











OPERATIONAL OVERVIEW BY BUSINESS SEGMENT

Mobile	Consumer	Enterprise	Wholesale & International Business	Others
		 by Telkom Indonesia The IoT Company	   	 
<p>Provides mobile voice, SMS, mobile data service, and mobile digital services.</p>	<p>Provides high-speed internet connection for fixed voice, fixed broadband, IP-TV, and digital services.</p>	<p>Provides enterprise connectivity, satellite, and digital platform system for corporate, institutional, and business customers.</p>	<p>Provides domestic and international services of wholesale traffic, wholesale network, wholesale digital platform & service, data center, tower, and managed infrastructure & network.</p>	<p>Provides digital payment solutions, big data & smart platform, digital advertising, music, gaming, and e-commerce.</p>
<p>The largest cellular network operator in Indonesia covering more than 99% population and supported by 265,194 total BTS.</p>	<p>As of December 31, 2022, it had 9.2 million IndiHome subscribers, increased by 7.1% from the previous year.</p>	<p>As of December 31, 2022, became the market leaders by serving clients of 1,481 companies, 377,894 MSME and 934 Government institutions.</p>	<p>Provides services in 12 countries with 1 office in Indonesia and 9 Telin's global and 2 sales representative offices operating overseas.</p>	<p>As of December 31, 2022, it had 29 million active users of Digital Music and 21.9 million paid users of Digital Games.</p>
	<p>PT Graha Sarana Duta (Telkom Property) performs asset leverage and increase the income with the services of property developer, leasing, facility, and management.</p>			

SEGMENT PERFORMANCE HIGHLIGHTS

Social distancing during the COVID-19 pandemic further encouraged digital transformation. It was a business opportunity for TelkomGroup to adjust its business development to meet people's digital needs, particularly broadband services. Financial performance during 2022 showed positive results due to increased demand for digital services. In general, all business segments recorded good performance, with the Mobile segment dominating the most contribution by 45.1%.

The Mobile segment contributed the highest revenue for TelkomGroup of Rp88,837 billion. Then the Enterprise segment contributed to the second highest revenue of 22.2% or Rp43,807 billion, followed by the Wholesale and International Business (WIB) of 17.8% or Rp35,100 billion and the Consumer of 13.5% or Rp26,549 billion, while the Others provided the least contribution of 1.4% or Rp2,725 billion.

Telkom's Results of Operation by Segment	Growth 2022-2021	Years ended December 31			
		2022	2021	2020	
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Mobile					
Revenues					
External revenues	1.5	85,493	5,491	84,267	83,720
Inter-segment revenues	8.0	3,344	215	3,097	3,297
Total segment revenues	1.7	88,837	5,706	87,364	87,017
Total segment expenses	18.5	(62,715)	(4,028)	(52,929)	(54,051)
Segment results	(24.1)	26,122	1,678	34,435	32,966
Consumer					
Revenues					
External revenues	5.7	26,354	1,693	24,930	20,957
Inter-segment revenues	4.3	195	13	187	1,148
Total segment revenues	5.7	26,549	1,705	25,117	22,105
Total segment expenses	(1.3)	(18,970)	(1,218)	(19,223)	(17,544)
Segment results	28.6	7,579	487	5,894	4,561
Enterprise					
Revenues					
External revenues	0.1	19,161	1,231	19,141	17,729
Inter-segment revenues	10.1	24,646	1,583	22,395	18,591
Total segment revenues	5.5	43,807	2,814	41,536	36,320
Total segment expenses	2.7	(42,976)	(2,760)	(41,843)	(36,864)
Segment results	370.7	831	53	(307)	(544)

Telkom's Results of Operation by Segment	Growth 2022-2021 (%)	Years ended December 31			
		2022 (Rp billion)	2021 (Rp billion)	2020 (Rp billion)	
			(US\$ million)		
WIB					
Revenues					
External revenues	8.3	15,442	992	14,255	13,501
Inter-segment revenues	8.8	19,658	1,263	18,072	16,139
Total segment revenues	8.6	35,100	2,254	32,327	29,640
Total segment expenses	13.1	(26,175)	(1,681)	(23,135)	(23,143)
Segment results	(2.9)	8,925	573	9,192	6,497
Others					
Revenues					
External Revenues	16.6	239	15	205	219
Inter-segment revenues	3.8	2,486	160	2,395	1,550
Total segment revenues	4.8	2,725	175	2,600	1,769
Total segment expenses	57.8	(3,788)	(243)	(2,401)	(1,662)
Segment results	634.2	(1,063)	(68)	199	107



OPERATIONAL HIGHLIGHT

	Unit	Year Ended on December 31		
		2022	2021	2020
SUBSCRIBERS				
Cellular Subscribers¹⁾	(000) subscribers	156,812	175,977	169,542
Telkomsel Halo	(000) subscribers	7,111	7,201	6,496
Telkomsel Prabayar	(000) subscribers	149,702	168,776	163,046
Broadband Subscribers	(000) subscribers	130,119	129,117	123,954
Fixed broadband IndiHome ²⁾	(000) subscribers	9,212	8,601	8,016
Mobile broadband ³⁾	(000) subscribers	120,907	120,516	115,938
INFRASTRUCTURE				
Satellite Capacity⁴⁾	TPE	109	109	133
Point of Presence	PoP	122	120	117
Domestic	PoP	64	62	59
International	PoP	58	58	58
BTS	unit	265,194	251,116	231,172
BTS 2G	unit	50,158	50,241	50,252
BTS 3G	unit	49,632	63,149	73,397
BTS 4G	unit	165,120	137,613	107,523
BTS 5G	unit	284	113	n/a
Tower	unit	40,588	36,761	35,822
Fiber Optic Backbone Network	km	173,266	170,885	167,935
Domestic	km	108,566	106,185	103,235
International	km	64,700	64,700	64,700
Wi-Fi Services	access point	391,317	390,976	386,856

	Unit	Year Ended on December 31		
		2022	2021	2020
CUSTOMER SERVICE				
PlasaTelkom⁵⁾	location	387	387	408
Plasa Telkom Digital	location	22	22	16
GraPARI	location	372	414	431
International	location	0	18	19
Domestic	location	372	396	412
GraPARI	location	363	387	403
GraPARI TelkomGroup	location	9	9	9
GraPARI Mobile	unit	0	174	365
IndiHome Sales Car	unit	750	750	896
EMPLOYEES	People	23,793	23,756	25,348

Remarks:

- 1) Since June 2021, the cellular brand has changed to Telkomsel Halo for postpaid and Telkomsel Prabayar for prepaid services.
- 2) IndiHome fixed broadband is a product that allows customers to choose one or more Consumer segments portfolios such as fixed telephone, fixed broadband, and IPTV services, including digital consumer services.
- 3) Mobile broadband includes Flash users, Blackberry users, PAYU, and Home LTE.
- 4) Telkom operates two satellites, namely Telkom-3S and Merah Putih Satellite, after the Telkom-2 satellite de-orbited since May 2021.
- 5) PlasaTelkom outlet is a face-to-face service consisting of GraPARI TelkomGroup, Plasa Telkom Digital, and other Plasa across Indonesia.

Telkom's operational performance in 2022 started with a decline of cellular subscribers from 176.0 million subscribers in 2021 to 156.8 million subscribers in 2022 or decreased 10.9%, resulted from healthier industry initiative and focusing on sustainable growth and more quality subscribers. Meanwhile, the number of broadband subscribers grew from 129.1 million subscribers in 2021 to 130.1 million subscribers in 2022. Fixed broadband IndiHome subscribers increased from 8.6 million in 2021 to 9.2 million subscribers in 2022. This growth trend will continue due to the transition towards broadband-based digital telecommunications.



MOBILE SEGMENT

Data traffic 2022 increased by 18.7% to 16.4 million TB

**265,194 total BTS with:
50,158 2G BTS; 49,632 3G BTS
165,120 4G BTS; 284 5G BTS,
increased 14,078 BTS of total
BTS.**



The products and services of the Mobile segment consist of mobile voice and SMS, mobile data services, and mobile digital services. For cellular services, TelkomGroup, through Telkomsel, carries GSM, 3G, 4G/LTE, and 5G technology officially launched on May 26, 2021, and currently has more than 40 points across Indonesia.

The following are Telkomsel's products and services:

1. Telkomsel Halo
It is a postpaid cellular telecommunication product and service that prioritizes network quality, communication experience, and entertainment. Telkomsel Halo comes in a wide selection of comprehensive packages with exclusive advantages.
2. Telkomsel PraBayar
It is the new brand launched in June 2021 by combining prepaid services from simPATI, Kartu As, and LOOP. Telkomsel Prepaid integrates products and services to provide convenience for customers.
3. by.U
It is the end-to-end digital prepaid products and services presented in the by.U digital application, including the entire service process from selecting delivery options, by.U phone numbers, internet quota, additional quota (topping), and payment.

4. Telkomsel Orbit

Telkomsel Orbit is a home broadband internet service with a Wi-Fi modem connected to cellular network infrastructure with the flexibility for users to buy a data package.

MOBILE SEGMENT CAPACITY AND DEVELOPMENT

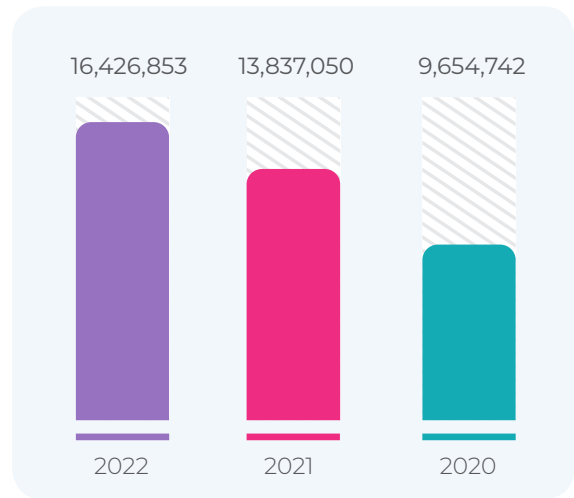
As of the end of 2022, TelkomGroup's cellular subscribers were 156.8 million, decreased 10.9% compared to the previous year. There were 95.5% prepaid and 4.5% postpaid subscribers. Prepaid users recorded at 149.7 million or decreased by 11.3%, while postpaid users recorded 7.1 million or decreased by 1.2%. The subscribers' decrease was due to the healthier industry initiative and focusing on sustainable growth and more quality subscribers. TelkomGroup also keeps building reliable network capacity to remain the customer's choice.

TelkomGroup, through Telkomsel, continues to maximize 5G services that can improve digital connectivity, digital platforms, and digital services in Indonesia, as well as develop future technology solutions such as artificial

intelligence, cloud computing, and the Internet of Things. It was by the investments included in the roadmap plan, and the implementation will be in stages based on several considerations, including the readiness of the connectivity ecosystem.

For mobile broadband services, there was a subscriber increase by 0.3% or to 120.9 million subscribers in 2022, while the data used increased by 18.7% to 16.4 million TB. This increase was due to the portfolio expansion of digital services to support the transformation while beginning to adopt the digital lifestyle. In addition, Telkomsel Orbit is a fixed wireless service with a 4G and 5G network.

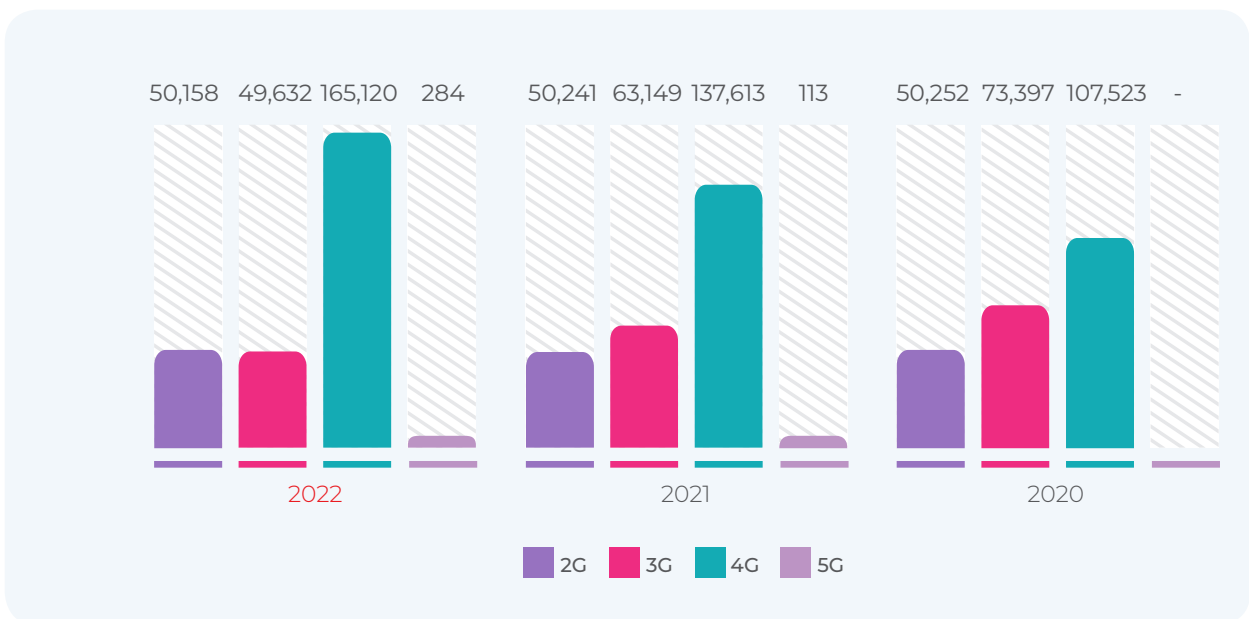
Cellular Traffic Data (TB) in 2020-2022



Telkom develops digital mobile services with video content, music, games, and fintech. Telkom strengthens MAXstream’s position in the video streaming industry by partnership with strategic content provider. Telkom also provides streaming services LangitMusik and Telkomsel Dunia Games, which combine media content, distribution, payment, e-sports, and game publishing.

To strengthen Telkom’s position as the leading network operator in Indonesia, Telkom had upgrades initiative its 3G and 4G service gradually and built 27.5K new 4G BTS in 2022 to support 4G/LTE services in various cities. Until the end of 2022, Telkom has had a total of 165,120 4G BTS, covering more than 96% population throughout Indonesia.

Total TelkomGroup BTS (Units) in 2020-2022



MOBILE SEGMENT FINANCIAL PERFORMANCE

The Mobile segment revenue was still the main contributor to TelkomGroup's consolidated revenue of Rp88,837 billion in 2022. The following table provides information on the performance of the Mobile segment over the last three years.

Mobile Segment	2022-2021	2022		2021	2020
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	1.7	88,837	5,706	87,364	87,017
Expenses	18.5	(62,715)	(4,028)	(52,929)	(54,051)
Result	(24.1)	26,122	1,678	34,435	32,966

The Mobile segment revenue from subsidiary Telkomsel was Rp88,837 billion, increased by Rp1,473 billion or 1.7% compared to the last year of Rp87,364 billion while operating expenses in this segment increased by Rp9,786 billion or 18.5%. The increase in revenue was due to customer behavior transition from voice to data and OTT services.

Internet and cellular data revenues increased 7.0% or became Rp69,006 billion in 2022. This result shows an increase in people's mobile data usage during the COVID-19 pandemic. Overall, the Mobile segment still made an Rp26,122 billion profit.



CONSUMER SEGMENT

9.2 million IndiHome subscribers, increased 7.1% from the previous year

15.3 million optical ports as broadband access based on optical fiber



The Consumer segment consists of fixed voice, fixed broadband, IP-TV, and digital services under the IndiHome brand. The demand for IndiHome increased during the COVID-19 pandemic when people did their most activities at home. IndiHome subscribers in 2022 increased 7.1% compared to last year, from 8.6 million to 9.2 million subscribers. Meanwhile, average revenue per user (ARPU) was 270 thousand, consistently from previous year.

CONSUMER SEGMENT CAPACITY AND DEVELOPMENT

IndiHome's developed strategically to retain its customers, including bundling programs for broadband internet, IP-TV, and fixed telephones, sales through digital channels, and varied promotions every year. Telkom also provides special packages for online learning activities ("Special Packages for Students, Teachers, and Journalists").

In addition, Telkom develops products and technology to meet the customers' aspirations and needs. In 2022, there was a collaboration with Netflix to provide Netflix services through IndiHome, a cloud recording service as an add-on through IndiHome Eazy. It stores IP camera recording data on a cloud server to be safe, secure, and easily accessible to customers. Telkom has also created an Ultra Wi-Fi product that provides a broader range of Wi-Fi for IndiHome customers with extensive residential areas or high-rise buildings.

IndiHome, through IndiHome TV, maintains its position as Indonesia's most complete and largest TV channel provider. IndiHome TV is our pay TV service bundled into IndiHome internet service for Android TV box devices and enriched by the Google Ecosystem. Our pay TV service includes multiple linear TV channels, TV-on-demand (catch-up TV), video-on-demand (VoD), and 14 OTT services to enrich IndiHome as an "Entertainment Window." These OTT services consist of non-video OTT

such as Gameqoo, Langitmusik, and IndiHome Karaoke, as well as video OTT services such as Netflix, Disney+ Hotstar, Lionsgate Play, Viu, Catchplay+, Mola, WeTV, Iflix, Vidio, Vision+, and IndiHome TV App. In addition, it also extended to the IndiHome TV mobile app and website indihometv.com (rebranded in December 2022 from UseeTV Go app and useetv.com) to enable our users to have OTT experiences, enjoy multi-screen, and access video content anywhere and anytime. IndiHome TV has more than 1 million active users.

As part of our commitment to provide the best experience to customers, IndiHome TV now provides full high-definition channels, including 149 high-definition and 5 Dolby channels. In addition, customers can navigate menus conveniently, enjoy their favorite content directly accessed via deep-link and selection, and find their content from OTT applications available on the IndiHome TV service.

In 2022, we continued to enrich and expand our inventory with world-class sports content, such as the 2022 FIFA World Cup Qatar in partnership with Vidio, Badminton World Federation (BWF), and Grand Prix motorcycle racing (MotoGP) via SPO TV and SPO TV 2 channels. In addition, IndiHome continued to collaborate with leading partners to provide programs on our in-house channels, such as Liga 1, the national futsal competition "Futsal Challenge," the Children's Talent Show "Panggung Kamulah Bintang," K-Pop Dance Cover Competition, International Badminton Junior Competition, Studio Dangdut, etc.

The quality improvement of IndiHome services was still challenging in 2022. We strive to provide the best customer experience and convenience in using IndiHome products. We tried implementing one of the strategies by updating the myIndiHome application. This application offers solutions and conveniences for customers to

manage IndiHome services and transactions via a mobile app. Customers can also easily apply for new installations and repairment to IndiHome services, such as setting technician schedules and monitoring the progress. We have developed the myIndiHome application based on customer feedback and internal business process improvements to provide the best digital customer experience. Later, it will be equipped with a biometric feature of facial recognition so that customers can access the application faster.

As of December 31, 2022, we had approximately 9.2 million IndiHome fixed broadband subscribers, representing about 75.2% market share in Indonesia. We also offer the wifi.id service to IndiHome customers, an additional service that allows customers to enjoy unlimited internet access at all wifi.id access points in Indonesia. wifi.id stands for Indonesia Wi-Fi, our wireless public internet network for enjoying high-speed internet and other multimedia services.

Another challenge was increasing ARPU and reducing churn. Network infrastructure reliability is one of the success keys to overcoming this challenge. As of the end of 2022, Telkom had 15.3 million optical ports with optical fiber, which is the basis of the fixed broadband access network. The optical fiber (T-Cloud) usage in 2022 has reached 1,128 T-Cloud. We also continuously improved Mean Time To Install (MTTI) and Mean Time To Repair (MTTR) by increasing the capacity of technicians and improving business processes. Through the Telkom Access Command Center, Telkom can manage access networks digitally with integrated controls and detect potential disruptions promptly so that they can repair immediately.

CONSUMER SEGMENT FINANCIAL PERFORMANCE

The Consumer segment revenue has contributed 13.5% to TelkomGroup's consolidated revenue. The following table shows the performance of the Consumer segment for the last three years.

Consumer Segment	2022-2021	2022	2021	2020	
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	5.7	26,549	1,705	25,117	22,105
Expenses	(1.3)	(18,970)	(1,218)	(19,223)	(17,544)
Result	28.6	7,579	487	5,894	4,561

The increase in the IndiHome subscribers has improved the Consumer segment revenue of Rp26,549 billion, increased by 5.7% or Rp1,432 billion compared to last year of Rp25,117 billion. Expenses on the Consumer segment was Rp18,970 billion, decreased by 1.3% or Rp253 billion compared to the previous year. Thus, the Consumer segment recorded a profit of Rp7,579 billion. IndiHome's profitability was improved, with EBITDA margin reaching 50%.



ENTERPRISE SEGMENT

**1,481 corporate customers,
377,894 MSME customers, and 934
government institution customers**

**2 satellites with 109 TPE
capacity**



In the Enterprise segment, Telkom provides ICT and platform services to provide end-to-end solutions and the information technology ecosystem consisting of enterprise-grade connectivity services, satellite, cloud, digital IT services, business process outsourcing, and device & other adjacent services. Customers for this segment are corporations, micro, small and medium enterprises (MSMEs), and government institutions.

ENTERPRISE SEGMENT CAPACITY AND DEVELOPMENT

We maintain the Enterprise segment performance following our strategy to focus on recurring business lines with higher profitability, particularly on enterprise solutions services such as enterprise connectivity, data center, and cloud.

Enterprise connectivity services consist of fixed broadband, Wi-Fi, ethernet, and data communication, including leased channels, i.e., metro ethernet, VPN-IP, and high-capacity data network solutions that provide point-to-point connections and fixed voice services. In 2022, TelkomGroup provided bandwidth in service of 3,156 Gbps, with 1,554 Gbps for corporate internet and 1,602 Gbps for data communication customers. It increased 3.5% from the last year.

To support connectivity services, through its subsidiary Telkomsat, Telkom has integrated satellite services with the transponder capacity of 109 TPE and rents from third parties with a capacity of approximately 40.36 TPE. Customers can rent satellite transponder capacity for broadcasting and VSAT operators, cellular telephones, and ISPs and experience earth station satellite up-link and down-link services. Later, Telkom plans to launch High Throughput Satellite (HTS) which is considered suitable to serve satellite broadband subscribers.

The launch of the FLOU cloud service in 2020 has successfully achieved customer hybrid cloud demands with flexible package options for the MSME/SME, startup, SOE, enterprise segments, and the Government. In 2022, Telkomsigma implemented a strategic initiative through FLOU New Expansion and Capability. FLOU, as Telkomsigma's new growth engine, focuses on progressing FLOU 2.0 New Expansion and Capability to improve cloud performance. In 2022, TelkomGroup could service acquired Rp324.8 billion through various national projects, such as PeduliLindungi, SIAP Online, e-Tilang, International Certification Vaccines, and other projects that use FLOU's capabilities or strategic business partnerships with hyperscalers.

To support MSMEs amid digitalization developments, Telkom launched the application of mysooltan, a Digital Touch Point specifically designed to help MSMEs prepare and accelerate digital transformation. It is easy for MSMEs to run their business with various services, such as internet sooltanNet, business applications sooltanPay, sooltanKasir, and sooltanToko. We have developed this application based on user input to be more suitable for their needs.

For system integration and IT service management services, TelkomGroup provides business process management, business process as-a-service, and customer relationship management. We are also developing a digital advertising agency through media placements and integrated digital media, such as mobile advertising, online advertising, and digital printing. We have developed platforms to support these services that provide consumer behavior insight to create marketing campaigns based on big data and data analytics.

TelkomGroup also provides various hardware and software sales services, including its IT support services. TelkomGroup also provides IoT solutions for buildings and

develops IoT applications for smart energy monitoring management, fleet management, IT security services, unified communication, and collaboration services.

We have a fiber-optic-based infrastructure network with comprehensive coverage as the advantage of our services in the Enterprise segment. Thus, TelkomGroup will continue to innovate and manage products and services that can provide total solutions for customers. Until the end of 2022, the Enterprise segment has 380,309 customers consisting of 1,481 corporate, 377,894 MSMEs, and 934 Government institutions.

We also have developed products, solutions, customer experience, and new brand experience in stages in 2022. Internal HR and supporting infrastructure competency

have also improved by obtaining ISO 27001-17/18 Certification and CSA Star & PII Related Certification to increase customer trust and be more competitive in the Indonesian cloud market. In 2022, we focused on professional services for the financial, manufacturing, government, and communications sectors, as we expect this segment to experience significant growth. We use our resources and partner with global cloud players to provide them with professional cloud management and consulting services. We expected our strategic collaborations with Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft Azure, and Alibaba Cloud would meet workload needs in various industries such as MSMEs, startups, State-Owned Enterprises (SOEs), enterprises, and government.

ENTERPRISE SEGMENT FINANCIAL PERFORMANCE

Enterprise segment revenue contributed 22.2% of the total consolidated revenue in 2022. The performance of Enterprise segment for the past three years can be seen in the following table:

Enterprise Segment	2022-2021	2022		2021	2020
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	5.5	43,807	2,814	41,536	36,320
Expenses	2.7	(42,976)	(2,760)	(41,843)	(36,864)
Result	370.7	831	53	(307)	(544)

Enterprise segment revenue increased by 5.5% or Rp2,271 billion in 2022. It was due to the increase in network revenues which grew by 32.3% or Rp351 billion, IndiHome revenues by 7.0% or Rp183 billion, and call center service revenue by 12.5% or Rp127 billion, and others revenue in other telecommunication services revenues by 26.4% or Rp273 billion. These increases were compensated by the decrease in manage service and terminal revenue by 43.5% or Rp891 billion, while expenses increased by 2.7% or Rp1,133 billion compared to last year. Thus, the Enterprise segment recorded a profit of Rp831 billion in 2022.



WHOLESALE AND INTERNATIONAL BUSINESS SEGMENT (WIB)

173,266 km total optical fiber backbone network (108,566 km domestic and 64,700 km international)

122 Point of Presence (PoPs) (58 international PoPs & 64 domestic PoPs)

28 data centers (5 overseas data centers & 23 domestic data centers)

40,588 towers (35,418 Mitratel towers, 477 Telkom towers, and 4,693 Telkomsel towers)



The WIB segment has several business lines for domestic and international, including wholesale traffic, wholesale network, wholesale digital platform & service, data center, tower, and managed infrastructure & network. Customers for this segment are Other Licensed Operators (OLO), Service Provider, and Digital Player domestic and overseas. In 2022, the performance of the WIB segment was relatively stable. However, TelkomGroup is still striving to prepare new business innovations and initiatives to maintain its profitability.

WHOLESALE AND INTERNATIONAL BUSINESS (WIB) SEGMENT CAPACITY AND DEVELOPMENT

1. Carrier Service

This business line provides domestic and international wholesale traffic and network services, including voice, data & internet interconnection services and network services. In addition, this business line also includes wholesale digital platform and services for domestic and international, which include A2P SMS services, platforms, and solutions. During 2022, it grew positively, contributed by Domestic & International Network, Internet Traffic, and A2P SMS.

The SMS A2P demand has been increasing due to customers' consumption habits transition that uses more certain applications, which need authentication and broadcast information to support digital activities at home.

We developed the Enabler Digital Ecosystem initiative for supporting Wholesale Network. SEA-ME-WE 5 and SEA-US submarine cables support the delivery of direct broadband connectivity across Europe, Asia, and America, and as the main gateway for digital connectivity bridging domestic traffic to global, global traffic to domestic, and between countries (hubbing), both voice and A2P (application-to-person) SMS.

In 2022, TelkomGroup inaugurated the Manado Gateway, TelkomGroup's second international communication channel after the Batam Gateway. This digital toll gate is a concrete manifestation of equalized access to digital telecommunications and information throughout Indonesia. The Manado Gateway will be strengthened by the Bifrost submarine cable construction owned by the TelkomGroup consortium through Telin with global tech giant.

In the 1Q 2022, TelkomGroup, through Telin, also joined the international communication system consortium of submarine cable of Southeast Asia-Middle East-Western Europe 6 (SEA-ME-WE 6), with an approximately of 19,200 km underwater cable system connecting several countries from Southeast Asia to Europe. Telin's participation in SEA-ME-WE 6 will strengthen TelkomGroup's international cable infrastructure to improve the quality of faster broadband access and provide the best digital experience for customers.

On the other hand, TelkomGroup has 122 Points of Presence (PoP), consisting of 58 Global PoPs in 27 countries and 64 Domestic PoPs in 49 cities. In 2022, Telkom added 2 Domestic PoPs.

Another service is the Content Delivery Networks (CDN) operation with a capacity of 14,572 Gbps, which increased by 19.3% compared to last year.

2. Data Center Service

TelkomGroup strives to strengthen Indonesia's digital ecosystem by developing a data center ecosystem. It aims to support the transformation & development of the digital economy and assist various domestic and international industries in growing their business, including finance, manufacturing, and cloud computing service providers.

In 2022, TelkomGroup implemented a business consolidation strategy of the data center into one managing entity of PT Telkom Data Ecosystem

(NeutraDC) to strengthen the data center business as one of the growth engines. NeutraDC has an essential role as a digital ecosystem enabler that provides neutral data center infrastructure in global standard with the best and most extensive network connectivity to ensure business continuity and scalability for international and domestic Digital Players/Hyperscalers and the Enterprises & Government segment. The consolidation is by management transfer of 3 Enterprise Data Centers located in Sentul, Serpong, and Surabaya from Telkomsigma to NeutraDC. Thus, NeutraDC manages 3 Enterprise Data Centers and 1 Tier 3 and 4 Hyperscale Data Center (HDC) in Cikarang. HDC Cikarang's capacity will gradually increase until it reaches the total designed IT Load Capacity of 51 MW.

At the end of 2022, TelkomGroup operated a total of 28 data centers in all operational areas, namely 5 overseas data centers located in Singapore (Telin-1, Telin-2, and Telin-3), Timor Leste (1 location), Hong Kong (1 location), and 23 domestic data centers consisting of 19 NeuCentrIX data centers, 3 Enterprise Data Centers and 1 Hyperscale Data Center. Average data center occupancy rates abroad are around 86%, while neuCentrIX data center occupancy averages 71% of total capacity.

In December 2022, Telkom, through NeutraDC, started the groundbreaking of the Hyperscale Data Center in Batam. NeutraDC will work with global strategic partners to develop HDC Batam, which will be built on an approximate area of 8 hectares with a total of 3 campuses by world-class data center standards with a total IT load capacity of 51 MW.

The presence of HDC Batam is a definite step for TelkomGroup to strengthen its position as a significant data center business player in the region. HDC Batam will serve not only various business needs in Indonesia but also could capture potential spillovers from other countries.

3. Tower Service

TelkomGroup serves the procurement and installation of telecommunication devices for other operators with a leasing system. TelkomGroup, through Mitratel, will create offers for the co-location and reseller business of the operator's tower. Mitratel manages 52,006 tenants and 2,818 reseller towers. As of 2022, TelkomGroup managed 40,588 towers, with 35,418 towers of Mitratel, 477 towers of Telkom, and 4,693 towers of Telkomsel.

Mitratel, as a subsidiary of Telkom, has a significant role in supporting the increase in tower leasing revenue. TelkomGroup expects Mitratel would support the national digitalization acceleration for the upcoming 5G era and achieve the nation's objective: to become a country with the most prominent digital economy by 2025, especially in the Asia Pacific.

4. Infrastructure Services and Network Management

TelkomGroup provides network infrastructure and management services, including the construction and maintenance of the network, consisting of installing and maintaining submarine cables and energy solutions.

TelkomGroup has a fiber optic backbone network of 173,266 km, consisting of 64,700 km of the international network and 108,566 km of the domestic network with each capacity of 73,635 Gbps and 148,100 Gbps. Telkom also operates and owns the license for the fiber optic backbone network with a total of 134,040 km under a long-term telecommunications lease agreement with other global submarine cable operators/consortiums.

For submarine cable deployment and maintenance, Telkom, through its subsidiary of Telkominfra, improves its capability by collaborating with the vessel's provider of the submarine cable or the procurement to increase TelkomGroup's assets. While for the energy solutions, Telkominfra cooperates with State-Owned Enterprises (SOEs) to maintain diesel engines for telecommunications networks until 2022 in Kalimantan and June 2023 in Sulawesi.

5. International Business

Telkom, through its subsidiary Telin, manages and develops its business activities in Singapore, Hong Kong, Timor Leste, Australia, Myanmar, Malaysia, Taiwan, the United States of America, and Dubai, including the sales representative in UK and Philippines that started the operation in 2022 based on the region. Telin provides wholesale services, cloud, and connectivity, data center and managed services, retail mobile services (MNO and MVNO), IP transit, and digital platform & services. Telkom regularly analyzes and assesses overseas operations for profitability, prospects, and position to optimize the portfolio structure and global market access.

Telin uses the new data center capacity and develops cloud-based CPaaS service with omnichannel communication features (bots and live chat, real-time voice capabilities, SMS, emails, video calls, and messaging service). In addition, Telin through the

NeuTrafiX launch, a web-based B2B marketplace platform, has helped connect buyers and sellers efficiently and transparently for transaction of wholesale voice, SMS, and virtual numbers trading.

WIB SEGMENT FINANCIAL PERFORMANCE

The WIB segment contributed 17.8% to the total consolidated revenue. Throughout the year, most of WIB's income was from providing various services, i.e., network, interconnection, internet, submarine cable, data center, tower, and infrastructure. WIB has a significant role in TelkomGroup, as an enabler and catalyst for other business segments to create value.

WIB Segment	2022-2021	2022		2021	2020
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	8.6	35,100	2,254	32,327	29,640
Expenses	13.1	(26,175)	(1,681)	(23,135)	(23,143)
Result	(2.9)	8,925	573	9,192	6,497

WIB segment revenue in 2022 increased by 8.6% or Rp2,773 billion compared to the previous year. This increase was due to the revenue growth from internet, data communication, and information technology services by 8.4% or Rp172 billion and interconnection revenue by 10.4% or Rp768 billion. The expenses incurred for the WIB segment increased by 13.1% or Rp3.040 billion compared to last year. At the end of 2022, the WIB segment recorded an Rp8,925 billion profits.



OTHERS SEGMENT

29 million Digital Music active users

21.9 million Digital Games paid users



Telkom offers a variety of digital products and services based on big data, smart platforms, digital advertising, digital entertainment (music & games), and e-commerce. In addition, Telkom also manages venture capital funds through PT Metra Digital Innovation (MDI Ventures), which it invested in several digital startups in 2022 that have growth potential in the future and can enhance TelkomGroup's business performance.

OTHERS SEGMENT CAPACITY AND DEVELOPMENT

Telkom's big data and smart platforms services are the BigBox and IoT platforms under the Antares for Enterprise segment customers. BigBox is a big data platform with analytic services, data & business solutions, and an API provider platform to help developers and startups grow their businesses. Regarding the IoT smart platform, Telkom works on projects that can improve people's productivity and quality of life, such as Smart Manufacturing, Air Pollution Monitoring, Smart Electricity, Waste Management, and others.

Telkom provides digital advertising services with the Uzone.id news portal and an ad exchange service platform called UAd, which brings together publishers, advertisers, and agencies so that digital advertising activities can be effective and efficient.

Telkom, with its subsidiary PT Nuon Digital Indonesia, manages digital entertainment, which provides digital music services of ring backtones under the Nada Sambung Pribadi (NSP), music streaming under the Langit Musik, and game payment services under UPoint. Digital music services have 29 million active users (14.7 million from music streaming and 14.3 million from NSP) with 136 million transactions (47 million from music streaming and 88.9 million from NSP) in 2022. Meanwhile, PT Nuon Digital Indonesia recorded 197.6 million game payment transaction, with 21.9 million paid digital games users.

Telkom also launched e-commerce platforms, including Pasar Digital (PaDi) for MSMEs, Xooply for the non-SOE Enterprise segment, Agree (agriculture and fisheries ecosystem), Logee (logistics ecosystem), Wonderin. Id (tourism ecosystem), Pijar (educational ecosystem), Gameqoo (games), and others. In addition, Telkomsel collaborates with Gojek to strengthen strategic partnership initiatives and accelerate the digitalization of MSMEs. The initiatives undertaken are:

1. Collaborate to increase Telkomsel users in the Gojek ecosystem.
2. Easy onboarding for Gojek's MSME partners to become Telkomsel reseller partners.
3. Easy access to Telkomsel outlets and resellers via GoShop.
4. Improve customer experience in Gojek services with the Number Masking feature from Telkomsel's Enterprise solution.
5. Forming a new GoTo entity as a synergy initiative to expand to Tokopedia.

On the other hand, MDI Ventures serves as corporate venture capital with its investing, synergy, portfolio management, value creation, and fundraising activities. MDI Ventures investments focus on high-growth business verticals to enhance the digital experience and provide the best services to improve customer experiences, such as logistics, financial technology, cloud computing, agritech/food, deep tech, digital life, healthtech, new retail, and IoT. In 2022, MDI Ventures invested in 22 newly managed funds startups, bringing the cumulative reach to over 80 startups spread across 12 countries. MDI Ventures currently manages a total of five types of funds at various stages, namely:

- MDI 500, supporting developed companies by leveraging the network from TelkomGroup and other BUMN Initiatives.
- MDI 100, MDI's first disbursed fund, and currently in the "harvesting" phase. The MDI 100 is objectively earmarked for the evergreen fund and reinvesting purposes.
- Telkomsel Mitra Inovasi (TMI) Fund focuses on funding startups that provide synergy value for Telkomsel.

- Centauri Fund, in collaboration with KB Financial Group (Kook Min Bank) from South Korea, focuses on growth-stage startups. The goal is to support Indonesian and regional startups, particularly technology startups, including financial technology, e-commerce infrastructure, Software as a Service (SaaS), and big data.
- Arise Fund, launched in 2020, in which MDI collaborates with Finch Capital Netherlands, focuses primarily on early-stage startups for Indonesian technology startups.

OTHERS SEGMENT FINANCIAL PERFORMANCE

Others segment revenue contributed 1.4% of TelkomGroup's total revenue. The performance of Other segment for the last three years can be seen in the following table:

Others Segment	2022-2021	2022		2021	2020
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	4.8	2,725	175	2,600	1,769
Expenses	57.8	(3,788)	(243)	(2,401)	(1,662)
Result	(634.2)	(1,063)	(68)	199	107

Others segment revenue increased by 4.8% or Rp125 billion from the previous year. In terms of expenses, it increased by 57.8% or Rp1,387 billion. Overall, the Others segment recorded a loss of Rp1,063 billion.

