture capital firm focusing on developing the next generation of Chinese high-tech companies. Prior to founding Sinovation in 2009, Dr. Lee was the President of Google China, and senior executive at Microsoft, SGI, and Apple.

In the field of artificial intelligence, Dr. Lee built one of the first game-playing programs to defeat a world champion (1988, Othello), as well as the world’s first large vocabulary, speaker-independent continuous speech recognition system. Dr. Lee founded Microsoft Research China, later renamed Microsoft Research Asia, which was named the hottest research lab by MIT Technology Review. While with Apple, Dr. Lee led AI projects in speech and natural language, which have been featured on Good Morning America on ABC Television and on the front page of the Wall Street Journal. He has authored 10 U.S. patents, and more than 100 journal and conference papers. Altogether, Dr. Lee has been in artificial intelligence research, development, and investment for more than 30 years.

His New York Times and Wall Street Journal bestselling book, “AI Superpowers: China, Silicon Valley, and the New World Order” discusses US-China co-leadership in the age of AI as well as the greater societal impacts brought upon by the AI technology revolution. His new co-authored book “AI 2041” explores how artificial intelligence will change our world over the next twenty years.

Dr. Lee received his bachelor’s degree in Computer Science from Columbia University, Ph.D. from Carnegie Mellon University, as well as Honorary Doctorate Degrees from both Carnegie Mellon and the City University of Hong Kong. He is the Co-Chair of the Artificial Intelligence Council for the World Economic Forum Center for the Fourth Industrial Revolution, a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), Times 100 in 2013, WIRED 25 Icons, and followed by over 50 million followers on social media.

# 6 Fascinating Facts About ChatGPT from OpenAI

There is much to know about ChatGPT – here, we discuss a handful of the most interesting facts about the system and add context to explain the relevance of each point.

## 1 ChatGPT was trained on over 570 Gb of text

This is equivalent to roughly 5.7 billion pages of text which would take a human that could read 1000 pages a day 4 thousand years to complete.



5.7 billion



## 2 ChatGPT has over 175 billion parameters such as the learning rate which is how much information it can process at each learning interval.

Less data



Slower learning but more accurate results

More data



Faster learning but less accurate output

## 3 ChatGPT knows 39 languages

But this doesn't necessarily help ChatGPT understand other languages because it's trained on text data, unlike humans which rely on cognitive processes for communication.

Highest Proficiency



High Proficiency



Limited Knowledge



## 4 ChatGPT can complete a text prompt with over 95% accuracy

The kinds of errors it's most prone to are repetition, lack of consistency, grammatical inconsistencies, pulling irrelevant information, and lacking originality.



Repetition



Consistency



Grammar



Originality

## 5 ChatGPT vs humans

In 80% of benchmarks including GPT-2, CoQA, and SuperGLUE, GPT models like ChatGPT produce text that is indistinguishable from that written by humans.

### ✓ Best at:

- Content when prompted with a specific topic and enough context
- Poetry, lyrics, scripts, and fiction stories

### ✗ Not as good for:

- Creative writing

## 6 ChatGPT is being trained on a variety of sources

Training the model itself relies on using language examples from literally everywhere meaning reputable sites, personal blogs, forums, social media, and so on.

60 / 70%

Data training composed of news articles, books, websites, and social media posts

30 / 40%

Other sources like research papers, legal documents, poetry, lyrics, manuals, technical documents, etc.



## 5G

The fifth generation (5G) of wireless communication is an important leap forward in the world of technology. Many developed nations around the world have already started deployment and are offering 5G services. While we heard from political and regulatory leadership making tall claims some years back that 5G will be introduced in 2023, one needs to ponder what steps are required in order to launch 5G in Pakistan. And how can it benefit the economy, technological landscape, and overall condition of the country?

### **Economic Crisis and its Effect on the Telecom Sector**

Bringing 5G to Pakistan seems like a very distant dream as the country is going through an economic crisis never seen before. The economy is not in a very healthy shape, and the balance of payment problem is exacerbating each day. With inflation skyrocketing, the loan-to-GDP ratio has reached an unprecedented level. The State Bank of Pakistan has meager foreign reserves, due to which the Central Bank has had to take stringent measures including import ban, increasing tax, etc. The rise in taxes and the depreciating rupee have taken a toll on the telecom sector.

Telcos are grumbling about massive losses incurred upon them as they have to pay upfront the spectrum allocation fee in US dollars while they earn in Pakistani rupees. Under these circumstances, the telco feels that it does not make it viable or even impossible to launch 5G in Pakistan.

### **Bringing 5G to Pakistan seems like a very distant dream as the country is going through an economic crisis never seen before**

However, there are some alternative, and, unconventional ways through which 5G spectrum can be allocated and 5G services can be launched in Pakistan.

### **Spectrum bands used for 5G deployment**

Different countries use different frequency bands for 5G, depending on the availability of spectrum and local regulatory policies. In general, the mid-band spectrum is expected to be especially important for delivering the high-speed, low-latency connectivity that 5G promises, while the high-band spectrum will likely be used for more specialized applications.



## Mid-band spectrum (1-6 GHz)

This includes frequency bands like 2.5 GHz, 3.5 GHz, and 4.5 GHz. Mid-band spectrum provides a good balance between coverage and capacity and is well-suited for applications like mobile broadband and IoT.

## High-band spectrum (above 6 GHz)

This includes frequency bands like 24 GHz, 28 GHz, and 39 GHz. High-band spectrum provides extremely high data rates and low latency, but it has limited coverage and is susceptible to interference from objects like trees and buildings.

Mobile network operators will need access to a lot of spectrum in these frequency bands in order to make 5G work. The exact amount of spectrum needed for 5G deployment will depend on a number of things, such as how much demand there is for 5G services, how many mobile devices and infrastructure are in a given area, and how much spectrum is available in that area. In many cases, governments will need to allocate a large additional amount of spectrum to mobile network operators in order to fully support a viable 5G network rollout.

**The exact amount of spectrum needed for 5G deployment will depend on a number of things, such as how much demand there is for 5G services, how many mobile devices and infrastructure are in a given area, and how much spectrum is available in that area**

In general, 5G networks need a lot more spectrum than the wireless technologies that came before them in order to deliver the faster data rates and more capacity that they promise. Generally, spectrum experts say that around 80 MHz to 100 MHz would be a minimum viable spectrum requirement for 5G deployment.

## Unconventional ways to bring 5G in Pakistan

Limited Use Licenses (Time and Territory)

Limited-use licenses for spectrum refer to the practice of granting licenses for the use of specific frequency bands for a limited period of time or in a limited territory. Limited licenses can be granted for a variety of reasons, including encouraging the development of new services, promoting competition in the market, or facilitating the introduction of new technologies such as 5G. In this regard, the Frequency Allocation Board (FAB) and PTA should offer limited licenses of 80 MHz–100 MHz in the 3.5 GHz frequency band to deploy 5G. For a three-year period, the government may offer limited licenses on the 5G spectrum in three or five major cities across the country. The scope could be enhanced after the initial time frame.

Limited licenses on the existing spectrum, however, can have both advantages and disadvantages. Here are some of the pros and cons:

### Pros:

The limited use spectrum essentially means less money that telcos or new entrants have to pay for licenses upfront easing up on the adoption of the 5G technology and investing the money on infrastructure development. Limited licenses will help to reduce costs for telcos as they may only need to pay for the limited scope of the spectrum that they are using for a limited time rather than having to pay for access to the spectrum for the entire 15 or 20 years and larger coverage. The operators should be allowed to increase the scope of the licenses after the initial period both in terms of time and coverage after the initial period to make it more conducive for the rollout of their network for long-term business viability.

Limited licenses can help new players get into the market (if existing MNOs don't want to) to make sure that applications for new players or for specific uses, like IoT devices, are available.

**Limited licenses will help to reduce costs for telcos as they may only need to pay for the limited scope of the spectrum that they are using for a limited time rather than having to pay for access to the spectrum for the entire 15 or 20 years and larger coverage**



### Cons:

With limited licenses, companies may be less likely to make significant investments in infrastructure, research, and development because they may not have the certainty that they will have access to the full spectrum in the future. This can lead to less innovation and slower development of new services.

### License to one Infrastructure Company

Providing a license to a single infrastructure company for leasing it to all mobile network operators (MNOs) can also be advantageous for 5G deployment, as it can assist in overcoming some of the obstacles related to deploying new 5G infrastructure. On the other hand, if each MNO is responsible for building its own infrastructure, deploying 5G infrastructure can be time-consuming and costly. Therefore, by granting licenses to a single infrastructure provider, deployment can be made in a more efficient manner by accelerating the process and reducing expenses.

In addition to that, MNOs can lower their expenses by leasing infrastructure from a single company because they do not need to invest heavily upfront in the license and infrastructure but rather concentrate more on service delivery. This can increase market competition by making it easier for even new entrants to enter the market.

**by granting licenses to a single infrastructure provider, deployment can be made in a more efficient manner by accelerating the process and reducing expenses**

### Pros:

By sharing infrastructure, the utilization of resources such as spectrum and physical infrastructure will be made more efficient. The infrastructure provider will be able to use its resources more effectively, which will help all MNOs improve their coverage and service quality.

This can reduce CAPEX and OPEX for 5G service providers by leasing infrastructure from a single company because they do not need to invest in their own infrastructure. This can increase market competition by making it easier for new entrants to enter the market.

### Cons:

Allowing one infrastructure firm to lease to all MNOs can lead to a lack of diversity in the market. This might result in less innovation since fewer companies would compete to create new products and services.

The single infrastructure provider could become a monopoly, which would mean that MNOs and their customers would have to pay more and have fewer choices.

### Trial licenses to OEMs for R&D

In order to bring 5G into the country, the government can also provide trial licenses to Original Equipment Manufacturers (OEMs) like Huawei, Ericsson, ZTE, etc. for research and development purposes. By providing OEMs with trial licenses for 5G research and development, it may be possible to encourage OEMs and other entities to innovate and test new technologies and solutions that will benefit the 5G ecosystem.

### Pros:

The deployment process of 5G will be accelerated by allowing OEMs to facilitate R&D with trial licenses to ensure HR development in understanding and managing newer technology and even complementing downstream industries, such as the software development industry in Pakistan.

Trial licenses can be less expensive than full-scale licensing, making R&D by OEMs more useful.

### Cons:

There may be restrictions on the number of users and the amount of data that may be transferred with a trial license. This can reduce the efficiency of the R&D process and OEMs' capacity to thoroughly test their products and services.

OEMs may be unwilling to share their intellectual property with the licensing provider, which might hinder the license provider's capacity to properly serve OEMs.

**to bring 5G into the country, the government can also provide trial licenses to Original Equipment Manufacturers (OEMs) like Huawei, Ericsson, ZTE, etc. for research and development purposes**

### License now pay later

The government can also offer a "license now, pay later" option to telcos for the quick deployment of 5G in Pakistan. The "License now, pay later" system for spectrum is a policy that allows telecommunications operators to buy licenses for spectrum that they will use for network services, but instead of paying the whole cost upfront, they are allowed to pay over a certain time period. This strategy aims to reduce the financial burden on telecommunications providers, particularly those that must make substantial expenditures in building new networks such as the transition to 5G.

### Pros:

In the context of the 5G rollout, the "License now, pay later" strategy for spectrum can prove to be a great approach for telecommunications providers, especially in a country like Pakistan, which has high spectrum prices.

### Cons:

This option also carries some financial risk, both for the operator and for the government. If an operator fails to make payments on the spectrum, it could lead to financial losses for the government and potentially disrupt the operator's operations.

### Revenue Share License

The authorities in Pakistan can also go for a revenue-share license scheme for awarding spectrum for 5G deployment. A revenue-share license scheme for spectrum in 5G deployment is a model in which the government grants a license to an operator to use the spectrum for a certain period of time, and in exchange, the operator agrees to share a portion of the revenue generated from the use of that spectrum. Given how telcos' finances look right now, this could be very helpful.

### Pros:

A revenue-share approach can help the government get more money from spectrum licensing, which can be used to pay for things like building infrastructure, educating people, and taking care of sick people.

The government and the operator share the risk involved with the deployment of a 5G network under a revenue share model. If the network is successful and generates income, both partners will profit; if it fails to do so, both parties will bear the loss.

**A revenue-share license scheme for spectrum in 5G deployment is a model in which the government grants a license to an operator to use the spectrum for a certain period of time, and in exchange, the operator agrees to share a portion of the revenue**

### Cons:

A revenue share model might be more difficult to run than other licensing models since it needs revenue tracking and the enforcement of revenue sharing agreements.

The government of Pakistan should be smart and work on non-traditional ways to bring 5G to the country since the traditional way doesn't seem feasible as the ecosystem right now doesn't allow existing MNOs or new entrants to deploy and roll out 5G in any way. 5G holds the key today, and the countries that will be the pioneers in fully adopting this technology will shape the technological landscape of the future.

# “Pakistan’s App Market Surges: Fastest Growth in Downloads in 2022”

Fizza Attique



Mobile apps have revolutionized the way people access and interact with technology, providing users with convenient and efficient solutions for various tasks and activities. From entertainment and communication to education and commerce, mobile apps have become an integral part of daily life for millions of people worldwide.

The growing popularity of smartphones and other mobile devices has driven the demand for mobile apps, leading to a significant increase in the number of apps available in app stores. According to recent reports, the number of mobile app downloads worldwide is projected to reach over 258 billion by 2022, up from 204 billion in 2019.

Pakistan's app market has also witnessed significant growth in 2022, making it the fastest-growing app market globally in terms of downloads, according to a survey from Data Darbar, a private markets intelligence platform. The study revealed a 35.4% increase in app downloads in Pakistan in 2022, making it the fastest-growing app market in the world. This growth rate was three times faster than China, which came in second with an increase of just over 10%, while India ranked third.

## **Pakistan's app market has also witnessed significant growth in 2022, making it the fastest-growing app market globally in terms of downloads**

### **Pakistan's Mobile Industry Continues to Grow for the Fourth Year in a Row**

Data Darbar also reported that Pakistan's mobile industry had been experiencing growth in applications for the fourth year in a row, with 3.52 billion downloads in 2022, moving the nation up three notches from the previous year to ninth place globally. Among peer countries, Pakistan overtook the Philippines for the first time in terms of downloads in 2022. Bangladesh also had a successful year, making the list with approximately 2.5 billion downloads.



## **Top Downloaded Applications in Pakistan**

The study found that EasyPaisa and JazzCash were the top downloaded applications in the financial category, with around 15 million monthly active users each. Zindigi, a digital wallet from JS Bank, was also heavily advertised. However, digital lending applications saw a regulatory crackdown in 2022, despite a surge in downloads. In terms of momentum and usage, only a few locally-built apps made it to the top of the app chart in Pakistan. Pakistan has the second-highest number of publishers among peer nations, with 4.9K, exceeding that of Bangladesh and Egypt combined.

## **Pakistan's mobile industry had been experiencing growth in applications for the fourth year in a row, with 3.52 billion downloads in 2022**

Meta and ByteDance were among the top 10 most downloaded applications in Pakistan. WhatsApp Messenger's popularity began to diminish in 2021, while WhatsApp for Business grew in popularity. CapCut, ByteDance's video editor, was the greatest winner. Despite never receiving much attention from the media or marketing, Snapchat's growth remained uninterrupted.

Telecommunications products continued to dominate among Pakistan-based developers, a tendency is seen not only in Pakistan but also in other emerging countries such as Indonesia and Bangladesh. However, the odd one out on the list was Universal TV Remote Control, demonstrating how the opportunity in tools is genuinely worldwide.

## **Meta and ByteDance were among the top 10 most downloaded applications in Pakistan**

### **Growth of Short-Format Video and Audio Streaming**

The survey revealed that short-format video has soared throughout the world since COVID, including Pakistan, where the top five apps (excluding TikTok) had 36 million downloads in 2021. Installs fell to 21.6 million, although the category maintained its position on Google Play's 'top grossing' table.

Audio streaming continued to grow in 2022, with 23.5 million downloads of the top five applications. More than half of them came from Spotify alone, as the streaming behemoth expands its presence in the Pakistani marketplace. According to the data, Starmaker has doubled its installs to appear on the top rankings.

Pakistan's app market is rapidly expanding, with the country's mobile industry experiencing significant growth for the fourth year in a row. The growth in the number of downloads of mobile applications in Pakistan can be attributed to the increasing number of people using mobile phones and the Internet. The telecommunications industry in Pakistan is also developing rapidly, with telecommunications products dominating Pakistan-based developers. The future looks bright for the country's app market, as more and more people come online, creating new opportunities for app developers and investors.

## The growth in the number of downloads of mobile applications in Pakistan can be attributed to the increasing number of people using mobile phones and the Internet

### Future trends in mobile apps

Here are a few potential trends that could shape the future of mobile apps:

**Artificial Intelligence (AI) and Machine Learning (ML):** AI and ML are already making their way into mobile apps, and this trend is expected to continue. Apps will become more personalized and intuitive, with the ability to predict user behavior and make recommendations.



**Augmented Reality (AR) and Virtual Reality (VR):** AR and VR are already being used in mobile games and apps, but their potential goes beyond entertainment. They could be used in education, training, and even e-commerce.



**Internet of Things (IoT):** IoT is connecting everyday devices to the internet, and this trend is expected to continue. Mobile apps will be used to control and monitor these devices, making our lives more convenient and efficient.

**Wearable Technology:** With the rise of wearable technology, mobile apps will need to adapt to this new form factor. Wearable apps will focus on health and fitness, productivity, and entertainment.

**5G Technology:** The rollout of 5G technology will make mobile apps faster and more responsive, with lower latency and higher bandwidth. This will enable new features and capabilities that were previously not possible.



Overall, the future of mobile apps is bright, and we can expect to see continued growth, innovation and transformation in the years to come.

## DESI STARTUP



# Local travel & communities Startup

Lokal is a local start-up on a mission to help uplift local travel & communities. It aims to bridge the gap between the high demand for short-term budget stays and the lack of technology and expertise for local property owners to deliver a world-class experience.

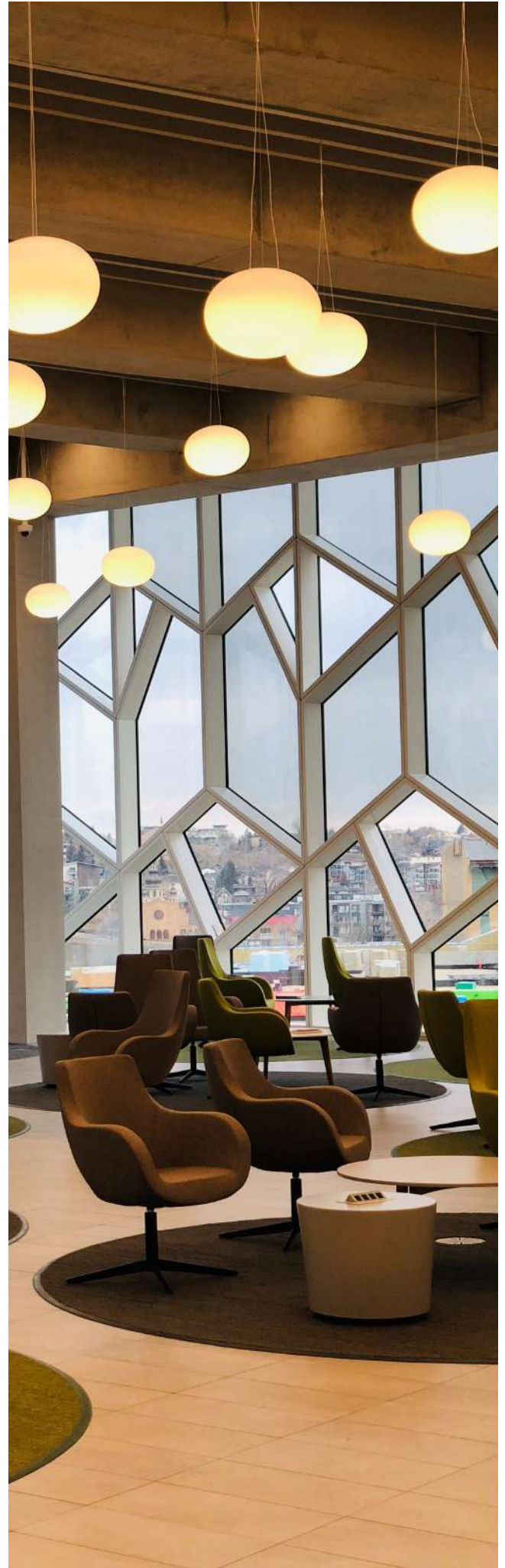
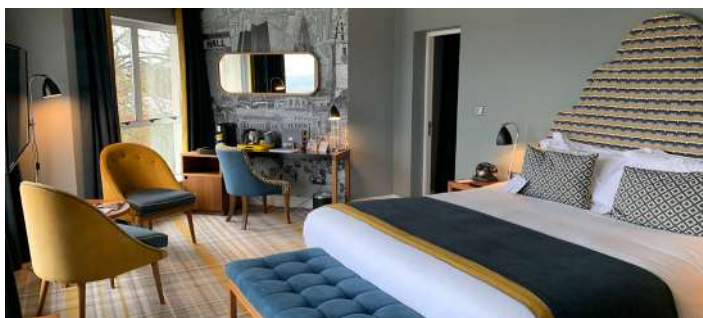
Lokal has on-boarded 12 “properties” in seven cities so far. It wants to on-board around 1,000 rooms by the end of 2023. With a customer base of 50,000, it has served more than 10,000 nights over the two years of its operations. Its rooms are usually priced in the range of \$30-\$45 a night, which is 25-50pc of the per-night rate charged by luxury hotel chains.

Unlike some of the big names in the global hospitality business, Lokal sticks to a profit-sharing model with its partner hotels instead of committing guaranteed rentals — a practice that protected it from the rental crisis that hit most hospitality startups during Covid-19.

Claiming to be the country’s first chain of budget hotel rooms, the startup has raised an undisclosed amount in the funding round led by UK-based equity funding platform Wahed X along with a number of angel investors from Silicon Valley and the United Arab Emirates.

As Pakistan moves into a new wave of tourism in 2023, Lokal can be part of the remedy the tourism sector needs to help bolster growth. The company is solving the issue of the lack of safe, reliable, and affordable accommodation that travelers face in emerging markets. Lokal is creating a network of standardized budget hotel rooms that offer travelers high-quality stays.

The company is focused on expanding its operations within Pakistan for now but has plans to later expand to other emerging markets in the MENA and Southeast Asia regions.



# A Sleek and Lightweight Laptop with Solid Performance



## OS

Windows

## Processor

Quad Core

## Display

14 Inches

## Generation

10th Gen

## Battery

Lithium polymer

## Memory

8GB/256GB SSD

The Infinix InBook X2 is a sleek and lightweight laptop that comes with a 14-inch Full HD display and is powered by an 11th Gen Intel Core i3 processor. It has 8GB RAM and 256GB SSD storage which ensures smooth performance and quick boot times.

The laptop also features a backlit keyboard and a fingerprint scanner for easy and secure login.

The laptop comes with Windows 10 pre-installed, and has a decent battery life of up to 8 hours. It also has a good selection of ports, including USB-C, USB-A, HDMI, and a microSD card slot. The laptop also features a backlit keyboard and a fingerprint scanner for easy and secure login.

One downside of the Infinix InBook X2 is that it doesn't come with a dedicated graphics card, which may limit its capabilities for gaming and other graphics-intensive tasks. Additionally, the webcam is of lower quality compared to some of the other laptops in this price range. The laptop also features a backlit keyboard and a fingerprint scanner for easy and secure login.

# Infinix InBook X2


Price  
Rs. 135,999



# Infinix


The Future is Now!

## THE GOOD



Sleek and lightweight design with a full metal finish  
Powered by an 11th Gen Intel Core i3 processor  
8GB RAM and 256GB SSD storage for smooth performance and quick boot times  
Backlit keyboard and fingerprint scanner for easy and secure login  
Good selection of ports, including USB-C, USB-A, HDMI, and a microSD card slot  
A 50 Wh battery that will last for a full day with a single charge.

## THE BAD



No dedicated graphics card, limiting its capabilities for gaming and other graphics-intensive tasks  
Webcam is of lower quality compared to some of the other laptops in this price range  
Limited upgrade options due to soldered RAM and no option to add a dedicated graphics card  
No Thunderbolt 4 support

## THE VERDICT



Overall, the Infinix INBook X2 is a good budget-friendly laptop for everyday use, especially for those who prioritize portability and a sleek design. However, it may not be suitable for gamers or those who need a more powerful machine for graphics-intensive



The demand for technological products has reached new heights, especially for mobile phones. In Pakistan, there is an annual demand of around 36 million mobile phones, which is amazing. Soon after the country started manufacturing and assembling smartphones locally, the mobile phone industry started flourishing at a rapid pace. Under the Mobile Device Manufacturing Policy, the government has issued licenses to 30 mobile manufacturers to start local production of mobile devices.

**the government has issued licenses to 30 mobile manufacturers to start local production of mobile devices**

Local factories assembled 24.66 million cell phones in 2021, which is more than the 13.05 million they did in 2020. However, after January 2022, local mobile manufacturing witnessed a downward trajectory. During the same period, there were 19.7 million mobile phones manufactured or assembled, including 11.5 million 2G and 8.2 million smartphones. This decline in production mainly resulted from the economic meltdown in the country.

The current inflation rate in Pakistan has caused an alarming price increase for all luxury and essential items, including mobile phones. Pakistan was one of the world's biggest new markets for mobile phones until 2021.

A number of major international companies, like Samsung, Huawei, Xiaomi, Realme, Tecno, etc., were competing in the local market of the country. These companies were launching a number of smartphones each month. They also set up their local assemblies in Pakistan, which further ramped up the healthy competition. The companies were offering smartphones with decent specs at affordable prices. At that time, an average person could easily purchase a decent smartphone under the PKR 30k price range. However, things turned tougher in 2022, when the global recession hit the world and Pakistan was among the worst-hit countries. Now, you can't even buy a basic smartphone even for PKR 40k, which is quite worrying as not all people can afford such an expensive phone with compromised specifications.

There are a lot of factors that have led to the current situation. One of the main reasons is the devaluation of the Pakistani rupee. Over the year, the rupee has lost value against major currencies such as the Euro and the US dollar. This has led to an increase in the prices of imported goods, including smartphones.

The rising cost of raw materials is another thing that has caused smartphone prices to go up. In the making of smartphones, many companies use expensive materials like lithium, cobalt, and rare earth metals. Since there is more demand for these materials, their prices have gone up, which has been passed on to consumers in the form of higher smartphone prices.

## **The current inflation rate in Pakistan has caused an alarming price increase for all luxury and essential items, including mobile phones**

The price of imported smartphones has also gone up because of the taxes and duties that have been put on them. The Pakistani government had already put a lot of taxes and duties on smartphones that are brought in from other countries. This was to encourage domestic manufacturing and reduce the country's reliance on imports. Recently, due to the alarming economic conditions, these taxes have been increased to 25%, which will further increase the price of mobile phones for consumers, which will have a detrimental effect on sales.

State Bank isn't opening LCs or issuing them only for a certain quota. Due to the situation, the local mobile assemblies have lost a lot of money, and different local news sources have been saying lately that these assemblies are closing down in Pakistan. This has further led to an increase in smartphone prices.

All these factors affect the mobile industry in Pakistan. The smartphone price hike has had a significant impact on consumers in Pakistan as well. Many people who were planning to buy a new smartphone have put their plans on hold or opted for a lower-priced model due to the high prices. This has led to a decline in the sales of smartphones in the country, as many people are unable to afford the high prices.

### **Impact of expensive phones on digitization**

Expensive smartphones will act as a barrier to digitization, particularly in low-income communities or developing countries like Pakistan. The cost of expensive smartphones can be prohibitive for many people, limiting their ability to participate in the digital economy and take advantage of the opportunities offered by digital technologies. This can create a digital divide, with those who can afford expensive smartphones having greater access to digital services and opportunities than those who cannot.

The fact that 45% of the Pakistani population uses bar phones indicates that there is still a significant proportion of the population who do not have access to smartphones or advanced mobile devices. With smartphones getting more expensive, people will stick to their bar phones and low-end smartphones. This can have implications for the adoption of new technologies, such as mobile internet and mobile applications, which may require more advanced devices. The cost of expensive smartphones can make them unaffordable for many people, thereby limiting their ability to participate in the digital economy and access the benefits of digital technologies.

This can create a digital divide, as those who can afford expensive smartphones will have greater access to digital services and opportunities than those who cannot. This can exacerbate existing social and economic inequalities, as those who are already disadvantaged may be further marginalized by their lack of access to digital technologies.

## **taxes have been increased to 25%, which will further increase the price of mobile phones for consumers, which will have a detrimental effect on sales**

To address these barriers, policymakers and stakeholders can take several actions. For example, they can promote the development of affordable smartphones or alternative devices, such as feature phones or tablets that can provide basic access to digital services. They can also invest in improving infrastructure and connectivity, as well as providing digital skills training and support to help people take advantage of digital technologies.

Overall, while expensive smartphones can be a barrier to digitization, it is important to consider the broader context and underlying factors that contribute to limited access to digital technologies.

# Empowering Tech Decisions: What TechBlade Offers and Why It Matters

## What does TechBlade do?

TechBlade empowers you to make your own tech decisions. How? It brings everything under one roof, podcasts, market surveys, seller & distributor, and customer insights alongwith unboxing videos. Educating you on which product is trending and why. Who is buying a particular brand and why are they buying it? Comparisons, pros & cons of opting for a certain product including global brands and the local ones.

What TechBlade disseminates isn't just information but knowledge from extensive research, technology trends that will shape the future.

## Coffee with CEO: The most popular show

"Coffee with CEO" is the most popular segment that gives a deep dive into the latest global tech news with our top executives and tech tycoons - distilled into one platform. Bringing to you in depth tech stories from all across the globe, stories that you won't find anywhere else.



## The objective unboxing videos

TechBlades' unboxing videos aren't paid or sponsored. They are directly sourced from end consumers, no white lies, no sugar coating! Customer buys a gadget and informs TechBlade, TechBlades' team visits their place and has the unboxing video made. TechBlades' viewers get Authentic Product Reviews.



You will find unboxing videos for various types of electronic goods; not just the latest phones or laptops but also items as diverse as BBQ grills, food factories and even hair straighteners.

TechBlade is for everyone who wants to showcase their talent, share their content or experiences and be the star of the show. Headquartered in Dubai with regional offices located in India, Pakistan, Lebanon, UK, Spain, South Africa and China, TechBlade has all your Tech needs covered. You can get in touch with us at [contact@techbladeglobal.com](mailto:contact@techbladeglobal.com).



# TECH TWIST



01

## ***The Most Powerful Supercomputer in the World***

Riken Research Lab and Fujitsu developed the Fugaku supercomputer. In June 2020, Fugaku dethroned IBM's Summit supercomputer as the most powerful in the world.



02

## ***Wikipedia is run and maintained by thousands of humans and hundreds of bots***

Everyone knows Wikipedia is powered by thousands of human contributors. On the other hand, most people don't realize hundreds of bots contribute to the effort, too.

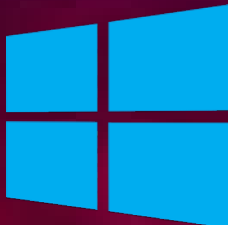


03

## ***Google's Name comes from a Spelling Error***

A "googol", in mathematics, is the number 1 followed by 100 zeros. Larry Page originally wanted to call the search engine googol.

By the time the company was formed, it switched its name to Google. Perhaps the name is easier to spell and looks friendlier on the screen.



04

## ***The original name of Microsoft Windows was "Interface Manager"***

In 1981, Microsoft began the development of a program called "Interface Manager". Most people won't recognize that name because Interface Manager became Windows in 1983.



05

## ***What Was the First Ever .COM Domain?***

Symbolics Inc. registered the first.COM domain on March 15, 1985. For obvious reasons, the company chose to register Symbolics.com on the World Wide Web.

realme

# Realme GT Neo 3

A PHONE THAT EARNS ITS RACING STRIPES

## What is Good?

- 120Hz OLED looks good and is bright enough
- The primary camera takes some pleasing photos
- Its stereo speakers sound full and impressive
- Reliable performance from the Dimensity 8100
- 150W charging is crazy fast — initially

## What is Bad?

- Realme UI comes with a ton of unnecessary apps
- It's got a plastic frame
- Other cameras don't offer much

## Final Verdict

For Realme, the GT Neo 3 represents a more affordable yet sportier alternative to its top-end GT 2 Pro. It remains a solid phone through and through as it checks a lot of boxes. The handset gets the basics right, with a good display, reliable performance, and a capable primary camera. The cherry on top has to be its insanely fast charging speed.

The GT Neo 3 can charge at an astonishing 150 watts, which can juice up half the battery in merely 5 minutes! This insane charging speed may be the highlight of this phone, but there's much more that it gets right for its price.

Overall Rating

9.0/10

DISPLAY



CAMERA



STORAGE



BATTERY





### Camera

50 MP  
8 MP  
2 MP

### Charging

80W SuperDart  
Charge

### Battery

5000mAh

### Internal

256GB



### Processor

Dimensity 8100  
5G

### Display

120Hz Reality  
Display

### RAM

12GB RAM

### OS

realme UI 3.0

Price

COMING SOON



*Our ambition is to become the region's largest Super App by adding a variety of services in a single unified platform*

*Feroz Jaleel - Country Head -Careem Pakistan*



**PW: You joined Careem as Head of Finance, and over the course of time, you served at various levels of the organization. How has your journey within Careem helped you in your current position?**

**FJ:** My journey with Careem goes way back to when I first joined Careem 5 years ago as the head of Finance in Pakistan and later moved to Dubai to oversee the company's Strategic Finance as the Vice President.

I have always been a 'numbers' person. One of my many job responsibilities requires me to lead operational efficiency and optimize the company's P&L. When I saw an opportunity to lead the ride-hailing business in Pakistan, I just knew in my heart that I had to take it. I see Pakistan as an extremely fertile market for the ride-hailing business as there is clearly a huge demand for it.

I took this challenge because I understood the country's potential and I was well-versed in the company's vision and how to execute it in Pakistan, especially under the current economic conditions.

**I see Pakistan as an extremely fertile market for the ride-hailing business as there is clearly a huge demand for it**

**PW: The hardest, most profitable thing to do in the business world is to get ordinary people to change their behavior, and Careem has successfully managed to do that. What are the main highlights of the journey so far?**

**FJ:** When we started back in 2016, it was a huge challenge for us to make people believe that transportation can be affordable, reliable, and safe at the same time. In a country like Pakistan, there are limited resources available for daily commutes. The idea of ride-hailing did not exist in the country, where the traditional taxi business was the only option. We had to spend a lot of time and resources both on-ground and in offices to bring a change in consumer habits, all while working tirelessly to ensure that the technology behind this was always functional and reliable.

We take pride in our cheeky and bold marketing campaigns that have always been the focus of everyone's attention. The one thing we did was constantly stay relevant through our marketing tactics so over the years we have managed to form a very strong brand recall.

Similarly, we have always remained very hyper-local so people feel a connection to us. Fast forward to 2022, the two phrases 'taking a cab' and 'booking a Careem ride' are both synonymous and interchangeable with each other, thanks to those marketing campaigns.

Some bold and quirky ideas that have struck gold for us were; Valentine's Day campaign, Rishta aunty campaign, CareemShaadi (runaway bride) campaign, and, the recent Twitter banter with Zomato for the cricket World Cup.

**the two phrases 'taking a cab' and 'booking a Careem ride' are both synonymous and interchangeable with each other, thanks to those marketing campaigns**

**PW: From its inception, Careem has invested more than \$100 million in Pakistan. How has it simplified and improved captains' and customers' experiences in Pakistan?**

**FJ:** Our mission to simplify and improve the lives of people starts with our Customers and Captains. Over the years, we have registered more than 800,000 Captains on our platform giving them earning opportunities and an additional source of income. Moreover, the Captains are their own bosses, meaning they can work at their own time and convenience. We have Captains working full-time with us as well as students and office professionals doing this as their side hustle to earn an extra income.

A prominent thing to note is that Pakistan has been one of the most impactful markets across the countries we operate in. Since its inception, Pakistani consumers have taken more than 299 million rides (the highest in all operational markets) and the Captains have earned more than \$500 million through our platform. This is an embodiment of the fact that Pakistan is a priority market for Careem and we will continue to invest and grow it further.

When we talk about our Customers, we like to think that we 'mobilize and empower' people. What that does is that it takes away the daily menial tasks like bargaining for the taxi and the hassle of public transportation. The idea is to enable people to focus on things that are important to them and let us worry about finding the right Captain to take them on their journey.

When we talk about women's empowerment and mobility, in particular, that's what we are the proudest of. Only a few years ago, women had to rely on their family members for their personal commute. It would have been considered unsafe for a woman to travel alone with a stranger, especially at night. Fast forward to 2022, 4.3 million women have trusted us for their mobility across Pakistan and have taken more than 32 million rides.

## **Over the years, we have registered more than 800,000 Captains on our platform giving them earning opportunities and an additional source of income**

When we talk about investment in the country, we talk about incentivising Captains to come to the platform and work with us. This includes our efforts to lower our commissions so Captains' earnings could improve significantly, partnering with the local vendors and companies to offer Captains subsidized rates on fuel and offer other vehicle maintenance services. We have also partnered with multiple e-commerce leaders to offer our Captains grocery and other necessary household items at subsidized rates. In addition to these initiatives, we also keep regular checks on our Captains and conduct sessions where we address their issues and work toward solving their pain points. These efforts help us in staying closely in touch with them and improve their experience.

**PW: Careem is pushing to become more than a ride-hailing app and wants to reach "super app" status by introducing various other services. How have inflation and current socio-political events affected your goals?**

**FJ:** Our ambition is to become the region's largest Super App by adding a variety of services in a single unified platform. As a tech company in the region, we have three key pillars of our service: 'Mobility of People' (the core ride-hailing service), 'Mobility of Things' (the delivery service), and 'Mobility of Money' (CareemPay - a seamless digital wallet).

Unfortunately, due to the current economic climate, we had to shift our focus from expanding to strengthening our current service which is the ride-hailing vertical. Once we achieve this, we will be able to grow and expand into other verticals and services through our own offerings as well as partnerships.

**PW: First, it was the pandemic, and later, the economic crunch resulted in increased fuel prices, creating further difficulties for the public and businesses alike. How has Careem managed to sustain these difficult times?**

**EK:** The Covid-19 pandemic and the overall macro-economic conditions have impacted almost every aspect of life globally. During the pandemic, Careem had to temporarily suspend its services in some cities in Pakistan until the government and regulatory authorities saw fit to resume.

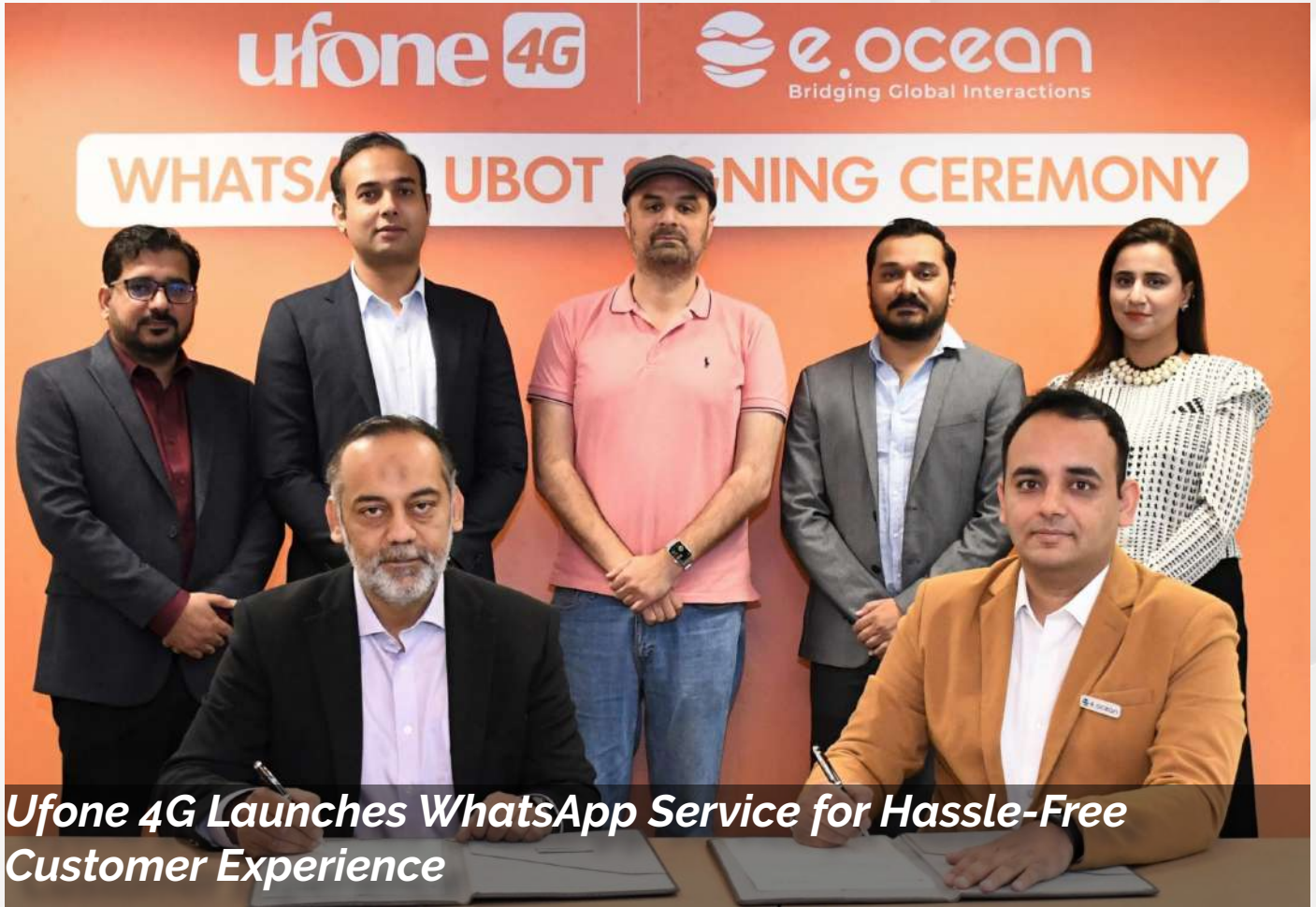
Our Captains suffered the most - we worked hard to keep the marketplace open for them by creating new earning opportunities and working with governments to support local relief efforts. As we observed the growing demand for home delivery driven by lockdowns, we made a rapid pivot to deliveries and streamlined operations across the organization.

In recent months the world has started to experience a global recession with an increase in inflation partly driven by an increase in global oil prices. The impact on Pakistan is magnified by currency devaluation, people living below the poverty line, high dependence on cash, and lack of basic infrastructure. As a result, all businesses have taken efforts to adjust their growth trajectories accordingly.

## **due to the current economic climate, we had to shift our focus from expanding to strengthening our current service which is the ride-hailing vertical**

We are exploring engaging with other businesses and startups to integrate their services on the Careem Super App through its open architecture. This way they can benefit from our customer engagement, as well as the enabling services we have built, whereas our customers benefit from having more services on the same platform. Lastly, as we expand into new ventures and explore new opportunities, the experience will always be our top priority and we will always make sure that our service sticks to its core purpose of simplifying and improving lives.

As we firmly believe at Careem, this is only the beginning and the opportunity ahead is huge. We have only just begun to deliver on our purpose of simplifying and improving lives; there are a lot more lives to simplify and ways to simplify across the region, especially in Pakistan.



## **Ufone 4G Launches WhatsApp Service for Hassle-Free Customer Experience**

Ufone 4G, the leading mobile company of Pakistan, is proud to unveil its WhatsAppChatbot to enhance interactions with millions of customers, powered by leading Cloud communication platform E.Ocean. Customers can now avail various telecom services instantly and enjoy a superior digital experience by simply sending a message via WhatsApp on 03311333100.

With the launch of high-powered WhatsAppchatbot, customers have the flexibility to choose their preferred language menu in Urdu or English, making it effortless for them to access a wide range of services round the clock. From managing post-paid bill payments, requesting new Ufone SIMs, topping up accounts via debit or credit card, renewing balances, subscribing to super cards, internet bundles & VAS bundles, monitoring account status, accessing customer support, getting tax certificates and subscribing to roaming bundles, this service has got you covered.

Commenting on the launch, Syed AtifRaza, Chief Marketing Officer, Ufone 4G, said

“Our foremost priority is convenience for our customers; hence, we are always exploring new opportunities to adopt latest technology that will not only help in digitalization of our process but also make lives of our customers hassle-free.

The successful launch of our WhatsApp service will provide seamless services to our customers and enable them to get timely response on their queries and complaints. Customers will have a more streamlined experience that will be engaging and convenient. Ufone 4G prides itself on being a customer-centric organization that places great emphasis on meeting the ever-changing needs of its valued customers.”

Syed Aamir Jafri, CEO, Eocean, added “It is essential for companies to accelerate digital transformation to remain competitive and enhance customer experience. By launching WhatsAppchatbot services for its subscribers, Ufone is not only improving organization’s efficiency, but also setting latest trends in customer communication. It’s an honor to partner with Ufone 4G on this exciting initiative and I’m confident that this will have a positive impact on your business. Thank you for your continued partnership and trust in Eocean”.

Ufone 4G is focused on customer satisfaction, cementing its position as a leading player in the telecom industry. The unwavering efforts of Ufone 4G is central to its ethos, and the company will continue to innovate and invest in technologies and services that enhance customer experience.



# How to Change Your Apple ID on an iPhone

Whether you lost your iPhone, or you forgot your Apple ID and password, there are lots of reasons to change your Apple ID. You might want to protect your privacy, or maybe you just want to use a new email address instead. No matter what your reasons are, here's how to find your Apple ID, change it, and make a new one from your iPhone.

## STEPS TO BE TAKEN

**STEP  
1**

Open the Settings app. This is the gear-shaped icon on your home screen.

**STEP  
2**

Tap your name at the top of your screen. This is the button that says Apple ID, iCloud, iTunes & App Store.

**STEP  
3**

Scroll down to the bottom and tap Sign Out.

**STEP  
4**

Enter your password and tap Turn Off.

**STEP  
5**

Next, choose whether to create a backup or not. If you choose to create a backup, it will copy your data to iCloud.

**STEP  
6**

Then tap Sign Out. In the pop-up box, tap Sign Out again to confirm the action.

**STEP  
7**

Next, go back to the main page of the Settings app.

**STEP  
8**

Finally, type in your new Apple ID and password, and then tap Next.



## Pharmapedia Pakistan

Pharmapedia Pakistan is one of the top government-run applications in Pakistan for healthcare. Users are given free access to information about the availability of popular prescription drugs and the companies making them.

Pharmapedia Pakistan functions as a kind of medical encyclopedia, offering comprehensive information about medications, including their summary, dosage, adverse effects, and chemical makeup.

Additionally, you can find a list of tablets, capsules, syrups, injections, etc. available in your region, along with their market retail prices. Users of Pharmapedia Pakistan can also verify and compare the same types of medications that are offered by two or more pharmaceutical brands.



## City Islamabad App

Islamabad City App (ICT) offers a wide range of public services, tools, and features for citizens to improve the quality of their life. The app offers ICT services, e-Police, Excise and Taxation, CDA, e-NADRA, notifications, City guides, Utility Bills, and other valuable services. The multi-feature app is beneficial for citizens of Islamabad in all areas of life. The app relieves citizens from hassle, struggle, and stress with one-click access to all the vital public services and departments in the capital city.



The Public Sector Companies Management System (PASCO) provides information on the performance and financial management of state-owned enterprises in the country.

Some of the features of the PASCO app include:

- Performance monitoring: The app provides information on the performance of different state-owned enterprises in terms of financial indicators such as revenue, profits, and expenditure.
- Financial management: Users can view financial statements and other related information about state-owned enterprises through the app.
- Company information: The app provides information on the products and services offered by different state-owned enterprises.



# TELECOM CAMPAIGNS

## GenZmatlabGenZong - Let's Get Digital with Zong 4G TVC

In its most recent TV commercial, Zong rebranded its customer base as GenZ. (GenZong). Ali and Daniyal Zafar may be seen in the commercial. I have to admit that the music is quite upbeat and exciting, and it really makes the commercial stand out. The commercial features a variety of common everyday activities that are simplified by utilizing Zong's lightning-fast 4G service.

**ZONG 4G**  
A NEW DREAM

**Verdict: An energetic and enjoyable TVC, Good Job**

## Vivo Y35 TVC



The Y35 is Vivo's brand new smartphone, released just in time for the Pakistani market. The 50MP camera is only one of the many qualities highlighted in the TV commercial. Aesthetic color selections and the phone's clean, modern design are also highlighted. In addition to its 50MP Triple Rear Camera and 44W FlashCharge, the phone also has 8GB + 8GB Extended RAM. It's a good TV commercial overall.

**Verdict: Simple and Ordinary**

## Jazz Bano Super Digital

The current TV commercial from Jazz is upbeat and sends a positive message about the benefits of digitizing the country. Sarwat Gillani stars in the commercial. A single mother of two copes with the loss of her employment by going into freelance work. She is able to complete her freelance work because to the high speed 4G internet provided by Jazz. A positive future is promised after a negative one, or so the advertisement would have you believe. In sum, the commercial was well done.



**Verdict: A Good TVC with a Good Message**

### **TecnoCamon 19 Neo TVC**

Tecno's Camon Neo 19 is one of the new smartphones the company has offered to the Pakistani market. The phone's photography functions are shown prominently in the commercial. The light goes out during the bride's wedding, and her guests make use of the phone's low light camera to capture memorable moments. It sports a 32MP selfie camera and a 48MP main shooter. I would recommend this phone to anyone who enjoys taking pictures.



**Verdict: An outstanding phone in an average TVC**



### **Ufone 4G Sab Sy Bari Plus Offer**

Ufone introduces a new weekly offer with a lots of incentives. The TVC features Iqra Aziz and Ushna Shah in two different TVCs. However, both TVCs contain same information about the packages. This weekly offer provides 40GB data and 200 off net minutes in Rs. 350.

**Verdict: An Average TVC**

### **Infinix ZERO 20 - Capture Your Own Story**

The world's first 60MP optical image stabilized front camera can now be found in the ZERO 20, a new high-end phone released by Infinix Pakistan. The TVC shows off the phone's MediaTek G99 chipset, 60MP front-facing camera, 108MP rear-facing camera, and stylish design. In general, it's a solid commercial.

**Verdict: A good advert with a beautiful and Inspiring Feel**





# GAMES & APPLICATIONS



Lift your favourite part out of an image and turn it into a digital sticker!

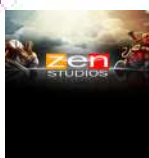
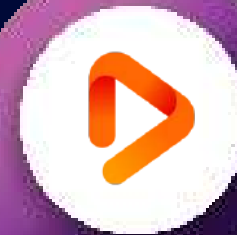
Keep a library of your stickers to use later. Group stickers into Packs that can be shared with other Sticker Drop users. Sticker Drop is also inclusive! It also helps you to add a description to the Sticker so that people can join in the fun.

Your pocket app for removing unwanted stuff from photos on the go. It gives your photos a clean look while saving you valuable time.



Linea Sketch is a sketching app that brings you a near-perfect balance of power and control, so you can quickly capture ideas. Whether scribbling with a finger or a stylus, the app is fast, responsive, and a joy to use.

Infuse 7 provides a solution for fans of films and TV who have a collection of videos, but feel constricted by limited storage on their iPhones. Rather than having to squeeze said files onto your device, with Infuse 7 you can stream from cloud services and local network drives.



Zen Studio's developer describes it as a meditation app for kids, but really it's an engaging and entertaining combination of coloring and musical toy. It's ideal for anyone who needs to relax for a while – regardless of age.





ThingstoDuo wants to help you make plans to do things. It boasts a collection of ideas for things like dates, outings, get-togethers, and even basic stuff like lunch. It's designed for people who have problems deciding on things.

Trendio is a social media-style app with a strong focus on fashion. You open the app and watch a host of creators try out makeup products and other, similar things. It appears to be a giant advertisement for makeup companies, but some of the videos do showcase the products well enough to be useful.



trendio



As one of the best game boosters for Android, significantly increases the performance in games by greatly reducing the power consumed by the services used in the background.

Hotspot Shield VPN, one of the best free VPNs for Android with over 100 million downloads on Google Play, allows you to securely access blocked sites by connecting from 5 different devices.



Move to the countryside, and cultivate a new life in this award-winning open-ended farming RPG! With over 50+ hours of gameplay content and new Mobile-specific features, such as auto-save and multiple controls options.

# SMARTWATCHES

## UNDER

## PKR 5000



**i9 PRO MAX**

PKR/-4,399



**HW7 MAX**

PKR/-4,999



**HAYLOU LS05**

PKR/-4,999





# LIGHT UP YOUR WORLD

**52 MP**  
SUPER PIXEL PHOTOS



**6.52"**  
HD+ Water Drop



**5000**  
mAh Battery

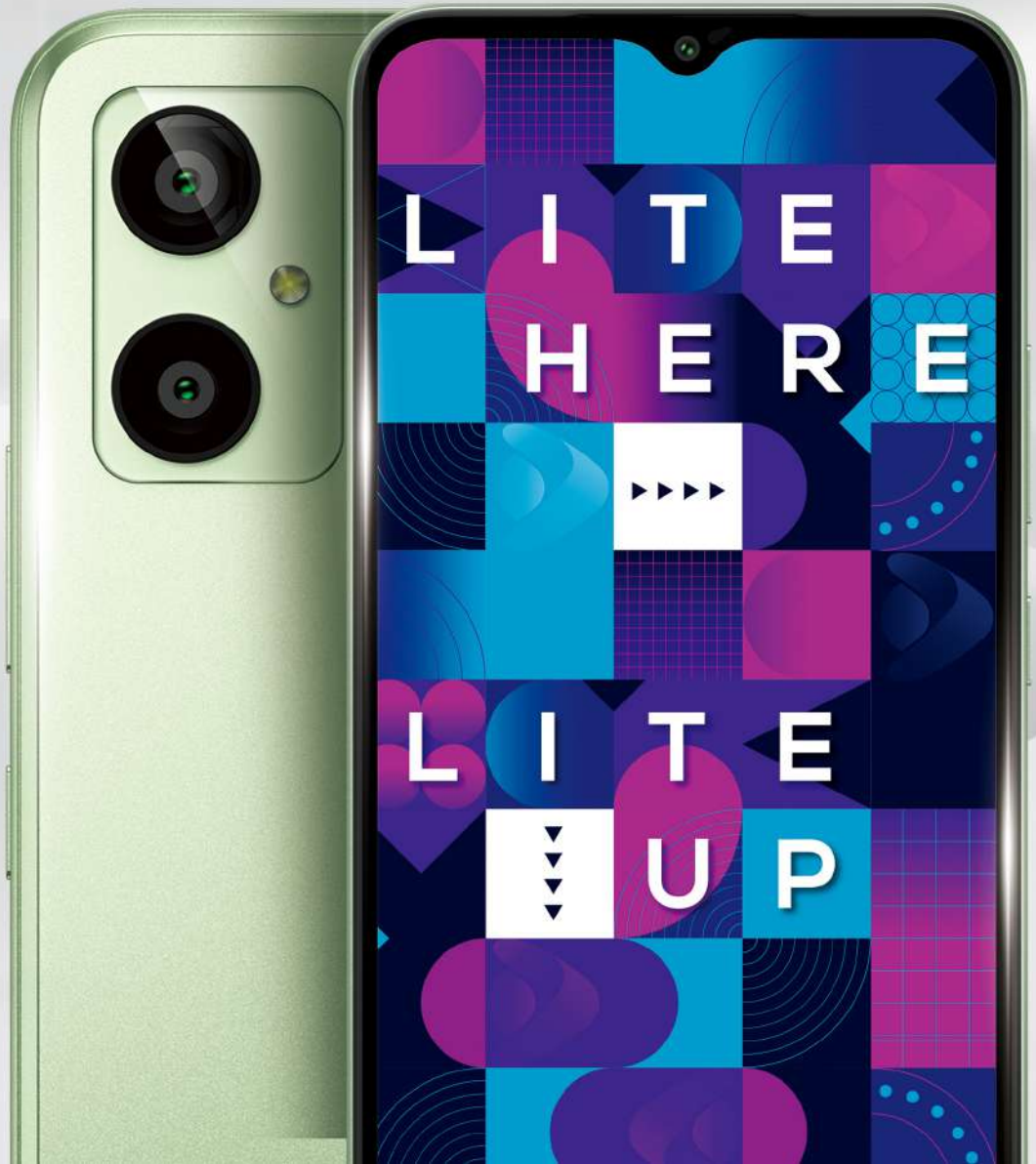


**13MP**  
Dual Rear Camera



**2+32GB**  
+1GB Extended RAM

Powered by Android™ 12 (Go Edition)



vivo



*Vare Gorgeously*

# V25 5G | V25e

## Gorgeous Portrait



\*Color Changing Glass is only available on the Sunrise Gold edition and Aquamarine Blue edition.