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ASSET DESIGN AS CONSTRUCTED (ADAC) PROCESSES

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Abstract

The ADAC (*Asset Design As Constructed*) system has now been available for almost 15 years and used widely by Central and South East Queensland local authorities. Originally conceived as a tool to assist larger Councils and Water Utilities with the capture and registration of newly constructed and donated infrastructure assets, the underlying lessons learnt over past years are equally applicable for small to medium sized local authorities now more than ever.

Key Words: As-Constructed Asset Information, Donated Assets, Asset Registration, Asset Valuation, Asset Data, Risk Management, GIS, Asset Information Management Systems

Introduction

Asset data is perhaps the most important information local councils actively manage on behalf of their communities. The accuracy, timeliness and completeness of this information underpins many of the critical decisions, both operational and financial, being made on a day-to-day basis as well as in a long-term strategic context.

For councils experiencing even modest levels of growth or change in their asset base, the challenge of receiving, processing and accurately recording information on renewals, new, donated or upgraded infrastructure and assets can be demanding. Compounding the issue are often fragmented responsibilities for the various policy and practises in the asset design, creation, acquisition and data management areas across the organisation.

The ADAC (*Asset Design As Constructed*) system, while providing a streamlined digital process for capture, transfer and recording of bulk asset data is, by default, also assisting many smaller councils. In highlighting the critical importance of a well-structured business processes for asset information management, along with appropriate policies coupled with a consistent data model, ADAC is providing useful lessons for small local authorities with little to no growth.

Background

The ADAC project was originally driven by growing pressure on three small to medium sized councils on Queensland's Sunshine Coast. In 2001 the then Caloundra, Maroochy and Noosa council areas were experiencing significant growth with an increasing volume of assets being donated to these local authorities via land development activities.

Soon joined by the Caboolture local authority area to the immediate south, the four councils joined forces in forming a successful Regional Collaboration Project Team. Primary project goals considered new ways to more effectively and accurately collect, review, administer and value the considerable quantity of asset records being received as a by-product of increasing growth.

The ADAC Digital Solution

In improving the existing methods of capturing and processing civil asset information, the project team looked at a digital solution that would add both an improved level of rigor and thoroughness while also providing notable time and resource savings.

The project team then agreed on the design of a suitable digital transfer mechanism which was initially based on a "data-rich" AutoCAD file

creation process. With member councils jointly funding the development of this digital solution, ADAC Version 1 was first released to the region in 2002.

ADAC Project Growth

AS the ADAC system became universally adopted across the northern SEQ region other local authorities quickly joined the group.

With Brisbane and Redland City Councils, Pine Rivers Shire Council, Redcliffe City Council, Logan City Council and Gold Coast City Council becoming part of the ADAC consortium by 2006, the ADAC process had now expanded to take in most major authorities in South East Queensland.

Over this period there followed two improved iterations of the ADAC digital lodgement system with the final Version 3 software for AutoCAD being released for use in 2006. This continuing investment and re-release of self-funded ADAC software prompted a rethink by the ADAC council consortium on two major fronts.

Changes in Technology and Governance

While the ADAC project had proven a notable success in terms of council collaboration at a regional level, the ongoing management of the initiative was proving challenging for the growing group of council stakeholders.

In 2008 the council consortium paved the way for the ADAC system to be commercialised, developing the ADAC Version 4.0 asset data model in xml (Extensible Markup Language). This allowed commercial software vendors to develop and build products to capture civil asset information according to the ADAC Version 4.0 asset data model. This model had been formally agreed to and was largely consistent across all ADAC member councils.

The capture of the detailed asset information is undertaken during the preparation of the As-Constructed package of drawings using either specialist modules in mainstream survey and design suites or specially built add-on products. The output of these ADAC data capture tools was a consistent ADAC xml data file format that could be processed by the receiving councils and used to accurately populate their own GIS and asset

information systems. This is a largely automated process with an emphasis on asset data structure, integrity and completeness.

The same year the ADAC consortium of councils signed a Memorandum of Understanding with the IPWEAQ handing over ongoing stewardship for the project to the Institute. The move has ultimately provided the opportunity for an improved governance framework with the ADAC project now becoming recognised nationally and leading to a growing subscriber base covering a number of other Australian states.

Spin-off Benefits for Smaller Councils

While the benefits of digital lodgement of asset information are easily quantifiable for larger high growth councils, smaller councils also have the capacity to benefit from the lessons learnt.

Regardless of size, the improved processes and policy frameworks developed and refined as a by-product of ADAC implementation are universally applicable to all local authorities.

Where external agencies are routinely creating similar assets for multiple authorities, considering common asset-related policies at a regional level is helpful. This consideration relates not just to the design and physical characteristics of the assets themselves but, more particularly, the format and completeness of related asset data provided to the receiving entities.

The need for a clear data specification detailing the information to be supplied on any new or upgraded assets is essential, regardless of the constructor, provider or means of delivering the information. The ADAC process has shown unequivocally that commonality in the data specification across regions translates to more consistency and accuracy in the final datasets received by individual entities.

Likewise, an appropriate and consistent data model within the receiving organisation, addressing each individual asset class and type, provides the framework for accurate record keeping. The subsequent analysis of this asset information, so critical to organisational decision-making, then becomes far easier over time.

These elementary principles that were so quickly reinforced in developing the original ADAC digital system of asset data capture and processing in the early 2000's are likewise applicable now.

Smaller councils, often struggling with these fundamentals, can look at the basics underpinning the ADAC digital lodgement process and adapt these disciplines to their own organisation, regardless of size.

Conclusion

The ADAC digital lodgement process has proven benefit for all councils, water utilities and asset-centric organisations that are managing the recording and processing of large quantities of asset information.

But equally, the lessons learnt during the development and implementation of the ADAC digital lodgement system to many different organisations over past years have universal application, regardless of any particular council's size or growth levels.

About the Author

Geoff started his working life with Queensland Rail in 1979, ultimately being engaged in various operational and strategic management roles over a 20 year career.

For the last 17 years he has worked in the local government arena as a Corporate Asset Management Specialist, both as a senior Council Manager and Independent Consulting Professional.

As an original member of ADAC council collaboration team established in 2001, Geoff remains involved with the ADAC project as an active contributor to the ongoing development of this valuable initiative.

The LION SYSTEMS business works jointly with the IPWEAQ as an ADAC Implementation Partner assisting member councils, water utilities and other asset-centric organisations with related systems, policy and associated asset information management practises.