



In this era of information technology, data centres serve as the backbone of the digital economy, powering everything from cloud computing and e-commerce to artificial intelligence and data analytics. With its strategic location, robust digital infrastructure, and a business-friendly environment, Malaysia has emerged as a thriving hub for data centres, playing a crucial role in the country's digital transformation.

### Malaysian Government's Emphasis

The Malaysia Digital Economy Corporation ("MDEC"), an agency operating under the jurisdiction of the Ministry of Communications and Digital, is entrusted with the mission of advancing the nation's digital economy by implementing impactful initiatives and promoting inclusive policies, with the vision for Malaysia to be the preferred hub for world class digital businesses and talents. Together with the Malaysian Investment Development Authority ("MIDA"), MDEC has established the

Digital Investment Office ("DIO"), a collaborative platform to coordinate and facilitate digital investments in Malaysia, in addition to strengthening and aligning the coordination among all investment promotion agencies in promoting and attracting digital tech investments<sup>1</sup>. Under the DIO, all local and foreign digital investments (including investments in data centres) will be jointly assessed, advised, and facilitated by MDEC and MIDA together with other investment promotion agencies in Malaysia. Prospective investors or business owners are encouraged to engage the DIO and enquire about the available programs and incentives and to determine the specific license and regulatory requirements<sup>2</sup>. There will not be fees incurred for services provided by the DIO.

The operation of data centres in Malaysia is governed by a regulatory framework that ensures their proper functioning, security, and adherence to international standards. Key components of this framework include, directions issued by the Malaysian

<sup>1</sup> <https://mydigitalinvestment.gov.my/about>

<sup>2</sup> Malaysia Digital Investment Guide | DIO, page 9

Communications and Multimedia Commission (“MCMC”), compliance with the Personal Data Protection Act 2010 (“PDPA”), and the local building codes and standards. The Communications and Multimedia Minister has indicated that amendments to the PDPA are anticipated to be presented in Parliament by latest March 2024, covering all aspects of cybersecurity and data protection<sup>3</sup>. In addition, data centres providing cloud services such as Infrastructure-as-a-Service or Platform-as-a-Service are required to apply for the Applications Service Providers Class licence from MCMC<sup>4</sup>.

### Still Room for More

Malaysia is rapidly evolving into an attractive destination for data centre investments, on track to become the next regional data centre hub.



Malaysia is currently home to more than 40 data centres, including NTT Global Data Centres, AIMS Data Centre, TM One, Keppel Data Centre, Bridge Data Centres and Vantage Data Centre. A report by Arizton Advisory and Intelligence forecasts that the Malaysia data centre market size will attract investments of USD2.25 billion by 2028, with a compounded annual growth rate of 9.41% expected during 2023 – 2028. This industry growth is driven by increasing digitalization initiatives, growing submarine cable connectivity, cloud service adoption, and implementation of advanced

technologies such as artificial intelligence, big data, and Internet of Things.

Amazon Web Services (“AWS”) has announced its intention of launching an AWS region in Malaysia in March 2023<sup>5</sup>, with plans to invest at least USD6 billion in Malaysia by 2037. This region will include three availability zones (“AZ”), each physically independent of the other in the region yet far apart enough to minimize the risk that an AZ-level event will have on business continuity. The AZs will be connected to each other by high-bandwidth, low-latency network connections over dedicated, fully redundant fibre.

Australian data centre provider NextDC Limited will establish Malaysia as its regional hub for further expansion across Asia, investing RM3 billion over the next five to ten years in developing Kuala Lumpur 1 (“KL1”), a Tier IV-certified data facility in Petaling Jaya. The 65-megawatt colocation data centre will serve cloud platform providers, corporations, and government users. According to the Australian High Commission Malaysia, KL1, the first Tier IV accredited data centre above five megawatts in Peninsular Malaysia, will be the most technologically advanced, fault-tolerant, secure, and sustainable data centre by industry standards<sup>6</sup>.

The US-based data centre provider, EdgeConnex had recently announced its debut into the Malaysian market, outlining its strategy to construct high capacity data centres that will deliver nearly 300 megawatts of capacity combined in strategic locations such as Kuala Lumpur’s Central Business District, Bukit Jalil, and Cyberjaya<sup>7</sup>. These new

<sup>3</sup> <https://dig.watch/updates/revision-of-malysias-personal-data-protection-act-2010-is-needed-minister-of-communications-and-digital-communications-claims>

<sup>4</sup> Information Paper on Regulating Cloud Service | MCMC, page 14

<sup>5</sup> <https://aws.amazon.com/blogs/aws/in-the-works-aws-region-in-malaysia/>

<sup>6</sup> [https://malaysia.embassy.gov.au/klpr/media\\_2023.html](https://malaysia.embassy.gov.au/klpr/media_2023.html)

<sup>7</sup> <https://www.edgeconnex.com/company/news-and-pr/edgeconnex-enters-the-malaysia-market-with-plans-for-several-data-centers-in-three-markets-offering-nearly-300-mws-of-capacity/>

EdgeConneX data centres aim to provide its users with the flexibility to tailor configurations that can cater to diverse needs. On 9 September 2023, Cyberview Sdn Bhd, a local technology hub developer, concluded an agreement with EdgeConnex, to establish the data centre campus in Cyberjaya.

### Moving Towards Sustainability

As the data centre industry experiences substantial growth, it significantly contributes to global energy consumption. In 2020, data centres consumed an estimated 196 to 400 terawatt-hours, equivalent to 1% to 2% of the world’s annual data centre energy consumption<sup>8</sup>. Given the increasing emphasis on environmental impacts and carbon energy, data centre operators are becoming more sensitive to their contribution to climate change and are under pressure to reduce their energy usage and environmental footprint.

Against this backdrop, data centre operators are innovating to align with global sustainability efforts. An example is local player YTL Power International Berhad’s YTL Green Data Centre Park, which is currently being developed in Johor. It will be the largest data centre park in Malaysia and the first to be powered by renewable energy. The first phase will be a Tier III certified facility equipped with best-in-class green power and connectivity which will be able to accommodate up to 72 megawatts of capacity, while also reducing its carbon emission and meet sustainability goals. The first phase is expected to be in service by 1Q 2024, reflecting



the continuous improvements and innovations within Malaysia’s data centre industry.

In August 2023, GDS Holdings, China’s leading based developer and operator of high-performance data centres, commenced operations of its first data centre in Southeast Asia. The facility, situated in Johor, boasts a 69.5 megawatt data centre campus<sup>9</sup>, and in line with a commitment to sustainability, incorporates cutting-edge environmentally friendly designs to ensure high efficiency and minimal carbon operations.

The Malaysian Technical Standards Forum Berhad, recognized as a designated technical standards forum by the MCMC, has introduced a Technical Code on Specification for Green Data Centres (“**Technical Code**”). The Technical Code serves as a guide by establishing a set of minimum requirements for green data centres and outlines the best practices to be adopted

to achieve a sustainable industry. These standards are designed to facilitate the development of policies, systems and procedures that enhance the energy efficiency of data centres while simultaneously reducing the environmental impact of the industry.

Tenaga Nasional Berhad unveiled the establishment of the Green Lane Pathway on 8 August 2023<sup>10</sup>, an exclusive and strategically designed initiative. This pathway aims to offer efficient and environmentally responsible solutions tailored to data centre operators in Malaysia. Its primary objectives are to assist data centre operators in Malaysia, simplify the on-boarding process, expedite approvals, and ensure a seamless

<sup>8</sup> <https://www.akcp.com/blog/the-real-amount-of-energy-a-data-center-use/>

<sup>9</sup> [https://www.gds-services.com/en/newsshow\\_82.html](https://www.gds-services.com/en/newsshow_82.html)

<sup>10</sup> <https://www.tnb.com.my/announcements/tnb-establishes-exclusive-green-lane-pathway>

establishment of data centre operations in Malaysia. The Green Lane Pathway features fast-track supply offerings for electricity, enabling data centres to be connected three times faster than the normal delivery timeframe, resulting in a significantly reduced implementation period of 12 months from the typical 36-48 months. It also offers a centralised hub for data centre investors and provides dedicated support services. It is anticipated that this strategic initiative will enhance Malaysia's appeal as an ideal destination for data centre operations.

Malaysia's commitment in developing its green energy capabilities is also evident through the introduction of two national strategic energy roadmaps – the National Energy Transition Roadmap and Hydrogen Economy and Technology Roadmap. These roadmaps ensure Malaysia achieves long-term energy security that is environmentally sustainable, with the data centre industry poised to contribute innovative solutions and technologies. Incentives for green technology have also been introduced, to support initiatives that include environment-friendly energy generation, conversion efforts and improved efficiency initiatives. For example, the Green Investment Tax Allowance (“GITA”) grants companies allowance for adopting renewable energies in their operations and upgrading their energy efficiency; whereas the Green Income Tax Exemption (“GITE”) offers generous cuts for companies providing relevant services related to green technology activities. Under the recently announced Budget 2024, the green technology tax incentives for GITA project, GITA asset and GITE solar leasing will be reviewed and extended for a period of two years.

<sup>11</sup> e-Economy SEA 2021 | Bain, page 92

<sup>12</sup> Malaysia e-commerce market to grow by 19.9% in 2022, estimates GlobalData | GlobalData E-Commerce Analytics

<sup>13</sup> <https://digital-business-lab.com/2022/07/%E2%91%A1-social-media-penetration-in-malaysia-research/>

## Driving E-Commerce

The remarkable growth of Malaysia's data center industry can be attributed to factors such as increased interest in cloud services, government-backed initiatives, and the data center moratorium in Singapore, resulting in Malaysia becoming one of the Asia Pacific region's most dynamic data centre markets.

The Malaysian e-commerce market recorded a 68% year on year growth in 2021 <sup>11</sup>, with expectations of a 16.1% compound annual growth rate between 2022 and 2026, reaching RM 69.3 billion in 2026. A record of RM31.9 billion in sales were recorded in 2021, achieving a compound annual growth rate of 22.4% between 2017 to 2021<sup>12</sup>. Coupled with the fact that 96.4% of Malaysians are smartphone and internet users<sup>13</sup>, the demand for data centres, driven by cloud-based services for management and storage purposes, the Internet of Things, and big data analytics, is set to soar, catering to both corporate and consumer needs.

## What's Next?

As part of the government's Digital-First initiative to enhance federal and state levels usage of cloud service, the Public Sector Data Centre has been updated into a cloud computing service known as MyGovCloud in May 2022<sup>14</sup>. This improvement also aligns with the Fifth Initiative under Thrust 1 of the Malaysia Digital Economy Blueprint which targets 80% cloud computing storage usage for the public sector in 2022. Such initiatives promote the adoption of cloud services,

<sup>14</sup>

<https://www.nst.com.my/news/nation/2022/05/794722/public-sector-data-centre-gets-cloud-computing-upgrade>

further encouraging the development of data centres.

In accordance with the sixth initiative under Thrust 3 of the Malaysia Digital Economy Blueprint, Malaysia is dedicated to attracting an increased number of international submarine cables to expand global connectivity, targeting to have the highest number of submarine cables landing in Southeast Asia by 2025<sup>15</sup>. This would require the development of a clear strategic plan in collaboration with the industry stakeholders. This plan would encompass policies aimed at promoting investments in submarine cables landing stations and the introduction of various data-intensive services. By facilitating the essential infrastructure enhancements required to improve broadband services, this initiative will foster the establishment of additional high-end data centres.

The establishment of the New Industrial Master Plan 2030 (“**NIMP 2030**”), with its strong focus on industrial transformation through digitalization creates a secure and encouraging environment for data centre investments. Under the NIMP 2030, the Government seeks to introduce technology adoption programmes, accelerate digital infrastructure rollout and nurture technology innovation. These collective initiatives undoubtedly present compelling incentives for investments in data centers.

Johor is emerging as an increasingly strategic location for data centre operators. Johor’s close proximity to Singapore, lower construction and development costs, favourable government policies and availability of land and power makes it an attractive alternative hub. Equinix, in November 2022,

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announced its entry into Malaysia with a new two storey data centre in Nusajaya Tech Park in Iskandar, Johor <sup>16</sup> ; whereas AirTrunk, announced its investment of a 150+ megawatt data centre <sup>17</sup> in Johor early this year. The significant investments from these established data centre operators further strengthen Johor’s position as a preferred location for storage of data outside of the land and power constrained Singapore.

It is evident that data centres play a critical role in Malaysia's economic growth and contribute significantly to the nation's digital transformation. As Malaysia continues to position itself as a digital hub in Southeast Asia, the role of data centres will only become more prominent, and their growth in Malaysia underscores the nation's commitment to shaping a digital future.

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<sup>15</sup> Malaysia Digital Economy Blueprint | Economic Planning Unit, Prime Minister’s Department, page 59

<sup>16</sup> <https://www.equinix.com/newsroom/press-releases/2022/11/equinix-enters-malaysia-with-40m-data-center-investment>

<sup>17</sup> <https://airtrunk.com/airtrunk-enters-malaysia-with-new-150mw-hyperscale-data-centre-in-johor-bahru/>