

5. Addressing the Need for Facilitation

The Data Centre Sector is constrained by specific 'needs' for data centre development, and if not addressed, it will potentially restrict the development of the sector in Hong Kong.

Availability and the Need for Suitable Space/Land

A. Availability of Suitable Space/Land

One of the key constraints faced by the Data Centre Sector is the availability of suitable land plots for constructing large high tier (Tier III+ and IV) data centres. Based on our projections of unconstrained¹ RFS demand, an additional 500,000 square feet of RFS is required for Tier III+ and Tier IV data centres in Hong Kong by 2015 and it is reasonably expected that such demand will continue to grow beyond 2015. This translates into an estimated total land size of about 10 hectares². Current supply and availability of suitable³ land plots is considered to be insufficient to support future demand requirements for high tier data centres in terms of (1) size of land plot required, (2) total land space available, (3) availability of adequate power supply, and (4) suitability of land plots – e.g. sited away from hazardous industries.

Potential land supply was analysed by examining the different sources of land that can be made available for data centre development. The following lists down the current supply:

- Industrial Estates (IE) managed by Hong Kong Science and Technology Parks Corporation (HKSTPC):

¹ 'Unconstrained demand' refers to the situation where there are no external barriers (e.g. unfavorable regulations or unavailability of land) that may restrict the growth of RFS demand.

² Data centre with 100,000 sq ft RFS requires approximately 2 hectares of land.

³ Numerous factors need to be considered in terms of assessing suitability of land for high tier data centres. Some factors include: Distance away from major roads, not next to high risk facilities such as refineries, not directly under flight paths, buffer distance away from neighbouring facilities that may cause vibration or interference with data centre (computer) operations, availability of adequate power supply, etc

As of December 2010, only three vacant sites of about 4.5 hectares in total are left at the Tsueng Kwan O IE. It is expected that two of the sites will be offered soon⁴. There are no vacant plots available in Tai Po IE. Yuen Long IE is deemed to be unsuitable for high tier data centre development due to constraints in network capacity.

- Open Market:

Between 2008 and 2010, only 11 land plots were made available for commercial application. Of which, the largest plots were only 1 and 1.4 hectare in size, as compared to a 3 hectares site at the Tsueng Kwan O Industrial Estate acquired by a Data Centre Operator in 2010 to build a Tier IV data centre.

- Existing Industrial Buildings/Sites for Data Centre Use:

Some 300 and 200 hectares of land are now zoned for industrial and business uses respectively, which allow data centre use. There are however challenges to redevelop this land for high tier data centres. To redevelop existing industrial buildings, they have to be acquired and demolished, which involve additional redevelopment costs and additional lead time to materialise (12-24 months). Besides, potential multiple ownership of adjacent buildings will pose further difficulty in acquiring sufficiently large plot of land for high tier data centre projects. Together with issues such as inadequate power infrastructure, they limit the availability of suitable old industrial buildings for high tier data centres.

B. The Need - Hong Kong Being a Preferred City for Data Centres

Data Centre Operators and End Users have indicated that even though they could reap cost savings in other locations, majority of industry players prefer to locate their primary data centre operations in Hong Kong due to its inherent institutional advantages, including:

- Firstly, Hong Kong is the regional financial hub and gateway to the Mainland of China. There is a general preference and in some cases, a specific need for data centres to be located near business operations

⁴ As of March 2011, two sites have been offered, leaving one site of 1.5 hectares by the seashore.

- Secondly, Hong Kong is perceived by Data Centre Operators and End Users to be a safe location within the greater China region for locating their primary and/or backup data centres due to regulatory concerns, weak data privacy controls, and the lack of established infrastructure in other locations such as the Mainland of China
- Lastly, Hong Kong is not exposed to natural disasters such as earthquakes, which provides a stable operating environment for data centres

Hence, if there is inadequate supply of suitable land for high tier data centre development in a timely manner, the general viewpoint is that this will restrict Hong Kong's capability to develop a core infrastructure needed to serve the needs of businesses and in the long term, this may impede its ability to compete effectively as a global city and key financial centre.

Availability and the Need for Adequate Power Supply

Interactions with majority of industry players pointed out that the availability of power is one of the top two challenges facing Hong Kong's Data Centre Sector. In particular, converted industrial buildings might not be able to support the high power requirements of the high tier data centre, and retro-fitting is a long process. Depending on the capacity of the power sub-stations and/or the space of the transformer rooms in the buildings, the time required to provide enough electricity to data centres in existing buildings or new buildings can take a few months or longer. The time taken for green sites can even be a few years if there is no nearby power sub-stations.

Availability and the Need for Skilled Manpower

Some industry players encountered difficulties in recruiting data centre manpower at the two ends of the skills spectrum – highly skilled and experienced data centre managers and architects, as well as data centre operators. This can be a potential barrier in future for Cloud Service Providers who are looking to set up operations in Hong Kong as they require highly skilled manpower for their operations.