Smart Life Enhanced by Geospatial Information Infrastructure

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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

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

- Tens of metres → Metres → Centimetres → Millimetres
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

Space Segment
- Navigation satellite
- Monitoring station
- User
- Control Segment
- Augmentation system
- Navigation satellite
- Geostationary satellite
- Global monitoring stations
Wearable & Portable devices
Smart Agriculture
Infrastructure Management
Smart Infrastructure Management
Smart City

V2X  IoT  ITS  i Logistics  Safety & Security  Law enforcement

HD Map

The brain of smart city

City Infrastructures

Geospatial Information Infrastructure
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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