



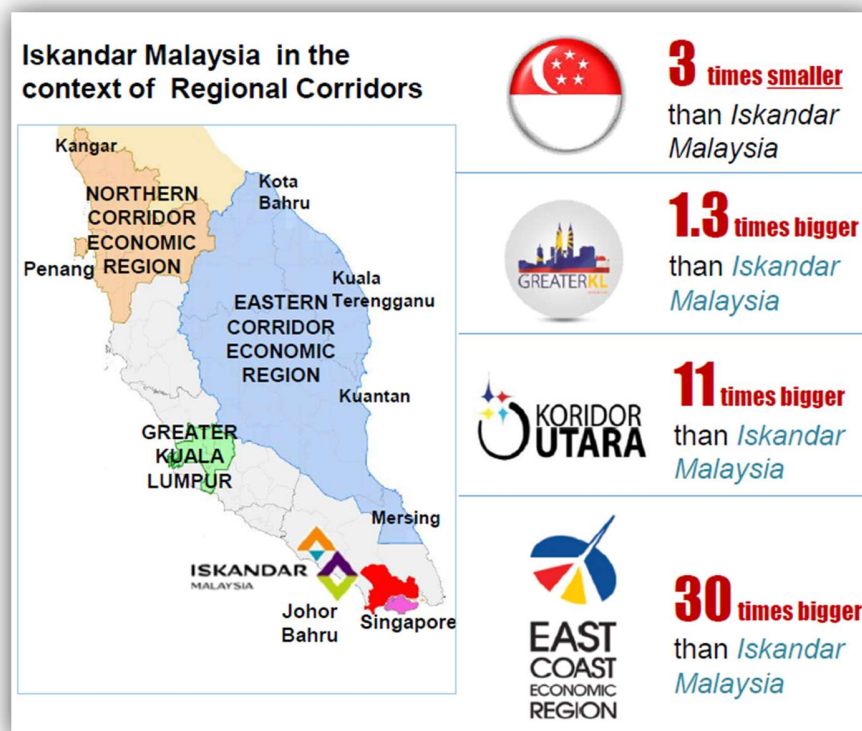
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SPECIAL REPORT:

ISKANDAR MALAYSIA BUS RAPID TRANSIT (IMBRT): CLEAN ENERGY FLEET

ISKANDAR MALAYSIA: FACTS & STATISTICS

- Iskandar Malaysia (IM) is Malaysia's economic growth corridor covering a total area of 2,217 sq km (12% of Johor State):

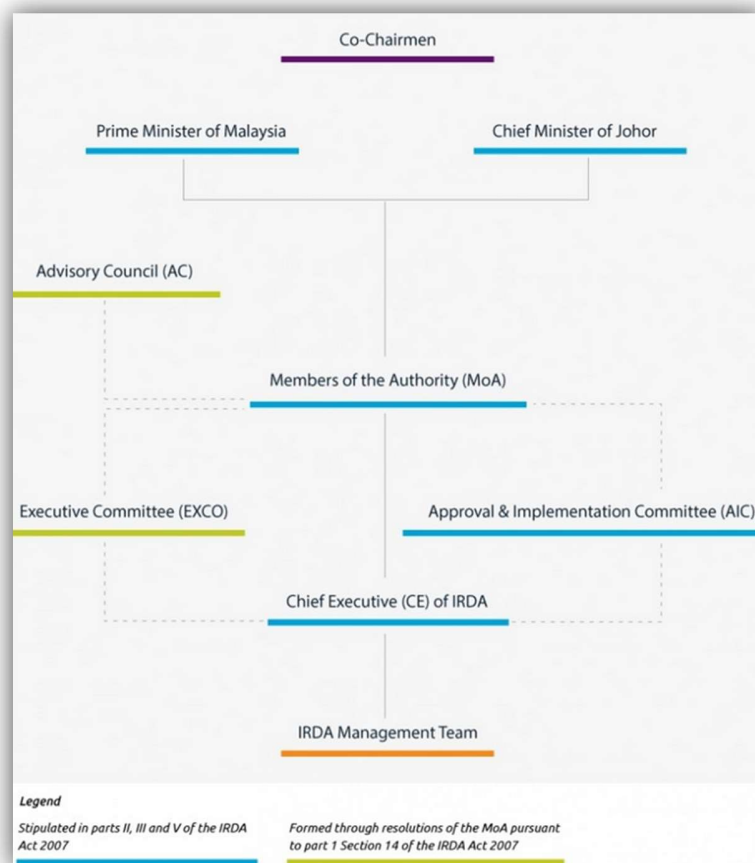


Source: Iskandar Regional Development Authority (IRDA)



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- Launched in 2006, IM aims to attract a total investment of MYR383 billion by 2025. As of September 2017, IM has successfully recorded MYR244.46 billion investment of which the Republic of Korea is ranked 6th top foreign investors in the region with investment amount of MYR3.68 billion.
- The Iskandar Regional Development Authority (IRDA), a Malaysian Federal Government statutory body, is tasked to realise the vision of developing Iskandar Malaysia into a strong and sustainable metropolis of international standing by 2025. Following shows the organisational structure of IRDA:



Source: Iskandar Regional Development Authority (IRDA)



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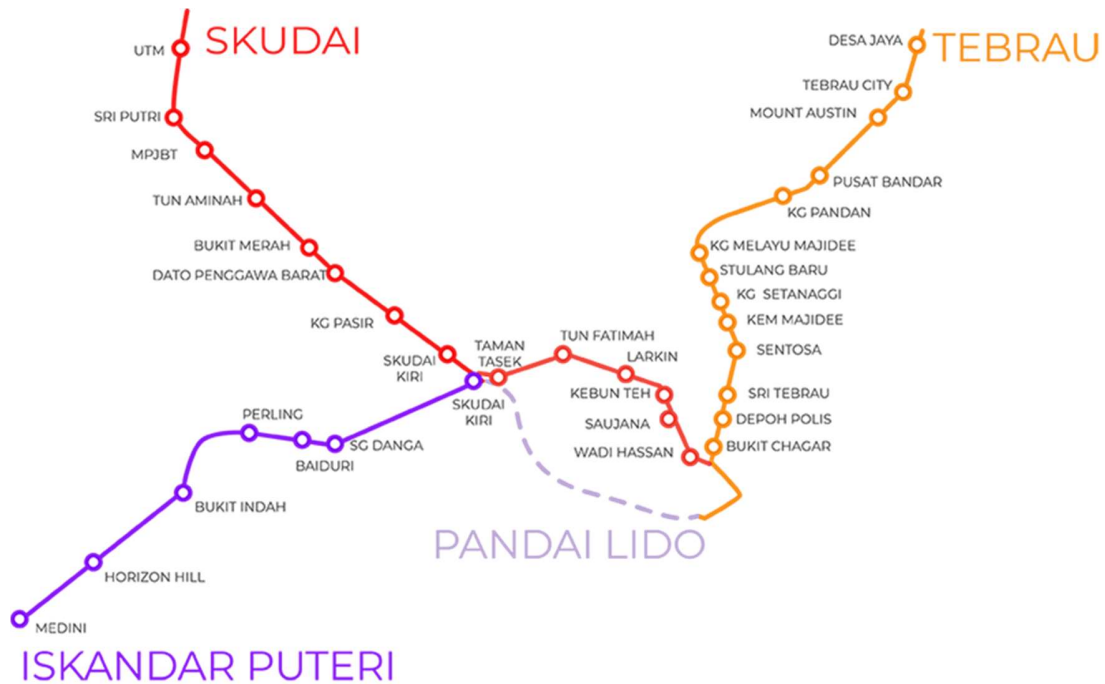
- Korean investors in Iskandar Malaysia to-date include Lotte Chemical Titan, Kiswire, Samsung, Shinsung Engineering and Amore Pacific. According to Economics & Investment Division of IRDA, Iskandar Malaysia received a number of visits from Korea including Sejong Administrative Office, Korea Development Institute, Korea Marine Equipment Association, Korean Airlines, etc. in 2017. Jin Air Korea has also commenced its chartered flight to Seoul from Johor in January 2018.

BUS RAPID TRANSIT (BRT)

- In Malaysia, a series of potential BRT corridors have been identified by Land Public Transport Commission (SPAD) through the demand modelling exercise carried out for the Greater Kuala Lumpur / Klang Valley Land Public Transport Master Plan in 2011.
- Currently, there is BRT Sunway Line which began operations in 2015 with **15 units of battery-operated electric buses** bought from BYD Company Limited | <http://www.byd.com/sites/byd/index.html>, a Chinese manufacturer of automobiles and rechargeable batteries at a total cost of MYR15 million.
- Zooming into Johor state, a Transportation Blueprint 2010 – 2030 for Iskandar Malaysia was published by IRDA in 2011, of which BRT system has been identified as the main mass transit mode for the region. It is planned to integrate with High Speed Rail (operational by 2026) and Rapid Transit System (operational by 2024).
- 3 BRT trunk routes with the length of 51km was planned with 3 hubs (Tebrau, Skudai, Iskandar Puteri) and 39 stations:



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- Note, some stations are still keep in view (KIV) and have been omitted from the Map.

TENDER FOR CLEAN ENERGY FLEET

- As part of IMBRT requirement, a tender for fleet purchase will be announced:
 - Estimated announcement of tender: Q2 2019
 - Delivery timeframe: 2019 – 2022
 - Project estimated cost: MYR700 million
 - Unit of buses required: 1,000
 - Proposed bus type: at least 20% of electric buses, of which the potential breakdown of clean energy mixed fleet planned for is shown below (images are for illustration purpose only, adopted from IMBRT webpage)



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- i. 10% of high capacity fleet for trunk routes
- ii. 50% of 10m-12m buses for direct service
- iii. 40% of 6m-8m buses for feeder service



Articulated 18m (trunk route)



12m bus (direct route)



8m bus (feeder route)

- Following a meeting with Mr. Rudyanto bin Azhar, Director of Iskandar Malaysia Bus Rapid Transit, there will be a total of 3 tender packages announced in Q2 2019 – BRT Bus, BRT System and BRT Operator.
- Note, three different tender packages will be announced. The tender package for clean energy fleet (BRT Bus) can be stand alone, or complement with the other two packages (BRT System and BRT Operator). The mechanism of the proposed business model by IRDA is illustrated below:

Service / Package		BRT System	BRT Bus	BRT Operator
Procurement Method		Private fund through competitive tender process		
Service / Package Payment mechanism (Several Combination option)	1	Performance based availability payment	Performance based availability payment	Per-km performance based payment
	2	Performance based availability payment	Per-km performance based payment (Bus will be under operator)	
	3	Performance based availability payment (System will be under Bus)		Per-km performance based payment
	4	Performance based availability payment & Per-km based payment (System & Bus will be under 1 consortium)		



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- Korean companies are encouraged to start engaging IRDA should they be interested to bid for the tenders. According to the Director of IMBRT, a special event (still in the planning stage) will be organised by IRDA prior to the announcement of tenders to allow interested companies to showcase their technologies.

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24 April 2018