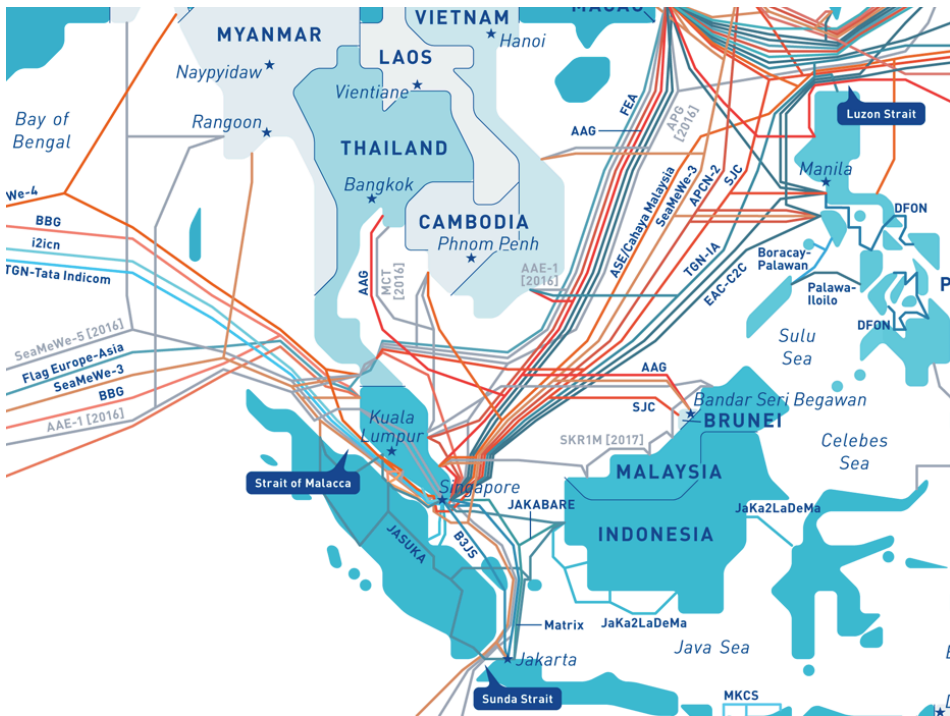


Singapore: Connectivity to the world

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Tan Shao Yi

Singapore and submarine cable systems



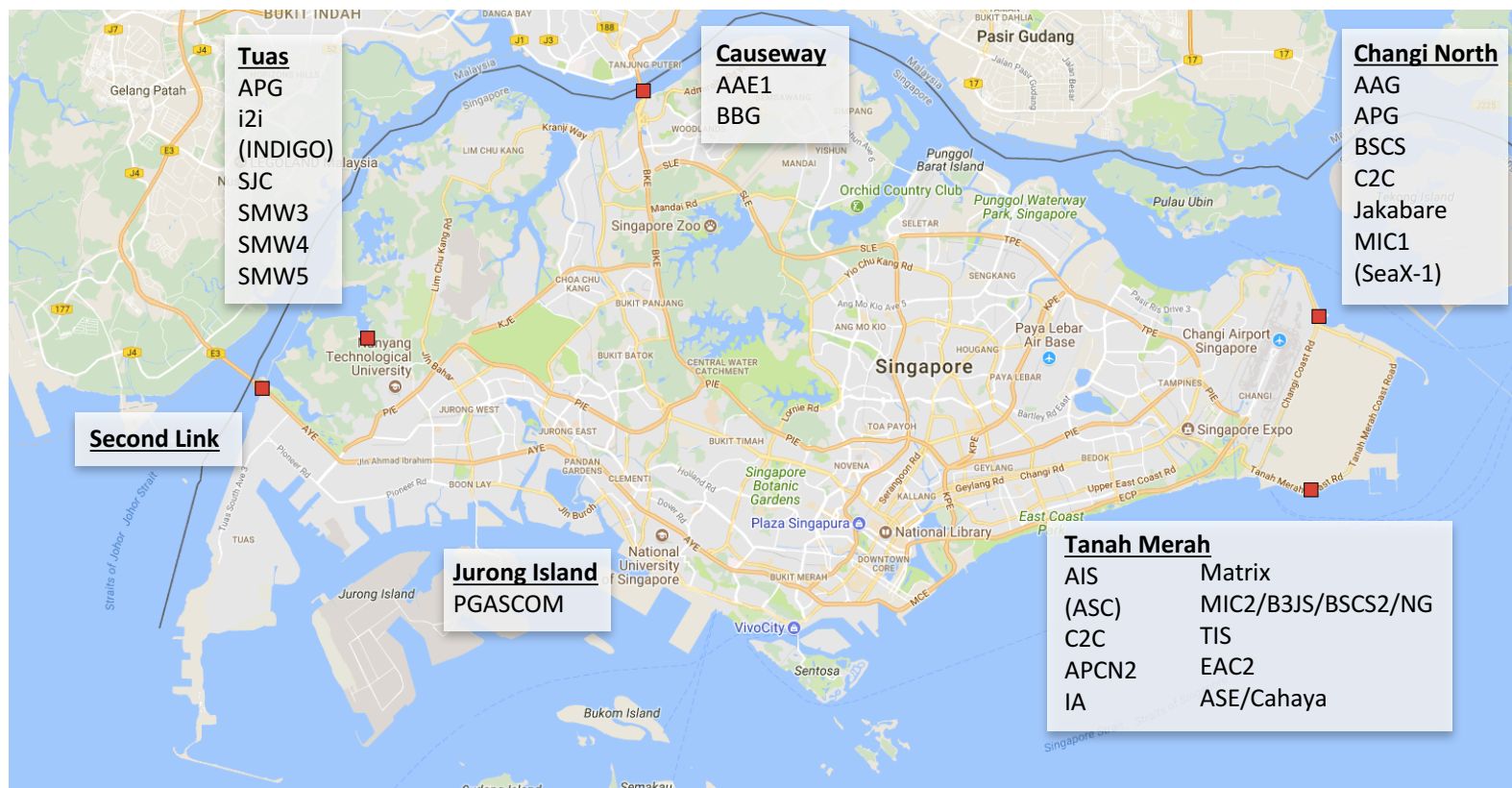
- Blessed by geography
- No natural disasters
- Telecoms hub with many submarine cables terminated
- Connectivity options—price, latency, various attributes...



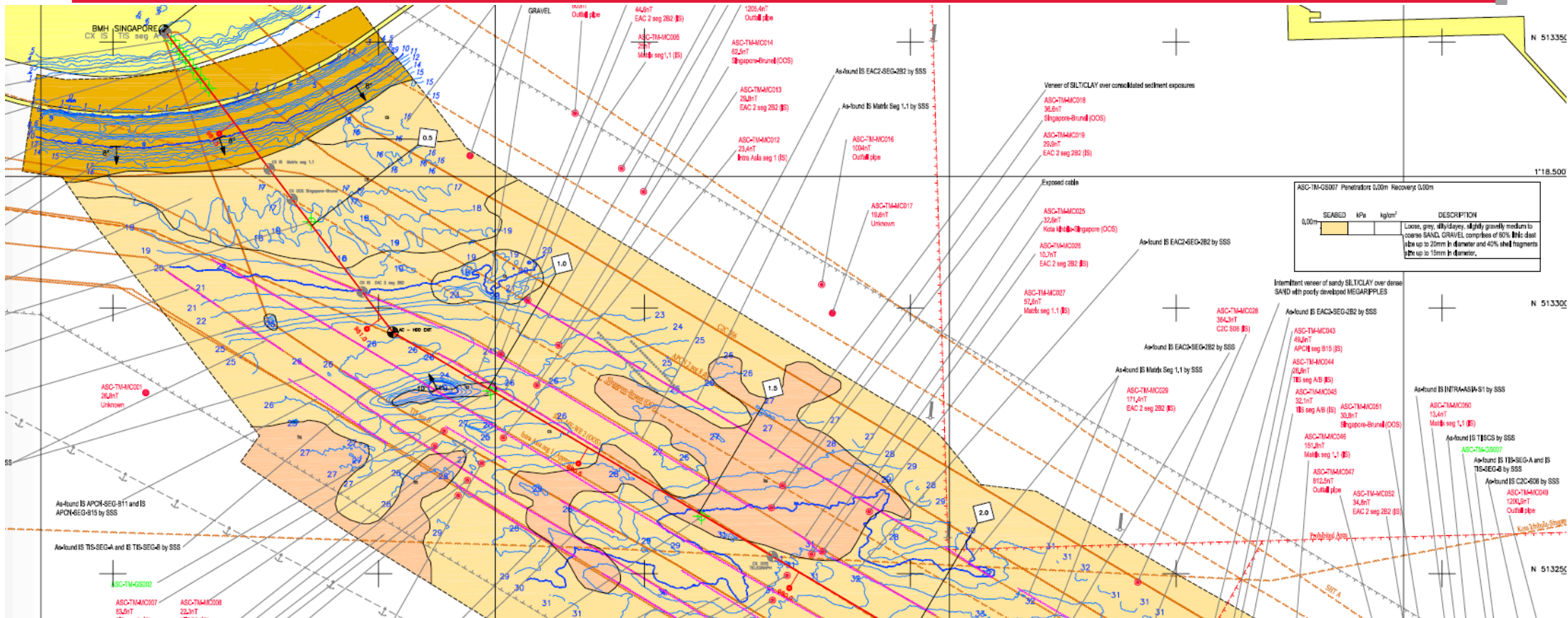
Many SE Asian countries purchase capacity in SG

- More bandwidth, lower costs (in some cases) and latency guarantees
- Terrestrial (via Peninsular Malaysia) and submarine cable routes into Singapore
- A lot of IP peering happens in Singapore
 - Equinix (SG1, SG3, SG2)
 - SGIX (Global Switch and 1-Net East)
 - SOX (Global Switch and NUS)
 - BBIX (Equinix SG1)

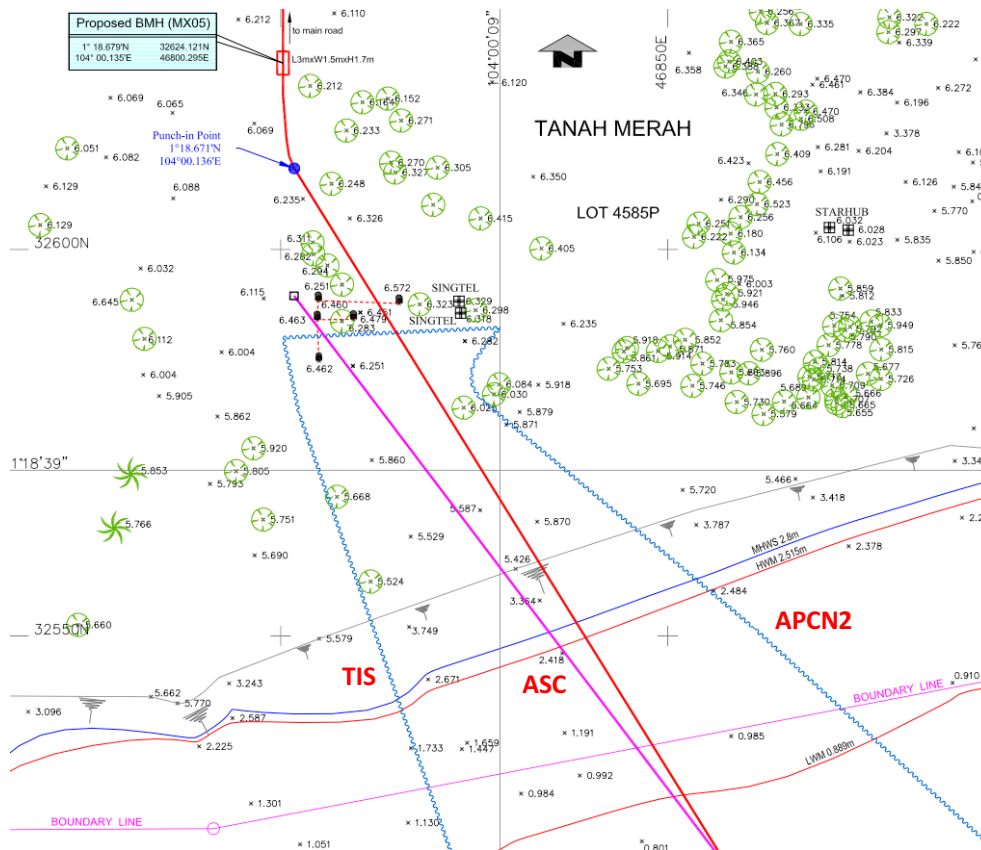
IMDA's [submarine] cable landing sites



Submarine cable corridors



Application and approvals etc



1. **IMDA + 16 agencies**
 - Approvals may take a year or more!
2. **Proposed BMH and cable route:**
 - Terrestrial: IMDA, URA, SLA (+ other agencies)
 - Wet/Submarine: IMDA, MPA
3. **Be a good neighbour!**
 - Manhole(s), HDD
 - Cable-crossing(s)



Additional considerations when purchasing capacity

1. Limited landing sites

- 2/3 of submarine cables traverse through a particularly scenic Park Connector

2. Limited cable corridors

- Some submarine cable systems share the same corridors
- Some submarine cables laid together for economies of scale (but not necessarily good for redundancy)
- Same submarine cable with different cable system names/part of a longer submarine cable system

3. Somewhat limited backhaul routes

- Cannot lay cables along expressways
- Lots of development (airport, MRT, tunnels, utilities, etc).



References

Telegeography (2016). Submarine Cable Map 2016. Available:
<https://www.telegeography.com/telecom-resources/map-gallery/submarine-cable-map-2016/index.html>



Thank You

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