

Oracle Spotlight Interview

Maria DeChellis, Global Energy and Water Operations and Affordability Advocate, Oracle Energy and Water



ith all of the competing priorities faced by electric, water, and gas utilities, what do you see as a top priority across the utility industry that should receive time and investment to make the greatest impact?

One word: infrastructure. Infrastructure has the ability to create situations that significantly impact people's well-being. If left untouched or not maintained–whether we are talking about power lines, gas pipelines, or water distribution mains along with sewer laterals – something as simple as vegetation can create a catastrophic problem. Every dollar of infrastructure maintenance eventually funnels to impact a customer, a community, an employee, and operations, and that is when we are just talking about keeping relatively to the status quo. Today's infrastructure being as digital as it is means that it is as vulnerable to the same bad actors or P@ssword1 problems of legacy systems as home PCs, just with far wider impact such as tainted water or blackouts. I don't think it's all doom and gloom, though.

There are more options than ever when it comes to utility solutions that are entirely SaaS with embedded security built-in (Cyber Investment), requiring a greater investment into infrastructure than ever before globally. For instance, the Asian Development Bank's roadshow encouraged infrastructure investment into the region to the United States non-partisan IIJA funding (Financial Investment). Finally, there is visibility into ensuring we have a constant register and maintenance on the physical assets and the people that care for them that are all around us (Technology Investment). There is no greater priority in my mind than this topic.



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ater utilities, similar to their peers in electric and gas, are facing unprecedented challenges. Can AMI / MDM investment provide the true ROI to the business beyond leak notifications and improved customer satisfaction scores?

Absolutely. When AMI programs rolled out in the water sector, a lot of business cases immediately were created around reducing staff costs, uncollected revenue from leaks by proactive leak notification, and doing more accurate financial forecasting. Frankly, most of these cases would have been unlikely to have been realized without AMI.

Two major elements have converged that make this an exciting time: the improvement of the smart meter technology and supporting systems along with infrastructure technology such as smart pipes or distribution line sensors. Together, the data being married allows a utility to be able to do smart forecasting for system planning. Having detailed data and sensor data also allows utilities to identify situations available with new fields available, such as residual chlorine detected when water temperature is higher than normal, or low-pressure sensors from the main and end points helping to perform leak-to-locate, reducing the interruption in a community and amount of line to be dug.

Finally, AMI systems, along with detailed data that can be segmented in an MDM, allows water utilities to put as much effort into assistance and working within the greater support community for customers that need more help than rates can provide. They can also use the data to let customers know earlier about leaks within their premises. Thankfully, this has been an exciting time in the world of water. The business case for any AMI project should be from an operational standpoint and include a mixture of distribution, system planning, and holding the meter data in a way to develop actionable plans in as real time as possible.

ABOUT MARIA DECHELLIS

Maria DeChellis is a 24-year utility industry consultant and former large utility customer service chief. She has a passion for helping utilities improve operational performance by using technology to reach their customers in a meaningful way. Offering a hands-on approach of connecting with all areas of the utility, she is recognized for bringing a focus on personnel and change management, and has been responsible for implementing utility billing and metering programs from 50,000 to over 10M in both regulated and deregulated utilities globally. In addition to her work in the private sector, Maria advises nonprofits and governmental entities as a subject matter expert on energy and water affordability issues and equity. Maria is a certified project manager (PMP), and change manager (CCMP). She is a Trustee of the American Water Association and editor of several industry publications.

She was selected as a 2020 cohort member of the Presidential Leadership Scholars program.



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hen looking at the electrical grid of the future, what key innovation or requirement will need to be addressed to meet the sustainability goals that are currently being set?

There are two thoughts that come to mind. The first is the fact that you cannot reach the goals if you cannot get people to trust you enough to allow for control of their digital devices' energy production.

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People's trust in government services is nearly at an all-time low. Utilities, even when investor owned, are often at low percentages that are considered part of that bucket as equity and accessibility has been an ongoing struggle. Also, utilities must consider what value they can offer customers: something customers consider valuable rather than something the utility considers valuable.

Utilities will need to forecast all outcomes for electrification projects as equitable and accessible. They will need to work with federal and state regulators to justify the necessity to get recovery, federal funding, and regional approval on projects.

WHAT DOES THIS MEAN FOR THE UTILITY?

- While safety and reliability will remain a core focus, customer needs, especially for the vulnerable, must be addressed as part of the same business case to have any initiative get regulatory or legislative support.
- Having already experienced the initial transition, Australia (specifically in the Victoria region) gained traction in the electrification space by getting consumer buy-in first and then moving ahead with more permanent legislative changes.

Electrification will bring with it an enormous opportunity to diversify revenue streams, adding new services and products into the mix of energy providers. To get there, utilities will need to first start with incorporating private partnerships around economic development, retrofitting, engineering, financing, and others to help move governments and private citizens along. Examples of these efforts can already be seen in places like the City of Oakland electrification program, California University Electrification Project, and SMUD.

- System planning and technology, customer, and operational interdependence of construction and engineering with electrification and customer billing must coexist. From customers needing to make building and home upgrades looking for utility financing on their bill, private partnerships looking to participate in upgrades to financially challenged homes, and renovations that have decisions that need to be made.
- The ability to provide asset health checks on customer-owned devices will mean revenue growth for the utility. These health checks could be triggered by degradation of asset performance, monitored by the utility, which would then supply options for remediation. Think dirty rooftop solar panels, car or battery storage charging changes, heat pump activity related to temperature and usage patterns, and more.





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I is transitioning from a "nice-to-have" to "being expected," but it seems that very few organizations have the necessary data, architecture and use cases to support the full realization of Al's promise. Where do you see the most meaningful impact being made with Al? Are there any non-Al areas of the utility business that should be left alone?

The question is a difficult one, but I would have to answer that the most meaningful impact depends on the most stress of an organization. Al is ultimately beneficial if an organization is stressed with tasks requiring skilled and specific labor. Labor is ultimately the one thing that the utility cannot just invent or 'procure' endlessly. There is a limit to who can perform the work based on the offer, the skills, the location, etc.

Asset maintenance prediction and prioritization based on far more conditions than a human being can perform reasonably without creating a wide range of custom models is an excellent use of AI. It can ultimately identify problems before they occur and wisely allocate revenue for a public good.

I can't say that any part of the business should be shielded from AI any more than I could say twenty years ago that certain business processes should not be digitized. In my opinion, it's not about avoiding the technology, it's wisely putting structure around it, making sure that you work with competent vendors, having fail-over plans, keeping cybersecurity at the forefront of your mind, but still experimenting to try new things. Staying agile benefits customers, employees, and the utility.

hat does the workforce of the future look like in the utility industry?

No matter what the service, be it electrification or the digitalization of water and gas networks, there is no stopping the need for a more interdisciplinary workforce. Business processes flow across multiple activities and individuals, and accountability links to outcomes and not to a specific team.



CONCLUSION

While call center inbound may shift downward, expect the more highly compensated 'advisor' role to go up. So, looking ahead, forecasting workforce cost reductions in the contact center, field, or elsewhere should be done sparingly. Community intervention strategies and the advisor role will become the norm. Codification of knowledge will be an essential utility skill to provide their workforce with access to the correct information at the right time in the engagement process.

With added changes due to population shifts, and with infrastructure projects moving, on-site field jobs are still critical to the utility's financial and reputational success. Guided workflow, Al-guided assistance, and multilanguage support

options for natural language to support

workforce changes are critical.

While project time for technology implementations may be coming down from talking about 24-month projects to 12-14 months or even shorter, it will hit a floor because of more needed investment in learning management systems, organizational change management (age-related generation management), and adapting processes. Just because you can do it quicker doesn't mean you 'should' do it quicker. What you may not pay in project timeline may mean you pay in people frustration time.



