

2022

Quarter 1

NEW THIS QUARTER:

- Successful trial of aerial HAPS 5G at the Red Sea Project
- Launch of inaugural Sustainability Report on Saudi Arabia's ICT sector
- WLAN Regulations to enable the latest Wi-Fi technologies
- •Details on CITC's connectivity-boosting measures, including spectrum auctions, new regulations and public consultations

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EXECUTIVE SUMMARY

- CITC facilitated the world-first trial of a High-Altitude Platform System (HAPS) using aircraft to extend a 5G service at The Red Sea Project site, alongside UK-based Stratospheric Platforms Limited (SPL), a subsidiary of German telecommunications company Deutsche Telekom (DT). HAPS provides a clear, high-altitude and evenly distributed signal, enabling additional connection capabilities.
- CITC launched the inaugural Sustainability Report on Saudi Arabia's ICT sector, which monitors sustainability and ICT across all sectors, highlighting key success and areas for growth. The report outlines strategic directions for sustainability in ICT sector, such as decreasing the digital divide, expanding ICT services in rural and remote areas, supporting investment, research, and innovation in modern technologies, and increasing the use of renewable energy sources in ICT sector.
- CITC published its "WLAN Regulations", which strengthens Wi-Fi and license-exempt technologies, activates the latest generation of high-speed telecommunication technologies in the Kingdom, and enables the use of emerging and future technologies.
- CITC announced the first-of-its-kind Spectrum Auction for Non-Terrestrial Networks on the 2100MHz Band, which will enhance 5G NTN connectivity, and demonstrates CITC global leadership in enabling advanced technologies such as 5G satellite mobile communications and hybrid 5G connectivity, wireless connectivity on aircrafts, Internet of Things (IoT) through satellites, high-altitude platform stations (HAPS), and low-altitude platforms stations (LAPS).
- CITC named STC as winner of 'The Platinum Game Operator Award' for 2021, on the back of high scores across a wide range of areas, including hosting video games locally, reducing latency for the most popular titles, and the provision of technical support for players all over the Kingdom.
- CITC granted the 'Best User Experience Award 2021' to Mobily acknowledging quality service delivery, encouraging competition in the sector.
- Machine-to-Machine (M2M) services showed strong growth, with M2M subscriptions rising to 10.3 million in Q1, on the back of improving connections and increasing uptake of IoT technologies.
- CITC's quarterly 'Game Mode' report reveals a high-performing gaming segment, with an average latency of just 21ms for fixed internet and 27ms for 5G.

TOP FIGURES IN Q1 2022

54.96

Million

10.3

Million

mobile telecom subscriptions with a penetration rate of 157%

MIIIIOII

2.24

high-speed fixed internet subscriptions

machine-to-machine (M2M) subscriptions, a 160% year-on-year increase

2021 DATA ROUNDUP

98.1%

Internet penetration rate

94.2%

E-government services usage

69% E-commerce usage

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450 MHz band

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CITC announces the date of the 5th spectrum auction for IMT systems



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CITC facilitates launch of world-first trial of 5G HAPS technology

In February 2022, CITC provided critical support to UK company Stratospheric Platforms Limited (SPL), a partner of German telecommunications company Deutsche Telekom (DT), which successfully trailed pioneering technology that provides 5G network coverage from the stratosphere.

Conducted on February 5th at The Red Sea Project site on Saudi Arabia's western coast, the test was the world's first demonstration of the High-Altitude Platform System (HAPS) using aircraft to extend a 5G service, covering a geographical area of 450 km2.

Why HAPS?

Positioned at high altitude and providing a clear and evenly distributed signal, HAPS could bring connectivity to areas that are either not covered, or are only partially covered, by terrestrial cellular networks.

HAPS can support a variety of use cases, including:

Greenfield Coverage - Providing Coverage In Areas With No Cellular Networks

White Spot Reduction - Filling In Gaps In Cellular Coverage

Emergency Communications/disaster Recovery – Backing Up Damaged Terrestrial Networks

The Internet Of Things (lot) - Connecting Sensors, Appliances, Machines And Vehicles

Temporary Coverage For Events/tourist Hotspots - Adding Extra Capacity In Specific Locations

Fixed Wireless Access - A Broadband Alternative To Deploying Fixed Lines

Connectivity For Urban Air Mobility And Drones - Providing Better Connectivity In The Air

Private Networks - Enabling Organisations To Deploy Their Own Cellular Connectivity

Terrestrial Site Backhaul - Connecting Base Stations And Edge Data Centres To The Internet



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HAPS Antenna

have the ability to provide enough capacity in more than 95% of the Kingdom, or 15 million customers, assuming a serving area radius of 70km and 20MHz channel bandwidth. Following the successful trial, the focus will now turn to further commercial development, supported by strong public-private consortiums.

What is a High-Altitude Platform System?

HAPS are radio stations located on an object flying or floating in the stratospheric layer. Stratospheric Platforms Limited used a German-made, long-endurance Grob aircraft for the Saudi trial. While HAPS remains an emerging technology, it can potentially bring connectivity to areas that are not covered, or are only partially covered, by cellular networks.





Mobile Subscriptions

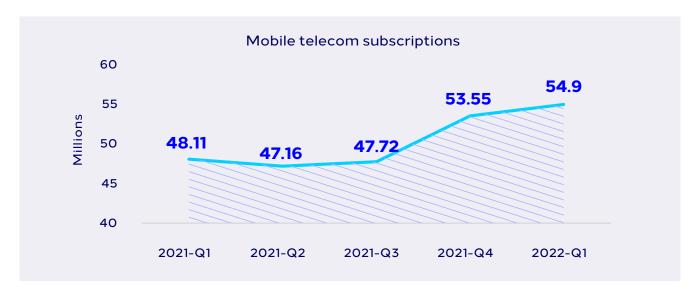
The Kingdom's population is one of the most connected in the region, with the mobile penetration rate continuing to increase a pace in the first quarter of 2022.

54.9 million

mobile telecom subscriptions

157%

penetration rate for mobile telecom services







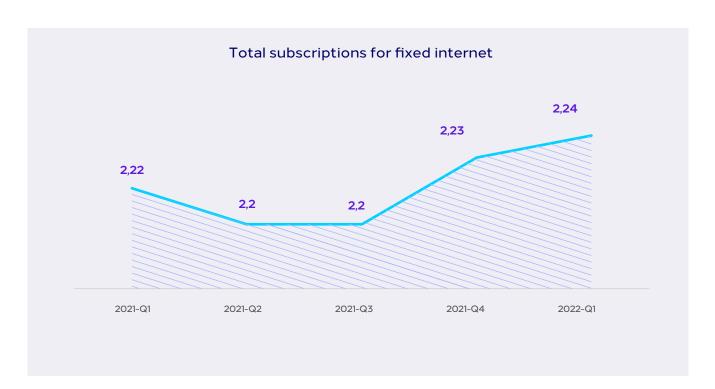
Demand for fixed line internet services remains strong.

2.24 million

high-speed fixed internet subscriptions

36.7%

household penetration of high-speed fixed internet subscriptions





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DIGITAL INSIGHTS



Subscriptions

Wider bandwidth, improved latency and the increasing adoption of IoT technologies supported a rapid growth in machine-to-machine (M2M) communication services in Q1.

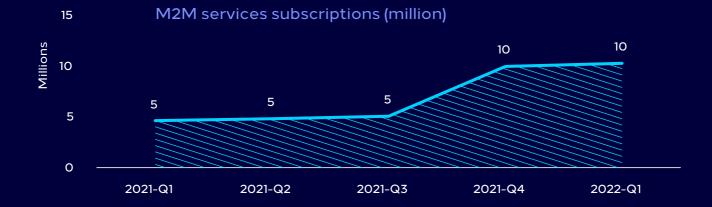
10.3_{million}

M2M services subscriptions

160%

year-on-year increase in M2M services subscriptions



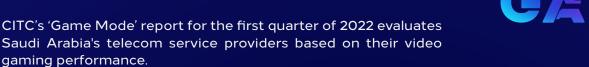




CORPORATE QUARTERLY UPDATES



Service providers show fast gaming response times Kingdom-wide in the first quarter of 2022





The report compares the latency/ping between service providers with emphasis on the most popular video games in Saudi Arabia. The report also indicates most popular gaming platforms and video games among the gamers community, and provides them with most important guidelines for improving the quality of their internet connections for gaming.

Average response times







The Game Mode reports provide useful insights on:

- Saudi gaming market
- Popular games in the gamers' community
- Guidelines for gamers to improve the overall quality of internet connection and speed

What were the results from Q1's Game Mode report?

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Fixed	3 (21ms)	2 (14ms)	4 (33ms)	1 (10ms)	5 (35ms)
Mobile	3 (35ms)	1 (30ms)	2 (34ms)		
5G	3 (28ms)	1 (23ms)	2 (26ms)		



STC named as winner of 'The Platinum Game Operator Award' for 2021







STC was named winner of 'The Platinum Game Operator Award' for 2021, after demonstrating high scores across a wide range of areas, including hosting video games locally, reducing latency for the most popular titles, and the provision of technical support for players across the Kingdom.

The award is part of CITC's Game Mode initiative, which aims to boost service levels and innovation in the industry by encouraging competition. The initiative also includes quarterly reports that compare response times among service providers across some of the Kingdom's most widely used games. Since Game Mode's launch, the average response time (ping) has improved by 82%, as well as sponsoring 6 of the largest e-sports tournaments, offering gaming-friendly packages to over 6 million players, providing technical support to more than 100,000 players and direct payment to 5 e-games.

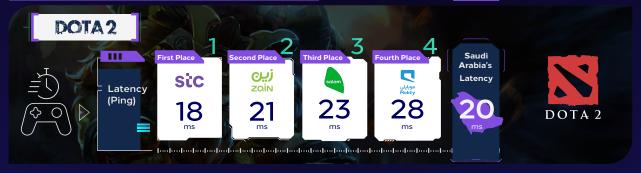




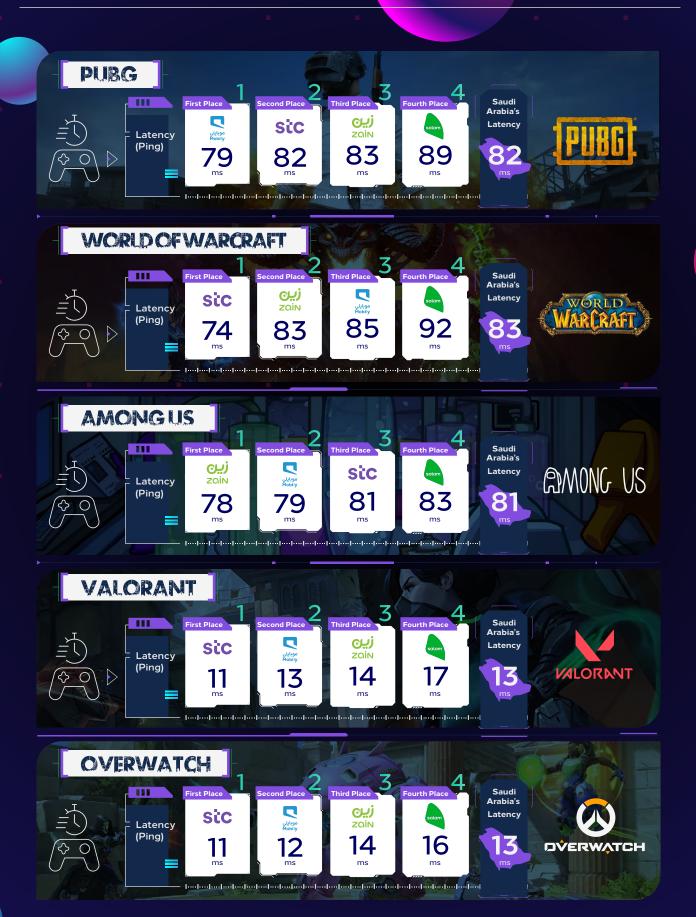














NEWS AND INITIATIVES

Inaugural CITC Sustainability Report on Saudi Arabia's ICT sector launched

On the sidelines of the annual ICT Indicators Forum 2022, CITC launched the first sustainability report in the ICT sector, in coordination with the Ministry of Communications and Information Technology (MCIT), which monitors sustainability concepts and their relation with other sectors and their success.

As the first digital regulator to conduct such a report, CITC has outlined its strategic directions for sustainability in the ICT sector, such as decreasing the digital divide, expanding ICT services in rural and remote areas, supporting investment, research, and innovation in modern technologies, and increasing the use of renewable energy sources in ICT sector.

The Commission also seeks to increase the reindustrialization and recycling of electronic products and equipment, to maximize the benefit of digital infrastructure as an essential enabler for smart cities and e-services, enabling diversity, and increasing job availability in the ICT sector for all segments of society.

To explore the report, please follow this link.







CITC GRANTS BEST USER EXPERIENCE AWARD 2021 TO MOBILY

In February 2022, CITC named Mobily as the winner of the Best User Experience Award for 2021. The award is granted on an annual basis to one of the Kingdom's telecoms operators as a means of encouraging competition and raising levels of customer service.

The award is granted according to a wide range of criteria, including a user satisfaction index, the willingness of users to recommend service providers to relatives and friends and an assessment of the processes involved with obtaining services.





Saudi Arabia announces its candidacy for ITU Council membership

Saudi Arabia announced in March that it will run to retain its Council seat at the UN's International Telecommunication Union (ITU). A member of the ITU Council for over 57 years, the Kingdom has made major contributions in the ICT sector alongside the ITU members, making a significant impact on the global economy.

Saudi Arabia has harnessed its human capabilities to support the ITU mission and activities in managing the frequency spectrum, allocating satellite orbits, and preparing worldwide technical standards related to future networks, network security and operational aspects, as well as the quality of service.

The ITU Council consists of 48 countries, elected among the agency's 193 member states. As the Union's governing body, central to the Council's mandate is ensuring the activation of timely policies, strategies, and programs to guide the global ICT sector through today's rapid transformations.

Saudi Arabia has been a committed member of the ITU since 1949, with an active role as Council member since 1965.



REGULATORY & LICENCING UPDATES

CITC publishes "WLAN Regulations" to enable the latest Wi-Fi technologies

In February, the Commission published its "WLAN Regulations", which strengthens the Kingdom's regional and global leadership in Wi-Fi and license-exempt technologies, activates the latest generation of high-speed telecommunication technologies in the Kingdom, and enables the use of emerging and future technologies.

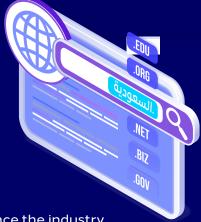


The "WLAN Regulations" set out regulatory policy for the use of WLAN applications in the Kingdom and makes available new spectrum in the 6 GHz and 60 GHz bands to stimulate further use of WLAN applications.

CITC hopes to see these regulations lead to an acceleration in the adoption and deployment of new-generation Wi-Fi devices (Wi-Fi6E) in the Kingdom.

CITC Launches the Second Phase of Accreditation of Saudi Domain Name Agents

In January 2022, CITC launched the second phase of accreditation registrars for Saudi domain names. The launch provided for entities from the private sector to complete registration and obtain services by March 2022, contributing to diversifying options for beneficiaries, increasing competition, and improving the quality of services provided to users.



Through this accreditation process, the Commission seeks to enhance the industry of the Saudi domain market, increase the usage, and find local companies specialized in Internet services and domain names.

Accrediting agents were required to meet certain administrative and regulatory requirements:



Applicants must be a local company registered on the "ManassaTech"

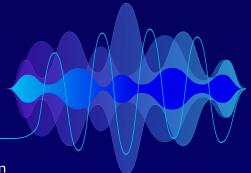


Companies must be dedicated to enterprises operating in the information technology sector and emerging technologies



Applicants must provide evidence of expertise in activities related to hosting and providing electronic services.

CITC Announces the First-of-its-Kind Spectrum Auction for Non- Terrestrial Networks on the 2100MHz Band



In February 2022, CITC announced the first- of-its-kind spectrum auction on the 2100MHz band for 5G Non-Terrestrial Networks (NTN), which will take place on August 23, 2022. The Information Memorandum and the Auction Rules will be released beforehand on June 26, 2022.

The auction is the first of its kind for 5G NTN connectivity, and demonstrates CITC global leadership in enabling advanced technologies such as 5G satellite mobile communications and hybrid 5G connectivity (MSS/CGC), wireless connectivity on aircrafts, IoT through satellites, HAPS, and low altitude platforms stations (LAPS).

CITC envisions these networks will represent an evolution of wireless connectivity and play a role in enhancing broadband connectivity across the kingdom, as wireless infrastructure is deployed beyond the Earth's surface.

This auction is also an integral element of CITC's NTN programme to facilitate and enable the deployment of arrays of non-terrestrial technologies in the Kingdom in accordance with CITC's Outlook for Commercial and Innovative Use of Spectrum 2021-2023.

CITC Issues Fixed Wireless Links Regulations

In February 2022, CITC announced the first- of-its-kind spectrum auction on the 2100MHz band for 5G Non-Terrestrial Networks (NTN), which will take place on August 23, 2022. The Information Memorandum and the Auction Rules will be released beforehand on June 26, 2022.

These Regulations identify the fixed wireless links frequency bands, their channel allocation plans, the licensing mechanism in the Kingdom, in addition to the technical and regulatory conditions for using fixed wireless links for bands identified for these services.

Following a previous public consultation and the assessment of user needs, the document aims to optimize current spectrum use for fixed wireless links, which will increase the spectral usage efficiency, support 5G wireless backhaul and improve 5G rollout across the Kingdom.







CITC asked the public for their input on two key regulations, the Digital Content Planforms Regulations, and the Specialized Network Radio License in the 450 MHz band.

Through this request for input on the Digital Content Planforms Regulations, the Commission sought to raise the level of regulatory maturity for digital content platforms through a clear and transparent regulatory framework, taking into account the interest of stakeholders and users.

The document is part of CITC's initiative to develop its licensing mechanism for Digital Content Platforms in coordination with the General Commission for Audiovisual Media and other relevant authorities. It aims to create a regulatory framework for digital content platforms in line with international practices and support its development.

Regarding the Specialized Network Radio License regulations, CITC envisions that the award of the 450 MHz frequency band to establish a broadband specialized networks for enterprises will facilitate the digital transformation of the industrial sector in the Kingdom and accelerate its adoption of wireless technologies and applications.

Such a wireless broadband network will enable critical use cases like remote sensing, monitoring, and control, and will automate the operations of enterprises in various industries such as oil, gas, transportation and manufacturing, among others.



CITC announces the date of the 5th spectrum auction for IMT systems

CITC has published a public consultation on "Information Memorandum and Auction Rules" for the 5th spectrum auction for International Mobile Telecommunication (IMT) systems.

CITC intends to award the spectrum bands (600, 700, and 3800) MHz through the auction on June 19, 2022 in accordance with CITC's spectrum outlook for commercial and innovative use 2021-2023.

The auction will contribute to expanding 5G wireless network coverage on roads and rural areas in the Kingdom, raising Internet speeds for users, and promoting investment and competition in wireless services. Furthermore, the auction may present the opportunity for new entrants to provide telecommunication services in the Saudi market.



