

OPERATIONAL OVERVIEW BY BUSINESS SEGMENT

MOBILE	CONSUMER	ENTERPRISE	WHOLESALE & INTERNATIONAL BUSINESS	OTHERS
				
				
<ul style="list-style-type: none"> • Providing high mobility for TelkomGroup customers by utilizing mobile voice services, SMS, mobile data services, and mobile digital services, which is the largest cellular network operator in Indonesia with national coverage that reaches more than 90% population and is supported by 231,172 total BTS. 	<ul style="list-style-type: none"> • Providing the best connectivity for customers by utilizing high-speed internet, namely fixed voice, fixed broadband, IP-TV, and digital • As of December 31, 2020, it had 8.0 million IndiHome subscribers, increased of 14.5% from the previous year. 	<ul style="list-style-type: none"> • Provides enterprise connectivity, satellite, and digital platform system services for corporate, institutional and business customers. Market leaders who have served clients of 1,703 companies, 339,182 SMEs and 935 Government institutions as of the end of 2020 	<ul style="list-style-type: none"> • Provides wholesale telecommunication carrier services, tower, infrastructure & network management services as well as international business. • Services in 10 countries with 1 headquarter in Indonesia and 9 global offices of Telin operating overseas. 	<ul style="list-style-type: none"> • Provides various services related to digital payment solutions, big data & smart platforms, digital advertising, music, gaming, and e-commerce. • Operate venture capital funds through PT MDI to invest in digital startups.
	<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

In 2020, COVID-19 restricted the business dynamic and suppressed the global economy. On the other hand, the activity restriction stimulated the digitalization growth. Work from home and online school policy promoted telecommunication demand specifically for broadband service.

Financial performance in 2020 was negatively affected by the stagnant economic activities. The enterprise segment was the most pressured segment by the pandemic. However, it positively impacted TelkomGroup's financial performance by the digital service and connectivity demand from personal and residential customers.

The highest contribution of Telkom and its subsidiaries revenue in 2020 was still from the Mobile segment of 61.5% or Rp83,720 billion. The second highest contribution was from Consumer segment of 15.4% or Rp20,957 billion, followed by the Enterprise segment of 13.0% or Rp17,729 billion, and Wholesale segment of 9.9% or Rp13,501 billion. Other segment gave the lowest contribution of Rp219 billion or 0.2% from the aggregate revenue of Telkom and its subsidiaries.

Telkom's Results of Operation by Segment	Growth				
	Years ended December 31,				
	2020-2019	2020	2019	2018	
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Mobile					
Revenues					
External revenues	(4.8)	83,720	5,959	87,897	85,338
Inter-segment revenues	4.2	3,297	235	3,163	3,880
Total segment revenues	(4.4)	87,017	6,194	91,060	89,218
Total segment expenses	(4.9)	(54,051)	(3,847)	(56,864)	(55,449)
Segment results	(3.6)	32,966	2,347	34,196	33,769
Consumer					
Revenues					
External revenues	18.4	20,957	1,492	17,706	13,891
Inter-segment revenues	46.1	1,148	82	786	2,290
Total segment revenues	19.5	22,105	1,574	18,492	16,181
Total segment expenses	10.3	(17,544)	(1,249)	(15,904)	(15,531)
Segment results	76.2	4,561	325	2,588	650
Enterprise					
Revenues					
External revenues	(5.2)	17,729	1,262	18,701	21,054
Inter-segment revenues	10.4	18,591	1,323	16,834	17,995
Total segment revenues	2.2	36,320	2,585	35,535	39,049
Total segment expenses	0.3	(36,864)	(2,624)	(36,768)	(37,833)
Segment results	55.9	(544)	(39)	(1,233)	1,216

Telkom's Results of Operation by Segment	Growth		Years ended December 31,		
	2020-2019	2020	2019	2018	
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
WIB					
Revenues					
External revenues	27.3	13,501	961	10,609	10,084
Inter-segment revenues	(0.8)	16,139	1,149	16,265	16,678
Total segment revenues	10.3	29,640	2,110	26,874	26,762
Total segment expenses	9.6	(23,143)	(1,647)	(21,111)	(20,634)
Segment results	12.7	6,497	463	5,763	6,128
Lain-lain					
Revenues					
External revenues	11.2	219	16	197	130
Inter-segment revenues	20.2	1,550	110	1,289	886
Total segment revenues	19.0	1,769	126	1,486	1,016
Total segment expenses	7.5	(1,662)	(118)	(1,546)	(1,073)
Segment results	278.3	107	8	(60)	(57)



OPERATIONAL HIGHLIGHT

From the operational side, TelkomGroup experienced negative growth in cellular subscribers from 171.1 million subscribers in 2019 to 169.5 million subscribers in 2020. Broadband subscribers grew positively from 117.3 million subscribers in 2019 to 123.9 million subscribers at the end of the reporting period. On the other hand, fixed-line subscribers experienced a decline from 9.3 million subscribers to 9.1 million subscribers. The decline in fixed-line subscribers indicates a change in market behavior towards broadband digital connectivity that accelerated during the COVID-19 pandemic.

Amid the pandemic that occurred during 2020, TelkomGroup still developed infrastructure. There was the addition of BTS, towers, and fiber optic backbone network for the domestic market. TelkomGroup also added access points to provide Wi-Fi services that are accessible to the public. Regarding customer service, TelkomGroup reduced the PlasaTelkom and GraPARI networks to empower our digital touchpoint services further.

	Unit	Year Ended on December, 31		
		2020	2019	2018
SUBSCRIBERS				
Cellular Subscribers	(000) subscribers	169,542	171,105	162,987
Postpaid (kartuHalo)	(000) subscribers	6,496	6,376	5,400
Prepaid (simPATI, Kartu As, Loop, by.U)	(000) subscribers	163,046	164,729	157,587
Broadband Subscribers	(000) subscribers	123,954	117,256	113,813
Fixed broadband IndiHome ¹⁾	(000) subscribers	8,016	7,003	5,104
Mobile broadband ²⁾	(000) subscribers	115,938	110,253	106,553
Fixed Line Subscribers	(000) subscribers	9,119	9,369	11,111
Fixed wireline (POTS)	(000) subscribers	9,119	9,369	11,111
INFRASTRUCTURE				
Satellite Capacity	TPE	133	133	133
Point of Presence	PoP	117	119	118
Domestic	PoP	59	56	46
International	PoP	58	63	72
BTS	unit	231,172	212,235	189,081
BTS 2G	unit	50,252	50,297	50,310
BTS 3G	unit	73,397	82,104	82,118
BTS 4G	unit	107,523	79,834	56,653
Tower	unit	35,822	33,892	30,485
Fiber Optic Backbone Network	km	167,935	164,769	161,652
Domestic	km	103,235	100,069	96,952
International	km	64,700	64,700	64,700
Wi-Fi Services	access point	386,856	386,420	382,361
CUSTOMER SERVICE				
PlasaTelkom ³⁾	location	383	408	422
GraPARI TelkomGroup	location	9	9	7
Plasa Telkom Digital	location	16	11	10
GraPARI	location	422	427	440
International	location	19	5	11
Domestic	location	403	422	429
GraPARI Mobile	unit	365	324	761
IndiHome Sales Car	unit	896	1,078	1,142
EMPLOYEES	people	25,348	24,272	24,071

Remarks:

- 1) Fixed broadband IndiHome is a product that allows customers to choose one or more of Consumer segment portfolio such as fixed voice, fixed broadband services, and IPTV including consumer digital services.
- 2) Mobile broadband includes Flash user, Blackberry user, PAYU, and Home LTE.
- 3) PlasaTelkom outlet is a face-to-face customer service points consists of GraPARI TelkomGroup, Plasa Telkom Digital and, other Plasa across Indonesia.

MOBILE SEGMENT



Data traffic 2020 increased by 43.8% to 9.7 million TB



231K total BTS with 180.9K 3G/4G BTS, increased 18.9K BTS.

During the reporting period, TelkomGroup remains to transform in the Mobile segment. One of Telkom's priorities is the initiative for building a decent synergy with the internal or external party. Moreover, TelkomGroup also remains widening its digital business opportunity on this segment supported by 5G technology development in the future.

TelkomGroup has varied portfolio of its products and services in the Mobile segment consisting of mobile voice and SMS, mobile data services, and mobile digital services. Specifically for cellular services, TelkomGroup through its subsidiary Telkomsel currently carries GSM, 3G, and 4G/LTE technology. The following are various products and services available to the public offered by Telkomsel:

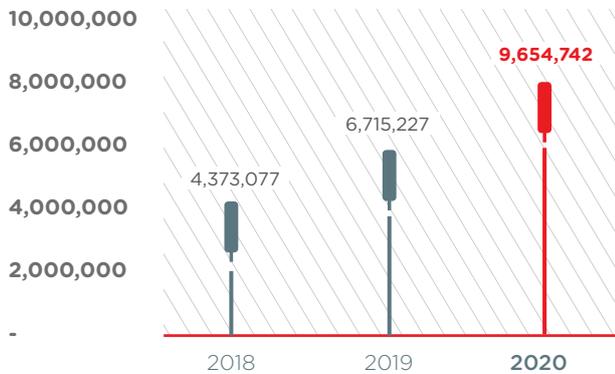
1. **simPATI**, is a prepaid product and service for middle-class users that provides high-quality telecommunications services through the innovative and attractive service packages and promotions.
2. **Kartu As**, is a prepaid product and service for subscribers who look for affordable price with varied excellences.
3. **Loop**, is a prepaid product and service for young users with a variety of attractive data and digital service options that are tailored to the needs of today's young generation.
4. **By.U**, is an end-to-end digital prepaid product and service for all telecommunications needs for Gen Z segment users who carry out their daily lives with a digital lifestyle. An end-to-end digital experience that is presented through the digital by.U application that is installed on a smartphone covers the entire process of using services, ranging from the selection of delivery options, by.U telephone numbers, internet quota, additional quota (topping) to payment.
5. **kartuHalo**, is a postpaid cellular telecommunications product and service for premium, professional, and corporate users. kartuHalo offers a variety of comprehensive package with exclusive excellences..

As of December 31, 2020, TelkomGroup successfully achieved the cellular basis of 169.5 million subscribers. It recorded 96.2% prepaid subscribers and 3.8% postpaid subscribers. During 2020, there was a decrease of prepaid subscribers from 164.7 million to 163.0 million subscribers, while postpaid subscribers increased from 6.4 million to 6.5 million subscribers. The decrease of prepaid subscribers was due to the lower people's purchasing power of the COVID-19 pandemic with the ongoing competitiveness. Therefore, TelkomGroup made strategies to establish a strong foundation and increase more subscribers' engagement supported by the reliable network capacity.

For mobile broadband service as the end of 2020, it recorded of 115.9 million subscribers, increased 5.7 million subscribers or 5.2% with the data traffic increase from 6.7 million TB in 2019 to 9.7 million TB in 2020. The increase was due to the subscriber's engagement implementation by providing more add-on products with affordable price, specifically in the COVID-19 pandemic to increase the subscriber's productivity. Besides the cellular connectivity service, we also launched Orbit in 2020, a fixed wireless access service with the 4G network, targeting the subscribers who do not have access to fiber infrastructure.

Cellular Traffic Data Diagram in 2018-2020

Data Traffic (TB)



Furthermore, for digital mobile services, Telkomsel explores many opportunities in new digital initiatives to meet customer needs to complement network connectivity. Digital mobile services are enriched through the various initiatives of video, music, games, and fintech content which will ultimately enhance the digital customers' ecosystem. Telkomsel strengthens MAXstream's position in the video streaming industry with the addition of HBO Go and Disney+ to complement video content. Telkomsel provides the streaming service LangitMusik and Telkomsel Dunia Games for music and game enthusiast, which provides the end-to-end game ecosystem combining the media content, distribution, payment, e-sport, and game publishing. We have launched online games and started developing the game community to broaden the subscriber's experiences. In 2020, we launched the third game of Rise of Nowlin, the fourth game of Kolak Express 3, and the fifth game of Three Kingdoms: Quest of Infinity. Besides, TelkomGroup also provides electronic money service LinkAja managed by its subsidiaries of PT Fintek Karya Nusantara (Finarya). As the payment service, LinkAja has been collaborating with numerous partners such as taxi services, gas stations, food and beverages, and toll and tax payment.

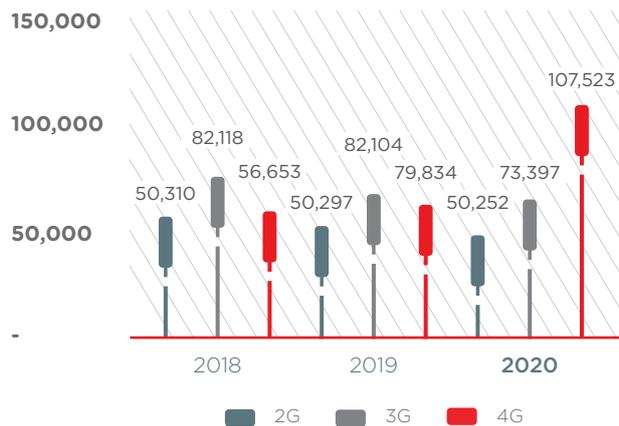
To strengthen its future digital mobile service, Telkomsel made a strategic investment to PT Aplikasi Karya Anak Bangsa (Gojek) in November 2020. Telkomsel is confident

the collaboration with Gojek would create better service and solutions to the community in developing the digital ecosystem. Telkomsel expects to create synergy for both parties by platform-apps integration, product diversification, increase the data traffic and revenue, widen the market share, and decrease the customer churn with this collaboration. Not only with external parties, but internal synergy also has been developed as the synergy of Telkomsel and IndiHome to complement the market gap.

To establish its position as the leader of networks provider Telkom added 18.9 thousand new BTS to support 4G/LTE services in many cities and acquired 18.3 million 4G/LTE new subscribers in 2020. Telkom had total of 107.5 thousand 4G BTS covered more than 90% area in Indonesia as of end December 2020.

Diagram of TelkomGroup BTS in 2018-2020

Total BTS (unit)



The COVID-19 remains to inflict uncertainty impact that created economic slowdown and lower people's purchasing power. In this situation, Telkomsel has supported the community by giving the community the optimal service and affordable price as a response to the COVID-19 crisis, including the supportive program of the Government subsidy data package for students and school teachers across Indonesia.

Mobile Segment Financial Performance

Even though it experienced a decline in 2020, Mobile segment revenue was still the main contributor of Rp83,720 billion or 61.5% of the TelkomGroup's consolidated revenue. The performance of the Mobile segment for the past three years presents below:

Mobile Segment	2020-2019	2020		2019	2018
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	(4.8)	83,720	5,959	87,897	85,338
Expenses	(1.7)	(40,335)	(2,871)	(41,019)	(40,041)
Result	(7.5)	43,385	3,088	46,878	45,297

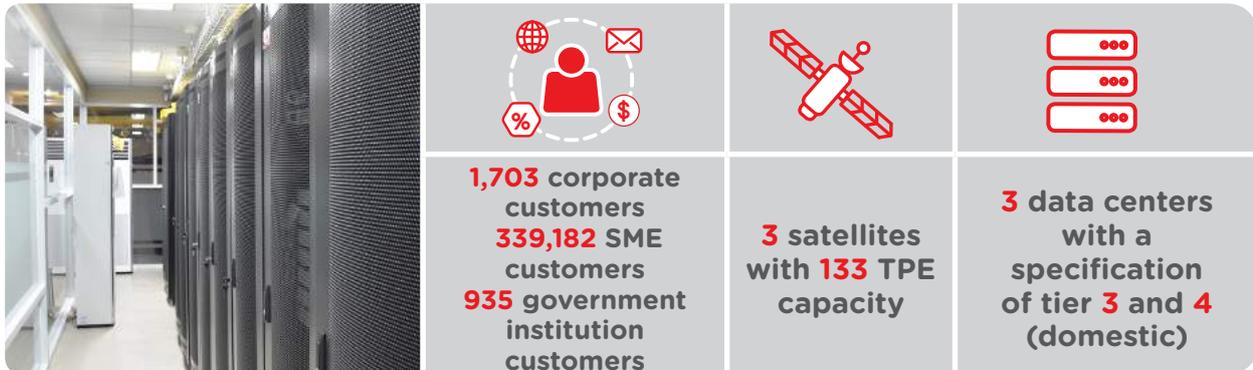
In 2020, the Mobile segment from the subsidiary of Telkomsel, successfully recorded the revenue of Rp83,720 billion decreased by Rp4,177 billion or 4.8%. Meanwhile, its expense decreased by Rp684 billion or 1.7% than the previous year into Rp40,335 billion.

The revenue decreased from the previous year triggered by the decrease in cellular voice revenues by Rp5,551 billion or 22.2% and SMS revenues by Rp2,287 billion or 34.3%. It was the impact of customer behavior transformation from voice to data services and the impact of using OTT services. On the other hand, internet and cellular data revenues increased by Rp3,827 billion or 6.9% as a result of an effective marketing strategy, with attractive data package programs at competitive prices, especially to accommodate the lower people's purchasing power during the COVID-19 pandemic. Overall, the Mobile segment still recorded a segment profit of Rp43,385 billion.

Telkomsel can maintain its position as the largest cellular operator in Indonesia with its national coverage, serving 169.5 million subscribers with 115.9 million mobile data users. Telkomsel Digital Business revenue grew by 7% YoY to Rp62.32 trillion.



ENTERPRISE SEGMENT



In the Enterprise segment, TelkomGroup serves customers of corporate, SMEs, and Government institutions. The services are enterprise grade connectivity services (including satellite), data center & cloud, IT services, business process outsourcing, and other adjacent services to provide the end-to-end solution and IT ecosystem.

During the pandemic, the Enterprise segment performed in the most under pressure due to the pandemic faced by TelkomGroup. Enterprise segment seeks to make fundamental improvements and increase consultative selling to overcome it. The COVID-19 negatively impacted several customers' business and operations, so they requested to get deferred payment of completed projects in 2020. But it did not significantly impact our cash flow and operating revenue in 2020. We also continue the business policy that began in 2019, focusing on the higher profitability and recurring business lines, specifically on enterprise solutions services such as enterprise connectivity, data center, and cloud, and selectively reduce and not prioritize non-recurring business solutions that have a relatively low margin level. In line with this strategy, although the Enterprise segment revenue has decreased, revenue from connectivity and Data Center & Cloud services can still grow positively.

In general, connectivity services of TelkomGroup's Enterprise segment are fixed broadband, Wi-Fi, ethernet, and data communication including leased channels, namely metro ethernet, VPN-IP; and network solution of high-capacity data which provide point-to-point connection

and fixed voice service. As of the end of December 2020, TelkomGroup has provided bandwidth in service of the total 2,998 Gbps, which consist of 1,339 Gbps for corporate internet and 1,659 Gbps data communication customers. It was higher by 0.1% than the previous year.

Telkom through its subsidiary of Telkomsat strives to integrate satellite service, provide transponder capacity leasing, and other support services as a part of the connectivity services. The satellite operations include the leasing of satellite transponder capacity for broadcasting and VSAT operators, cell phone, ISP, and up-link and down-link of earth station satellite for domestic and international users. In 2020, the total used transponder capacity was from 3 Telkom's satellites with the 133 TPE capacity and the third-party leasing with the capacity around 52 TPE. Telkom has the plan to launch the High Throughput Satellite (HTS) in the future. This technology is suitable to serve the satellite broadband customers. This new satellite expects to get Telkomsat to lead the regional satellite service providers.

Moreover, Telkom remains to improve data center and cloud service to enhance the service for Enterprise customers. Telkom delivers the enterprise data center, collocation, hosting, disaster recovery center, managed operation services, and various cloud services such as private cloud, cloud hybrid, and cloud public. Telkom subsidiary of Telkomsigma currently has three data centers in Indonesia with 73% used capacity. In 2020, Telkomsigma launched the FLOU cloud service that provides a cloud hybrid

targeting customers for MSME/SME, startup to enterprise segments with package offers that can be tailored to their needs.

Telkom also delivers financial services such as bill payment aggregator, electronic payment platform services, online payment solutions, and switching services. In 2020, there were 22,583 ATMs managed well by its subsidiary of Swadharma Sarana Informatika (SSI) across Indonesia. TelkomGroup provides business process management, business process as-a-service, and customer relationship management for system integration and IT service management service. TelkomGroup consistently improves the IT capacity and performs digitalization to fulfill future needs. One of them is TelkomGroup's digital advertising agency with media placement dan integrated digital media such as mobile advertising, online advertising, and digital printing. TelkomGroup has the platform for suggesting insights in costumers' behavior analysis and creating the marketing campaign based on big data and data analytics for supporting those services.

TelkomGroup provides varied services related to hardware & software sales, including its IT supports service for the adjacent services. TelkomGroup also delivers Internet of Things (IoT) solutions for building and develops IoT applications for smart energy monitoring management, fleet management, IT security services, unified communication, and collaboration services.

TelkomGroup's service excellence in the Enterprise segment is the broad coverage of the fiberoptic infrastructure network. The increasing demands of this segment create an opportunity for TelkomGroup to manage various products and services then combine them into total solutions. In 2020, the Enterprise segment customers were 341,820 customers, consist of 1,703 corporates, 339,182 SMEs, and 935 Government institutions. The SMEs' customers increased due to the COVID-19 pandemic that indirectly encourages SMEs to use the technology as the connectivity and digital solution before the pandemic was low. It is an opportunity for Telkom to deliver digital products and services as the SMEs' necessity.

Enterprise Segment Financial Performance

Enterprise segment revenue contributed 13.0% of the total consolidated revenue in 2020. The performance of Enterprise segment for the past three years can be seen in the following table:

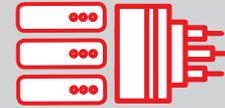
Enterprise Segment	2020-2019	2020		2019	2018
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	(5.2)	17,729	1,262	18,701	21,054
Expenses	(6.3)	(19,464)	(1,385)	(20,782)	(21,717)
Result	16.6	(1,735)	(123)	(2,081)	(663)

In 2020, revenue for the Enterprise segment decreased from Rp18,701 billion in the previous year to Rp17,729 billion in 2020. The revenue decreased by 5.2% or Rp972 billion due to the decrease in other telecommunication revenue by Rp1,483 billion or 25.7%, which was caused by a decrease in peripheral revenue by Rp1,109 billion and manage service and terminal revenue by Rp440 billion due to several project delays in the COVID-19 pandemic and a strategy change to reduce low margin income. The decrease was compensated by the revenue increase in data, internet, and information technology services of Rp835 billion or 9.7%, mainly from the data center and cloud business growth managed by Telkomsigma. Meanwhile, expenses in 2020 were recorded at Rp19,464 billion, decreased by Rp1,318 billion or 6.3% from Rp20,782 billion in 2019. It resulted that the Enterprise segment recorded a segment loss of Rp1,735 billion.

CONSUMER SEGMENT



8.0 million IndiHome subscribers, increased 14.5% from the previous year



12.7 million optical ports as broadband access based on optical fiber

TelkomGroup's primary portfolios of product and service in the Consumer segment were fixed voice, fixed broadband, IP-TV, and digital services under the brand of IndiHome. During the COVID-19 pandemic, IndiHome is one of the people who need to do their activity at home. It stimulates revenue growth and positively impacts the overall TelkomGroup's performance. As the end of December 2020, the IndiHome subscribers were 8.0 million subscribers, growing by 14.5% or 1.0 million subscribers from the previous year. The ARPU in 2020 was 249 thousand, lower than the last year of Rp257 thousand due to marketing program to optimize idle network at the low affordability area in the beginning of the year. The marketing program was successfully implemented to increase the ARPU with the customer leveraging program, presented by the ARPU increase on Q4 2020 of Rp262 thousand from the Q4 2019 and ARPU increased in each 2020 quartal. Besides, data traffic also increased from 13.7 million terabytes to 24.5 million terabytes.

In 2020, TelkomGroup developed the IndiHome to become the featured product and service with the More for Less program, a continuation of the previous years' program. It was by the bundling offer combining the internet broadband, IP-TV, and fixed telephone. The product was offered in the sales channel of digital channels and promotions. The promotions in 2020 were Wujudkan Rumah Ceria 2020, Semangat Kemerdekaan, and Semua Bisa Berubah Maju. Telkom also launched packages that were specifically designed for helping people in online learning activities with the Paket Learning from Home and Paket Guru dan Dosen. Telkom also offers special package of Rumah Ibadah to support online worship during the pandemic.

Besides, Telkom has been developing products and technology to fulfill the customers' aspirations and need. In 2020, Telkom launched IndiHome Gamer 2.0 with speed ratio improvement. Telkom was also partnering with game publishers to launch new games as service add-on value, improve cloud storage service with new features, and encourage the customers to increase their internet speed. In 2020, 1.4 million subscribers upgraded their internet speed.

Telkom offers IndiHome TV with Android TV Box devices connected to Google Ecosystem for IPTV services. The IPTV services include TV linear, TV-on-demand, video-on-demand (VOD) channels, and OTT service extension with UseeTV Go and UseeTV.com to have TV multi-screening and content access experience anywhere. Telkom remains to enhance IndiHome's TV channels of Standard Definition, High Definition to High Definition with Dolby Support, which subscribers would experience watching movies in the home feels like in cinema. To get more differentiation, IndiHome presents 7 in-house channels whose broadcast quality is constantly improving. One of them is the revamp of the idKU channel to SEA Today, a news and live-style channel in English that provides Indonesia and Southeast Asia news as an accurate news reference. The SEA Today channel expects to open worldwide exposure about Indonesia, including socio-culture, natural potential, tourism, lifestyle, and other things in an attractive event format.

IndiHome still maintains its position as the largest and most comprehensive TV channels provider in Indonesia with HD quality and several channels with Dolby audio. The diversity of video content maintains through cooperation with various leading OTT video streaming providers. IndiHome provides a choice of diverse minipacks that can be easily activated to meet customer preferences and capabilities, reflected in the add-on minipack transactions that reached 3 million transactions in 2020.

Telkom also offers partners' OTT content such as iflix, Catchplay+, Vidio, and Mola TV to improve customer experience, we are open for partnerships with the OTT video so IndiHome would be a platform with content variety. Besides, Telkom released new VOD and game cloud GameQoo for IndiBox subscribers. The OTT service is based on the past-released Android TV Box device in 2019 so the subscribers may access TV streaming, music, game, applications, and VOD. We also offer an add-on of WiFi.id service for IndiHome subscribers to access unlimited internet in all WiFi.id access points across Indonesia. WiFi.id stands for Indonesia Wi-Fi, our public wireless internet network that provides facilities to enjoy high-speed internet and other multimedia services.

TelkomGroup's challenge in 2020 was increasing the quality of IndiHome's services. With the increasing subscribers, then there would be more intense demands to deliver the best customer experience. Another challenge

was increasing the average revenue per user (ARPU) and decreasing the churn. Network infrastructure reliability is a significant aspect. Telkom currently has 12.7 million optical ports with a fiber optic-based network of fixed broadband access. STO modernization into fiber optic node (T-Cloud) is still ongoing to provide better service quality for customers. Until 2020, TelkomGroup already had 960 T-Clouds. Mean Time To Install (MTTI) and Mean Time To Repair (MTTR) is still improving by enhancing the technician capacity and business process. Through its subsidiary of Telkom Akses, Telkom announced Telkom Akses Command Center as an access network management center with digital integrated control. It can detect potential disruption fast in a certain area so it could handle immediately. The automatic predictive ticket would instruct the technician to have a proactive measure to the customers. Then, agents would track technician completion of the disruption tickets.

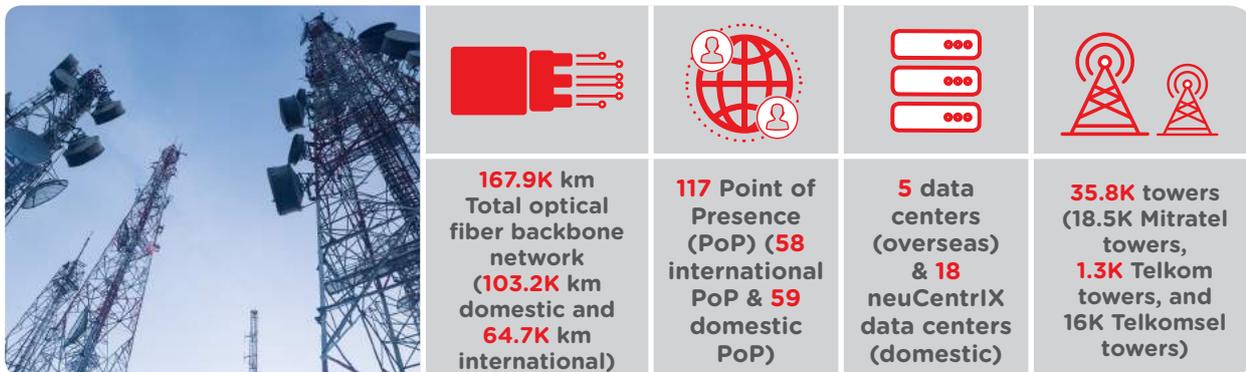
Consumer Segment Financial Performance

Consumer segment revenue was Rp20,956 billion contributing to TelkomGroup's total consolidated revenue by 15.4% in 2020. The following table is the performance of Consumer segment for the past three years:

Consumer Segment	2020-2019	2020		2019	2018
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	18.4	20,957	1,492	17,706	13,891
Expenses	1.2	(11,721)	(834)	(11,577)	(11,739)
Result	50.7	9,236	658	6,129	2,152

In 2020, revenue from the Consumer segment was Rp20,957 billion. It increased by Rp3,251 billion or 18.4% from the previous year. It was due to an increase in IndiHome revenue by Rp3,744 billion or 23.3%, which was driven by the growth of IndiHome subscribers by 14.5% to 8 million subscribers. The increase was compensated by a decrease in telephone revenue by Rp.476 billion or 30.9%. For expenses in 2020, it recorded that the Consumer segment expenses were Rp11,721 billion, slightly higher than the previous year. With the increase in revenue and the successful expense controlling, the Consumer segment recorded a profit of Rp9,235 billion in 2020, an increase of 50.7% compared to the previous year. IndiHome profitability also improved with the EBITDA margin of 38.9%, significantly increased than the previous year of 33.9%.

WHOLESALE AND INTERNATIONAL BUSINESS SEGMENT (WIB)



In the Wholesale and International Business (WIB) segment, TelkomGroup serves Other Licensed Operators (OLO), Service Providers, Digital Players domestically and overseas. The Wholesale and International Business (WIB) segment currently has several business lines, namely carrier, tower, infrastructure, and international business services. In 2020, the Wholesale segment was relatively stable though there were several project delays from customers. But Telkom should prepare new business initiatives to maintain its profitability.

1. Carrier Service

In this business line, the main services are network, data and internet, and interconnection. Besides the interconnection, TelkomGroup also provides value-added, signaling, voice dubbing, data center, platforms, and solutions services. In 2020, carrier services recorded positive growth driven by the increase in the domestic A2P revenue trend compared to last year.

TelkomGroup's initiative of Global Digital Hub that has started in 2018 continued until 2020. TelkomGroup successfully connected submarine cable of SEA-ME-WE 5 with SEA-US to provide the direct broadband connectivity for Europe, Asia, America region, which made Telkom the digital connectivity main gate presenting traffic from domestic to global, global to domestic, and as a hubbing among the countries for voice or A2P (application-to-person) SMS traffic. We notice an increasing demand in 2020 for SMS A2P due to the consumption habits changes of the COVID-19 pandemic. It increased the digital activity at home, such

as work from home or online learning from home by accessing applications. These applications frequently require user notification and authentication that raise our SMS A2P usages.

As of the end of December 2020, TelkomGroup had 18 neuCentriX data centers in 12 cities across Indonesia, adding 4 locations than the previous year. Telin has 5 overseas data centers located in Singapore (Telin-1, Telin-2, and Telin-3), Timor Leste (1 location), and Hong Kong (1 location) to deliver maximal services. The neuCentriX data center occupancy rate was 50.83% of total capacity while the average occupancy of overseas data centers was around 84.70% of total capacity in 2020. The data center capacity in Singapore increased due to the higher enterprise business demand. Telkom has been building Telkom HyperScale Data Center tier 3 and 4 since July 2020, which would complement the operated data centers and support Indonesia's digital transformation.

Currently, TelkomGroup has 117 Points of Presence (PoP), consisting of 58 Global PoPs in 28 countries and 59 Domestic PoPs in 49 cities. In 2020, the declining 5 PoPs was from the cost efficiency evaluation result. TelkomGroup's other services are Content Delivery Network (CDN) operation with a capacity of 10,546 Gbps higher 61.6% than the previous year. It works in collaboration with Google, Facebook, Akamai, Edgecast, Level3, ChinaNet, Yahoo, and video content providers such as iflix and HOOQ. The higher traffic was due to the COVID-19 pandemic impact.

2. Tower Service

TelkomGroup serves the procurement and installation of telecommunication devices for other operators with a leasing system. As of the end of 2020, TelkomGroup has around 35,822 towers, consist of 18,473 Mitratel towers, 1,349 Telkom towers, and 16,000 Telkomsel towers. TelkomGroup through Mitratel offers for operator colocation and tower reseller businesses. In 2020, Mitratel managed 30,570 tenants and 3,887 tower resellers.

In October 2020, Mitratel signed a Conditional Sale and Purchase Agreement with Telkomsel to strengthen its position in the Indonesian telecommunication tower industry. With this agreement, Mitratel purchased 6,050 Telkomsel towers valued at Rp10.3 trillion. Previously, Mitratel also purchased 2,100 towers valued at Rp4.4 trillion from PT Indosat Ooredoo Tbk. In 2019, Mitratel has acquired 95% share capital of PT Persada Sokka Tama, which operates in the telecommunication tower business, and will continue operating to get 100% share capital in 2021. This asset acquisition was Telkom's strategic policy to centralize the tower service to Mitratel for increasing tower leasing revenue and operation and maintenance efficiency.

3. Infrastructure Services and Network Management

TelkomGroup also provides and manages infrastructure and network services as a telco Company, such as network construction and maintenance. There are the installation and maintenance of submarine cables and providing energy solutions for the telecommunications infrastructure ecosystem.

At the end of 2020, TelkomGroup had a fiberoptic backbone network of 167,935 km, consisting of 64,700 km of international networks and 103,235 km of domestic networks with a total capacity of 129,600 Gbps. TelkomGroup has the connection network to Europe, Asia, and America, which consists of Thailand-Indonesia-Singapore (TIS), Batam-Singapore Cable System (BSCS), Dumai-Malacca Cable System (DMCS), Asia-America Gateway (AAG), Southeast Asia-Japan Cable System (SJC), South East Asia-Middle East-Western Europe 5 (SEA-ME-WE 5), and Southeast Asia-United States (SEA-US), and Indonesia Global Gateway (IGG) that connect major cities in Indonesia with Asia, Europe, and America with SEA-ME-WE 5 and SEA-US. Telkom also operates and has usage rights for a fiber optic-based backbone network totaling 134,040 km under permanent telecommunications lease agreements, together with other global submarine cable operators/consortia.

Currently, Telkom is working in two domestic submarine cable networks of PATARA-2 (Papua Utara-2) with a total of 1,126 km, which connects Sarmi and Waisei; and LUMORI (Luwuk-Morowali-Kendari) with a total of 436 km, which connects Luwuk, Bonepute, Kolaka, and Kendari. PATARA-2 and LUMORI are expected to be ready for in-service at second semester of 2021. Telkom has also negotiated usage rights for 3,250 km of submarine cables with the Southeast Asia-Japan Cable 2 (SJC2) consortium for the international submarine cable network. This additional submarine cable will increase Telkom's network capacity in serving customers.

Telkom with its subsidiary of Infratel cooperates with State-Owned Enterprises (SOEs) to maintain diesel engines until 2021 for energy solutions. It started with the diesel power plant construction for telecommunications networks in 2018 located in Kalimantan and Sulawesi.

4. International Business

PT Telekomunikasi Indonesia International (Telin) is a Telkom subsidiary that develops its business activities in Singapore, Hong Kong, Timor Leste, Australia, Myanmar, Malaysia, Taiwan, United States, New Zealand. Its services are wholesale, cloud and connectivity, data center and managed services, satellite transponder services, retail mobile services (MVNO), IP Transit, and business process outsourcing services. Telkom regularly reviews its overseas operation for the profitability, prospect, and strategic position to optimize its portfolio structure. Therefore, it would follow up or cancel the investments based on the reviews.

Telin plans to use the new capacity of neuCentriX data center and improve CPaaS based on NeuAPIX cloud with communication features of omnichannel (bots and live chat, real-time voice capabilities, SMS, emails, video call, and messaging service). Telin also launched NeuTrafiX, a web-based public sharing platform to connect the buyer and seller conveniently and transparently for wholesale voice, SMS, and virtual numbers trading.

Wholesale and International Business Segment Financial Performance

WIB segment obtains external revenue by providing various services such as network, interconnection, internet, submarine cable, data center, tower, and infrastructure. WIB has a role as an enabler and catalyst of other business segments to create the best value for the TelkomGroup. It made the WIB external revenue smaller than internal revenue. The contribution of WIB segment revenue in 2020 to the total consolidated revenue was 9.9% with the WIB revenue of Rp13,501 billion.

WIB Segment	2020-2019	2020	2019	2018
	(%)	(Rp billion)	(US\$ million)	(Rp billion)
Revenues	27.3	13,501	961	10,609
Expenses	10.7	(17,370)	(1,236)	(15,691)
Result	23.9	(3,869)	(275)	(4,540)

The WIB segment revenue grew by Rp2,892 billion or 27.3% valued at Rp13,501 billion in 2020. The revenue growth in the WIB segment was due to the interconnection revenue increase by Rp1,566 billion or 27.4% caused by the A2P's revenue increase. Besides, the services revenue of data, internet, and information technology also increased by Rp577 billion or 33.5% due to growth in Telin's data center revenue.

Furthermore, the total expense of the WIB segment was Rp17,370 billion in 2020, increased by Rp1,679 billion or 10.7% compared to the previous year. The expense increase was caused by additional infrastructure. Thus, the WIB segment created a segment loss of Rp3,869 billion.

OTHERS SEGMENT



41.7 million
Digital Music
active users
25.2 million
Digital Games
paid users

The Digital segment offers digital products and services based on big data, smart platforms, digital advertising, digital entertainment (music & games), and e-commerce. Telkom via PT Metra Digital Innovation (known as MDI Ventures) invested in digital startup companies with the future growth potential to manage venture capital funds in 2020 and investing in companies that can support TelkomGroup's business performance.

Telkom offers a platform called BigBox and Internet of Things (IoT) platform services of Antares for the big data and smart platforms to the Enterprise customer segment. BigBox is a big data service platform that provides various services, such as analytics, data & business solutions, to API provider platforms to help developers and startup companies build their business. In 2020, Telkom launched the One Data Management Platform program as a Company's commitment to supporting the government in realizing the Satu Data Indonesia program. Telkom has worked on various projects for the smart IoT platform, that enables device connectivity of Smart Manufacturing, Air Pollution Monitoring, Smart Electricity, Waste Management, and others to increase productivity and quality of life of the community.

Telkom provides advertising media solutions in the digital advertising business line to support marketing activities through the UZone.id news portal. Apart from news portals, Telkom provides an ad exchange service platform called UAds that functions to gather publishers, advertisers, and agencies so that digital advertising activities would be effective and efficient.

In digital entertainment, Telkom Indonesia by its subsidiary PT Melon Indonesia provides digital music services through ring-back tones with the Nada Sambung Pribadi (NSP) and

the Langit Musik music streaming and game services of UPoint. By the end of 2020, digital music services had 41.7 million active users with 217 million transactions through the online digital music content application MelOn. In the game publishing business, Melon Indonesia launched 6 games by the end of 2020, such as 3 games where MelOn acts as publisher and 3 games in which MelOn acts as co-publisher. Digital games service has around 25.2 Digital Games paid users.

In September 2020, Telkom officially discontinued the e-commerce platform operation of BLANJA.com as a form of the Company's strategy to get more efficient and healthier digital portfolio management. However, Telkom's business in e-commerce did not stop with the discontinued of the BLANJA.com platform. Telkom continues to be committed to providing the best service for the community by launching a B2B commerce platform called Pasar Digital (PaDi) UMKM which aims to expand the business ecosystem and micro, small, and medium enterprises (MSMEs). PaDi UMKM is Telkom's sincere form of supporting Government programs through the Ministry of SOE to connect the SOEs contribution to MSMEs across Indonesia. It expects local supply chain resilience can be maintained with this platform, especially in the COVID-19 pandemic. Besides, in 2020 Telkom will continue to improve the service and quality of another B2B commerce platform called Xooply for the non-SOE Enterprise segment with more diverse suppliers. Regarding the COVID-19 pandemic outbreak in 2020, Telkom provided maximum support to the government through the Ministry of Communication and Information by the PeduliLindungi application development and a platform with features of the COVID-19 pandemic. These features include contact tracking, zone identification, transportation & distribution systems, and dashboards to monitor vaccine distribution.

Related to MDI Venture, a Telkom subsidiary, is in charge of corporate venture capital with its business activities consisting of investing - synergy - portfolio management - value creation, and fundraising. MDI as a Telkom venture capital initiative is in Jakarta with operations in Singapore and Silicon Valley. MDI combines the Venture Capital model by providing startups with synergy access in the TelkomGroup after making a financial investment. The focus of this investment is high growth business verticals to enhance the digital experience and provide the best service that leads to customer experiences, such as logistics, financial technology, cloud computing, agrotech/food, deep tech, digital life, health tech, new retail, and the Internet of Things.

In 2020, MDI Ventures invested in 15 new startups spread across 4 countries, such as Indonesia, India, Singapore, and the United States, where 2 startups of namely Observeit and Sonar exited through acquisitions. MDI Ventures has invested in more than 50 startups of 12 countries since

2016, with a total of 8 startups that exited and 2 of them through IPOs. Currently, MDI has managed three funds, apart from fund management from Telkom. The three funds are:

- TMI Fund from Telkomsel Mitra Inovasi 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, especially in technology startups, including financial technology, e-commerce infrastructure, Software as a Service (SaaS), and big data.
- Arise Fund, launched in 2020 where MDI collaborates with Finch Capital Netherlands, focuses primarily on early-stage startups for Indonesian technology startups.

Other Segment Financial Performance

Other segment revenue in 2020 contributed 0.2% of TelkomGroup's total revenue. The performance of Other segment for the last three years can be seen in the following table:

Other Segment	2020-2019	2020		2019	2018
	(%)	(Rp billion)	(US\$ million)	(Rp billion)	(Rp billion)
Revenues	11.2	219	16	197	130
Expenses	11.4	(1,653)	(118)	(1,484)	(1,042)
Result	(11.4)	(1,434)	(102)	(1,287)	(912)

Other segment revenue in 2020 recorded at Rp219 billion, increased by 11.2% or Rp22 billion from the previous year. There was an increase in terms of expenses of 11.4% or Rp169 billion, from Rp1,484 billion in 2019 to Rp1,653 billion in 2020. Overall, the Other segment recorded a segment loss of Rp1,434 billion.