Implementing ADAC: Key Considerations For Your Organisation

By Adam Johnston Senior Development Engineer, Bundaberg Regional Council
&
Geoff Bartholomew Principal, LION SYSTEMS

Abstract

The ADAC (Asset Design As Constructed) process has now been in use for over 10 years. Conceived as a tool to assist Councils and Utilities with the registration of donated infrastructure assets, it has continued to mature with a new wave of agencies now becoming part of a growing consortium across Australia.

Bundaberg Regional Council has recently implemented ADAC within its organisation and is now part of this consortium. Through taking a measured and well-planned approach to ADAC’s introduction it was able to manage change for both its internal and external stakeholders. More specifically, careful consideration was given to both the internal technical systems and policy related matters, as well as addressing the necessary communications and impacts on external parties responsible for the ongoing provision of ADAC data files.

While still at an early stage, the organisation has already recognised benefits in processing efficiencies and data quality and is continuing to fine-tune systems and work practices. It is also managing the legislative process to give ADAC its authority. This paper highlights the key areas and requirements to be addressed in the implementation of the ADAC process within a typical small to medium sized Council while providing an insight into how these demands have been dealt with in this particular circumstance.

Take home message: Create a Vision, Develop Your Project Team, Use Specialist Support Services Where Required

Introduction

The ADAC (Asset Design ~ As Constructed) process was conceived to assist organisations with the accurate capture and registration of civil infrastructure and has now been in use for well over 10 years. While a large number of the local councils and water utilities using the system are based in South East Queensland, during the last 12 months there has also been significant growth in intra and interstate consortium membership.

This growth in membership and take-up of the system has coincided with significant investment in the development of new tools by software providers and a revised approach to subscriber support overseen by the ADAC coordinators, the IPWEA. Primarily, all new member councils are now able to take advantage of support services which are “tuned” to the individual needs of their organisation’s own particular circumstances.

Bundaberg Regional Council recently saw the opportunity to take a well-planned and facilitated approach to ADAC implementation activities using these initiatives.

The ADAC implementation process at BRC was broken into a number of component parts. More specifically, the key focus was on developing internal processes and capabilities while facilitating community and external engagement. The long-term goal is to offer a technical Centre of Excellence to train and support external parties in the use
tools and overall application of the ADAC processes.

Bundaberg – Building Resilience

The Bundaberg Regional Council is located in the Wide Bay Burnett Region of Queensland about 4 hours drive north of Brisbane. This local authority area was created when Bundaberg City, Isis, Kolan and Burnett Shires were amalgamated in 2008. BRC covers more than 6,000 square kilometres, has a population of over 100,000 people and boasts diverse natural resources reflected in its offshore, coastal, riverine, city, rural and protected environments.

Bundaberg is also well known for the flood event that occurred around the Australia Day weekend of 2013. In some ways the challenges experienced by council staff during and after this event have impacted the culture of the organisation in an extremely positive way. Taking on projects like ADAC implementation which can test the status quo of the organisation seems to have become easier. The BRC workforce has quickly rebounded from the damaging events of earlier this year and continues to develop an entrenched “can-do” attitude which is clearly reflected in day-to-day activities.

Collective Will

To successfully implement a new system like ADAC within an organisation will routinely require a number of key components. It is proposed that these components are:

- Leadership which is appreciative of the benefits the new ADAC system can bring to the organisation;
- Skilled people – a project team, who ‘(do) different work and direct themselves …… each person being a high grade specialist’ (Drucker 1988, p. 47); and
- A collective, focused will to implement the system – a Shared Vision.
- Clear understanding of how the ADAC data chain will be implemented within the organisation – referred to here as the ADAC Implementation Continuum (the Continuum);
- A culture that supports and values the time taken to establish and maintain clear, open, and respectful communication among the group of people involved in the implementation process; and not least,
- A project sponsor who is ideally positioned in a senior role and has the ability to assemble and coordinate a suitable project team. The sponsor must provide guidance and broadly support the initiative in various ways including:
  - By having accountability for at least one or more of the areas in the ADAC data chain;
  - Acting as the facilitator whenever necessary, helping to plug any skills gaps or arranging and coordinating workshops such as IPWEA implementation planning days;
  - Presenting a strong and vested interest in delivering successful implementation outcomes and supporting the ongoing development of the ADAC process;
  - Be responsible for necessary resourcing and budget.

As Terry Bowen, Wesfarmers finance boss puts it, ‘leadership is very important [as] it sets tone and culture and setting the bar as to what good looks like. But to get things done, it requires lots of people at every level making a difference’ (Weekend Australian 20-21 July 2013, p. 21).

At Bundaberg Regional Council we are fortunate to not only have our leadership focused on successfully implementing an
ADAC compliant data system, but so too are the people in the organisation who are getting these things done.

**The Continuum**

A central tenet of the ADAC Continuum (as presented by The Information Bridge Pty Ltd) is developing a clear and precise understanding of the asset delivery process in concert with the right team and resources. The key question is how ADAC can ideally be implemented in your organisation – In BRC’s case this was answered through the IPWEA implementation planning day.

An understanding of the process is important as it communicates the flow of the ADAC data chain to all stakeholders involved in the implementation process, creating a **Shared Vision** within your organisation. Accordingly, it then allows the visualisation of how the data chain fits within the asset (and ADAC) delivery and management process. Figure 1 outlines this asset delivery process as chosen for Bundaberg Regional Council.

As with any system change, implementation can seem quite daunting. However, breaking up the activity into its component parts can simplify the process. A similar analogy is the size of a Japanese home that is dictated by something as simple as a *Tatami* mat where each room is laid out against the fixed dimensions of the mat (Ueda 1990). This in turn then represents the size of the house. It is through this analogy that Figure 2 provides the framework for the implementation of an ADAC system, being: develop, integrate, automate and collaborate (Walpole 2013).

As the ADAC system grows and matures within the organisation, it progresses through a number of phases, much like the house. Figure 3 shows a summary of how the continuum grows across its implementation cycle.

At the current juncture Bundaberg Regional Council is firmly within the “consolidate change” period of the Continuum with only policy review, head of power and audit to be fully realised.
Develop Internal Capability

An opportunity to introduce the policy and legislative framework for the submission of ADAC presented itself at Bundaberg Regional Council through the drafting of a new planning scheme. This timing would allow requirements for submission of compliant ‘As Constructed’ information to be included within this policy framework.

This opportunity also created an interesting conundrum. Where was Council currently positioned within the ADAC implementation Continuum? The answer to that question was ‘Gestational’; it had capable people and some of the tools but did not have a system, supporting policy and the concordant will to successfully implement ADAC according to the model presented in the continuum.

After the appointment of a Project Sponsor, logically chosen from the Development Section who is responsible for developing policy and its legislative controls, it was decided that the ADAC implementation process (or continuum) should be broken into a number of components. These constituent parts were broadly grouped into:

(1) Defining and developing internal processes and capabilities; and

(2) Addressing community and external engagement (with the goal of ultimately offering a Centre of Excellence to train and support external parties and address the implementation of the policy and legislative amendments).

After further discussions with the people within the organisation who would be charged with ‘getting things done’ it became obvious that although Council has specialists who were more than capable of implementing an ADAC compliant system, it was sensible to engage professional support in key areas. Most particularly help was sort to:

- Assist with the development of a suitable technological framework;
- Integrate information systems; and
- Develop a business case.

Lions Systems was engaged to implement the technological parts of the Continuum (see below) with the Information Bridge Pty Ltd assisting in policy and provision of an independent business case.

Integration and Automation

The key to a successful ADAC technical implementation is in integrating the new data management processes as seamlessly as possible within the existing technical environment of the organisation. This allows immediate benefits to be gained without unduly influencing or altering the current business processes or information systems.

The configuration of compliant ADAC XML files allows for a variety of data management solutions to be easily developed. Incoming ADAC files can be transformed using purpose-built manipulation tools, and then uploaded to a variety of spatial databases as well as being configured to align with the attribute field structures of an Asset Management Information System or other purpose-built database(s).

Bundaberg Regional Council currently uses the ESRI GIS system for management of spatial data in conjunction with the Assetic myData product for asset management purposes. Existing tools available within the ESRI suite are used to transform the raw ADAC data files into a suitable configuration for creation of new asset records and attachment of accompanying asset attributes.

The technical approach to managing ADAC files is also broadly influenced by the current skill sets of staff involved in the data management chain. While technical processing tools can be configured for most scenarios, in the case of BRC the availability of highly skilled and experienced individuals on the project implementation team allowed for a relatively simple and trouble-free technical implementation.

Once ADAC data load tools have been configured for the particular systems configuration the benefits of the ADAC process quickly become apparent. The
immediate and substantial time savings in processing “As Constructed” information provide substantial resource savings while data integrity and overall quality is vastly improved.

**Consolidate and Realise Benefits**

Bundaberg Regional Council are now well in control of the technical aspects of their implementation and while entering the consolidation phase of the continuum, it is still currently aspirational. To fully realise the benefits of an ADAC compliant system the process must be in place and working (as shown in Figure 1) for a number of months.

Accordingly, this consolidation phase will need to evolve over time as the system becomes “embedded” in the organisational culture of the business. During this consolidation period the project sponsor and the team will be given the opportunity and resources to continue to develop and implement the organisational shared vision for the ADAC system.

**Sell the Message – External Agencies**

To effect and consolidate buy-in from external parties such as Developers, Surveyors and Consultants, Council intends to implement a three pronged approach. The first action through Council’s Design Section will be to adopt a “Centre of Excellence” approach. This collaborative style will entail the following when fully complete:

- Offer training to surveyors and consultants by sending the relevant people into their organisations to assist with their ADAC processes;
- Assist with the development of ADAC software tools incorporated within commercial products such as 12D’s design and survey suite; and
- Offer support for capture tools, processes and the use of proprietary translation software.

Secondly, Council is developing an independent business case and workshop in conjunction with Information Bridge Pty Ltd (with the assistance of the IPWEA) which is intended to be presented to external agencies communicating the benefits of a fully compliant collaborative ADAC system.

Finally, Council intends to legislate requirements though it’s new planning scheme advising that an ADAC compliant data file will need to accompany the usual ‘As Constructed’ bundle of information for new donated assets. Requirements for providers will be formally communicated via the development approval process, removing any uncertainty or ambiguity.

**Conclusion**

The successful implementation of an ADAC compliant system needs a number of requirements to be fulfilled to fully realise the benefits of the system. It is suggested that these requirements are:

- Collective will that creates a Shared Vision, to implement the system;
- Suitable Project Sponsor;
- Capably resourced implementation team;
- Good Communication both internally and external of the organisation;
- Support from specialist external agents, where required, who can fill gaps in the Team’s knowledge and assist with implementation activities;
- A clear understanding or roadmap of how the ADAC system is to be implemented in your organisation,
- External stakeholder buy-in (ADAC data providers); and
- Well considered policies and legislative controls.
This paper has presented how an ADAC system is being implemented within Bundaberg Regional Council. However, it should be understood that it is only a framework and typically can and should be modified to suit the unique requirements of any particular organisation.

Regardless, it can be noted that with the assistance of a good team, endorsement of a shared vision and the engagement of appropriate specialist resources the introduction and development of an ADAC system need not be difficult, overly onerous or time consuming. Ultimately the activity can be undertaken in a manner that will create real benefits for your organisation.

References


Walpole, N., Information Bridge Pty Ltd
Appendix A – ADAC Implementation Continuum

THE ADAC IMPLEMENTATION CONTINUUM

DEVELOP
• Data Standards
• Roles and Responsibilities
• Asset Process
• Asset Governance
• Policy
• Head of Power

INTEGRATE
• Process
• Systems
• Tools
• Policy
• Audit

AUTOMATE
• Compliance Checks
• Data Transform
• Asset Reporting
• Asset Valuation
• Bureau Services

COLLABORATE
• Web Portals
• Data Aggregation Services
• Benchmarking
• Information Exchange
• Compliance Reporting
Author Biography

Geoff Bartholomew

Geoff is a Corporate Asset Management Specialist and has worked in this field of local government as both an internal manager and independent consulting professional for the last 13 years. For a large part of this time he has been involved with the ADAC project as an active contributor to the ongoing development of this valuable initiative. Geoff is the Principal of LION Systems, an Asset and Data Management Services provider to Councils, Utilities and other asset-centric organisations and works with the IPWEA as an ADAC Implementation Partner for member councils and water utilities.

Postal Address: Geoff Bartholomew, C/- LION SYSTEMS, PO Box 5930, Maroochydore BC, QLD 4558
E-mail: geoff@lionsystems.com.au

Author Biography

Adam Johnston

Adam is a civil engineer and has worked in State and local government, consulting, aviation and the port industry. He is passionate about ensuring that system improvements meet the expectations of both internal and external stakeholders. Adam is a senior development engineer with Bundaberg Regional Council and was fortunate to be given the opportunity to manage the implementation of ADAC compliant systems within his local government area.

Postal Address: Adam Johnston, C/- Bundaberg Regional Council PO Box 3130, Bundaberg QLD 4670
E-mail: Adam.Johnston@bundaberg.qld.gov.au