

Smart Life Enhanced by Geospatial Information Infrastructure

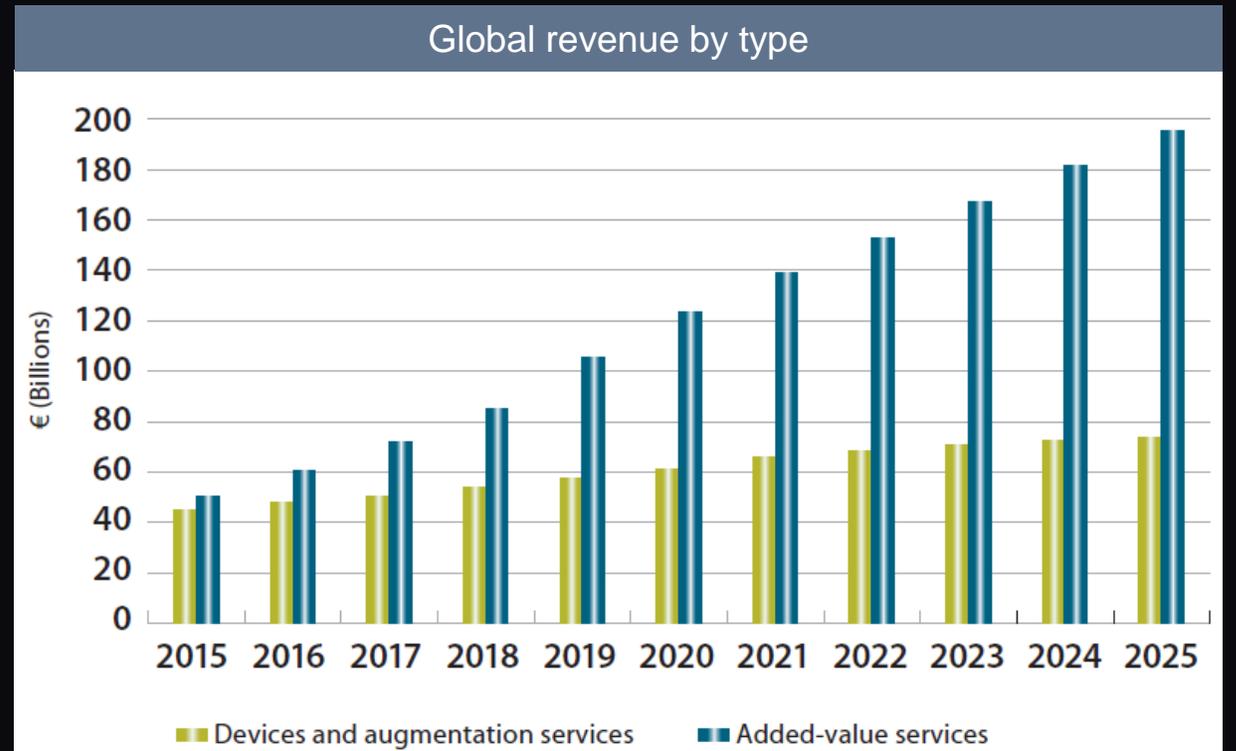
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United Nations World Geospatial Information Congress
19 November 2018

Introduction

- Technology is always evolving
- Geospatial information technology has revolutionised our world
 - Technology
 - Infrastructure
 - Business
 - Society
- European GNSS Agency (GSA) report shows the GNSS market is huge
- Make life smart all over the world



Current technologies for smart journey planning

Natural History Museum Cro...

- Information (345)
Information MORRIS ROAD, STOP E: Please note ...
- Information (345)
Information CHARLECOTE ROAD, STOP EH: Plea...

345	Peckham	11:10
345	Peckham	11:18
345	Peckham	11:26
345	Peckham	11:34
345	Peckham	11:42
345	Peckham	11:50
345	Peckham	11:58
345	Peckham	12:06
345	Peckham	12:14
345	Peckham	12:22
345	Peckham	12:30

South Kensington (Stop E) ♿

14	74	360	414	430
C1	N74	N97		

The map shows the Natural History Museum area with a red pin at Cromwell Road (Stop H). Landmarks include the Natural History Museum, Sensational Butterflies, East Lawn, French Lycee, Tombo - Japanese Café & Matcha Bar, and South Kensington Station. Streets shown include Cromwell Rd, Exhibition Rd, Thurloe St, Harrington Rd, and Pelham St.



<https://traintimes.org.uk/map/london-buses/#1>

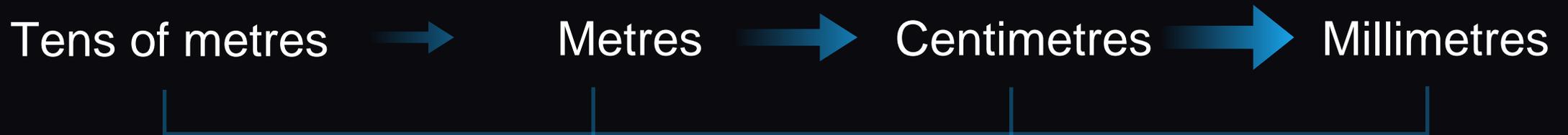
www.google.co.uk/maps

Do current technologies meet future requirements?

- High accuracy positioning in real time
 - Lane level navigation?
 - Autonomous driving?
 - Drone operation?
- Safety?



How to meet future requirements



Integrity

Continuity

Availability

Integrity

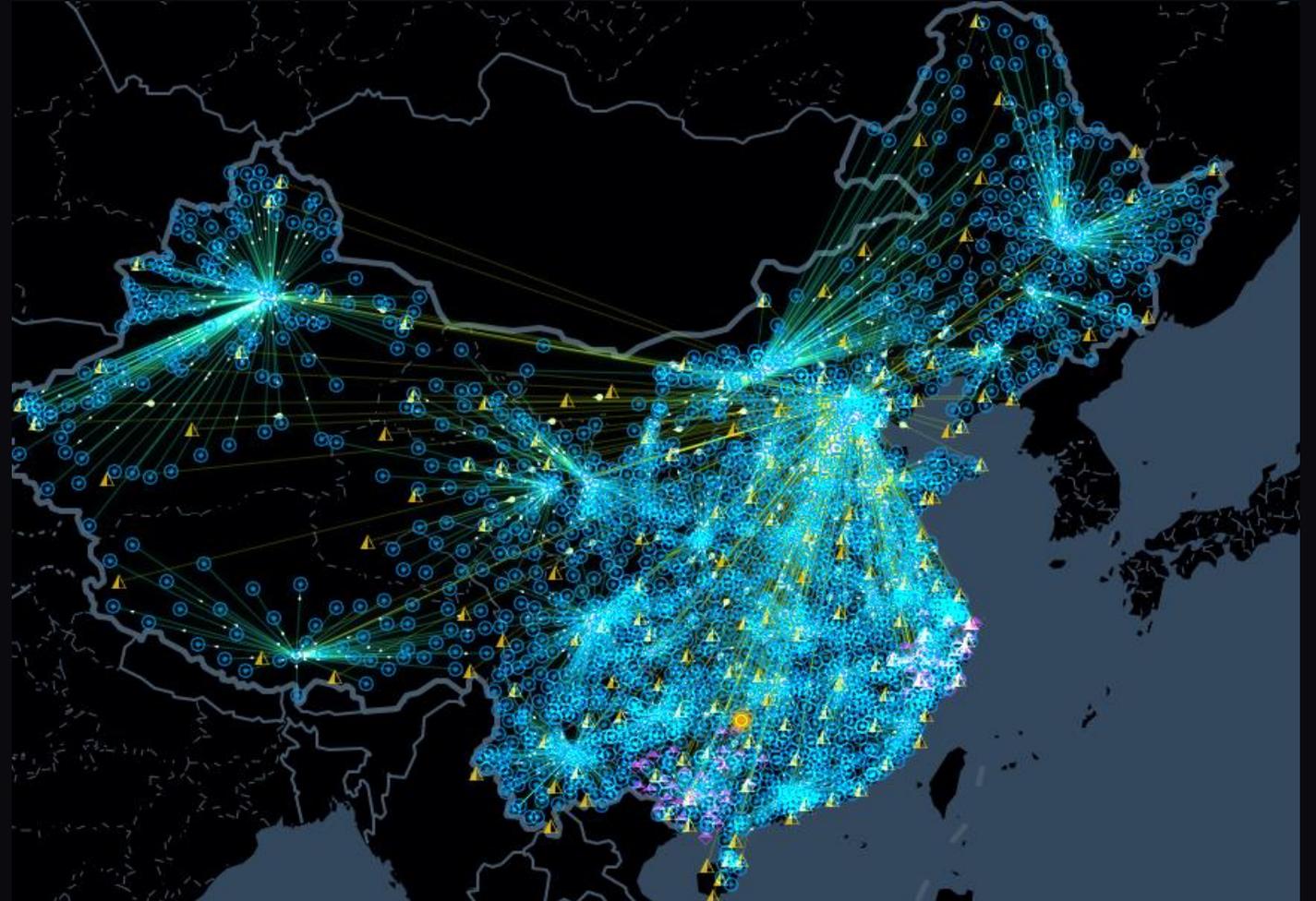
Continuity

Availability

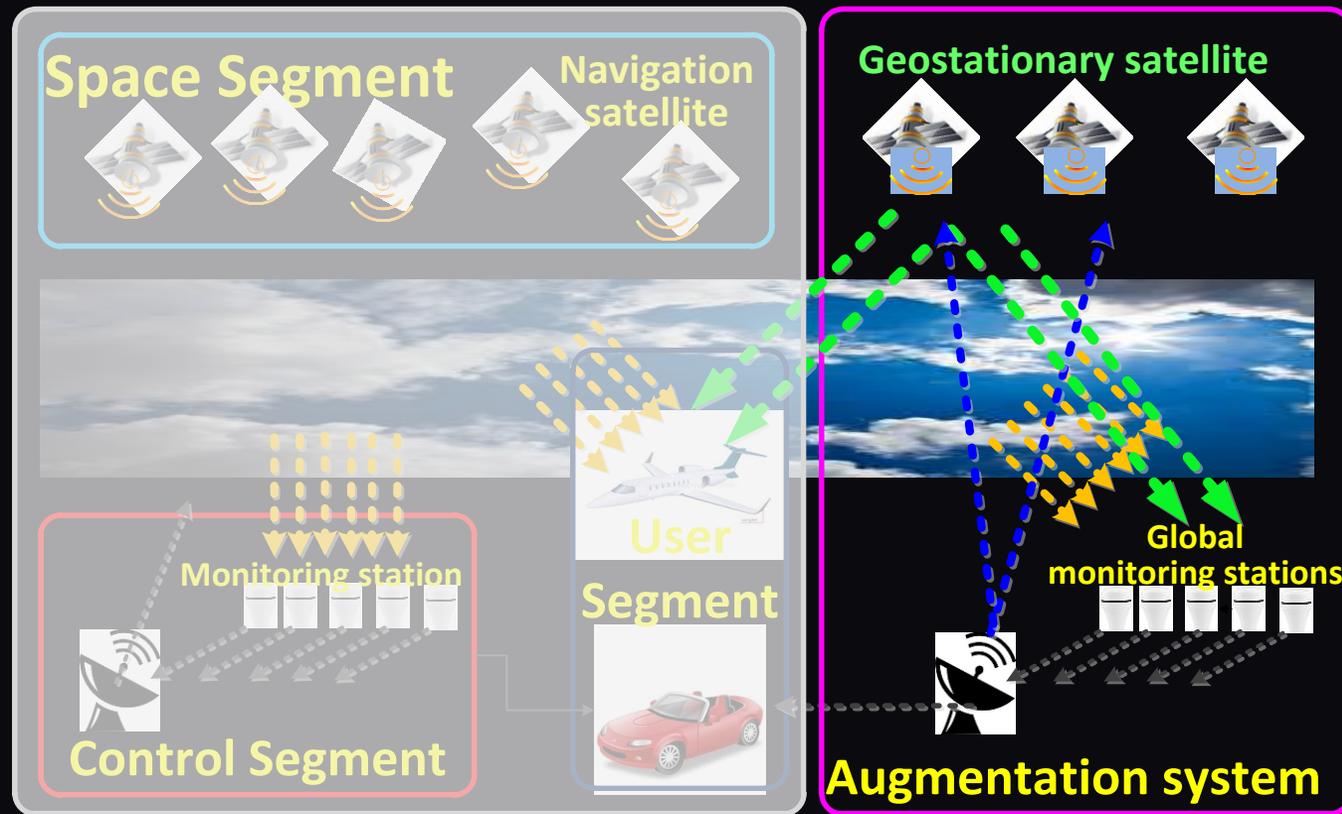


GI Infrastructure - Ground Based Augmentation Network

- China has world biggest real time Ground Based Augmentation Network
- Provide 24×7 services enable centimeters level positioning



GI Infrastructure - Space Based Augmentation System & Combined



+



Wearable & Portable devices



Smart Agriculture



Infrastructure Management



Smart Infrastructure Management



千寻高精定位
Qianxun Service

Smart City

V2X

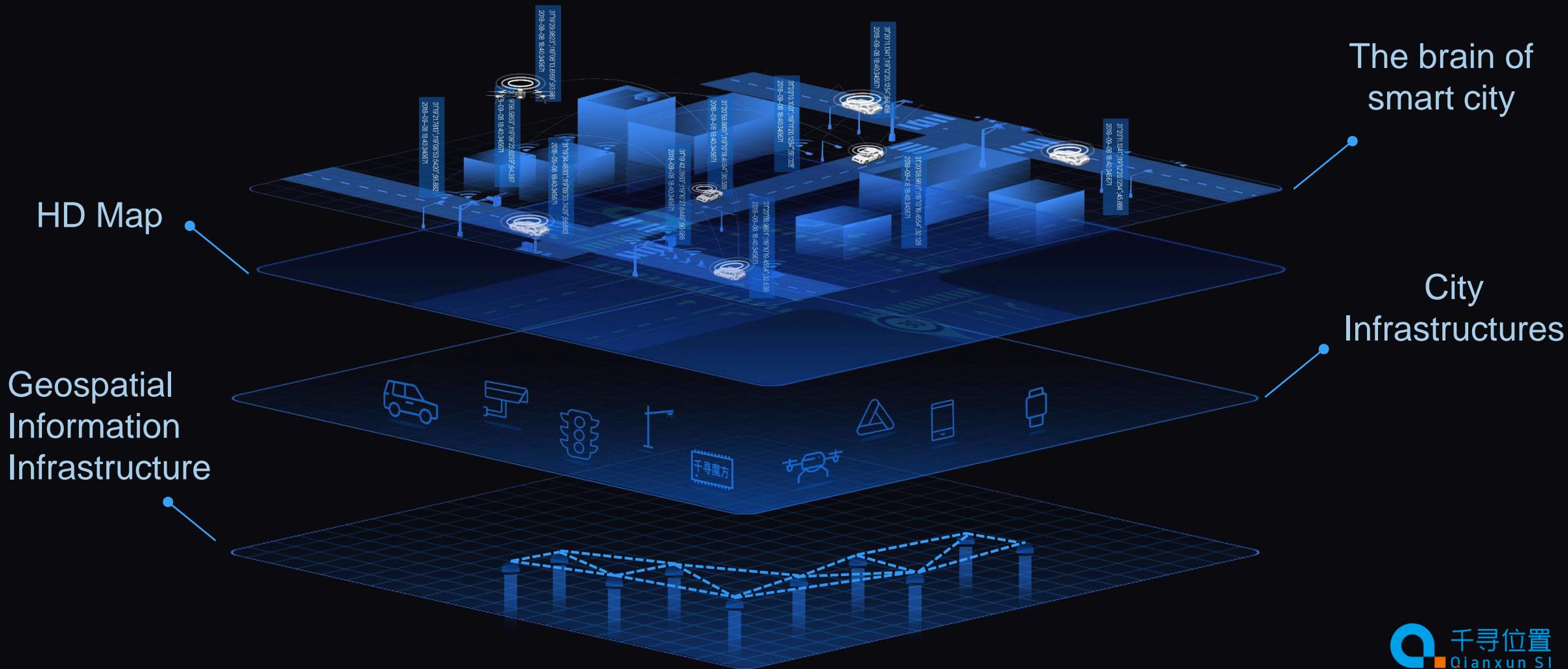
IoT

ITS

i Logistics

Safety & Security

Law enforcement



Summary and Conclusions

- Geospatial information infrastructure has
 - augmented the capability of satellite navigation systems
 - supported applications with stringent requirements (e.g. safety, security, liability etc.)
 - made other city infrastructures (e.g. grid, water pipe line etc.) smart
 - made life smart (e.g. travel) and healthy (e.g. food nutrition block chain)
 - and eventually been changing our society (education, social activities, law enforcement etc.)
- We are seeing a better world underpinned by Geospatial information infrastructure

Thank You



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