



SMART UTILITY SERVICES

by S Ramaprasanna, Managing Director, AAM India



- Company Overview
- Smart City On The Rise
- Smart Utilities

- Australian Aerial Mapping (AAM) was formed in 1959
- Now “AAM Group” to reflect our wider Mission
- 500 employees; majority staff owned
- Operations:



➤ Local Presence & International experience:

- 50 year old company with Indian resources guarantees completion

➤ Owns and Operates Resources:

- Reducing project risk of sensors and aviation

➤ Whole of Project Support :

- Single point of contact and responsibility

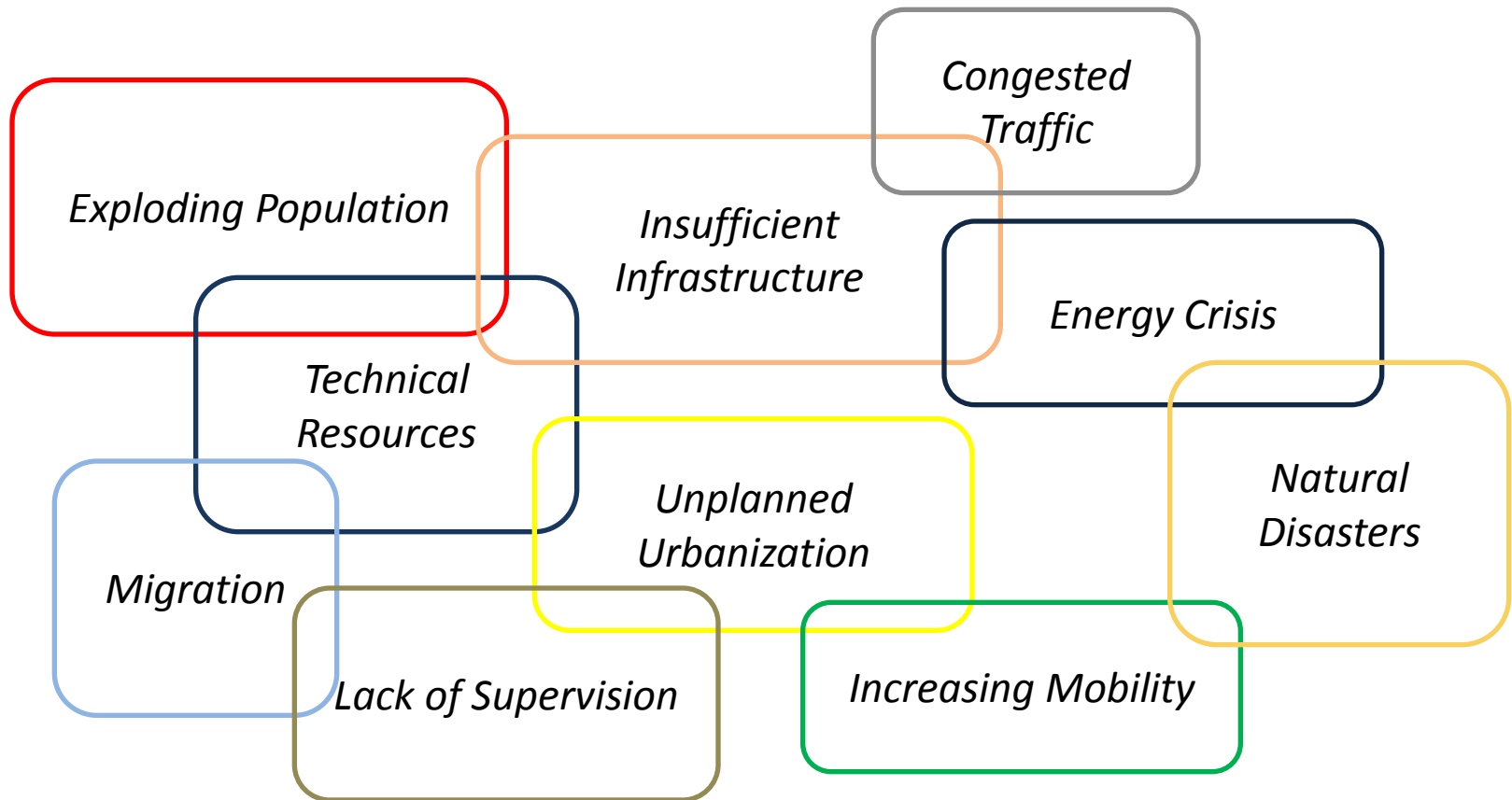
➤ Committed to Implementation:

- Data is deployed for all project stakeholders.

- 14 aircraft and 8 UAVs
- 7 LiDAR sensors
- Bathymetric LiDAR capacity
- 11 x aerial cameras
- 3 x Oblique image sensors
- 5 x Terrestrial Laser Scanners
- Street Mapper Mobile Laser Scanning Units
- 100 x fully equipped survey crews: GPS & Total Stations.

Urbanization

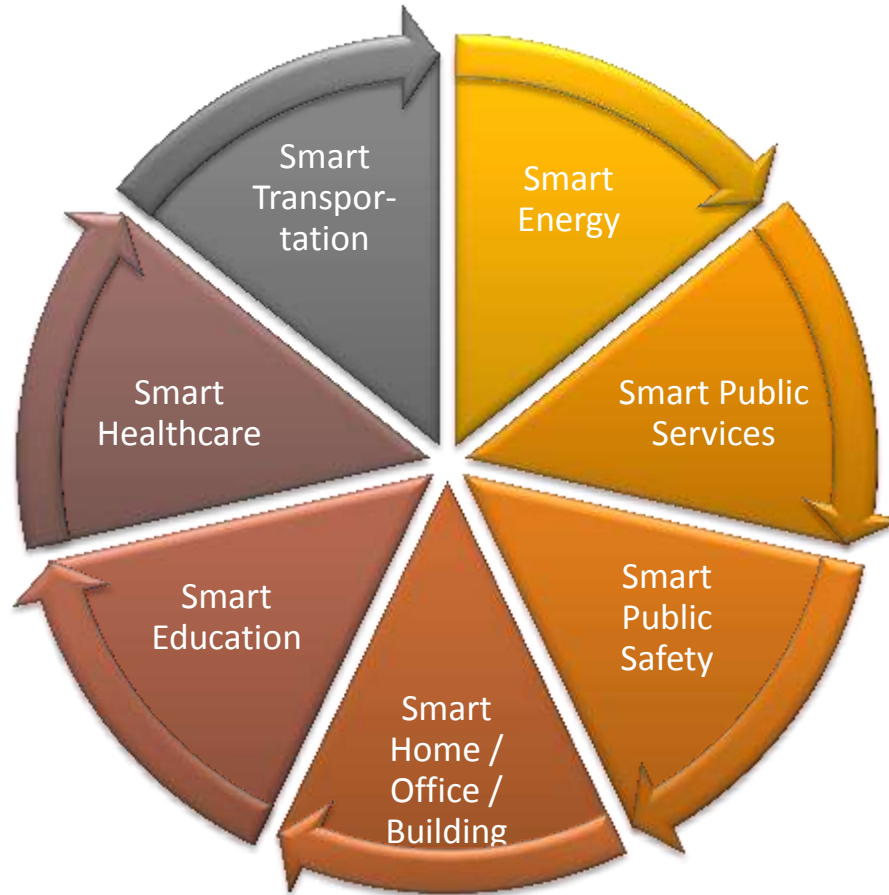
More manageable and innovative cities needed considering the issues of urbanization



Transformation is possible by integration of «infrastructure», «citizen» and «administration»



Smart City needs Smart Utilities



Combination of Technology

Smart city concept is founded on a set of solutions which are combination of today's standalone technologies



The solution set working on a common infrastructure turn into initiatives which vary by the industry

<i>Smart Utilities</i>	<i>Smart Health</i>	<i>Smart Public Services</i>	<i>Smart Building</i>	<i>Smart Transportation</i>
<ul style="list-style-type: none"> • Intelligent Utility Network • Smart Metering • Energy Optimization • Smart Production • Demand Planning • Advanced Distribution Management • Operations Control • River Basin and Smart Water Management 	<ul style="list-style-type: none"> • Smart Care Management • Connected Health • Smart Medicine Supply • Mobile Health • Remote Healthcare 	<ul style="list-style-type: none"> • Smart Citizen Services • Smart Tax Administration • Smart Customs, Immigration, Border Management • Smart Crime Prevention • Smart Emergency Response • Smart Financial Management 	<ul style="list-style-type: none"> • Energy Optimization • Asset Management • Facility Management • Video Surveillance • Recycling and Power Generation • Automatic Fault Detection Diagnosis • Supervisory Control 	<ul style="list-style-type: none"> • Intelligent Transportation • Smart Public Transportation • Integrated Fare Management • Fleet Optimization • Tolling Solutions • Real-time Adaptive Traffic Management • Smart Parking • Traveler Information Systems
	<p style="text-align: center;"><i>Smart Education</i></p> <ul style="list-style-type: none"> • Smart Classroom • Performance Man. • Asset Management 			



Data Sources

- Existing Data
- Aerial Imagery
- Airborne LiDAR
- Oblique Aerial Imagery
- Satellite Imagery
- TLS
- Field Survey
- UAVs

Services & Technology

- Aerial Survey & LiDAR
- 3D GIS and Visualization
- Land & Construction Surveying
- Laser Scanning & 3D Modelling
- Satellite Imagery
- Web Mapping
- Content
- GEOCIRRUS
- Consulting

Solutions

- Web based Mapping Applications
- Geo Solutions
- Utility wise solutions
- Mapping Solutions

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A SMART VISION FOR CITIES

DAVID JONAS EXPLAINS HOW SINGAPORE IS DEVELOPING A HIGH-RESOLUTION, 3D NATIONAL TOPOGRAPHIC MAP TO TURN ITSELF INTO A 'SMART CITY'

As a smart city, Singapore is not just a collection of buildings and infrastructure. It is a smart city because it is using technology to improve the quality of life for its citizens. This is done through a variety of means, including the use of data and analytics to optimize city operations, the use of smart infrastructure to improve efficiency, and the use of smart services to improve the lives of citizens. One of the most important ways that Singapore is using technology to improve the quality of life for its citizens is through the development of a high-resolution, 3D national topographic map. This map will provide a detailed view of the city's terrain and infrastructure, and will be used to support a variety of smart city applications, including urban planning, transportation, and public safety.

Challenges

One of the main challenges in developing a high-resolution, 3D national topographic map is the need for accurate data. This data is often difficult to obtain, especially in urban areas where buildings and other structures can block the view of the ground. To overcome this challenge, Singapore is using a variety of technologies, including satellite imagery, laser scanning, and ground-based surveys. By combining these technologies, Singapore is able to create a highly accurate and detailed 3D map of the city.

Another challenge is the need for a robust data management system. A 3D map of a city can contain a vast amount of data, and it is essential that this data is stored and managed in a secure and efficient manner. Singapore is addressing this challenge by investing in advanced data management technologies, such as cloud storage and data analytics. This will ensure that the 3D map data is accessible and usable by city officials and other stakeholders.

Utilising the Virtual World for Urban Planning and Development

David JONAS, Australia

XXV FIG Congress
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Empowering the Industry, Enhancing the Profession
16-21 JUNE 2014, MALAYSIA

CASE STUDY: 3D City Model - Johannesburg

OVERVIEW

In 2012, AAM was awarded a 3-year appointment to create the 3D City Model (3DCM) for the City of Johannesburg. The 3DCM is a digital representation of the city's built environment, including buildings, infrastructure, and terrain. It is used to support a variety of urban planning and development activities, including site analysis, impact assessment, and visualization.

SITUATION

The City of Johannesburg is a large and complex municipality. It is home to a diverse population and a wide range of activities. This makes it difficult to manage and plan for the city's growth. The 3DCM provides a comprehensive view of the city's built environment, allowing city officials to better understand the city's current and future needs. It also allows them to simulate different scenarios and make more informed decisions about the city's development.

ACTION

AAM provided 3D building models at 3 levels of detail (LOD). The LOD 0 model was used for site analysis and impact assessment. The LOD 1 model was used for visualization and public consultation. The LOD 2 model was used for detailed site analysis and impact assessment. AAM also provided a 3D terrain model and a 3D infrastructure model. The 3DCM is a powerful tool for urban planning and development, and it is helping the City of Johannesburg to build a more sustainable and vibrant city.

RESULT

The AAM solution was innovative and advanced in that it provided a comprehensive view of the city's built environment. It also provided a platform for collaboration and communication between city officials and the public. The 3DCM is a valuable asset for the City of Johannesburg, and it is helping to improve the quality of life for its citizens.

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<https://www.youtube.com/user/AAMPtyLtd>



3D City Model: Gold Coast, Australia by AAM



AAM's Smart Cities role in India - Interview with CEO Mark



Hong Kong 3D City Model by AAM



3D City Model: Melbourne, Australia by AAM

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The hi-tech connected city of Singapore



Hong Kong 3D City Model by AAM



3D Mapping project by Singapore Land Authority wins Geospatial...



Mobile Mapping of Singapore



3D Mapping Project by Singapore Land Authority wins Geospatial

Thank you

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