

# TRANSFORMING ASIAN CITIES INTO SMART CITIES

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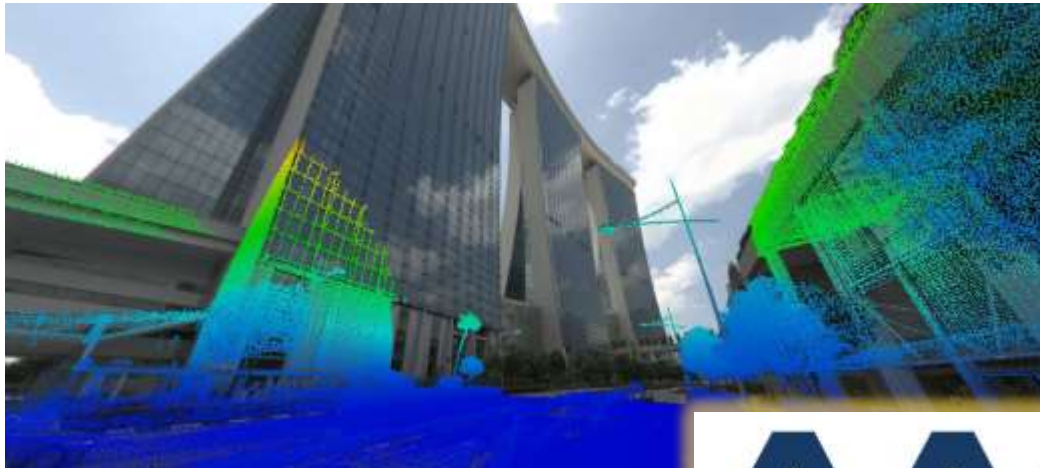
- AAM is a large multinational geospatial company
- Major projects across the Asia Pacific region
  - National 3D Map of Singapore
  - JUPEM LiDAR capture, Corridor Mapping
- AAM is a premium provider of geospatial content and applications
- Use Case – Drone Superhighway
- Use Case – Development Activity Model

Slideshare link:

<https://www.slideshare.net/dkruimel/geosmart-asia-smart-cities-daniel-kruimel-aam>

OR [goo.gl/YUNLhQ](https://goo.gl/YUNLhQ)





FUNDAMENTAL GEOSPATIAL DATA

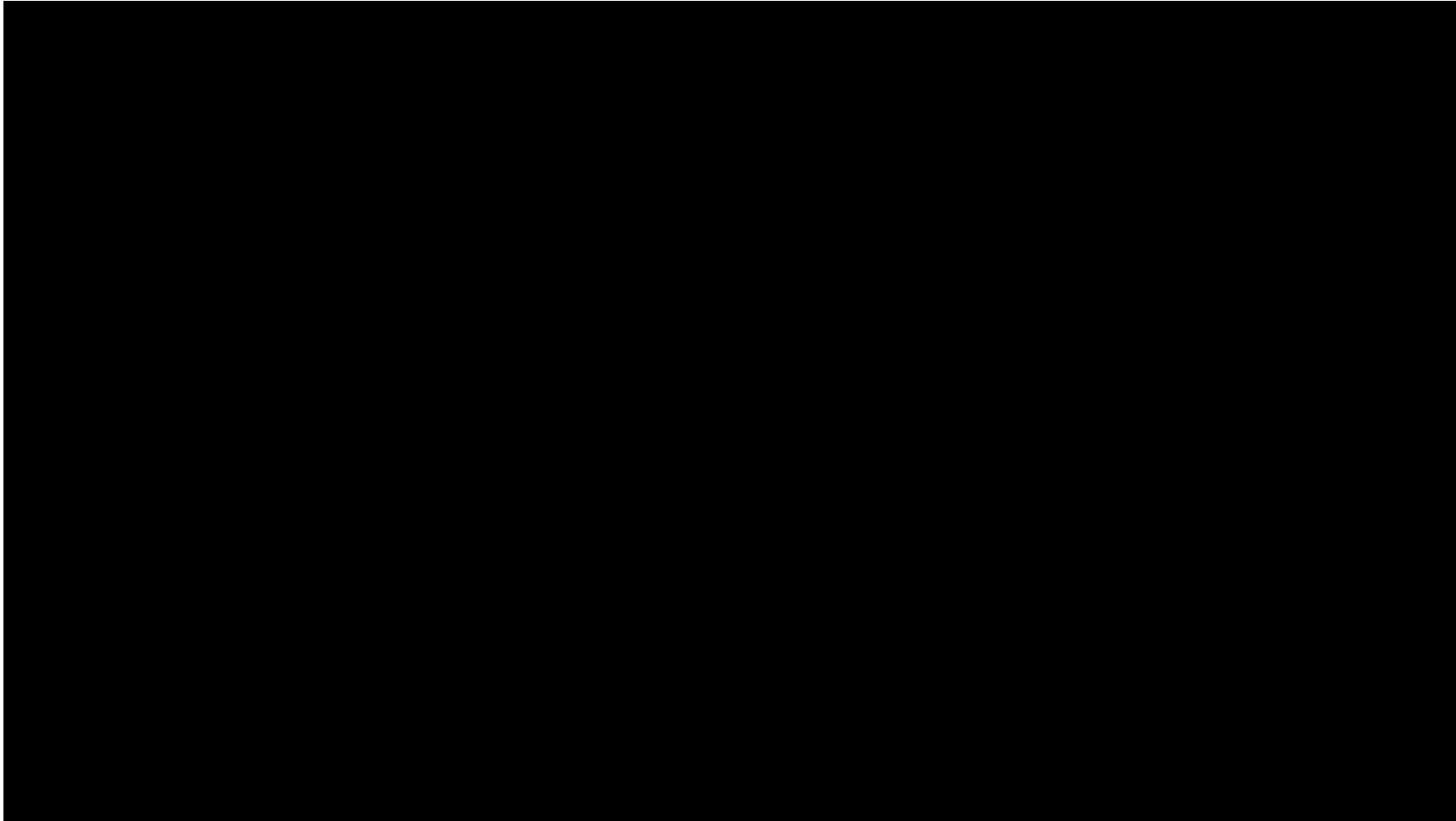


BUILDING BLOCKS OF THE FUTURE





- Amazon's Prime Air first public U.S. drone delivery – box of sunscreen (MARS Conference, March 2017)



Source: <https://www.youtube.com/watch?v=8YoBqlltIzM&feature=youtu.be>

- UPS Tests Residential Delivery Via Drone (Feb 2017)



Source: [https://www.youtube.com/watch?v=xx9\\_6OyjJrQ](https://www.youtube.com/watch?v=xx9_6OyjJrQ)



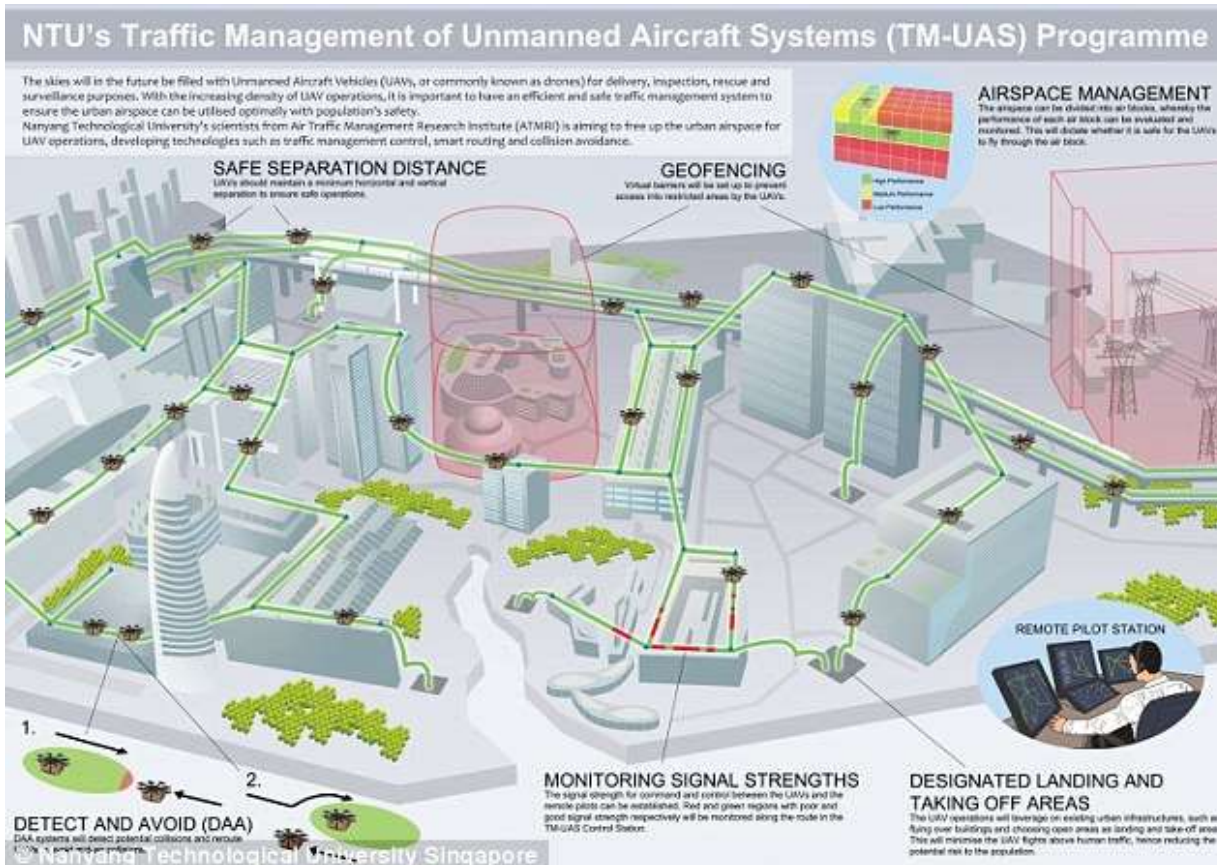
# USE CASE – DRONE SUPERHIGHWAY

- Spot the difference. . . .

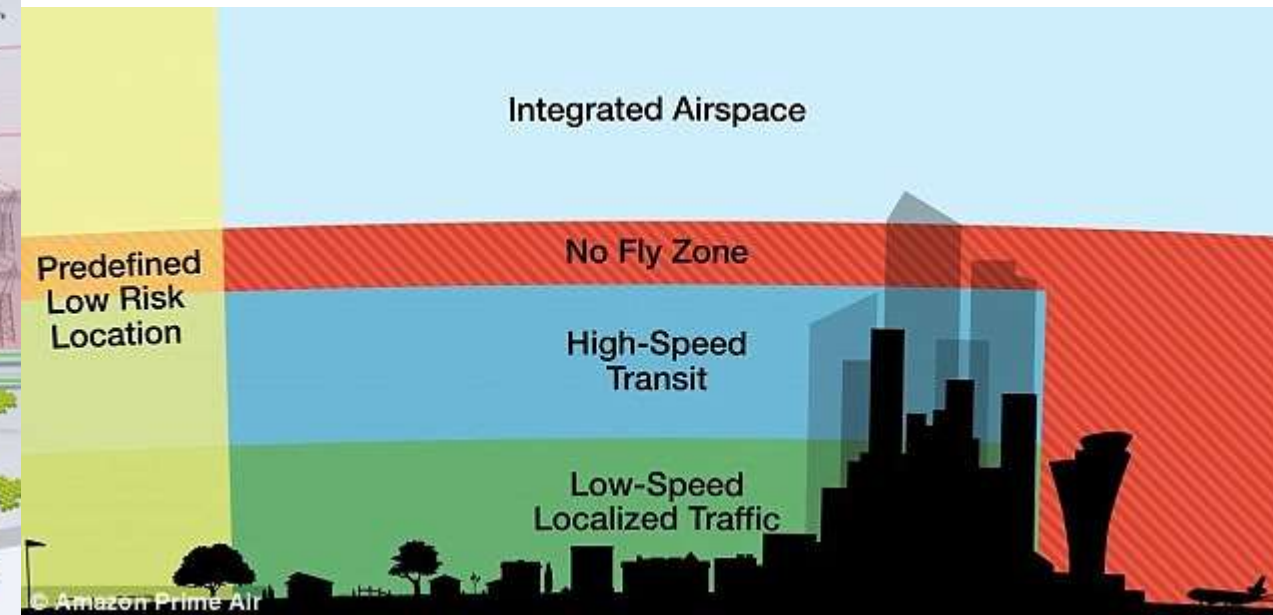




- Nanyang Technological University (NTU) – Traffic Management of Unmanned Aircraft Systems (TM-UAS)



## Amazon's proposed 'Drone Highway'



Source: <http://www.dailymail.co.uk/sciencetech/article-4074726/Researchers-Singapore-reveal-advanced-air-traffic-drones-uses-virtual-fences-colliding.html>



- Accurate and up to date 3D Models are a key component for this application
- NTU have been using the LOD2 CityGML 3D Models created in conjunction with Singapore Land Authority (SLA) on the National 3D Mapping project
- 3D models used to define:
  - Designated Landing and Take off areas
  - Emergency Landing areas
  - Safe separation distances
  - Geofencing zones
  - Suitable location for signal transmitters (coordinating stations for UAV traffic)





**CITY OF MELBOURNE**

MELBOURNE.VIC.GOV.AU

Source: <https://www.youtube.com/watch?v=iKsCNDXqpE>



- Allows interested parties to view current and proposed developments
- Provides a key planning tool to see where activity will be occurring - possibility to avoid conflicts
- Requires a base dataset to show current city model
  - Updates are also a key!
- Also requires platform to allow for discovery
- Potential to integrate with a multitude of other data sources



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