

Business Review



Our Network and Systems

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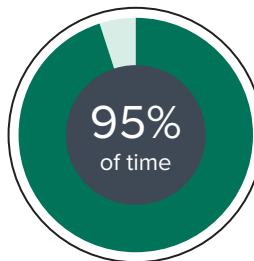


2019 has been a transformative year for Maxis, from being just a telecommunications operator to become a fully converged solutions company that provides a suite of high-quality digital services encompassing voice, video, and data delivered to businesses, in a reliable and secure manner. In order to sustain our high standards of delivery, it is crucial for us to maintain our data network leadership through continuous upgrades and digitalisation. We have reengineered our advanced network to deliver the most innovative and reliable products and services in our quest to offer the best converged experience to our customers. In line with our capital expenditure growth strategy, about RM200 million was spent to enhance our Home Fibre and Enterprise solutions portfolio.

Sustaining Our Mobile Network Leadership

Underpinning our excellent performance are the stringent targets we have set for ourselves. We delivered consistent HD video streaming more than 95% of the time. The surge in video traffic over past years has seen a higher demand for high resolution video streaming and greater expectations from our customers, which includes minimal loading time and buffering. To address this, we have optimised our network for the best video experience as acknowledged by several independent companies' benchmark. Our targets have kept us strictly on course to maintain our 4G leadership in the market in terms of quality and speed.

HD Video Streaming



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Maxis' network superiority has been acknowledged by multiple independent and external moderators as well as the regulator Malaysian Communications and Multimedia Commission (MCMC). This was further strengthened with MCMC's nationwide industry performance test, where Maxis was acknowledged as the top mobile service provider in the country.

Over the past few years, our network traffic has grown exponentially. In 2019, more than 90% of data traffic on our 4G LTE Network as well as the average usage per subscriber per month increased to 15GB per subscriber compared to 10.9GB per subscriber in 2018.

Despite the surge in data traffic, customers' expectations were not compromised. Our customers were able to experience uninterrupted and high-speed Internet through our proactive intervention. These included efforts to upgrade our network's capacity before congestion occurred, and the intelligent frequency spectrum allocation and planning undertaken by our competent technical staff. We have also optimised our peering and caching, allowing for faster content transactions resulting in a better customer experience.

Complementing these is our ongoing cooperation with MCMC to secure additional frequency spectrum, which will help us enhance our network and ease the cost of building new capacity sites. We have also taken steps to ensure that we future proof our network by upgrading our core network elements in anticipation of 5G, which is expected to arrive in 2020.

Focusing on Enterprise Growth

Enterprises have always been a key focus for Maxis, and in 2019 we honed in on providing businesses with solutions that would answer their specific needs. Small and Medium-sized Enterprises (SME) in Malaysia face particular challenges in leveraging on technological advancements to drive the growth of their business. In particular, they struggle to keep up with the rapid pace of the evolution of technology.

Maxis is addressing this need by putting in place platforms to help businesses succeed. In 2019, we introduced several products and platforms such as Software-defined Wide Area Network (SD-WAN), Voice Connect and Narrow Band Internet-of-Things (NB-IoT). As a result of our diverse spectrum of Enterprise-driven solutions, we have become a more attractive proposition for SMEs. Moving forward, we will be rolling out more products and solutions that are in the pipeline, as we ready ourselves to scale up on our Managed Enterprise solutions in 2020.

Besides frontline Enterprise service solutions, we have also upgraded our backend and core network to support the next generation Internet Protocol (IP) network. To date, about two-thirds of our network are on this new platform enabling us to support high backend traffic capacity whilst reducing downtime. As around-the-clock business requires a highly reliable network, we continue to build redundant fibre networks close to our customers which improves network uptime to the expected level. Our network is also backed up by high speed 4G network in case of fibre failure.



Our service management Net Promoter Score (NPS), rated by Enterprise Businesses, increased to **+60** in 2019 from **+47** in 2018.

We have also added various service capabilities to support our Enterprise customers. These include a full suite of managed services for our products and services, helpdesk, monitoring and surveillance for technical support.

To date, more than 90 customers and about 1,200 services are being managed by us. As a result of our sustained focus, our service management Net Promoter Score (NPS), rated by Enterprise Businesses, increased to +60 in 2019 from +47 in 2018.

Heralding the New 5G Era

In 2019, China, South Korea, the United States and the United Kingdom rolled out their next generation 5G. Malaysia does not intend to be left behind in the 5G race, and trial runs were conducted during the year in line with this.

In March 2019, Maxis was the first converged solutions company in Malaysia to conduct a live outdoor 5G trial in Malaysia. A month later, MCMC initiated a national 5G showcase in Putrajaya, and Maxis participated in this event to demonstrate multiple use cases of 5G capabilities. These included the use of holograms, control of robotic arms and high definition 8K television. We also demonstrated the ability to transmit about 6Gbps at this showcase. This was followed by various state level showcase events in Kuching and Langkawi, where Maxis illustrated other use cases for 5G, including using 360 degree drones and IoT sensors for various industries such as agriculture and urban safety.

In October 2019 Maxis entered into an agreement with Huawei Technologies (M) Sdn. Bhd. for the provisioning of a 5G network. This marks our commitment and readiness to be at the forefront of 5G rollout in Malaysia as soon as the necessary frequency spectra become available.

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We have undertaken a number of preparatory steps for the impending arrival of 5G. We are rolling out our next generation IP network which is capable of supporting high transmission capacity. As well as that, we are expanding our fibre footprint nationwide. We are also working with chipset vendors on 5G device requirements to ensure that our network can support new devices that will be introduced into the market when 5G arrives.

Enabling Innovations in Automation, Artificial Intelligence and Machine Learning

As the fifth-generation of mobile Internet connectivity, 5G promises much faster data download and upload speeds, wider coverage and more stable connections. 5G is expected to deliver 10x higher speeds, 10x lower response times (latency), and 10x more connected devices compared with what 4G technology is able to provide today. It has great potential and can support many new services such as virtual reality, remote surgery and autonomous driving, to name a few. Most of all, businesses will benefit greatly when Maxis makes this service a reality soon.

With the advent of 5G, businesses will be in a prime position to embrace new technologies such as automation, artificial intelligence (AI) and machine learning as the new normal. Considering that Maxis began our own journey exploring these technologies two years ago, we have various insights which we can share with our Enterprise customers.

We have embarked on a progressive initiative to digitalise our network, operations, processes and procedures in line with our aim to become a fully digitalised converged solutions company. This is enabling us to leverage on efficiencies gained, to provide our customers with technologies that they can benefit from as well.

In improving our AI and 5G ready network, we are continuously adopting and developing in-house AI and Robotic Automation initiatives where we have significantly ramped up the development of use cases internally and with our global technology partners who are leaders in these domains. Among the technologies these initiatives are incorporating are robotic process automation (RPA), digital and automation tools, AI, machine learning, and business intelligence analytics. The benefits we expect from these initiatives will allow us to improve our customer experience, save costs, increase our operational efficiency, leverage actionable intelligence from the data we have, and improve the quality of service to our customers.

In undertaking these initiatives internally at Maxis, we are also developing our people's capabilities by equipping them with digital skills and encouraging them to embrace agile ways of working. Through hands-on experience and exposure, we will be able to develop subject matter experts in their respective fields to champion our future initiatives beyond 2020.