



Put Technology TO WORK

QUARTERLY UPDATE FY2017

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Did You Know?

*The City's new
electricity contract
is estimated
to save \$23.5
million (32.8%)
in electricity costs
over 9 years.*

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New Electricity Supply Contract to Save City Millions

The Arlington City Council has approved a nine-year retail electricity supply contract that will save the City an estimated \$2.5 million a year.

In April, the City of Arlington hired Priority Power Management, LLC to solicit bids from various electricity firms and help negotiate a contract for the City which consumes more than 72.6 million kilowatt-hours of electricity a year.

"We undertook a structured competitive bidding process, utilizing Priority Power Management's advisory and consulting services, that delivered the best overall value to the City," said Mike Finley, Arlington's Chief Financial Officer. "This new contract achieves our goals of securing significant year-over-year savings and having budget certainty for a long period of time."

As an added bonus, the contract also includes \$150,000 of rebates available to the City to partially offset investments in energy efficiency upgrades. The new contract will begin in January 2018 and continue through December 2026.

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UTA Engineer Working to Develop Bioinks for Use in 3-D Printing of Tissues & Organs

The advent of 3-D printing has led to many innovations in manufacturing, assembly and production.

Nearly anything – from machine parts to food – can be printed on demand. Researchers now are exploring the technology to print human tissues and organs. However, the lack of good ink for 3-D bioprinting remains a barrier.

Kyungsuk Yum, an assistant professor in the Materials Science and Engineering Department of UTA's College of Engineering, has earned a \$100,000 grant from the National Science Foundation to develop nanocomposite hydrogel bioinks that could be used for that purpose.

Inks for bioprinting must be 3-D printable and biocompatible. They must form to their intended shape to be used safely with living cells.

Kyungsuk Yum stated, "Organs are very complex structures. If we're successful, we'll be able to print more complex, 3-D tissue structures with higher resolution that are more similar to those within our body. From there, we can work to develop a new technology that will eventually lead to printing physiologically relevant 3-D tissues and ultimately working organs."

Updates

Floating Robot Helps Arlington Examine Underground Sewer Pipes, Identify Potential Problems

A new robot exploring miles of Arlington's underground sanitary sewer lines has been outfitted with high-tech sensors designed to detect structural flaws and obstructions before they create expensive problems for the City.

Fortunately, the nearly \$500,000 device doesn't also have a sense of smell.

In June, Arlington Water Utilities engineers and UTA Civil Engineering Department researchers began training on how to use the MSI HD Profiler, a floating robot equipped with a high-definition video camera, laser and sonar sensors to analyze the interior conditions of large-diameter sewer pipes.

The project, being done in collaboration with the University of Texas at Arlington, will help the Water Utilities Department evaluate 48 miles of sewer pipeline over the next three

years and prioritize which sections should be repaired or replaced first.

"This data will help the City predict potential problems and make pre-emptive repairs at a lower cost and less impact to residents than waiting for a catastrophic failure," Arlington Water Utilities Director Buzz Pishkur said.

The MSI HD Profiler's high-definition camera and laser identify issues such as cracks or thinning pipe walls, which can lead to catastrophic failures like street collapses or sewage leaks. Sonar beneath the floating robot collects data about conditions below the water line, such as debris or sediment build up.

"The data can help Arlington save money by identifying specific sections of damaged or weak pipe that need to be repaired or replaced. This is less expensive than replacing entire lengths of sewer line that may still have decades of useful lifespan left," Pishkur said.



Highlights

Arlington Public Library Offers Hands-on Technology Experiences to Patrons

Once upon a time, a technology class offered at your local public library likely meant a free course in computer or internet basics. While those classes are still necessary and valuable to many individuals, advances in technology have opened the doors to allow the everyman to tinker in what was once an exclusive field.

The Arlington Public Library has opportunities for patrons to get hands-on technology experience in some of the newest and most exciting platforms available. From coding to robotics to 3D-printing, library technology programs can enhance personal, professional, and



educational knowledge, as well as open doors to new interests for people of all ages.

Here's a look at some of the great technology programs, exclusively for our younger patrons, available this fall.

- Coding 101!
- Girls Who Code

- Mindstorm Robotics: 60 Minute Challenge
- LEGO Club Saturdays
- Tinker Lab

For information on these and other great programs offered by your Arlington Public Library, check out the online calendar.

\$300,000

in grant funds will go to help improve the City's leak-detection capabilities and generate cost-saving for the City of Arlington

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Arlington Water Utilities Awarded Federal Grant for WaterSMART Project

The WaterSMART matching grant was awarded by the Department of the Interior, Bureau of Reclamation.

Arlington's WaterSMART program, which includes leak detection, smart metering and customer conservation education, will include a public awareness campaign and customer portal system upgrades in addition to the deployment of 21,000 smart meters.

Through the improvements, the City of Arlington anticipates that it will conserve 10.08 percent (about 2 billion gallons) of its water supply a year. It will decrease electricity consumption through reduced water pumping and treatment and greenhouse gases by reducing vehicle miles for metering reading and associated activities.

The \$4.1 million project, expected to begin this October, should take about two years to complete, Water Utilities officials said.

FY 2017 Technology Budget

By the Numbers

Software
Upgrades



\$540,000

Software
Maintenance



\$140,000

City Data
Management Project



\$200,000

Departmental
Technology Projects



\$345,300



From the left: Purnendu "Sandy" Dasgupta, Hamish Small Chair in Ion Analysis and James Garrett Professor in the department of chemistry and biochemistry; Chris McFarland, Chairman and CEO of Masergy; Laura Mydlarz, associate professor and associate chair of biology; Kevin Schug, professor and Shimadzu Distinguished Professor of Analytical Chemistry

Three UTA Professors and Alumnus Named "Tech Titans" in 2016 Awards

Three faculty and a graduate of UTA won Tech Titans Awards for excellence and leadership in technology fields in 2016, announced at a recent celebratory gala. UTA professors won the the Tech Titans Inventors Award and Tech Titans of the Future University Award and a UTA alumnus was named Tech Titans Corporate Company CEO of the year.

The prestigious honor recognizes the educators' outstanding innovations in science and engineering, and for developing successful new educational models supporting undergraduate research in science, technology, engineering

and mathematics.

The Tech Titans Awards were launched in 2001 by the Metroplex Technology Business Council, which is North Texas's largest technology trade association, representing a quarter of a million employees through more than 300 member companies. MTBC changed its name to Tech Titans in August 2015.

"I'm extremely proud of our exceptional faculty whose research and innovation is being recognized by their nomination for the prestigious Tech Titans Awards," said UTA President Vistasp M. Karbhari.

"These are outstanding faculty whose work is not only defining new frontiers in science and technology and whose interactions with students are preparing the current and future generations of leaders for the metroplex and beyond but whose innovations are impacting the globe."

