

# Applying IoT in the Utilities Industry

*Insights from WA Water Corporation*



With the number of internet-connected things estimated to reach 50 billion globally by 2020, there is no doubt the Internet of Thing (IoT) is set to transform businesses and the way they connect and provide services to customers.

But as radical as it may seem, IoT can also be seen as the continuation of an old tradition: it perfectly fits the pattern of increasing convergence of multiple technologies witnessed by the world over many years, by finally allowing them to integrate.

And while many industries are poised to benefit greatly by the opportunities IoT provides, the utilities industry is arguably one of the first movers and shakers in IoT. With a history of connecting millions of networked devices for decades, utilities know how to link devices and collect field and sensor data reliably and securely with standard based networks.

As IoT continues to evolve and gain traction, utilities have an opportunity to drive a real shift in how they engage with customers to enable smarter communities and better manage energy and water.

In light of this, we recently caught up with **Jim Baker**, *SCADA Acquisition Manager* at the **Water Corporation in Western Australia**, ahead of the **Industrial IoT Summit 2017**, to find out the steps he feels should be taken to develop and roll-out IoT and how the Australian utilities can harness and benefit from Water Industry Telemetry Standards (WITS) protocol focused on IoT for water applications.

For the some years, Jim has been promoting the WITS DNP3 standards to SCADA systems to drive better standardisation in the water industry. DNP3 is a self-contained protocol designed for telemetry systems, providing a level of plug and play allowing user organisations to buy equipment from multiple suppliers and choose the best of breed in each category. WITS-DNP3 is an implementation of DNP3 specifically designed for application in the water industry.

However DNP3 is more suited to complex SCADA systems and more recently, the WITS-Protocol Standards Association began to focus on developing WITS-IoT, an application layer protocol which is a spin-off of WITS-DNP3 protocol, allowing easier transfer of data through low cost powered devices.

“WITS-IOT will be a significant development for our industry as it provides a standard platform for low power devices enabling them to work together better. It allows industry vendors and telemetry people to really use all of the worldwide development effort into IoT and the Industrial IoT,” says Jim.

Below, Jim delves into the benefits of IoT for utilities companies the how DNP3 and IoT protocols can be used together to bring real opportunities to develop information systems to build a smart water network.

### ***What benefits can IoT provide to organisations, particularly the utilities industry?***

“IoT promises to provide improved connectivity and improved management of assets that were not previously covered by SCADA. For example, visibility of manhole covers, dam levels and private water meters were not covered by SCADA before, but now they can be because of the low cost communications network that is provided by IoT.

The cost of devices is not the major issue in deploying SCADA - the cost of engineering is generally much more significant. That’s where one of the benefits of IoT can be found, in that it is relatively cost-effective to install.”

## ***What steps can organisations take to develop and roll-out an IoT strategy?***

“Firstly, create a business case to explain the business benefits gained in implementing IoT. Then investigate what IoT devices and networks are available and which ones will meet your needs and develop standard designs on how you will deploy it.

The next step is to work out what is going to be at the other end. For example, in our case, the master-station end. There is going to be a massive amount of information from these IoT devices. How are we going to store it and what analysis tools are we going to use so that the business can get the best benefit from the investment.

Smart metering has been trialled at the Water Corporation in some areas. Smart metering is ideally suited to IoT and we can use the technology of IoT to actually enhance the functionality that we already have, but at a much lower cost.”

## ***Other types of IoT apps you’re exploring? Do they interlink with IT?***

IT provides the ability to manage, integrate and store data acquired through SCADA and IoT. Water Corporation currently has an extensive SCADA network and we have research projects underway looking at the value of augmenting or complimenting the SCADA network with IoT. One of them is looking at the application of IoT for Water Corporation and the other one is to look at energy harvesting to power devices. This fits in well with the low power requirements of IoT.”

## ***What are some of the challenges associated with introducing IoT within the utilities industry and how can these challenges be overcome?***

“The biggest challenge we have at the moment is which standard will succeed. As is always the case with new technology, there are different opinions on how it should be done, what products you should use and what communications mediums. That’s our challenge at the moment, to ensure we invest in the correct technology.

For example, at the moment there is LoRa which is a low power communications standard and there are Sigfox and NB-IoT, which are commercial communications products for IoT. We don’t know which of these three options will be a success, so we need to ensure we invest wisely.

Understandably, there is a lot of interest in security standards for IoT. For example, the IoT Alliance Australia recently released a report on tracking the Internet of Things. It is a topic that is being looked at very closely, with developments in the security area important for IoT networks.

## ***What is the value of attending the Industrial IoT Summit 2017?***

“The value of attending the **Industrial IoT Summit 2017** is opportunity to network and see what other vendors and utilities in particular are doing in the IoT space. We all need to talk about the advantages and disadvantages of different IoT standards. This is a good opportunity to see what products will be available in the market and get an idea of which way the industry is going.”



**SUPER EARLY BIRD**  
\*Register and pay before Friday 7th July 2017 and Save up to \$1,100

Workshops: 31 August 2017 • Main Conference: 29 - 30 August 2017 • Novotel Sydney Central

**LEVERAGING IOT TO IMPROVE EFFICIENCY, LOWER OPERATING COSTS AND ENHANCING COMPETITIVE ADVANTAGE**

**FEATURED SPEAKERS**

**INTERNATIONAL KEYNOTE**

- Jesper Touboul**  
e President Elements and Moulds, LEGO Group (Europe)
- Tim Szymczek**  
Global Head of Lean and Advanced Manufacturing, New Balance (Asia)
- Raj Rao**  
CEO Ford Smart Mobility LLC, Ford Motor Company (USA)
- Liu Qiao**  
Technical Director - Software Electronics and Mechanical System Laboratory, 3M Company
- Hajime Sugiyama**  
Factory Automation Overseas Strategic Planning & e-factory, Mitsubishi Electric (Asia)
- Jim Baker**  
Manager of SCADA Acquisitions, Water Corporation

**REASONS TO ATTEND**

- Learn from Leaders in Industrial IoT.** Hear from 15+ thought leaders within IoT about new technologies, practices and emerging standards.
- Hours of Networking!** Take advantage of the endless networking opportunities with top IoT experts & familiarize yourself with the most up-to-date information to share with your team.
- Empower Yourself with the Right Solutions.** Hear how others are solving some of your most challenging problems. Expand your knowledge by attending workshops designed to enhance your learning.
- Participate in Thought-Provoking Discussions.** Delve deeper into the ways IoT in Australia, the utilisation of IoT and organisational barriers, tackle security and interoperability, implementing systems and more.

**YOU WILL MEET**

- ICT Infrastructure
- Control Systems
- Electrical Engineering
- SCADA Engineering
- Supply Chain and Procurement
- Innovation and Emerging Technology
- Data and Analytics
- Security, Safety and Risk
- Strategy and Architecture
- Automation & Control
- Networks
- Technical Operations
- Predictive Analytics

Researched & Developed by:  
Technology IQ iQPC

<http://industrial-iot.iqpc.com.au/> • +61 2 9229 1000 • [registration@iqpc.com.au](mailto:registration@iqpc.com.au)

**Dear Colleagues,**

The Industrial Internet of Things (IIoT) is one of the most significant trends hitting the manufacturing industry currently.

It is estimated that the IIoT industry could add \$14.2 trillion to the global economy by 2030. It also has the capacity to improve operational efficiency, productivity, create business opportunities, reduce downtime and maximise asset utilisation.

Given this, the inaugural **Industrial IoT 2017 Summit** will bring together stakeholders to define its future, challenge current thinking, unveil latest innovations and create connections with experts from both Australia and abroad.

The 2.5 day event does not cover hype and unrealistic dreams but addresses the business models, case studies, digitalization transformation and real world monetization strategies to get ahead of your competition.

- Identify added value profitable opportunities across the smart manufacturing ecosystem
- Thought provoking case studies on Industrial IoT systems from the market leaders
- Learn about the disruptive technologies enabling IIoT for smart manufacturing and the factories of the future

**Register and pay before Friday 7 July 2017 and Save up to \$1,100\* with our SUPER EARLY BIRD!**

I look forward to seeing you in August

**Rhea Kamath**  
Conference Director  
**Industrial IoT Summit 2017**

**CONFIRMED SPEAKERS**

- Jesper Touboul**  
Vice President - Elements and Moulds, LEGO Group
- Tim Szymczek**  
Global Head of Lean and Advanced Manufacturing, New Balance
- Raj Rao**  
CEO Ford Smart Mobility LLC, Ford Motor Company
- Jim Baker**  
Manager of SCADA Acquisitions, Water Corporation
- Hajime Sugiyama**  
Factory Automation Overseas Strategic Planning & e-factory, Mitsubishi Electric
- Andrew West**  
SCADA Communications Expert, DNP Technical Committee
- Tushar Thakur**  
SCADA Manager, South East Water
- Matthew Reeder**  
Senior Real Project Manager, Rio Tinto
- Michael Wassell**  
Manager of Hydraulic Systems Services, Sydney Water
- Liu Qiao**  
Technical Director - Software Electronics and Mechanical System Laboratory, 3M Company
- Malcolm D'Cruz**  
Project Manager, Public Transport Authority WA
- David Lim**  
Transmission Engineer, Public Transport Authority WA
- Peter Provos**  
Manager of Data Science, Coliban Water

**WHY SPONSOR INDUSTRIAL IIOT SUMMIT?**

- Gain preferential access to the senior executives in your target market and demonstrate your newest solutions
- Meet decision makers face-to-face to leverage your product and brand building
- Establish strong relationships and make proposals to potential customers
- Demonstrate your expertise and product excellence

For specific details of sponsorship and exhibition packages, please call us on (02) 9229 1050 or mail [sponsorbranding@iqpc.com.au](mailto:sponsorbranding@iqpc.com.au)

**NETWORKING AND INTERACTIVITY - THE IQPC EVENT EXPERIENCE EXPLAINED**

This is not a mass participation event, featuring hundreds of attendees. This event is a tightly focused networking, business development and learning platform for senior executives. The conference experience has been specifically designed to increase the opportunities for collaboration and networking courtesy of formats like speed networking, solutions clinics, interviews and debates. We encourage you to bring your business cards, actively participate in the interactive learning and networking sessions, reflect on your current commercial challenges and leverage the event to identify new high value relationships and tangible business solutions which you can implement when you are back in the office.

T: +61 2 9229 2419 • M: +61 417 256 165 • E: [christine@sson.com.au](mailto:christine@sson.com.au)

## Interested in learning more?

Join Jim at the **Industrial IoT Summit 2017**, taking place **29 - 30 August 2017** at Novotel Sydney Central. He will further explore how to implement IoT in the SCADA arena.

Contact our team for more information:

**Website:** <http://industrial-iot.iqpc.com.au/>

**Phone:** +61 2 9229 1000

**Email:** [enquire@iqpc.com.au](mailto:enquire@iqpc.com.au)