SMART CITY CAPABILITIES

About AAM

AAM is a leading professional services company with teams in Australia, New Zealand, India, South East Asia and South Africa. AAM has a long standing reputation for its work in urban mapping and for adopting the latest technologies to meet client needs. We are renowned for our work on large projects in challenging locations. With our own aircraft and geospatial experts strategically located across the Region, we respond quickly and efficiently, and support our clients at every stage of their project.

Services in Detail:

Planning

AAM is not tied to any particular technology or process, so our project planning involves understanding the client and their project requirements. All possible survey technologies are then considered against those requirements. The proposed solution is decided by client needs, not by our equipment.

Airborne LiDAR

LiDAR is an aerial survey technique able to define the terrain and everything on it in a single pass of the aircraft. Buildings, vegetation and powerlines can all be defined to centimetre accuracy. Since introducing LiDAR technology to Asia-Pacific in 1998, AAM has remained at the forefront of LiDAR surveying with state-of-the-art sensors in our fleet. Such commitment provides our clients with the efficiencies and data quality demanded of data layers supporting complex Smart City functionality.

Satellite Imagery

AAM sources satellite imagery from all major suppliers to provide regional context to Smart City datasets. Not all imagery needs to be of the same resolution or currency. Project budgets can be optimised by having the highest resolution imagery in critical urban areas, reducing to lower resolution satellite imagery in outer regions.

Aerial Imagery

AAM owns and operates many digital mapping cameras, including both frame-based and super-efficient sweeping sensors. Image resolution from a few decimetres down to a few centimetres is possible over critical areas of the Smart City.

Oblique Imagery

While vertical imagery (satellite or aircraft) provides efficient definition of land use, AAM's oblique cameras capture the geometry and facades of every building within the urban environment. These cameras provide the imagery to add realism to building models. This level of realism is vital to allow non-spatial users to recognise locations and comprehend the various Smart City outputs.

Aviation

AAM owns and operates survey aircraft across Southern Africa, Asia and the Pacific and is well versed in installing our equipment into local aircraft (fixed wing or helicopter). A survey aircraft provides a versatile platform to capture every component of the urban environment. Having the aircraft part of the survey acquisition team minimises sensor calibration and reduces schedule slippage due to aircraft/sensor unavailability.

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Unmanned Aerial Vehicles (UAVs)

AAM has a fleet of UAVs (both rotary and fixed wing) to acquire aerial imagery when not suited to traditional aircraft. UAVs are typically used in the urban environment to infill areas of change. UAV platforms and pilots are still required to hold certification by various Civil Aviation authorities. AAM's aviation pedigree ensures that these certifications are acquired promptly, safely and legally, which reduces your projects risk.

Mobile Laser Scanning (MLS)

Whilst the aerial platform provides an efficient perspective of an urban environment, data infill from the ground is often required to complete an urban definition. Mounting an MLS LiDAR on a van, boat or other such platform provides a perspective to define street assets and ground-level building facades. Imagery can be simultaneously acquired to add ground-level realism to the LiDAR geometry.

Urban Modelling

AAM combines the project survey data to create urban models for Smart City data layers. The agreed building model process meets the required level of realism, accuracy, detail and currency. Typically, the LiDAR provides the urban geometry and the imagery adds the photorealism. Models of utility and transport assets are often added to define Smart City functionality.
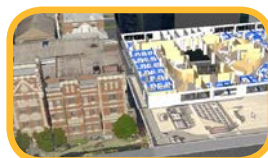
Building Information Models (BIM)

AAM creates BIMs from existing plans or bespoke survey data. Adding services, attributes and functionality creates Smart Buildings, within the Smart City. AAM's visualisation capability extends from entire States to inside the buildings and even underground.

3D Visualisation and Analysis

AAM's flagship 3D Visualisation package, **K2Vi**, is specifically designed to display complex Smart City outputs over a realistic urban 3D background. K2Vi supports terrain, imagery, vectors, 3D polygons, 3D buildings, pointclouds and textural data. K2Vi provides the tools to convey complex spatial analyses and sensor outputs to Smart City users. Access your 3D Smart City by workstation or the Web.

Web and Mobile Mapping

The Internet provides the ideal platform to allow access to the diverse range of stakeholders involved in a Smart City. AAM's specialised 3D toolset adds 3D to ESRI-based and other Web Mapping platforms. Stream large datasets, including City Models though the Web. 3D displays and functionality are available on workstations, tablets and mobile devices.

International Conventions

AAM's diverse experience has built a strong understanding in all of the international Smart City mapping standards and conventions, including CityGML, HTML5, WebGL and others. Adopting the relevant standards will futureproof your Smart City deployment and provide access to others' functionality.

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