

OPERATIONAL OVERVIEW BY BUSINESS SEGMENT

Mobile	Consumer	Enterprise	Wholesale & International Business	Others
Provides high speed internet connectivity through mobile voice, SMS, mobile data service, and mobile digital services, and fixed broadband B2C.	Provides high-speed internet connection through fixed voice, fixed broadband, IP-TV, and digital services.	Provides Enterprise Connectivity, Satellite, Digital IT Service, Digital Adjacent Service, and BPO for corporate customers (SOEs and its subsidiaries and private companies), government institution, and business.	Provides domestic and international services of wholesale traffic, wholesale network, wholesale digital platform & service, data center, tower, and managed infrastructure & network.	Provides digital payment solutions, big data & smart platforms, digital advertising, music, gaming, and e-commerce.
Indonesia's largest cellular network operator covers almost 99% of the population and is supported by 247,472 total BTS.	As of December 31, 2023, it had 10.1 million IndiHome subscribers, increased by 9.5% from the previous period.	Became the market leader as of December 31, 2023, by serving 524 Groups of SOEs, MOCs, and Public Service Agencies, 1,694 private companies, 618,854 SMEs, and 714 Government institutions.	Provides services in 15 countries with 1 office in Indonesia and 9 Telin's global and 5 sales representative offices operating overseas.	As of December 31, 2023, it had 17.7 million active users of Digital Music, 15.6 million paid users of Digital Games, and 10.5 million paid Digital Edutainment (OTT Video). It also acquired 5.4 billion GMV from the e-commerce business. The startup synergy value prospect of MDI, Telkom, and SOE was Rp3.3 trillion.

SEGMENT PERFORMANCE HIGHLIGHTS

TelkomGroup is still developing its products and services to fit the public demands amid the further digital transformation. It was a business opportunity for TelkomGroup, particularly for the increasing demand for broadband services. In general, all business segments of TelkomGroup recorded a positive performance, with the Mobile segment still dominating the most contribution.

The Mobile segment contributed the highest revenue for TelkomGroup of 44.5% or Rp88,919 billion. Meanwhile, the Enterprise segment contributed to the second highest revenue of 22.4% or Rp44,742 billion, followed by the Wholesale and International Business (WIB) of 18.6% or Rp37,261 billion and the Consumer of 13.3% or Rp26,607 billion. The Others segment contributed the least of 1.2% or Rp2,416 billion.

Telkom's Results of Operation by Segment	Growth		Years ended December 31		
	2023-2022	2023		2022	2021
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Mobile					
Revenues					
External revenues	(0.2)	85,291	5,539	85,493	84,267
Inter-segment revenues	8.5	3,628	236	3,344	3,097
Total segment revenues	0.1	88,919	5,774	88,837	87,364
Total segment expenses	(4.0)	(60,226)	(3,911)	(62,715)	(52,929)
Segment results	9.8	28,693	1,863	26,122	34,435
Consumer					
Revenues					
External revenues	5.2	27,713	1,800	26,354	24,930
Inter-segment revenues	(667.2)	(1,106)	(72)	195	187
Total segment revenues	0.2	26,607	1,728	26,549	25,117
Total segment expenses	(1.8)	(18,636)	(1,210)	(18,970)	(19,223)
Segment results	5.2	7,971	518	7,579	5,894
Enterprise					
Revenues					
External revenues	(4.8)	18,237	1,184	19,161	19,141
Inter-segment revenues	7.5	26,505	1,721	24,646	22,395
Total segment revenues	2.1	44,742	2,906	43,807	41,536
Total segment expenses	2.7	(44,140)	(2,866)	(42,976)	(41,843)
Segment results	(27.6)	602	39	831	(307)

Telkom's Results of Operation by Segment	Growth		Years ended December 31		
	2023-2022	2023		2022	2021
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
WIB					
Revenues					
External revenues	9.6	16,928	1,099	15,442	14,255
Inter-segment revenues	3.4	20,333	1,320	19,658	18,072
Total segment revenues	6.2	37,261	2,420	35,100	32,327
Total segment expenses	6.5	(27,875)	(1,810)	(26,175)	(23,135)
Segment results	5.2	9,386	610	8,925	9,192
Others					
Revenues					
External Revenues	68.2	402	26	239	205
Inter-segment revenues	(19.0)	2,014	131	2,486	2,395
Total segment revenues	(11.3)	2,416	157	2,725	2,600
Total segment expenses	(4.9)	(3,604)	(234)	(3,788)	(2,401)
Segment results	(11.8)	(1,188)	(77)	(1,063)	199

OPERATIONAL HIGHLIGHT

	Unit	Year Ended on December 31		
		2023	2022	2021
SUBSCRIBERS				
Cellular Subscribers¹⁾	million subscribers	159.3	156.8	176.0
Telkomsel Halo	million subscribers	7.5	7.1	7.2
Telkomsel Prepaid	million subscribers	151.8	149.7	168.8
Broadband Subscribers	million subscribers	137.2	130.1	129.1
Fixed broadband IndiHome ²⁾	million subscribers	10.1	9.2	8.6
Mobile broadband ³⁾	million subscribers	127.1	120.9	120.5
INFRASTRUCTURE				
Satellite Capacity⁴⁾	TPE	109	109	109
Point of Presence	PoP	122	122	120
Domestic	PoP	64	64	62
International	PoP	58	58	58
BTS	unit	247,472	265,194	251,116
BTS 2G	unit	48,980	50,158	50,241
BTS 3G	unit	-	49,632	63,149
BTS 4G	unit	197,838	165,120	137,613
BTS 5G	unit	654	284	113
Tower	unit	43,047	40,588	36,761
Fiber Optic Backbone Network	km	176,663	173,266	170,885
Domestic	km	111,663	108,566	106,185
International	km	64,700	64,700	64,700
Wi-Fi Services	access point	394,031	391,317	390,976

	Unit	Year Ended on December 31		
		2023	2022	2021
CUSTOMER SERVICE				
PlasaTelkom ⁵⁾	location	186	387	387
Plasa Telkom Digital	location	-	22	22
GraPARI	location	309	372	414
International	location	-	0	18
Domestic	location	-	372	396
GraPARI	location	-	363	387
GraPARI TelkomGroup	location	-	9	9
GraPARI Mobile	unit	-	0	174
IndiHome Sales Car	unit	571	750	750
EMPLOYEES	people	23,064	23,793	23,756

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 2023 had a significant growth, with an increase of cellular subscribers from 156.8 million subscribers in 2022 to 159.3 million subscribers in 2023 or increased 1.6%. Meanwhile, the number of broadband subscribers grew by 4.4% from 130.1 million subscribers in 2022 to 137.2 million subscribers in 2023, with mobile broadband subscribers increasing from 120.9 million in 2022 to 127.1 million subscribers in 2023. This growth trend will continue due to the transition towards broadband-based digital telecommunications. Other than that, in 2023 we finished migrating our 3G BTS by changing it into 4G so by the end of 2023 we were no longer have any 3G BTS.

MOBILE SEGMENT



Data traffic 2023 increased by **9.0%**
to **17.9** million TB

247,472 total BTS with:
48,980 2G BTS;
197,838 4G BTS; **654** 5G BTS;
decreased **17,722** BTS of total BTS.

The Mobile segment provides products and services of mobile voice, SMS, mobile data service, mobile digital service, and fixed broadband B2C. Telkomsel offers cellular services with GSM, 4G/LTE, and 5G technology available in 514 cities/regencies in Indonesia. The following are Telkomsel's products and services:

1. Telkomsel Halo

A postpaid cellular telecommunication product that has excellent network quality, communication experience, and entertainment and offers various comprehensive packages with exclusive advantages.

2. Telkomsel PraBayar

A brand launched in June 2021, combining prepaid services from simPATI, Kartu As, and LOOP, and integrated its products and services to provide convenience for subscribers.

3. by.U

An end-to-end digital prepaid, all services could be accessed in the by.U digital application, including selecting delivery options, by.U phone numbers, internet quota, additional quota (topping), and payment.

4. IndiHome

A service that offers internet, fixed wireline telephone, and interactive TV with various packages and add-ons based on the subscriber's needs with the IndiHome network across Indonesia.

5. Telkomsel Orbit

A home-based internet service uses a modem Wi-Fi device with the 4G and 5G network and a flexible data package without the monthly subscription. Besides, subscribers could access many features with ease with the MyOrbit application.

6. Telkomsel One

A convergence service that offers fixed network connectivity (IndiHome) and mobile broadband (Telkomsel) in one service to get a better and seamless digital experience.

MOBILE SEGMENT CAPACITY AND DEVELOPMENT

TelkomGroup cellular subscribers at the end of 2023 were 159.3 million subscribers, with 95.3% prepaid subscribers and 4.7% postpaid subscribers. It increased by 1.6% from the 2022. Prepaid subscribers recorded at 151.8 million subscribers, which increased by 1.4%, while postpaid subscribers were 7.5 million subscribers, which increased by 5.6%. The increase was due to the Telkomsel initiatives to promote a healthier business practice in the telco industry, focusing on sustainable subscribers' growth and productivity. Telkomsel also implements a centric approach and a health business practice with a suitable price offering to maintain the subscriber's attractiveness by optimizing CVM and delivering the best customer experience. Telkomsel continues developing the analytical engine and hyper micro segmentation to complete the offer as per the subscribers' needs. It is to optimize the traffic and subscriber growth and improve the existing subscribers' productivity. After integrating IndiHome with Telkomsel, the FMC initiative created opportunities for Telkomsel to cross-sell, particularly in IndiHome's dominant area.

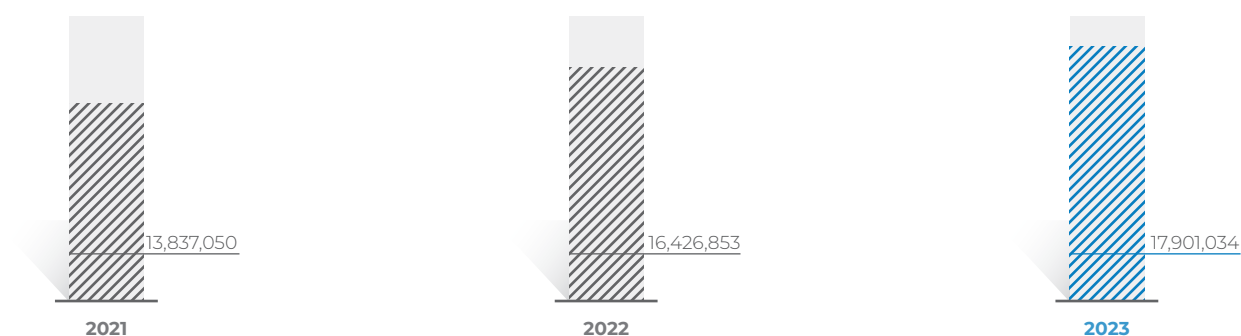
With the 5G network available in Indonesia, Telkomsel is committed to maximizing the growth of digital connectivity, digital platforms, and other digital services in Indonesia. With the excellent 5G network, the future IT solution development, i.e., artificial intelligence, cloud computing, and Internet of Things (IoT), could be carried out in phases based on the roadmap plan and considerations, including the readiness and stability of the connectivity ecosystem. Telkomsel continues to improve the use case selectively for 5G implementation with the B2B and B2C demands approach by partnering with the manufacturing and infrastructure, supporting education, and participating in national occasions. Telkomsel broadens the 5G service to boost Indonesia's digital ecosystem development and collaborates with IT companies to develop the 5G Fixed Wireless Access roadmap in Indonesia.

Meanwhile, the mobile broadband subscribers increased by 5.1% to 127.1 million subscribers, and data usage also increased by 9.0% to 17.9 million TB in 2023. The increase resulted from the healthy business practices initiative and higher subscribers' productivity with the package repurchase promotion, cross-sell, and up-sell offerings through the FMC initiative. It was also due to the expansion

of the portfolio of digital services as a complement to the rapidly developing connectivity. Digital services have been a primary driver for Telkomsel's transformation as a digital telco company to optimize and accelerate the adoption through its high-quality products and services. Besides, Telkomsel Orbit subscribers with fixed wireless access also increased by 30.6% to 1.1 million subscribers. The increase was aligned with the utilization of Telkomsel's strong network, which subscribers could use Telkomsel Orbit as a temporary solution to answer the demand for unavailable fixed broadband areas.

Telkom, through Telkomsel, commits to developing mobile services, improving digital capability, and widening the digital ecosystem to deliver not only the best connectivity but also an impressive experience for subscribers. Telkomsel develops its digital services of Digital Lifestyle, Digital Advertising, Digital Enterprise Solution & IoT business, including Telkomsel Video with various streaming services of MAXstream and on-demand shows, such as Prime Video, Disney+ Hotstar, Netflix, HBO GO, and others; music streaming with Langit Musik; end-to-end gaming ecosystem with Telkomsel Dunia Games; online education with Kuncie; and fintech with LinkAja.

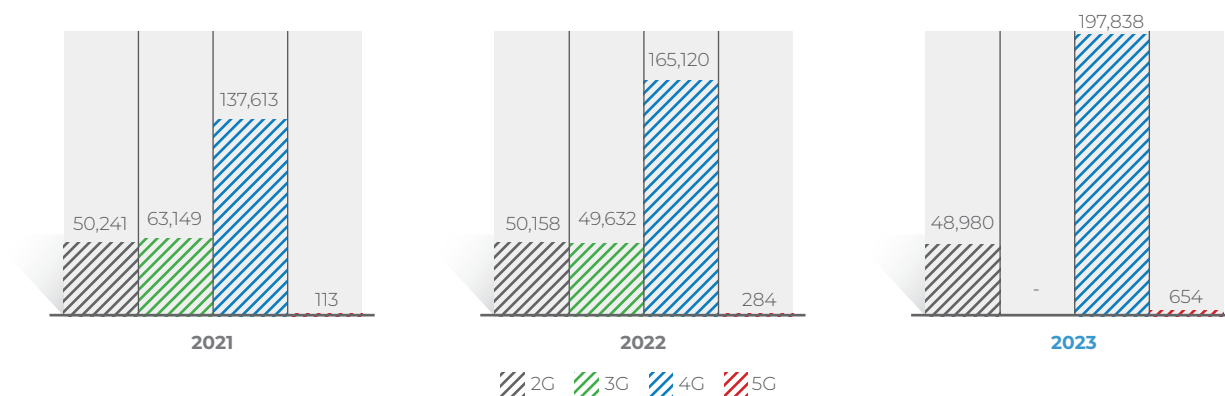
Cellular Traffic Data (TB) in 2021-2023



In 2023, Telkomsel finished the network switching process from 3G to 4G, which began in March 2022. It was a gradual process of switching networks on more than 49 thousand 3G BTS and building more than 32 thousand new 4G BTS. It was to create an equal 4G/LTE broadband network across Indonesia, focusing on network

dominance enhancement by improving its coverage and quality. To maximize the 5G network, Telkomsel also built 370 new 5G BTS. At the end of 2023, Telkom had 197.8 thousand 4G BTS and 654 5G BTS to accommodate the subscribers' digital activities.

Total TelkomGroup BTS (Units) in 2021-2023



MOBILE SEGMENT FINANCIAL PERFORMANCE

In 2023, the Mobile segment still contributed the most revenue for TelkomGroup of Rp88,919 billion. The Mobile segment revenue resulted from Telkomsel in 2023 recorded at Rp88,919 billion, which increased Rp82 billion or 0.1% compared to the last year of Rp88,837

billion, whereas the expense decreased Rp2,489 billion or 4%. The revenue increase was due to the maintained positive momentum with the optimum contribution and increment from data and digital services, which the digital driver indicates future growth and creates potential synergy from fixed and mobile convergence. We also commit to providing more added-value services and innovative products, including Digital Lifestyle, Digital Advertising, Digital Enterprise Solution, and IoT business.

Mobile Segment	2023-2022	2023		2022	202
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	0.1	88,919	5,774	88,837	87,364
Expenses	(4.0)	(60,226)	(3,911)	(62,715)	(52,929)
Result	9.8	28,693	1,863	26,122	34,435

In addition, internet and cellular data revenue also increased by 4.9% or to Rp76,834 billion. It indicates an increase in data mobile usage that supports digital services. Overall, the Mobile segment created a net profit of Rp28,693 billion in 2023.

CONSUMER SEGMENT



16 million optical ports as broadband access based on optical fiber

The Consumer segment provides products and services, including fixed voice, fixed broadband, IP-TV, and digital services under the IndiHome brand. IndiHome subscribers in 2023 increased by 9.5% from 9.2 million in the last year to 10.1 million subscribers. The average revenue per user (ARPU) for IndiHome B2C this year was Rp252.7 thousand, which decreased from the previous year of Rp270 thousand. Our strategy that more focusing on the youth and customer of tomorrow segment resulted this ARPU decrease.

CONSUMER SEGMENT CAPACITY AND DEVELOPMENT

Telkom is improving the IndiHome B2C strategically to maintain and attract its subscribers. The strategies are the bundling program consisting of internet broadband, IP-TV, and fixed wireline telephone, sales via digital channels, and promotions every year. IndiHome B2C is also committed to delivering high-quality services and digital entertainment to subscribers. Therefore, IndiHome B2C collaborated with the local video-on-demand (VOD) of Vision+ and the content provider of CXO Media to offer attractive programs and content specifically for Indonesia's young generation, i.e., K-Pop festivals, talk shows, concerts, and others.

IndiHome B2C maintains its position as Indonesia's largest and most complete TV provider under IndiHome TV. IndiHome TV is a paid TV bundling and internet (IndiHome B2C) service that we would send in an Android TV box device with Google Ecosystem. IndiHome B2C paid TV

services include TV linear channels, TV-on-demand (catch-up TV), and 14 OTT services of non-video OTT: Gameqoo, LangitMusik, IndiHome Karaoke, and video OTT: Netflix, Disney+ Hotstar, Lionsgate Play, Viu, Catchplay+, Mola, WeTV, Iflix, Vidio, Vision+, and IndiHome TV App. Besides, IndiHome TV also has 149 high-definition channels and 5 Dolby Audio channels. Subscribers could access these services via the IndiHome TV app and website at indihometv.com (previously via UseeTV Go and useetv.com), which could have a multiscreen and could access OTT content anytime and anywhere. IndiHome TV's active users are more than 1 million users to date.

Telkom strives to deliver subscribers the best customer experience and convenience for accessing IndiHome B2C products. Therefore, Telkom keeps updating myIndiHome applications to speed up access, such as face recognition and biometric features. With myIndiHome, subscribers can manage the IndiHome B2C services and have transactions via smartphone, including requesting new installation and service maintenance, i.e., technician schedule and maintenance progress.

In 2023, Telkom signed the Conditional Spin-off Agreement (CSA) to integrate IndiHome to Telkomsel, aligned to Fixed Mobile Convergence (FMC), as a part of the primary strategy of Five Bold Moves. It was a Telkom strategy implementation to strengthen its business by offering more comprehensive broadband service and accelerating the inclusive and sustainable equality of digital connectivity in Indonesia. The FMC initiative strengthened Telkom's position as the leading digital telco company in Indonesia so that it creates more advancement opportunities,

MANAGEMENT DISCUSSION AND ANALYSIS

delivers the whole experience of digital connectivity, and provides reliable and integrated services of unbreakable wifi, specifically for domestic segment subscribers.

As of December 31, 2023, Telkom had 10.1 million subscribers of IndiHome fixed broadband. It was 66.7% fixed broadband market share in Indonesia. Telkom also offers more services for subscribers of wifi.id that offers unlimited internet access to the entire wifi.id access spots across Indonesia. wifi.id is a public wireless internet services that provide high-speed internet and other multimedia services.

Telkom also encountered challenges such as the ARPU increase and declining churn. Therefore, Telkom still upgrades its network infrastructure reliability as one of the key measures for the challenges. Telkom had 16 million optical ports at the end of 2023 with fiber optic as the basis for fixed broadband network access. Telkom also enhances its Mean Time To Install (MTTI) and Mean Time To Repair by improving technicians' capacity and business processes. Through Telkom Akses Command Center, Telkom can manage the access network, detect disruptions, and promptly take immediate action with digital integrated control.

CONSUMER SEGMENT FINANCIAL PERFORMANCE

Consumer segment contributed 13.3% of TelkomGroup's consolidated revenue in 2023.

Consumer Segment	2023-2022	2023		2022	2021
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	0.2	26,607	1,728	26,549	25,117
Expenses	(1.8)	(18,636)	(1,210)	(18,970)	(19,223)
Result	5.2	7,971	518	7,579	5,894

Consumer segment revenue 2023 was recorded at Rp26,607 billion, which increased 0.2% from the last year of Rp26,549 billion. It was due to the rising number of IndiHome subscribers. Meanwhile, the Consumer segment expense was Rp18,636 billion, which increased 1.8% compared to the last year. Therefore, the Consumer segment recorded a net profit of Rp7,971 billion in 2023. The profitability was good, with an EBITDA margin of 50.9%.

ENTERPRISE SEGMENT

524 Groups of SOEs, MOCs, and Public Service Agencies

1,694 private companies

618,854 SMEs

714 Government institutions

2 satellites with **109** TPE capacity

The Enterprise segment offers ICT and platform services consisting of Enterprise Connectivity, Satellite, Digital IT Service, Digital Adjacent Service, and BPO to deliver end-to-end solution and IT ecosystem. Their customers are corporates (SOEs and private companies), SMEs, and government institutions.

ENTERPRISE SEGMENT CAPACITY AND DEVELOPMENT

The Enterprise segment focuses on high profitability and recurring business lines, particularly on enterprise solutions, such as enterprise connectivity, data centers, and cloud. Enterprise connectivity services are fixed broadband, Wi-Fi, Ethernet, and data communication, including leased channels of metro ethernet, VPN-IP, and high-capacity data network solutions that provide point-to-point connection and fixed voice. Telkom provided bandwidth in service in 2023 of 3,222 Gbps with 1,814 Gbps for corporate internet customers and 1,407 Gbps for data communication customers. It increased 2% from the last year.

To improve its connectivity service in Enterprise segment, Telkom has the synergy with its subsidiary of Telkomsat to integrate the satellite service with 109 TPE of self-owned transponder and rents third-party satellites of 37.84 TPE transponder. Therefore, it enables customers to rent the satellite transponder capacity for various required connectivity. Telkom also plans to launch High Throughput Satellite (HTS) to improve its satellite-based broadband solutions.

Telkom also launched the MyIndibiz application as a digital touch point specifically designed for SMEs amid the development of digitalization. Indibiz offers bundling internet solutions for SME that adjusted to the ecosystem, such as Indibiz Sekolah, Indibiz Hotel, Indibiz Multifinance,

and Indibiz Ruko. We keep developing these bundling packages with user feedback to accommodate the SME's needs.

For system integration and IT service management, Telkom offers business process management, business process as-a-service, and customer relationship management (CRM) and develops the digital advertising agency through media placement and integrated digital media, such as mobile advertising, online advertising, and digital printing. Therefore, Telkom built the platforms to provide insights for analyzing consumer behavior and creating marketing campaigns based on big data and data analytics.

To support business development, the subsidiary of Infomedia has succeeded in collaborating with WhatsApp Business Solution Provider to use WhatsApp as a business platform. This service complements Infomedia's CRM portfolios. The OMNIX, Infomedia's CRM platform with integrated WhatsApp Business features, will deliver a complete digital customer experience and ease customers to integrate the communication with end user holistically. Infomedia offers end-to-end process management of WhatsApp Business, including registration of verified WhatsApp Business accounts, marketing campaigns and sales, and customer complaint management. With this platform, the recorded customers' transactions and interactions on WhatsApp Business Accounts and other communication channels would be saved and integrated into one database so companies could analyze their customers' behaviors and preferences.

MANAGEMENT DISCUSSION AND ANALYSIS

In addition, TelkomGroup provides services related to hardware and software sales, including IT support. TelkomGroup also offers building Internet of Things (IoT) solutions and develops IoT apps for smart energy monitoring management, fleet management, IT security services, unified communication, and collaboration services.

Telkom's Enterprise segment services are excellent in fiber optic infrastructure networks with extensive coverage. Telkom is still innovating and managing its total solution products and services for customers to improve and utilize this advantage. At the end of 2023, the Enterprise segment had 612,786 customers, including 524 Groups of SOEs, MOCs, and Public Service Agencies, 1,694 private companies, 618,854 SMEs, and 714 Government institutions.

We have improved the human resource competency and supporting infrastructure by attaining the ISO 27000-17/18 and CSA Star & PII Related Certification. It was to increase the customers' trust and get more competitive in Indonesia's cloud market. Besides using our human resources, Telkom partners with global cloud players to provide professional cloud management and consultation. The partners are Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft Azure, and Alibaba Cloud; we expect these collaborations could accommodate the demand in various SME, startup, SOE, enterprise, and government industries.

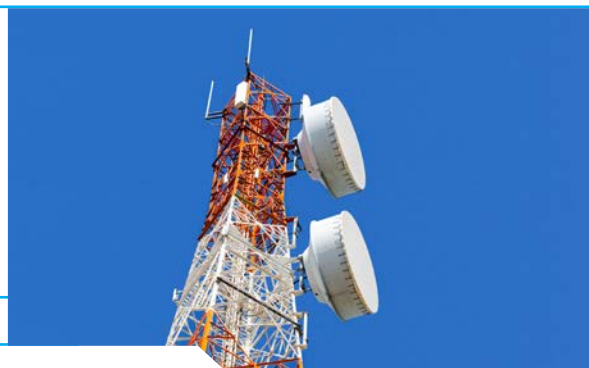
ENTERPRISE SEGMENT FINANCIAL PERFORMANCE

Enterprise segment contributed 22.4% to TelkomGroup's consolidated revenue in 2023. The following table shows the Enterprise segment performance in the last three years.

Enterprise Segment	2023-2022		2023		2022	2021
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)	
Revenues	2.1	44,742	2,906	43,807	41,536	
Expenses	2.7	(44,140)	(2,866)	(42,976)	(41,843)	
Result	(27.6)	602	39	831	(307)	

In 2023, Enterprise segment revenue increased by 2.1% or Rp935 billion due to the increase in data, internet, and information technology service revenues, which grew by 7.1% or Rp680 billion, call center service revenues by 11% or Rp125 billion, e-payment revenue by 9.3% or Rp 42 billion and e-health revenue by 4.4% or Rp32 billion. The managed service and terminal revenue decreased by 21% or Rp248 billion. The expense increased 2.7% or Rp1,164 billion from the last year. Therefore, the Enterprise segment recorded a net profit of Rp602 billion in 2023.

WHOLESALE AND INTERNATIONAL BUSINESS (WIB) SEGMENT



176,663 km total optical fiber backbone network (**111,663** km domestic and **64,700** km international)

122 Point of Presence (PoPs) (**58** international PoPs and **64** domestic PoPs)

32 data centers (**27** domestic data centers & **5** international data centers)

43,047 towers (**38,014** Mitratel towers, **477** Telkom towers, and **4,556** Telkomsel towers)

WIB segment offers domestic and international services of wholesale traffic, wholesale network, wholesale digital platform & service, data center, tower, and managed infrastructure & network. The customers of this segment are domestic and overseas Other Licensed Operators (OLO), Service Providers, and Digital Players. WIB segment performance was relatively stable in 2023. However, TelkomGroup still develops new innovations and business initiatives to maintain profitability.

WHOLESALE AND INTERNATIONAL BUSINESS (WIB) SEGMENT CAPACITY AND DEVELOPMENT

1. Carrier Service

The carrier business line offers domestic and international wholesale traffic and wholesale network, including interconnection service of voice, data, and internet, as well as network service. It also provides domestic and international wholesale digital platform and services of A2P SMS, platform, and solutions. In 2023, carrier services have grown, with most contributions from Domestic & International Network, Internet Traffic, and A2P SMS.

We also continue developing the Enabler Digital Ecosystem initiative to support wholesale network service. The submarine cable of SEA-ME-WE 5 and SEA-US, the deployment of SEA-ME-WE 6 submarine cable system that began last year, support the offering of direct broadband connectivity across Europe, Asia, and America regions and become the main gateway of digital connectivity that brings domestic traffic to global, global traffic to domestic, and between countries (hubbing), for voice and A2P SMS.

To solidify the equality of telecommunication and digital access in Indonesia, TelkomGroup, through Telin, has Manado and Batam Gateway as digital gateways for international communication lines. Besides, Telin is also carrying out the Bifrost joint project of the Submarine Cable Communication System or *Sistem Komunikasi Kabel Laut* (SKKL) with Meta and Google. It will connect Singapore and the United States with 16,460 Km, crossing the Java Sea and Sulawesi Sea, which it will finish in 2024.

TelkomGroup had 122 Point of Presence (PoP), including 64 domestic PoP in 49 cities and 58 Global PoP in several countries. Another service in this business line is the Content Delivery Networks (CDN) operation that has the capacity of 26,834 Gbps in 2023, which increased by 84.15% compared to the previous year.

2. Data Center Service

TelkomGroup strives to enhance the Indonesia digital ecosystem with the data center ecosystem development. It could support the transformation, create a digital economy, and assist the business development of various sectors, including finance, manufacturing, and domestic and overseas cloud computing.

To intensify the data center as one of the growth engines, TelkomGroup consolidated its data center business into one management entity of PT Telkom Data Ekosistem (NeutraDC). NeutraDC has a significant role as the digital ecosystem enabler by providing the global neutral data center infrastructures with the best connectivity and ensuring the business continuity of international and domestic Digital Players/Hyperscalers and Enterprise and Government segments. Therefore, with this consolidation, we transferred the operation management of 3 Enterprise Data Centers and 1 Hyperscale Data Center (HDC) of tier 3 and 4 located in Cikarang to NeutraDC. We will gradually increase the HDC Cikarang capacity until we reach the total design IT Load Capacity of 51 MW.

At the end of 2023, TelkomGroup operated 32 data centers in all operation areas of 27 domestic data centers that consist of 23 NeuCentrIX Data Centers, 3 Enterprise Data Centers, and 1 Hyperscale Data Center; and 5 overseas data centers located in Singapore (Telin 1, Telin 2, Telin 3), Timor Leste (1 location), and Hong Kong (1 location). The occupancy rate of the overseas data centers was approximately 86%, while for NeuCentrIX, 57% of the total capacity after the capacity development in 2023.

TelkomGroup also builds Hyperscale Data Center (HDC) in Batam to boost the data center business growth with global standard campus and ultimate IT load capacity of 51 MW (initial phase of 17 MW) with green data center concept. Batam is a strategic location that could connect Southeast East Asia to Indonesia via Singapore, considering the data center as a part of the vital infrastructure to support the digital ecosystem. HDC Batam will be the actual measure to its position as the main player of regional data center business. Not only provide business in Indonesia, it will also capture the potential of demand spillover from other countries.

3. Tower Service

TelkomGroup provides the rental and installation of telecommunication devices for other operators. Through Mitratel, TelkomGroup offers co-location and reseller tower business. Mitratel managed 57,409 tenants and 2,818 reseller towers. In 2023, TelkomGroup had 43,047 total towers, with 38,014 Mitratel towers, 477 Telkom towers, and 4,556 Telkomsel towers.

Mitratel had significant growth by aggressively implementing the tower addition and acquisition strategies. In 2023, Mitratel built 682 new towers and acquired more than 1,900 towers, including 803 towers of PT Gametraco Tunggal and 997 towers of Indosat Ooredoo Hutchison. Mitratel also actively increases its tenancy ratio by providing high-capacity connectivity with the deployment of fiber optic and satellite services and a power supply that will fully support the telecommunication operators. With these strategies, TelkomGroup expects Mitratel to support digital acceleration and realize the nation's ideal of becoming one of the largest Asia-Pacific digital economy countries in 2025.

4. Infrastructure Services and Network Management

TelkomGroup's network infrastructure and management covers the network construction and maintenance, including the submarine cable installation and maintenance and energy solutions. At the end of 2023, TelkomGroup had a fiber optic backbone network of 176,663 Km consisting of 111,663 Km domestic and 64,700 Km international network, with each capacity of 287,260 Gbps and 83,795 Gbps. Based on a permanent telecommunications lease agreement with other global submarine cable operators/consortiums, TelkomGroup also operates and has the right to use the 134,040 km fiber optic backbone network.

Telkom, through its subsidiary of Telkominfra, cooperates and has procured a submarine cable ship as TelkomGroup's asset to increase submarine cable installation and maintenance capability. Telkominfra also collaborates with other SOEs to maintain the diesel machines for the telecommunication networks in Kalimantan and Sulawesi related to energy solutions.

5. International Business

Telkom develops its business activities in several countries through its subsidiary of Telin, such as in Singapore, Hong Kong, Timor Leste, Australia, Myanmar, Malaysia, Taiwan, the United States, and Dubai, and also Sales Representative in the United Kingdom, Philippines, Vietnam, India, and Canada that has region-based management. Telin offers wholesale, cloud and connectivity, data center and managed services, retail mobile services (MNO and MVNO), IP transit, and digital platform & services. Telkom has a routine analysis and evaluates its overseas operations based on profitability, prospects, and positions to optimize the portfolio structure and global market access.

Telin develops NeuAPIX cloud-based CPaaS service with omnichannel features (bots and live chat, real-time voice capabilities, SMS, emails, video calls, and messaging service). With NeuTrafiX, a web-based B2B marketplace platform, Telin could conveniently connect buyers and sellers to transact wholesale voice, SMS, and virtual numbers trading.

In 2023, Telin launched the Telin NeXt Gen Platform (TNeX), a new digital platform where business players could connect data centers worldwide. It shows that Telin's innovation could accommodate the global

market demand for fast, easy, adaptable, secure, and trusted connectivity. Telin also officially became the Telecom WhatsApp Business Solution Provider (BSP). It enables business players to use WhatsApp as a customer communication channel by integrating Telin's NeuAPIX CPaaS (Communications Platform-as-a-Service) with the WhatsApp Business Platform.

In addition, Telin strengthened its international business through a strategic partnership with Expereo, a global managed service provider specifically for intelligent internet connectivity. This partnership would significantly enhance Telin's Software Defined-Wide Area Network (SD-WAN) solution with comprehensive global coverage in over 195 countries. Therefore, Telin could offer SD-WAN service to a larger market share worldwide and secure its position as a global player in the telecommunication industry.

On September 5-8, 2023, Telkom with Telin organized the Bali Annual Telkom International Conference (BATiC) 2023 with the theme "Unleashing the Innovation Wave, Enabling a Digital Tomorrow". More than 1,000 people participated in the BATiC 2023 from more than 300 global and local partner companies, wholesale players, data centers, digital players, enterprises, analysts, vendors, and regulators. The BATiC 2023 collaborated with the ITW Global Leaders' Forum (GLF), an association of Global Leaders Telkom members, to enhance global collaboration, compatibility, and technology coverage in the telecommunication ecosystem. We also expected that BATiC 2023 could be a business platform for TelkomGroup and other telco industry players and create more value for the national and global telecommunication industry.

WIB SEGMENT FINANCIAL PERFORMANCE

WIB segment contributed 18.6% to the total TelkomGroup consolidated revenue in 2023. WIB segment revenue was mostly from 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 more value.

WIB Segment	2023-2022	2023		2022	2021
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	6.2	37,261	2,420	35,100	32,327
Expenses	6.5	(27,875)	(1,810)	(26,175)	(23,135)
Result	(5.2)	9,386	610	8,925	9,192

WIB segment revenue in 2023 increased by 6.2% or Rp2,161 billion compared to the previous year. It was due to the growth of internet, data communication, and information technology services by 12.6% or Rp389 billion, network revenue by 35.1% or Rp329 billion, and interconnection

revenue by 7.2% or Rp587 billion. The expenses incurred for the WIB segment increased by 6.5% or Rp1,700 billion compared to last year. Therefore, the WIB segment recorded a Rp9,386 billion profit in 2023.

OTHERS SEGMENT



17.7 million Digital Music active users

15.6 million Digital Games paid users

In others segment, 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). MDI Ventures is still looking for opportunities and investing in several digital startups with growth potential and companies that can enhance TelkomGroup's business performance.

OTHERS SEGMENT CAPACITY AND DEVELOPMENT

Telkom offers big data and smart platforms, including BigBox and Antares, for the Enterprise segment. BigBox is a big data platform for startup companies that provides analytics, data & business solution, and an API platform for companies to develop their business. Antares is a smart poultry platform with digital technology advantages to ease the real-time monitoring process of livestock and nearby surroundings using sensors.

Telkom, through its subsidiary of PT PINS Indonesia focusing on the Internet of Things (IoT), has carried out projects that increase people's productivity and life quality, such as Smart Manufacturing, Air Pollution Monitoring, Smart Electricity, Waste Management, and others.

Telkom offers digital advertising with the online media of Uzone.id, focusing on gadgets, technology, and automotive information. In 2023, Uzone.id became the official media partner for MotoGP Mandalika 2023, strengthening its position as the leading automotive news in Indonesia. Telkom also offers an ad-exchange platform for UAd, connecting publishers, advertisers, and agencies so that they can perform digital advertising activity effectively and efficiently.

Telkom's subsidiary of PT Nuon Digital Indonesia (Nuon) focuses on digital entertainment management services, digital games, game publishing, top up games through Upoint, digital music of ring backtone

under the Nada Sambung Pribadi (NSP) brand and music streaming under Langit Musik brand, ticketing platform, OTT video, and other digital content services. In 2023, digital music had 17.7 million active users (8 million music streaming users and 9.7 million NSP users) with 102.5 million transactions (34 million from music streaming and 68 million from NSP). For top-up games, Nuon recorded more than 123 million transactions and 15.6 million paid users of digital games. For OTT video, it had 36.9 million transactions with 10.5 paid users.

Telkom also provides digital platforms for people's activity convenience, such as Pasar Digital (PaDi) for SMEs, Xooply for non-SOE Enterprise, Agree (agriculture and fishery ecosystem), Logee (logistic ecosystem), Wonderin.id (tourism ecosystem), Pijar (education ecosystem), Gameqoo (games) and others. Telkomsel also collaborates with Gojek to intensify the strategic partnership to accelerate SME digitalization with these initiatives below:

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.

MDI VENTURES DEVELOPMENT

MDI Ventures has a role as corporate venture capital and performs investing, synergy, portfolio management, value creation, and fundraising. MDI Ventures' investment focuses on high-growth business verticals to deliver customers the best digital experience, such as logistics, financial technology, cloud computing, agritech/food, deep tech, digital life, healthtech, new retail, and IoT. As a corporate venture capital, MDI Ventures actively supports startup developments with partnerships with other parties. It was by synergy activities with other TelkomGroup and SOE startups that resulted synergy value of Rp3.3 trillion in 2023.

Telkom University collaborates with MDI Ventures for BUMN Goes to Campus. The collaboration includes digital ecosystem development to accommodate knowledge transfer between industry and the university with entrepreneurship development, innovation commercialization, and human resource development. We expect it would increase startup developments from Telkom University's student innovation and Bandung Techno Park (BTP) as the business incubator in the Telkom University area and advance student capability and lecturer research.

Moreover, MDI Ventures has a strategic partnership with Antler Germany as an early-stage venture capital and global startup generator. It could create more partnership

opportunities and explore the global potential startups, specifically deep tech startups such as biotech, cyber security, and climate tech startups that intend to enter Indonesia's market. MDI Ventures also collaborates with the Ministry of Communications and Informatics (MoCI) to promote startup businesses in Indonesia.

In 2023, MDI Ventures invested in 5 new startups for all managed funds, so it had 90 cumulative startups in 12 countries. MDI Ventures funds include 6 types of funds in several stages:

- **MDI 500**, supporting developed companies by leveraging the network from TelkomGroup and other SOE initiatives.
- **MDI 100**, MDI's first disbursed fund, is currently in the "harvesting" phase. The MDI 100 is for the evergreen fund and reinvesting purposes.
- **Telkomsel Mitra Inovasi (TMI) Fund** focuses on funding startups that provide synergy value for Telkomsel.
- **Centauri Fund**, MDI Venture's managed fund with KB Financial (South Korea) that invested in ready to developed business.
- **Arise Fund**, MDI Venture's managed fund with Finch Capital (Netherland) focusing on early staged tech startup funding in Indonesia and Southeast Asia.
- **Merah Putih Fund (MPF)**, it was initiated by Ministry of SOE with five SOE CVC, such as MDI Ventures, Telkomsel Ventures, Mandiri Capital Indonesia, BRI Ventures, and BNI Ventures, focusing on the Indonesia's startup growth.

OTHERS SEGMENT FINANCIAL PERFORMANCE

Others segment contributed 1.2% to TelkomGroup's consolidated revenue in 2023.

Others Segment	2023-2022		2023		2022	2021
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)	
Revenues	(11.3)	2,416	157	2,725	2,600	
Expenses	(4.9)	(3,604)	(234)	(3,788)	(2,401)	
Result	11.8	(1,188)	(77)	(1,063)	199	

Others segment revenue decreased by 11.3% or Rp309 billion from the last year. Meanwhile, the expense decreased by 4.9% or Rp184 billion. Therefore, the Others segment recorded a Rp1,188 billion loss.

