

OPERATIONAL OVERVIEW BY BUSINESS SEGMENT

CONSUMER



- Providing the best connectivity for customers by utilizing high-speed internet, namely fixed voice, fixed broadband, IP-TV, and digital
- As of December 31, 2019, it had 9.0 million fixed broadband customers (including 7.0 million IndiHome customers) and controlled 86.5% market share, the largest in Indonesia.

MOBILE



- Providing high mobility for TelkomGroup customers by utilizing mobile voice services, SMS, mobile data services, and mobile digital services. It is the largest cellular network operator in Indonesia with national coverage that reaches more than 90% population and is supported by 212,235 total BTS.

ENTERPRISE



- Provides enterprise connectivity, satellite and digital platform system services for corporate, institutional and business customers. Market leaders who have served clients 1,917 companies, 300,416 SMEs and 975 government institutions as of the end of 2019.

WHOLESALE & INTERNATIONAL BUSINESS



- Provides wholesale telecommunication carrier services, tower, infrastructure & network management services as well as international business.
- Services in 9 countries through 7 Telin subsidiaries operating overseas.

OTHERS



- 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 Metra Digital Innovation to invest in digital startups.



PT Graha Sarana Duta (Telkom Property), a Telkom subsidiary has initiated the leverage asset program within two approaches, such as Synergy Group (Internal group customer) and Strategic & Retail Partnership (external group customer). This Synergy Group would enhance cost efficiency while the Strategic & Retail Partnership is to increase revenue from property development, property rental, property facilities, and property management service.

SEGMENT PERFORMANCE HIGHLIGHTS

The biggest contribution of Telkom and its subsidiaries' revenue is 65.1% from mobile segment of Rp87,897 billion, while the lowest is from others segment of Rp197 billion or 0.1%. In terms of revenue growth, the largest revenue growth in the reporting period was revenue from consumer segment by 27.5%, while the lowest revenue growth was recorded in enterprise segment which grew negatively 11.2%.

The following table shows an overview of the performance of each of the business segments of Telkom from 2017 to 2019.

| Telkom's Results of Operation By Segment | Growth | | Years ended December 31, | | |
|--|-----------|--------------|--------------------------|--------------|--------------|
| | 2019-2018 | 2019 | | 2018 | 2017 |
| | (%) | (Rp billion) | (US\$ million) | (Rp billion) | (Rp billion) |
| Mobile | | | | | |
| Revenues | | | | | |
| External revenues | 3.0 | 87,897 | 6,331 | 85,338 | 90,073 |
| Inter-segment revenues | (18.5) | 3,163 | 228 | 3,880 | 3,086 |
| Total segment revenues | 2.1 | 91,060 | 6,559 | 89,218 | 93,159 |
| Total segment expenses | 2.6 | (56,864) | (4,096) | (55,449) | (53,834) |
| Segment results | 1.3 | 34,196 | 2,463 | 33,769 | 39,325 |
| Consumer | | | | | |
| Revenues | | | | | |
| External revenues | 27.5 | 17,706 | 1,275 | 13,891 | 11,105 |
| Inter-segment revenues | (65.7) | 786 | 57 | 2,290 | 287 |
| Total segment revenues | 14.3 | 18,492 | 1,332 | 16,181 | 11,392 |
| Total segment expenses | 2.4 | (15,904) | (1,146) | (15,531) | (11,923) |
| Segment results | 298.2 | 2,588 | 186 | 650 | (531) |
| Enterprise | | | | | |
| Revenues | | | | | |
| External revenues | (11.2) | 18,701 | 1,347 | 21,054 | 19,130 |
| Inter-segment revenues | (6.5) | 16,834 | 1,213 | 17,995 | 16,801 |
| Total segment revenues | (9.0) | 35,535 | 2,560 | 39,049 | 35,931 |
| Total segment expenses | (2.8) | (36,768) | (2,649) | (37,833) | (35,680) |
| Segment results | (201.4) | (1,233) | (89) | 1,216 | 252 |
| WIB | | | | | |
| Revenues | | | | | |
| External revenues | 5.2 | 10,609 | 764 | 10,084 | 7,439 |
| Inter-segment revenues | (2.5) | 16,265 | 1,172 | 16,678 | 15,305 |
| Total segment revenues | 0.4 | 26,874 | 1,936 | 26,762 | 22,744 |
| Total segment expenses | 2.3 | (21,111) | (1,521) | (20,634) | (17,944) |
| Segment results | (6.0) | 5,763 | 415 | 6,128 | 4,800 |
| Other | | | | | |
| Revenues | | | | | |
| External revenues | 51.5 | 197 | 14 | 130 | 126 |
| Inter-segment revenues | 45.5 | 1,289 | 93 | 886 | 602 |
| Total segment revenues | 46.3 | 1,486 | 107 | 1,016 | 728 |
| Total segment expenses | 44.1 | (1,546) | (111) | (1,073) | (1,049) |
| Segment results | (5.3) | (60) | (4) | (57) | (321) |

OPERATIONAL HIGHLIGHT

| | Unit | Year Ended on December, 31 | | |
|---|--------------------------|----------------------------|----------------|----------------|
| | | 2019 | 2018 | 2017 |
| SUBSCRIBERS | | | | |
| Cellular Subscribers | (000) subscribers | 171,105 | 162,987 | 196,322 |
| Postpaid (kartuHalo) | (000) subscribers | 6,376 | 5,400 | 4,739 |
| Prepaid (simPATI, Kartu As, Loop, by.U) | (000) subscribers | 164,729 | 157,587 | 191,583 |
| Broadband Subscribers | (000) subscribers | 119,290 | 113,813 | 111,074 |
| Fixed broadband 1) | (000) subscribers | 9,037 | 7,260 | 5,266 |
| IndiHome | (000) subscribers | 7,003 | 5,104 | 2,965 |
| Mobile broadband 2) | (000) subscribers | 110,253 | 106,553 | 105,808 |
| Fixed Line Subscribers | (000) subscribers | 9,369 | 11,111 | 10,957 |
| Fixed wireline (POTS) | (000) subscribers | 9,369 | 11,111 | 10,957 |
| INFRASTRUCTURE | | | | |
| Satellite Capacity | TPE | 133 | 133 | 73 |
| Point of Presence | PoP | 119 | 118 | 99 |
| Domestic | PoP | 56 | 46 | 42 |
| International | PoP | 63 | 72 | 57 |
| BTS | unit | 212,235 | 189,081 | 160,705 |
| BTS 2G | unit | 50,297 | 50,310 | 50,324 |
| BTS 3G | unit | 82,104 | 82,118 | 82,228 |
| BTS 4G | unit | 79,834 | 56,653 | 28,153 |
| Tower | unit | 33,892 | 30,485 | 29,061 |
| Fiber Optic Backbone Network | km | 164,769 | 161,652 | 155,524 |
| Domestic | km | 100,069 | 96,952 | 90,854 |
| International | km | 64,700 | 64,700 | 64,670 |
| Wi-Fi Services | access point | 386,420 | 382,361 | 352,642 |
| CUSTOMER SERVICE | | | | |
| PlasaTelkom 3) | location | 408 | 422 | 535 |
| GraPARI TelkomGroup | location | 9 | 7 | 4 |
| Plasa Telkom Digital | location | 11 | 10 | - |
| GraPARI | location | 427 | 440 | 442 |
| International | location | 5 | 11 | 10 |
| Domestic | location | 422 | 429 | 432 |
| GraPARI Mobile | location | 324 | 761 | 761 |
| IndiHome Sales Car | unit | 1,078 | 1,142 | 1,142 |
| EMPLOYEES | people | 24,272 | 24,071 | 24,065 |

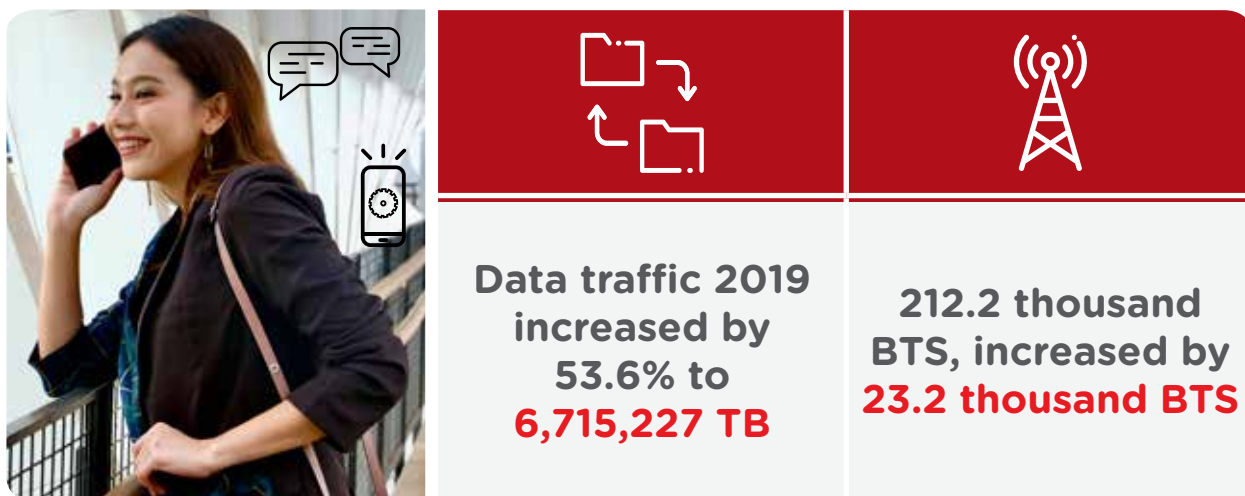
Remarks:

1) Fixed broadband subscriber consists of IndiHome and high speed internet (HIS) subscriber

2) Mobile broadband includes Flash user, Blackberry user, and PAYU

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



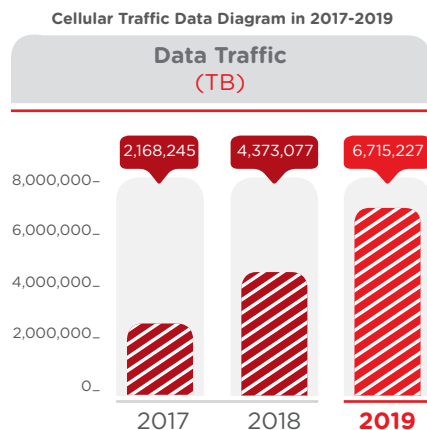
TelkomGroup has a portfolio of products and services in the Mobile segment consisting of mobile voice and SMS, mobile data services, and mobile digital services. Specifically for cellular services, TelkomGroup through its subsidiary Telkomsel currently carries GSM, 3G, and 4G / LTE technology. The following 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 purchase of starter packs and top-up vouchers.
2. Kartu As, is a prepaid product and service for middle to lower class users at a more affordable price compared to simPATI.
3. Loop, is a prepaid product and service for young users with a variety of attractive data package 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 package options, such as HaloKick and HaloFit My Plan, which vary in terms of price and data quota to suit your needs.

As of December 31, 2019, Telkomsel had a total cellular customer base of 171.1 million, an increase of 5.0% or 8.1 million from 163.0 million subscribers in the previous year. In 2019, it was recorded 96.3% of Telkomsel cellular subscribers were prepaid users, while 3.7% of customers were postpaid users. During 2019, the number of prepaid users increase from 157.6 million to 164.7 million, while the number of postpaid users increase from 5.4 million to 6.4 million subscribers. The success of the prepaid SIM registration program led to lower customer churn, SIM Card production efficiency and marketing programs as well as an increase in ARPU from Rp41,000 in 2018 to Rp46,000 in 2019.

Then, in terms of providing mobile broadband services, Telkomsel has products and services that are supported by 4G / LTE / HSDPA / 3G / EDGE / GPRS technology. There were 110.3 million mobile broadband service customers registered on December 31, 2019, increase by 3.5% or 3.7 million from 106.6 million at the end of 2018. Data consumption also increased by 53.6% to 6,715,227 TB. Factors that support this growth include effective marketing campaigns with customer retention initiatives and support for prepaid SIM registration that leads to shifting customer behavior with lower churn rates.

The following diagram illustrates the amount of data consumption by customers in 2017-2019



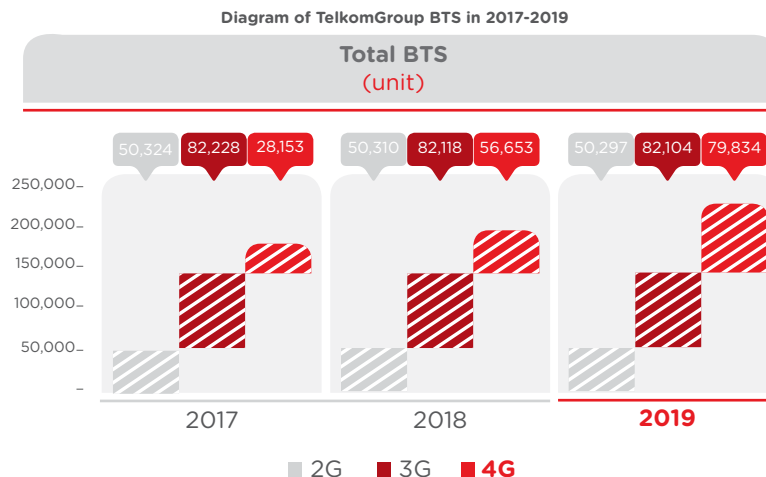
Furthermore, related to digital mobile products and services, Telkomsel offers, among others, VideoMAX, broadband data packages marketed with bundling systems, and access to OTT video services, and LinkAja electronic money services (formerly TCASH). To strengthen MAXStream's position in the video streaming industry, we partner with video content providers to enrich its content and platform. Regarding the game, we launch our second game, Lord of Estera. In addition we also have LangitMusik as a music streaming service.

We are also expanding the use of LinkAja, including the use of LinkAja by other Telkomsel customers and collaborating with new partners such as taxi services, gas stations, food and beverages for using LinkAja as a means of payment.

Furthermore, to strengthen digital mobile services in the future, Telkom has formed two new subsidiaries, namely PT Telkomsel Mitra Inovasi and PT Fintek Karya Nusantara. PT Telkomsel Mitra Inovasi will be positioned to conduct investment activities as well as the process of synergy and collaboration in various Telkomsel business units to encourage aspects of the company's digital transformation to accelerate the development of various new services, improve customer experience and optimize the company's business processes. Then, PT Fintek Karya Nusantara was formed to support the existing Fintech ecosystem in Telkomsel.

In line with our philosophy to be a leader in providing networks including outside Java, and to maintain and develop our Digital Business, in 2019, we will add 23,162 new BTS to support 4G / LTE services in more cities and have 88.4 million customers 4G / LTE. In total, we had 79,834 BTS 4G out of 212,235 total BTS with coverage covering more than 90% of the population in Indonesia as of December 31, 2019.

The following is a comparison of the number of BTS owned by TelkomGroup in the last three years.



Mobile Segment Financial Performance 2017 - 2019

The revenue of Mobile segment was Rp87,987 billion (US\$6,331 million) in 2019. It is the largest contributor to TelkomGroup's consolidated revenue, which contribute 65.1%. The performance of Mobile segment for the past three years can be seen as follows:

| Mobile Segment | 2019-2018 | 2019 | | 2018 | 2017 |
|----------------|-----------|--------------|----------------|---------------|---------------|
| | (%) | (Rp billion) | (US\$ million) | (Rp Billion) | (Rp Billion) |
| Revenues | 3.0 | 87,897 | 6,331 | 85,338 | 90,073 |
| Expenses | 2.4 | (41,019) | (2,955) | (40,041) | (39,452) |
| Result | 3.5 | 46,878 | 3,376 | 45,297 | 50,621 |

Throughout 2019, the Mobile segment recorded revenues of Rp87,897 billion (US\$6,331 million). This achievement increased by Rp2,559 billion, or 3.0% of revenue from the previous year. The increase in revenue of Mobile segment in 2019 was mainly due to an increase in mobile data traffic by 54.0%, which encouraged positive growth of cellular internet and data revenue in 2019. The increase in data traffic was driven by effective marketing programs by offering various attractive data packages at competitive prices. On the other hand, there was decrease in voice and SMS revenue. This decrease is naturally due to the shift of voice customers to data services and the impact of the cannibalization of OTT services. Telkomsel's Digital Business revenue grew significantly by 23% while able to compensate for the decrease of legacy business which decrease by 22%. Digital Business Revenues are supported by growth of Data by 22% and Digital Services by 29% in line with Telkomsel's growth in developing various Digital Services such as Digital Lifestyle, Digital Advertising, Big Data, Digital Enterprise Solutions and Mobile Payments. In 2019 the contribution of revenues from digital business increased to 64% of total revenues, from 53% in the previous year. Furthermore, expenses in Mobile segment in 2019 were recorded increase by Rp978 billion from 2018, to Rp41,019 billion (US\$2,955 million). Telkomsel succeed to managed expenses, so that EBITDA margins increase to 54.0% from 53.2% previously. Changes in revenue and expenses throughout 2019 led positive result of Mobile segment of Rp46,878 billion (US\$3,376 million).

Throughout 2018, the revenue of the mobile segment was recorded at Rp85,338 billion, decreased by Rp4,735 billion or 5.3% from the previous year revenue. This decrease was mainly due to the decrease in voice revenues of Rp6,815 billion or 18.3% and SMS revenue of Rp4,007 billion or 30.4% from the previous year. However, the voice and SMS decrease was compensated by an increase in cellular data and internet revenues of Rp7,193 billion or grew by 18.9% from the previous year encouraged by mobile data traffic growth of 101.7%. Meanwhile, the expense for the mobile segment in 2018 increased by 1.5% into Rp40,041 billion compared to 2017, which was mainly due to increase of the operational and maintenance expense in line with new BTS construction in 2018. This increase was compensated by the decrease of depreciation and marketing expense due to selective marketing program. Mobile segment made profit of Rp45,297 billion in the 2018.

ENTERPRISE SEGMENT



1,917 corporate customers, 300,416 SMB customers, and 975 government institution customers



3 satellites with 133 TPE capacity



3 data centers with a specification of tier 3 and 4 (domestic)

In general, the Enterprise Segment serves corporate customers, small and medium business (SMBs), and government institutions in providing end-to-end solutions and information technology ecosystems. These services include enterprise grade connectivity services (including satellite), data centers & clouds, IT services, business process outsourcing, and other adjacent services.

On the enterprise connectivity, we offer fixed broadband, Wi-Fi, Ethernet, and data communication services, including leased channels such as metro ethernet, VPN-IP, high-capacity data networks solution that provides a point-to-point connection with high capacity bandwidth, and fixed voice services, among others. As of December 31, 2019, TelkomGroup provided total bandwidth in service of 2,996 Gbps, with details of 1,571 Gbps for corporate internet customers and 1,425 Gbps for data communication customers. The number increase 3.3% from the previous year.

We also integrate satellite as part of enterprise connectivity and continue to strengthen our presence in this sector which provides transponder capacity leasing, satellite secondary product lines, and other satellite support solutions. Our satellite operations consist primarily of leasing satellite transponder capacity to broadcasters and operators of VSAT, cellular, and ISPs, as well as providing earth station satellite up-link and down-link services for domestic and international users. The total transponder capacity used by customers increased to 195.25 TPE compared to 182.83 TPE in the previous year. We fulfill this satellite service through our 3 satellites which have a total capacity of 133 TPE and also rent from third parties.

We are on going to enhance our data center facilities and cloud services to meet the significant increase in demand. Our current offering includes enterprise data center, collocation, hosting, disaster recovery center, managed operation, and various cloud services such as private cloud, hybrid cloud,

and public cloud. Whereas in data center services, of the total capacity of three data centers in Indonesia that we have through our subsidiary, Telkom Sigma, 74% of the capacity has been used.

Then, financial services which consist of bill payment aggregator, electronic payment platform services, online payment solutions, switching services. As of December 31, 2019, approximately 23,000 ATMs throughout Indonesia managed by our subsidiary, Swadharma Sarana Informatika (SSI). Besides, Telkom also purchased 70% shares of PT Collega Inti Pratama, a company that focuses on core banking system services. Both of these acquisitions played an important role in expanding TelkomGroup's business strategy in the financial technology sector.

Our system integration and IT service management services include business process management, business process as-a-service and customer relationship management. We aspire to digitalize our offering to meet the future needs, therefore, we are continuously focusing on strengthening our IT capabilities to reinforce our offerings going forward. We also provide smart enabler platform services to promote innovation with next-gen technology solution, integrated industry ecosystems, and foster changes in consumer behavior in Indonesia. The adjacent services consist of various services related to hardware & software sales including IT support services. In digital advertising agency services, we provide services for media placement and integrated digital media such as mobile advertising, online advertising, and digital printing.

We offer Big data and data analytics in the form of platform services that generate insights for customers to analyze consumer behavior and build marketing campaigns to support advertising. Furthermore, Internet of Things (IoT) services which offer IoT solutions for buildings, IoT applications for smart energy monitoring

and management, fleet management, IT security services, unified communication, and collaboration services. Our e-Health solution, provides integrated healthcare claim administration services is continuing to be the market leader, through our subsidiary, Admedika.

The main advantage of TelkomGroup in providing services to the Enterprise business is due to several things, one of them is most extensive fiber optic-based infrastructure network. With good infrastructure, TelkomGroup is able to provide high-quality connectivity. In addition, TelkomGroup manages an integrated products and services to provide total solutions. This is in line with the needs of Enterprise segment customers to digitize their business processes to be more competitive. The use of connectivity and digital solutions among MSMEs is also still very low, thus offering potential growth in the future. At the same time, government agencies and local governments increasingly use digital solutions to improve services to the community through the needs of connectivity and smart city platforms as used in 470 cities throughout Indonesia.

With these various advantages, as of December 31, 2019, TelkomGroup Enterprise segment customers reached 303,308 customers, consisting of 1,917 corporate customers, 300,416 SME customers, and 975 Government institution customers. The high demand for information and communication technology services now and in the years to come certainly builds a sense of optimism that the Enterprise segment will continue to grow well.

In 2019, we change business policies by focusing on business lines that have higher profitability that are recurring, especially in enterprise solutions services such as enterprise connectivity, data center and cloud, and selectively reducing and not prioritizing business solutions that have a lower margin and non-recurring. In line with this strategy, although the revenue of the enterprise segment has decreased, revenue from Connectivity and Data Center & Cloud services keep grow positively in 2019.

Enterprise Segment Financial Performance 2017 - 2019

Compared to the total consolidated revenue of TelkomGroup, revenue of Enterprise Segment contributed 13.8% in 2019. The performance of Enterprise segment for the past three years can be seen in the following table:

| Enterprise Segment | 2019-2018 | 2019 | | 2018 | 2017 |
|--------------------|-----------|--------------|----------------|---------------|---------------|
| | (%) | (Rp billion) | (US\$ million) | (Rp Billion) | (Rp Billion) |
| Revenues | (11.2) | 18,701 | 1,347 | 21,054 | 19,130 |
| Expenses | (4.3) | (20,782) | (1,497) | (21,717) | (20,653) |
| Result | (213.9) | (2,081) | (150) | (663) | (1,523) |

As of the end of 2019, revenue from Enterprise segment decreased by Rp2,353 billion or 11.2% to Rp18,701 billion (US\$1,347 million) compared to the previous year. The negative growth was due to the decrease in enterprise business due to change business policies by reducing and not prioritizing business solutions that have a lower margin and non-recurring. Then, the expense of Enterprise segment was Rp20,782 billion (US\$1,497 million), decrease by 4.3% or Rp935 billion, from Rp21,717 billion in 2018. The decrease expense in 2019 is a positive impact from our strategy to reduce the portion of services that has a low margin. With revenues and expenses occurring in 2019, the performance of Enterprise segment shows a loss in segment result of Rp2,081 billion or US\$150 million. 2019 performance was decrease than the previous year which recorded loss in segment results of Rp663 billion.

The enterprise segment revenue in 2018 was recorded at Rp21,054 billion, increased by Rp1,924 billion or 10.1% from the previous year. This increase was came from internet, data communication and information technology services revenue of Rp1,741 billion, mainly due to growth in IT service revenues. The higher growth is in line with the increasing companies need in digitizing their business processes to more competitive, and also for central and regional government institution to give better service for society, as well as to support SMB development. In the other hand, the enterprise segment expense in 2018 increased by 5.2% into Rp21,717 billion compared to 2017. The expenses increase was in line with the business volume increase. Based the calculation of intersegment expense allocation, Enterprise segment made loss result, but it was a lower loss result of Rp663 billion, decreased by Rp860 billion or 56.5% compared to last year.

CONSUMER SEGMENT



**7.0 million
IndiHome
subscribers,
increased 37.2%
from the previous
year**

**10.9 million
optical ports as
broadband access
based on optical
fiber**

In the Consumer segment, TelkomGroup's main product and service portfolio consists of fixed voice, fixed broadband, IP-TV and digital which are marketed under the IndiHome brand.

Throughout 2019, TelkomGroup continues to develop IndiHome into superior products and services through the "more for less" program. The program runs consistently through bundling offers that include broadband internet, IP-TV and fixed telephone, with the aim of providing more benefits to customers at competitive prices, including as Extra-Year-End Sensations, Fantastic Deal, Lively Happiness, and Happy House Promo.

In an effort to meet customer needs and improve customer experience, we launched IndiHome 200Mbps, 300Mbps and 1Gbps. We also launched IndiBox, an OTT service based on Android TV Box so that customers can enjoy StreamingTV, Music, Games, Applications and Video on demand. We continue to enrich our variety of UseeTV channels with new channels such as Warner Bros TV, tvN, IDX Channel and Champions TV which broadcast UEFA Champions League matches. We also offer customers to increase internet speed and access OTT content such as iflix, HOOQ and CATCHPLAY+. To adjust the minipack options according to customer preferences and capabilities, we increased the number of minipacks to 20, increase from 18 minipacks in the previous year.

In addition to the development of IndiHome products and services mentioned above, IndiHome customers can continue to enjoy added value, namely the freedom to access wifi.id without limits in all access points in Indonesia. As of the end of December 2019, there are 140,169 manage access point wifi.id spread across 32 provinces in Indonesia that can be reached by IndiHome customers.

With various strategies that have been implemented, as of December 31, 2019, IndiHome customers recorded growth of 1.9 million subscribers or 37.2% from 5.1 million subscribers in 2018 to 7.0 million subscribers in 2019. ARPU in 2019 was Rp257,000 experienced a slight increase compared to last year which reached Rp256,000. To further increase IndiHome's revenue, we continue to encourage customers to buy various additional services, such as for speed upgrades, additional set-top boxes, and subscription to the minipack package. Demand for minipacks reaches 3 million transactions throughout 2019.

IndiHome's positive growth in recent years is inseparable from the support of network infrastructure, continuous business process improvement, and reliable technicians. In terms of network infrastructure, Telkom's subsidiary, Telkom Akses, plays an important role in developing fiber-optic networks that replace copper networks. Then, continuously strengthening the Mean Time To Install or MTTI to increase the capacity of technicians and improving business processes. As of the end of 2019, MTTI which was less than 1 day reached 94.7%, better than 2018 which reached 85.1%. The settlement of disturbances under 3 hours increase to 72.4% in 2019, increase from 50.6% in the previous year. The mean time to repair the disturbance or Mean Time To Repair (MTTR) decreased from 9.8 hours in 2018 to 7.1 hours in 2019.

Furthermore, TelkomGroup continues to improve the quality of customer service by shutting down STOs and transforming STOs into Telkom Cloud or T-Cloud. With this approach, TelkomGroup modernized STO into Nodes which fully optical fiber. There is 504 STO has been shut down in 2019, so the STO shutdown has been carried out 100% of the total 1,234 STO. Until 2019, TelkomGroup has 500 T-Cloud ready to provide better service quality to all customers. TelkomGroup targets the transformation process of all STOs into Telkom Cloud to be completed in 2023.

The efforts and strategies of Telkom and its subsidiaries currently carried out, resulting in IndiHome as a market leader in the fixed broadband business in Indonesia with a market share of around 86.5% by 2019. Growing population and increasing middle class families gives a great opportunity for fixed broadband products and services in the future. Therefore, TelkomGroup already has 10.9 million optical ports with fiber optics as the basis of fixed broadband access networks.

Consumer Segment Financial Performance 2017 - 2019

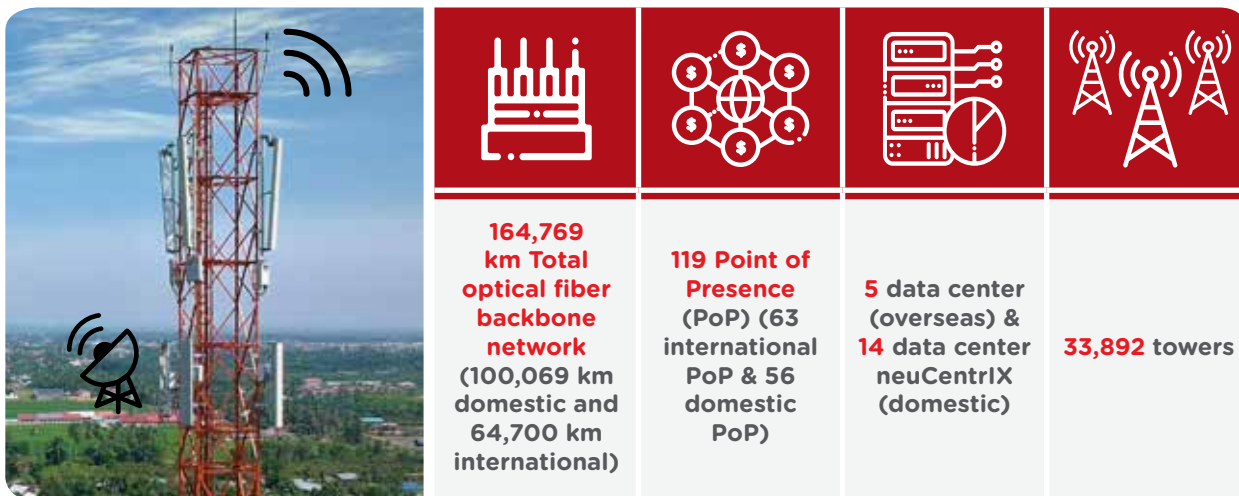
In 2019, revenue of Consumer segment was Rp17,706 billion (US\$1,275 million), which contribute 13.1% of total consolidated revenue. The following table is the performance of Consumer segment for the past three years:

| Consumer Segment | 2019-2018 | 2019 | | 2018 | 2017 |
|------------------|-----------|--------------|----------------|--------------|--------------|
| | (%) | (Rp billion) | (US\$ million) | (Rp billion) | (Rp billion) |
| Revenues | 27.5 | 17,706 | 1,275 | 13,891 | 11,105 |
| Expenses | (1.4) | (11,577) | (834) | (11,739) | (10,360) |
| Result | 184.8 | 6,129 | 441 | 2,152 | 745 |

The growth of Consumer segment in 2019 is very good, with revenue growth by Rp3,815 billion or 27.5%, increased from Rp13,891 billion in 2018 to Rp17,706 billion (US\$1,275 million) in 2019. The driver of the growth of the Consumer segment was IndiHome which continues its positive momentum. Throughout 2019, IndiHome subscriber grew by 37.2% or an increase of 1.9 million to 7 million subscriber. The composition of triple play subscriber, which consists of fixed voice, fixed broadband and IP-TV service, was 48% while dual play subscribers was 52%. IndiHome's revenue grew by 28.1% to Rp18.3 trillion, and contributed 13.5% to the Company's overall revenue. IndiHome's profitability is also getting better with EBITDA reaching 33.9% approaching global profitability standar of 35%. 89% of IndiHome's revenue comes from the Consumer segment, and 11% comes from the Enterprise segment. In terms of expenses, Consumer segment recorded decrease in expense by Rp162 billion or 1.4% from the previous year to Rp11,577 billion (US\$834 million). Consumer segment result profit amounted Rp6,129 billion (US\$441 million), increase by 184.8% compared to 2018.

Consumer segment financial performance in 2018 was very good, with the revenue reached Rp13,891 billion, increased by Rp2,786 billion or 25.1% higher than 2017. It was in line with the increase of IndiHome subscriber by 72.2% into 5.1 billion subscribers at the end of 2018, the increase of minipack subscriber and up-sell service such as internet speed upgrade. In 2018, IndiHome's revenue grew positively to Rp14,310 billion. Meanwhile, the expense of 2018 for the consumer segment was Rp11,739 billion, increased 13.3% compared to the previous year, in line with the IndiHome business expansion. However, the increase of Consumer segment expense was lower than the increase of the revenue, which indicated the cost control effectivity. With intersegment expense allocation, Consumer segment result in 2018 was quite high by 188.9% into Rp2,152 billion.

WHOLESALE AND INTERNATIONAL BUSINESS SEGMENT (WIB)



The Wholesale and International Business (WIB) segment serves customers including Other Licensed Operators (OLO), Service Providers, Digital Players at domestic and overseas. The Wholesale and International Business (WIB) segment currently has several business lines, namely carrier, tower, infrastructure, and international business services. The following is a further explanation of the business lines in the WIB segment.

1. Carrier Service

The main services in this line of business include network services, data and internet, and interconnection services. TelkomGroup also provides value-added services, signaling, voice dubbing, data centers, platforms and solutions. Carrier services in 2019 recorded growth positive driven by the growth of international voice services.

Throughout 2019, TelkomGroup continued the Global Digital Hub initiative that began in 2018. With the Indonesian Global Gateway (IGG) submarine cable connecting SEA-ME-WE 5 submarine cables with SEA-US submarine cables, making TelkomGroup as a Global Digital Hub that provides direct broadband connectivity between Europe, Asia and America. As an enabler, we will become the main gateway of digital connectivity that brings domestic to global traffic, global to domestic traffic and also brings traffic between countries (hubbing), both voice and A2P (Application-to-person) SMS traffic.

As of the end of December 2019, TelkomGroup had 14 a neuCentriX data center in 10 cities in Indonesia. Also, Telkom's subsidiary, 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). The neuCentriX data center occupancy rate reaches 63% of total capacity, while the occupancy of data centers abroad is only about 62% of total capacity. In 2019, TelkomGroup increased the capacity of neuCentriX data centers in Indonesia to accommodate customer demand and began building a new neuCentriX data center in Jakarta which is expected to be completed in 2021.

TelkomGroup has 119 Points of Presence (PoP), consisting of 63 Global PoPs and 56 Domestic PoPs. PoP Global is spread over 48 major cities in the world in 29 countries. Global PoP has decreased compared to the previous year due to the closure of several less effective PoPs. For Domestic PoP, spread in 45 cities in Indonesia. During 2019, there will be an addition of 10 domestic PoPs. We also operate a Content Delivery Network (CDN) with a capacity of 6,525 Gbps in collaboration with Google, Facebook, Akamai, Edgecast, Level3, ChinaNet, Yahoo and video content providers such as iFlix and HOOQ.

2. Tower Service

Tower service is the provision of telecommunications equipment placement for other operators with a rental system. As of the end of 2019, around 33,892 towers were owned by TelkomGroup. A total of 15,892 units are owned by Telkom's subsidiary, Mitratel, and 18,000 towers are owned by another Telkom subsidiary, Telkomsel. Mitratel made offers for operator's colocation and tower reseller businesses in 2019. Mitratel currently manages 22,854 tenants and 6,651 tower reseller businesses.

In 2019, Telkom through Mitratel acquired 95.0% of share capital in PT Persada Sokka Tama. The company is engaged in the business of telecommunications towers with a capacity of 1,017 towers located throughout Indonesia. Then, in October 2019, Mitratel signed an agreement to buy 2,100 telecommunication towers from PT Indosat Tbk.

With this acquisition, TelkomGroup gained a market share of 23.9% by the end of 2019. Various acquisitions made throughout 2019 are expected to strengthen the tower business line and open up even greater opportunities to expand market share in the future. Other advantages that need to be developed in this business line are the efficiency of maintaining and using renewable energy in towers that are far from the PLN electricity grid, and digitizing internal business processes.

3. Infrastructure Services and Network Management

TelkomGroup provides and manages infrastructure and network services, which include network construction and maintenance. One of them is the installation and maintenance of submarine cables, and the provision of energy solutions for the telecommunications infrastructure ecosystem.

At the end of 2019, TelkomGroup had an optical fiber-based backbone network of 164,769 km, consisting of 64,700 km of international networks and 100,069 km of domestic networks, which as a whole had a transmission network capacity of 129,600 Gbps. The global submarine cable infrastructure owned by TelkomGroup connects 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).

As for the domestic network, in 2019, several domestic submarine cable systems have been developed and are operating to strengthen the national optical fiber backbone, including SLM submarine cable (Sabang-Lhokseumawe-Medan), PATARA (North Papua) which will connect Sentani and Sarmi, and MATANUSA (Mangkajang-Takisung-Nunukan-Sanggata). The submarine cable domestic network is expected to encourage equitable access to good quality communication and information broadband throughout Indonesia.

In addition to submarine cables, Telkom and its subsidiaries are currently involved with state-owned enterprises (SOEs) to maintain diesel engines until 2021. The work is a continuation of the construction of diesel-powered power plants for telecommunications networks that were completed in 2018 last in Kalimantan and Sulawesi.

4. International Business

Telkom, through its subsidiary PT Telekomunikasi Indonesia International ("Telin"), has some business activities in ten countries outside Indonesia, including offering Wholesale services, Cloud and connectivity, Data center and managed services, Satellite transponder services, Retail mobile services (MVNO), IP Transit and Business process outsourcing services. The nine global offices are located in Singapore, Hong Kong, East Timor, Australia, Myanmar, Malaysia, Taiwan, the United States, and New Zealand.

During 2019, we also undertook several initiatives such as the development of a Digital Platform both domestically and internationally, such as the Carrier Neutral Data Center and the construction of a Hyperscale Data Center, Content Delivery Network (CDN), Cloud services, A2P SMS and CPaaS (Communication Platform as a Service). For digital service development several initiatives have been carried out by providing U Points and U Ads services, and other initiatives that will continue to be developed to support TelkomGroup as Digital Ecosystem Hub.

Wholesale and International Business Segment Financial Performance 2017 - 2019

The role of WIB segment is to obtain external revenue by providing various services such as network, interconnection, internet, submarine cable, data centre, tower and infrastructure. Furthermore, WIB also have a role as an enabler and catalyst of other TelkomGroup business segments in order to create the best value for the TelkomGroup as a whole. The result is the external revenue of the WIB segment is smaller than internal revenue. The contribution of WIB segment revenue in 2019 reached 7.9% of the total consolidated revenue of Telkom and its subsidiaries, amounted of Rp10,609 billion (US\$764 million). The following table illustrates the performance of the WIB segment from 2017 to 2019.

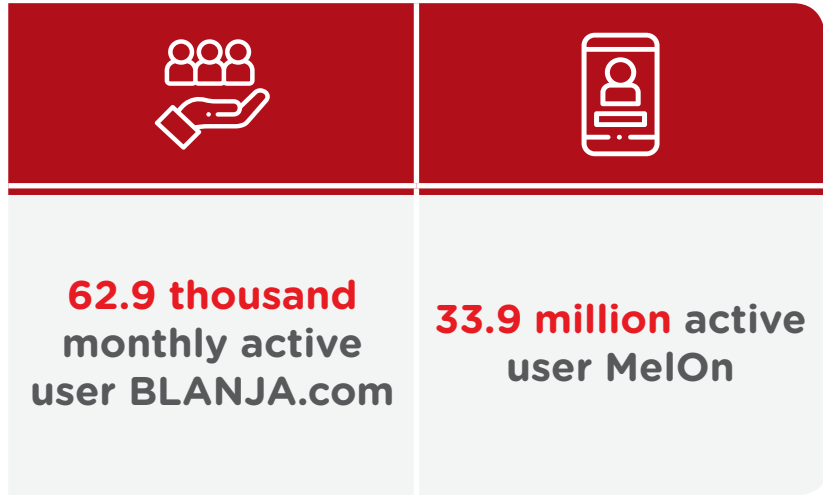
| WIB Segment | 2019-2018 | 2019 | | 2018 | 2017 |
|-------------|-----------|--------------|----------------|--------------|--------------|
| | (%) | (Rp billion) | (US\$ million) | (Rp billion) | (Rp billion) |
| Revenues | 5.2 | 10,609 | 764 | 10,084 | 7,439 |
| Expenses | 7.3 | (15,691) | (1,130) | (14,624) | (12,333) |
| Result | (11.9) | (5,082) | (366) | (4,540) | (4,894) |

The WIB segment total revenue increase by Rp112 billion, or grew 0.4% to Rp26,874 billion (US\$1,936 million) in 2019. While consolidated revenue in 2019 was Rp10,609 billion (US\$764 million) or 39.5% of total segment revenue, grew by Rp525 billion or 5.2%. The revenue growth of the WIB segment in 2019 was supported by, among others, the growth of international wholesale voice services, A2P SMS, Data Centre and the growth of the tower business from the increase in colocation and asset acquisition. The total expense of WIB segment increase by Rp477 billion or grew 2.3% to Rp21,111 billion (US\$1,521 million) in 2019. While the consolidated expenses in 2019 increased by Rp1,067 billion or grew 7.3% to Rp15,691 billion (US\$1,130 million). The increase in expense of WIB segment was mainly related to the increase in direct cost of wholesale voice international and the main role as an enabler of other segments, especially the Mobile segment, through providing of infrastructure including towers and construction of domestic submarine cables.

WIB segment in 2018 recorded its revenue of Rp10,084 billion, increased significantly by Rp2,645 billion or 35.6% from Rp7,439 billion in 2017. The digital business contribution of this segment for 2018 was 57% higher than 53% in 2017. This achievement was due to the increase of international interconnection revenue from voice traffic service managed by Telin of Rp1,241 billion. Other revenue was also contributed by the managed service solution from Telkom Infra of Rp996 billion and network revenue of lease line and transponder of Rp319 billion. In the other hand, the WIB segment expense was Rp14,624 billion in 2018, increased by Rp2,291 billion or 18.6% compared to 2017. The increase was mainly due to strengthening of Telkom domestic and global infrastructure, such as the construction of optic-fiber based submarine cable and telecommunication tower.

Due to the business model as an enabler for other segments, the performance of the WIB segment has positive results of Rp5,763 billion in 2019, Rp6,128 billion in 2018, and Rp4,800 billion in 2017, according to the table on page 104. While the results of the consolidated WIB segment amounted to minus Rp5,082 billion in 2019, minus Rp4,540 billion in 2018, and minus Rp4,894 billion in 2017 because inter-segment revenue in the consolidated statements was eliminated, while expenses to the external were not eliminated. The results of the WIB segment reflect the very important and strategic role of WIB in providing TelkomGroup's internal support which is reflected in the TelkomGroup's consolidated results, although at the same time must serving external customers.

OTHERS SEGMENT



The Digital Segment offers a variety of digital products and services based on big data and smart platforms, digital advertising, music and gaming, and e-commerce. For big data and smart platforms, we offer an Internet of Things (IoT) platform. Through this platform, developers can create and test IoT products.

In the digital advertising business, we provide advertising media solutions for marketing activities. We also provide an ad exchange platform, a platform that brings together publishers, advertisers, and agencies to carry out digital advertising activities effectively and efficiently.

Then for music and gaming services, PT Melon Indonesia or “MelOn”, becomes a provider of digital music content products and services. As of the end of 2019, MelOn had a music database and an online digital music content application with 33.9 million active users, while the number of transactions in the MelOn digital music content online application reached 220.3 million transactions. This music and gaming service at MelOn supports the growth of Telkom’s Digital Lifestyle & Content portfolio by 70%. In 2019, Telkom and its subsidiaries intensively, develop customer experience by launching online games and developing a gaming community. This strategy will continue to be developed in 2020.

Related to e-commerce services, Telkom has BLANJA.com which is an online marketplace that facilitates consumer-to-consumer, business-to-consumer and business-to-business. Apart from the blanja.com page, product sales or purchases can be made through IndiHome Store on IP-TV and Alfamind @ IndiHome which is a partnership between Alfa and IndiHome retail stores. With around 62.9 thousand monthly active users, the number of BLANJA.com GMV reached Rp188.3 billion in 2019. Strategies undertaken to develop BLANJA.com include increasing the use of mobile applications, integrating with LinkAja in one account, launching a seller application, intensifying the use of QR codes, and increasing the use of big data.

In practice, products and services in this segment are designed and developed according to the needs of consumers in the current digital era. Related to this, in 2019, TelkomGroup will continue the Digital Amoeba and Indigo Creative Nation programs. Digital Amoeba aims to capture and accelerate innovation from internal Telkom and its subsidiaries. On the other hand, Indigo Creative Nation is Telkom’s open innovation program in collaboration with digital startups to develop Indonesia’s digital creative industry while developing Telkom’s digital business portfolio. Telkom’s subsidiary, PT Metra Digital Investama, also known as MDI Ventures, manages and invests venture funds in potential digital startups.

At the end of 2019, 41 teams are actively validating new products and new processes, which 12 of them are ready to be accelerated even more to become a new potential business portfolio. Then since 2013, Indigo Creative Nation has incubated 153 startups. Currently, around 60 startups are commercial in the market, even 23 startups have received additional funding from domestic and foreign investors. Some startups have synergized with Telkom in providing digital products and solutions such as eTab, PrivyID, Kofera, Run System, Opsigo, Goers, Nodeflux, and Sonar.

Concerning MDI Venture, currently, it has invested in 35 startups in 11 countries and to date has made 7 exits with a fairly high gain. Also, 2 startups have conducted Initial Public Offering (IPO), namely Whispir on the Australian Securities Exchange (ASX) and Geniee on the Tokyo Stock Exchange (TSE). In 2019, MDI Ventures, together with KB Financial Group from South Korea, launched the Centauri Fund venture capital company. Centauri Fund aims to develop the experience of the two companies in the technology ecosystem in Southeast Asia, including supporting Indonesian and regional startups.

Other Segment Financial Performance 2017 - 2019

Revenues of other segments in 2019 contributed 0.1% of TelkomGroup's total revenue. The performance of other segments for the last three years can be seen in the following table:

| Other Segment | 2019-2018 | 2019 | | 2018 | 2017 |
|---------------|-----------|--------------|----------------|--------------|--------------|
| | (%) | (Rp billion) | (US\$ million) | (Rp billion) | (Rp billion) |
| Revenues | 51.5 | 197 | 14 | 130 | 126 |
| Expenses | 42.4 | (1,484) | (107) | (1,042) | (979) |
| Result | (41.1) | (1,287) | (93) | (912) | (853) |

In 2019, other segments recorded revenues of Rp197 billion (US\$14 million) while expense of Rp1,484 billion (US\$107 million). The result of other segments was recorded loss of Rp1,287 billion (US\$93 million). Compared to the financial performance of the previous reporting period, revenue of others segment increased by Rp67 billion or 51.5%, while expenses increased by Rp442 billion or 42.4%.

Throughout 2018, other segment revenue was Rp130 billion, increased by 3.2% from 2017. This revenue occurred due to increased transactions on BLANJA.com and MeOn. Other segment expenses in 2018 was Rp1,042 billion, increased by 6.4% compared to 2017 due to the increase of digital business investments. These various situations caused the loss for other segments in 2018 into Rp912 billion, increased by 6.9% compared to loss in 2017.