

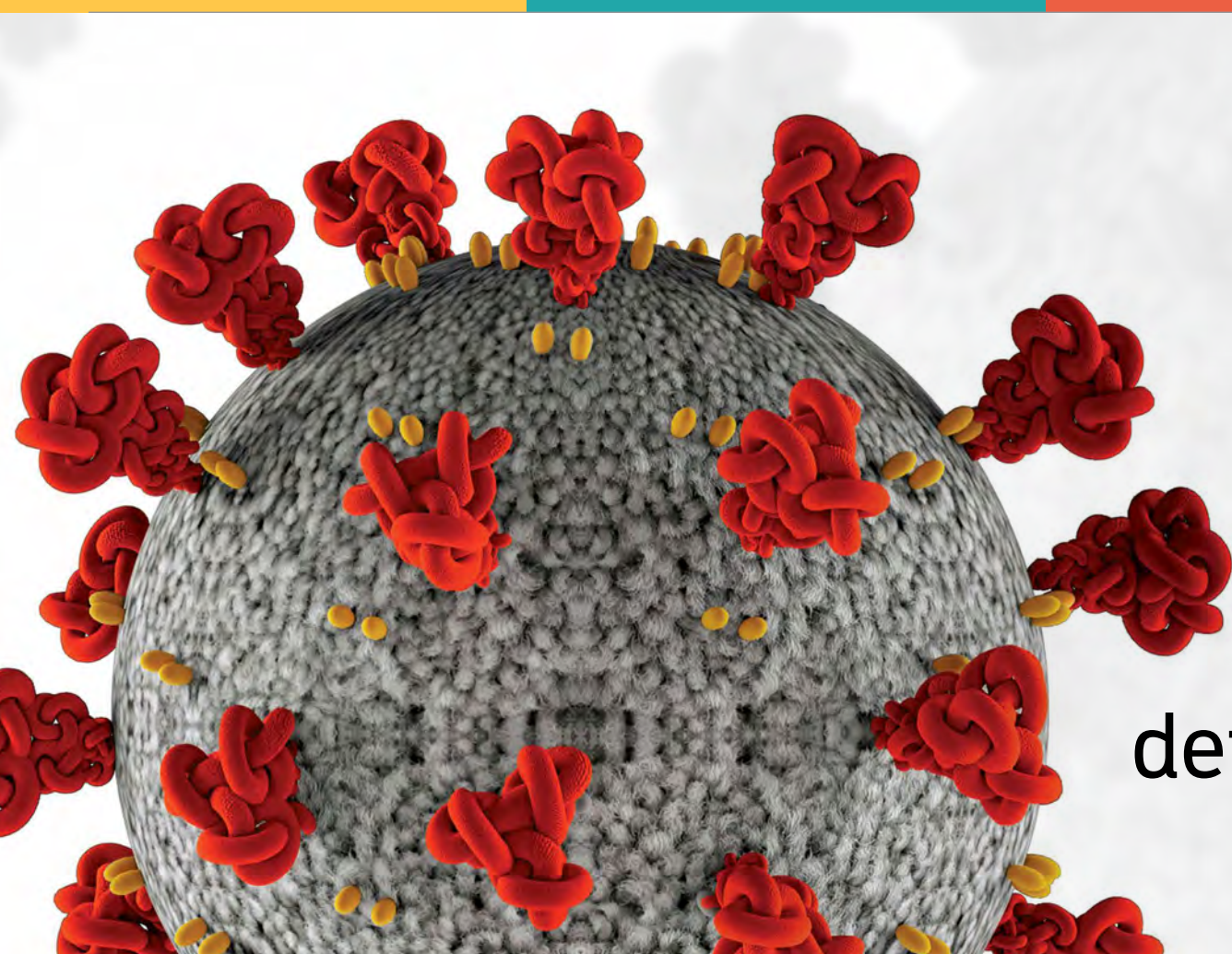
# the arabian sun

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a weekly Aramco publication for employees

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# Aramco LIFE: A new way to connect

By Rawan Nasser

We take great pride in our publications. After all, they are the living memory of Aramco’s achievements and milestones, its community’s thriving culture, and the region’s most historic moments.

But above all, our publications have served since 1945 as the link between the company and its employees, from the weekly newsletters *The Arabian Sun* and *Al Qafilah Weekly*; to our cultural and international magazines such as *AramcoWorld*, *Al Qafilah Magazine* and the *Aramco Journal of Technology*; and our most recent digital publications such as *Elements* and *Ithraeyat*.

There is more than one way to connect today. We walk around with our lives on our phones and navigate a world that is becoming more and more digitally con-

nected. Aramco news is no different.

## Introducing: Aramco LIFE

This platform is where we breathe life into our news and provide a new way to interact with the company. We will be reporting stories in real-time, adding video and audio for a more lively experience, and sharing user-generated content. And users who spend enough time on Aramco LIFE never have to skip or leaf through pages to find the topics that interest them, as the system automatically provides them with a personalized set of stories that suit their preferences.

Aramco LIFE can be downloaded from the App Store or Google Play, or accessed online on a web browser at [www.aramcolife.com](http://www.aramcolife.com). Wherever our readers are, they will have access to all of the company’s latest news and be the first to know, the first to share, and the first to voice their opinion.

Come visit the Aramco LIFE exhibit, with a display of older Aramco publications, at these locations:

- **Dhahran:** Al Midra Tower, Al Mujamma’, Tower Building
- **Dammam:** Dammam Office Building



President and CEO Amin Nasser along with other members of management listen to an explanation of various aspects of Aramco LIFE, the company’s new digital platform. The platform will serve as a source of news and an internal communications tool for all employees.

- **Abqaiq:** East Administration Building
- **Ras Tanura:** Administration West Building

Some of our new features will include:

- Reader chosen preferences, which will highlight more of the news you like, be it company news, technology, sustainability, or lifestyle features.

- Regular polls to measure the pulse of readers and their opinions.
- Reader submitted videos, including 60 second features that are similar to written opinion pieces, only in video form.
- Reader submitted photos, and monthly polls to decide users’ favorites. And much more.



Watch the video of launching.

Download LIFE today

## Your voice

By Jamirul A. Hussain (Zamir)  
Dhahran  
[Jamirul.Hussain@aramco.com](mailto:Jamirul.Hussain@aramco.com)

# Human Capital Theory and its implications on combating COVID-19: wash your hands

One of the upsides of the coronavirus pandemic is that I have spent more time reading. I had an opportunity to browse through an interesting concept of “Human Capital Theory” and its application in determining the demand for health care.

The theory implies that the demand for health has both consumption and investment aspects. As a consumption good, health is desired because it makes people feel better. As an investment good, health is desired because it increases the number of healthy days available to work and to earn income.

Health lasts for more than one period. It does not depreciate instantly, and can be analyzed like a capital good. People inherit an initial stock of health, which depreciates with consumption factors such as age, and can be increased with investment factors

such as lifestyle changes, education, etc.

To illustrate the impact of consumption and investment aspects on the demand of health, assume a hypothetical case of a male with an average life expectancy of 63 years. The individual’s consumption behavior (such as smoking) is assumed to pose a risk of up to a 3% loss in life years, while his combined investment efforts through medical intervention, lifestyle, education, etc., is assumed to counter the risk by adding a 7% gain in life years.

Applying the model to this scenario, the individual would gain a Health Stock of 0.04 years or 14.6 days per year. If the man is 40, he would have gained a health stock of 0.92 years, or 336 days over his original life expectancy, thereby taking his adjusted life expectancy from 63 to 64. The concept of Health Stock can also be thought of

as Quality Adjusted Life Year.

The theory points to an important takeaway that an individual’s lifespan is endogenously determined by the underlying model, thereby supporting a high return on investing in healthy lifestyle changes.

The basic COVID-19 precautionary measures such as handwashing, wearing a mask, and social distancing, can all be considered as endogenous variables that can shift our own health investment curve upward, and subsequently increase life expectancy.

I respectfully urge everyone to see the investment opportunity in health and continue making rational lifestyle changes. This is the right time to adopt healthy behavior and help the Kingdom in combating the spread of this pandemic as we enter relaxation phases.

Your Voice reflects the thoughts and opinions of the writer, and not necessarily those of the publication.



# Driving a digital transformation agenda as an agent of resilience

**Riyadh** — Saudi Aramco president and CEO, Amin Nasser, has spoken of the importance of driving a digital transformation agenda as a bulwark for resilience in challenging times at the Kingdom’s flagship investment conference in Riyadh.

Held over two days, the Davos-styled Future Investment Initiative (FII) is an international platform for debate between global leaders, investors, and innovators.

The fourth installment of the event was partially held virtually this year due to the ongoing global COVID-19 pandemic.

The conference brings together leading CEOs, tech pioneers, investors and policy makers in-person in Riyadh, virtually and from hubs in New York, Paris, Beijing, and Mumbai to find innovative solutions to some of the world’s most pressing issues.

### Cracking the code

Nasser took part in a panel discussion under the theme “Cracking the code: What is the future of global technology policy,” and revealed how Aramco has been leveraging data analytics and cutting-edge technologies to benefit its operations.

The CEO shared the platform with HE



Watch the video of CEO during the FII panel discussion.

Abdullah Amer Al-Swaha, Saudi Arabia’s Minister of Communications and Information Technology, and Dr. Thomas A. Kennedy, executive chairman, Board of Directors, Raytheon Technologies.

Asked how Aramco had been adapting to the digital age and what types of disruptive and emerging technologies have been deployed by the company, Nasser told the FII that technology has been playing a critical role in adding value to the business.

### Benefiting from technology

“We are benefiting a lot from technologies,” he said, “We are seeing the accelerated improvements in the technologies that we are currently adapting.

“If we look at the technology in Aramco, we’ve benefited in terms of discovery, we’ve benefited in recovery, we’ve benefited in cost optimization, efficiency, and reliability of course, and also in reduction of carbon emissions.”

Nasser singled out data analytics as a key enabler in efficiently managing reservoirs.

“We use simulation models that started with 1 million cell simulation models and now we are using 1 trillion cell simulation models to manage our reservoirs.”

The CEO noted the company’s achievements in deploying cutting-edge technologies.

### Data analytics

“Recently, we inaugurated one of the biggest super computers globally in the



Amin Nasser

## FUTURE INVESTMENT INITIATIVE

Dhahran Techno Valley in collaboration with STC, and with support from IBM.

“Data analytics is helping us to improve our recovery, which is the best in the world. We are increasing our crude oil and gas production each year. In terms of our recovery, it is one of the highest in the world — we have reached up to 70%, all because of technology and data analytics is playing a major part in helping us to place wells and the best reservoirs using satellites,” Nasser said.

“Today, we are geosteering every well in the Kingdom, using satellites from one center in Dhahran. We are managing all of our equipment in the Fourth Industrial Revolution Center in Dhahran where all

“We are seeing the accelerated improvements in the technologies that we are currently adapting.”  
— Amin Nasser

of the data is received.  
“We look at the health of our equipment. Currently, our reliability is the highest because of data analytics, digitization, and the application of these technologies.

“Our reliability for 2020 was 99.8%, one of the highest in the world in terms of delivery.

“In terms of carbon emissions, we have also benefited from technology and data analytics. All of this is helped and augmented by these technologies.”

Nasser said that the energy industry is taking great strides in terms of deploying and adapting technologies and that has tangibly improved performance.

HE Yasir O. Al-Rumayyan, Governor of Saudi Arabia’s Public Investment Fund (PIF) and FII Institute chairman, delivered the FII opening remarks at the King Abdulaziz International Conference Center (KAICC).

# How Aramco embraced Fourth Industrial Revolution, digitalization



At the Future Investment Initiative (FII), Saudi Aramco president and CEO, Amin Nasser, touched upon the company’s commitment to leveraging the latest digital technology.

In 2018, Aramco’s Strategic Counsel endorsed the company’s Digital Transformation Strategy. Nasser told the FII conference that the company had already benefited tangibly from its digital drive.

### Digital transformation

This included the setting up of an ambitious digital transformation program with a vision to position Aramco as the world’s leading digitalized energy company, maximizing shareholder value and spearheading digital innovation.

As global industry negotiates the Fourth Industrial Revolution (IR 4.0) — where artificial intelligence, machine learning and big data are offering unprecedented competitive advantages — Aramco remains a leader investing in staying ahead of the technology curve.

This technology innovation drive has

touched every area of Aramco’s business and its communities, from resource recovery, to construction, to the environment, and providing an effective response to the COVID-19 pandemic.

### Benchmarking

A digital maturity benchmarking exercise was conducted in 2019, highlighting the company’s position compared to its peers, its strengths and potential areas for improvement.

Company departments have been working on various initiatives to close gaps and enhance operations. During his FII panel discussion, Nasser highlighted Aramco’s state-of-the-art 4IR Center, based at its Dhahran headquarters.

The center is designed to inspire a youthful, tech-savvy employee population to explore technology solutions to the company’s challenges.

### Value

It creates value through the deployment of the latest technologies, ensuring a smarter, faster, greener, and safer way of doing business.

The center’s functions are geared toward value creation, efficiency, innovation, and unlocking new business opportunities and operating models.

The 4IR Center will play a pivotal role in enhancing the workforce’s technical skills and bringing advanced technological capabilities to help execute the company’s digital transformation strategy in a highly collaborative environment.

### Targets

Another example of Aramco’s first mover status in the adoption of the latest technologies is the Saudi Aramco Energy Ventures (SAEV), which continues to build on an impressive portfolio of start-up companies that are disrupting the energy industry.

SAEV targets investment in six to eight new companies each year with plans to double its portfolio in size over the next few years.

Its modus operandi is to identify and target technologies that have the potential to add value across the company’s business lines.

SAEV has also expanded its investment focus to digital solutions and nonmetals, in line with Aramco’s corporate strategies.

Further successes in the company’s digital transformation program include:

- Upstream:**
  - Big seismic data optimization, which improves drilling success rates.
  - Intelligent rig optimization, which yields cost avoidance equivalent to 42 rig days.
- Downstream:**
  - Plant Digital, which has cut total maintenance costs by 20%.
  - 14,000 H<sub>2</sub>S sensors deployed in the field resulting in an 80% cut in maintenance.
- Technical Services:**
  - Robotic Process Automation.
  - Virtual Reality Safety training.
- HR & Corporate Services:**
  - Smart car sharing.
  - 20 unmanned aerial vehicles for surveillance and emergency responses.
- Finance Strategy and Development:**
  - Robotic Process Automation, with eight processes now automated.
  - Sensitivity Analysis Tool, which provides 10 times faster financial forecasts.



# Aramco efforts to improve inclusiveness in work surroundings earn ‘Mowaamah’ certificate

In a company first, North Park Office Services has received a gold *Mowaamah* certification for its inclusive business environment.

*Mowaamah*, run by the Ministry of Labor and Social Development, is an accreditation awarded to companies that provide suitable work surroundings for people with disabilities.

The program is a licensing system designed to promote the employment of people with disabilities. Gold certification is awarded to companies with a 70% to 100% compliance level and is valid for two years.

The North Park Office Services Division received the award with 75% compliance for its North Park 1, 2, and 3 buildings, Al Midra Tower, and the Support Services Building.

Ahmed A. Zahid, the manager of the Office Services Department, said the certification proves that Aramco has appropriate facilities and technologies for people with disabilities.

“This enables them to obtain suit-

able work opportunities and help them achieve success and independence in their work,” he said.

The ministry assesses eight operational areas — hiring intentions, company communication processes, employee communication training, equal opportunity provisions, recruitment practices, information and communication technology availability, facilities access and comfort, and products and services development — to see whether they are inclusive for people with disabilities. Seven out of these eight areas apply to all Aramco facilities.

Community Services’ (CS) Office Services Department led the successful application and has identified a further 293 company facilities in 23 locations Kingdomwide, which are now registered in the *Mowaamah* portal for certification in 2021.

CS is taking the lead in pursuing the certification in line with the Ministry of Labor and Social Development’s goal to achieve the objectives of the National Transformation Program 2020, which is based on Saudi Vision 2030. The accreditation highlights Aramco’s corporate and social commitment to a diverse workplace.

The accreditation process started on June 15, 2020, and consisted of a series of six steps, including a self-assessment, the submission of evidence, and an on-site audit and subsequent assessment.

Recently, North Park Office Services was granted the gold certification to become the first Aramco organization to receive the accreditation.

The award was supported by CS management and the North Park Office Services team, along with Government

Affairs’ Eastern Province Department, Human Resources and its Diversity and Inclusion Division, the Management and Professional Development Department, the Staffing Services Department, the Organization Consulting Department, and Information Technology’s Planning and Performance Management Group.

“

I’m very proud to witness the success of the first tangible initiative for people with disabilities, which is part of a bigger, longer term plan to achieve compliance throughout all Aramco buildings and facilities.

— Faisal A. Al-Hajji, executive director of Community Services



## Liquid nano clay: A novel use of soil enriching technology

### First application of liquid nano clay (LNC) in the Kingdom at the King Salman Energy Park (SPARK) Aramco project

In Aramco’s quest to pioneer efficient technologies that improve sustainability, are environment friendly, and support the company’s circular economy initiatives, the application of liquid nano clay (LNC) was chosen for use in the landscaping.

In essence, LNC is a proprietary innovation that strives to enrich desert sand to enhance its fertility. LNC is a material created from the mixing of clay nanoparticles with water and binding them to desert sand particles to allow the sand to act as a sponge. This enables the sand to retain water and nutrients, reducing the amount lost by filtration.

LNC works as follows:

- Water and clay are mixed in a patented mixing process creating the LNC.

- The LNC mixture is then irrigated into the soil using traditional farming irrigation methods.

- The LNC percolates through the soil up to a depth to 60 cm, attaching itself to the sand particles.

- Without using LNC, water and nutrients would run through the sandy soil without being used by plants and fungus. Subsequently, when the LNC



Artist rendering of future SPARK Administrative Compound

is applied, water and nutrients will stick to the clay. This creates a layer in the soil perfect for growth.

- LNC will allow plants to grow in areas that previously did not allow growth, therefore, the plants have a chance for survival.

### LNC technology application at SPARK

The Aramco Project Management Team, in collaboration with the Consulting Services Department and Environmental Protection, is leading the drive to have the first time usage of LNC in the Kingdom at the landscap-

ing areas identified around the SPARK Phase 1 road corridors, parks and open spaces, inclusive of the Administrative compound and the forthcoming Dry Port area, with a total area of 858,000 m<sup>2</sup>, designed for a daily irrigation water consumption of 4,300 m<sup>3</sup>.

### Added value to SPARK

- With the goal to reduce the irrigated water consumption by 25%, utilizing the LNC technology, SPARK will save 1,075 m<sup>3</sup> of water per day.

- As the required water needs decreases, the size of the irrigation

system and installations can be decreased up to 20% as well.

- Allowing plants to grow, deserts can be reclaimed by reducing carbon dioxide emissions by about 15 tons/hectares yearly.

- A layer of LNC will stop water and nutrients percolating through the soil and polluting the underlying water table.

LNC and other adopted technologies can strive to position SPARK as a fertile ground for innovation and as a highly recognized environmental friendly worldwide industrial city.



# World-class Aramco researcher wins top international engineering award



Amer A. Amer

Amer A. Amer, chief technologist in the Transport Technologies R&D Division of the Research and Development Center (R&DC), has been recognized as a global leader in engine and fuel research and innovation by the Society of Automotive Engineers (SAE).

The SAE awarded Amer an international fellowship, acknowledging him for making a significant impact on mobility technology through leadership, research, and innovation.

“I am very honored,” the research engineer said.

Amer, who joined Aramco in 2007, was pivotal in developing and implementing a roadmap for the company to establish itself as a worldwide leader in transport sustainability.

His work led to the establishment of three global research centers in the U.S., Europe, and China, employing 80 scientists to work on innovations in transport and mobility projects, including gasoline compression ignition, synthetic fuels, and mobile carbon capture.

“It has been a pleasure working with many passionate engineers and scientists around the world to enable sustainable transport. Receiving this prestigious award helps validate my research and development work on fuels and engines over the past 25 years,” Amer said.

Established in 1975, the SAE Fellow Committee awards a maximum of 20 recipients each year. The fellow status bestows the highest level of membership to engineers and scientists who have made extraordinary accomplishments and shown outstanding leadership in the advancement of mobility technologies, specifically for automotive, aerospace, and commercial vehicle innovations.

Award recipients will be honored at an annual fellow dinner as part of the SAE World Congress Experience in Detroit, MI, tentatively scheduled for April 13-15. The fellows will also be given a pin and presented with a certificate during the awards ceremony.

“We are proud as a company and a department of this accomplishment, the well deserved recognition of Dr. Amer

for his work within transport and fuels, and how we as an organization are seeking to make a real impact in developing future technology solutions for one of the largest global industries,” said Ammar A. Al-Nahwi, manager of the R&DC.

“Indeed, this is testament to the type of caliber Aramco has in its technology and R&D positions, where we are always looking to generate value for our business, while also fueling innovation along the way,” Nahwi added.

Amer has been committed to mobilizing stakeholders around long-term solutions to greenhouse gases that mix transport solutions and energy efficient solutions.

He has coauthored over 35 journal articles and has been granted six patents. He was named as one of 10 recipients of the 2020 FISITA Academy of Technical Leadership as one of the world’s leading technology experts. FISITA (Fédération Internationale des Sociétés d’Ingénieurs des Techniques de l’Automobile) is the Paris-based global automotive federation.

# Gulf women’s equality forum GROWs into the future

By Nourah A. Alkhunaini

Three dynamic speakers addressing gender equality inspired more than 380 participants at the second virtual gathering of the Gulf Region Organization for Women (GROW).

The event, titled “Gender Equality — Why it Matters,” highlighted the importance of including women in the workplace and the introduction of initiatives to provide a supportive platform and a structure for women to enhance their career development.

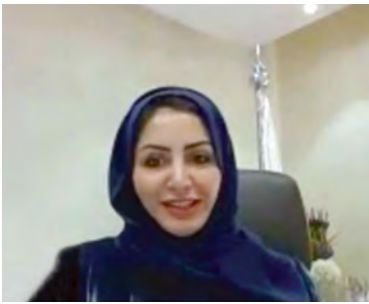
The Honorable Hind Al-Zahid, Deputy Minister for Women’s Empowerment at the Ministry of Human Resources and Social Development, discussed the Kingdom’s latest steps to advance Saudi women.

“(Women are) the largest global reservoir of untapped potential,” Al-Zahid said.

The Deputy Minister highlighted the significant increase in Saudi female workforce participation, which jumped from 17% to 30% over the past four years.

Al-Zahid outlined the Kingdom’s strategy to further enable women in their careers:

- Introducing legislation to eliminate gender discrimination in employment, wage, and opportunity.
- Developing a care, education, and recreation ecosystem for children and the elderly.
- Enriching Arabic content in government educational and cultural literature with biographies and stories



Hind Al-Zahid



Jennifer Hartsock



Nancy Speidel



Karina Kilpatrick

of Saudi Heroines to increase diversity and awareness.

- Ensuring government entities integrate gender needs and promote equality.

“It’s very important to ensure equitable access and representation of women in leadership positions in the public sector, including decision making committees and boards of directors, by targeting a percentage of no less than 30% by 2030,” Al-Zahid said.

“Empowerment is contagious; it is what I call the reverse domino effect: lift one woman up, and she will lift others up, who will lift others up — when you empower women, you empower, for sure, a society,” she added.

Jennifer Hartsock, the chief information officer (CIO) at Baker Hughes, emphasized the importance of gender inclusion in the workplace.

She stated that research shows inclusive organizations are more likely to be higher performers, more profitable, and more innovative, and are more likely to have better business outcomes.

Hartsock shared the four lessons she learned on her professional journey from software developer to CIO: use your voice; seek out mentors, and act as one for others; encourage diversity by supporting others; and use your position to advance those around you.

Nancy Speidel, founder and CEO of iSAW (International Smart Advancing Women), a professional women’s organization, demonstrated the value of women in the workforce by referring to recent studies.

Organizations with more diverse and

inclusive executive teams were 21% more likely to be profitable, according to a recent study by McKinsey, a management consulting firm.

Three key characteristics allowing teams to outperform others were inclusion, high emotional intelligence (EQ), and an equal number of men and women, according to the Massachusetts Institute of Technology and Google.

“Women are untapped strategic talents. Data demonstrates value we bring, and if companies and corporations want to compete globally, and if we want to improve our society ... we have to have a place at the table,” Speidel said.

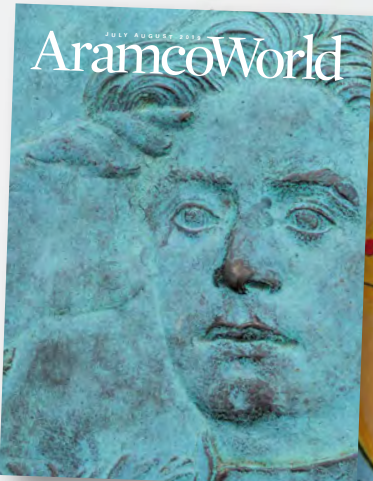
Karina Kilpatrick, a management and professional trainer with the Diversity and Inclusion Division at Aramco, concluded the event with a summary of planned activities for 2021, and a brief description of GROW’s operating model.

**GROW will be holding another virtual event with the theme “Choose to Challenge” on March 23, 2021, at 9:30 a.m.**



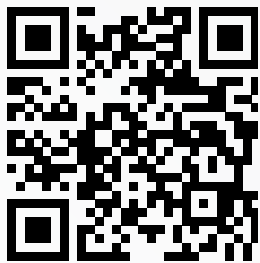


# The Canary Islands Connection



Written by **Gary Paul Nabhan** | Illustrated by **Norman MacDonald**

From the July/August 2019 edition of AramcoWorld



To read more AramcoWorld stories, download the newest version of the **AramcoWorld** App at the Apple App Store and Google Play.

I'm surrounded by date palms. Around them run dry watercourses that look like ones I find not far from my home in Tucson, Arizona. The traditional architecture in town would not be out of place in Tucson, either — or almost anywhere from southern Spain to Mexico and up into the south-west U.S. The fruit trees and grapevines hark back even further, to traditions of my ancestors from Syria and Lebanon. Perhaps this is what a visit to the Canary Islands is really all about. Indeed, much of what is cultivated on this Spanish archipelago of seven volcanic, mostly undersea mountains can be traced back to crops that came aboard ships from as far away as Phoenicia, in the eastern Mediterranean, as far back to the 8<sup>th</sup> century BCE.

But no less striking are the echoes here of what went westward, to the areas I've known for most of my adult life in the arid New World landscapes of the "desert borderlands" of the southwestern U.S. and northern Mexico. This includes, on the U.S. side, southern California, Arizona, New Mexico, southern Colorado and west Texas; on the Mexican side, the states of Baja California, Sonora and Chihuahua; and cities from Ensenada to San Antonio.

For more than a dozen years, I have been tracing agricultural and culinary influences shared among communities from the Levant to North Africa and southern Spain, and from the Canary

Islands to Mexico and the vast North American desert borderlands region. The journey makes me think of a string of beads, each distinct, but reflecting one another along a common chain.

Here in these islands I can smell the same flowers — orange blossoms, rose, and jasmine — in both the gardens and patios of Córdoba in Spain, and those of my uncles and aunts in Lebanon's semiarid Bekaa Valley. I can taste the same foods, literally from A to Z: meatballs spiced with parsley, onion and garlic called *albóndigas*; eggplants stuffed with fruits or ground meats called *berenjena rellenas*, swimming in creamy walnut sauce topped with pomegranate seeds; a kind of biscuit dusted with powdered sugar and laced with the bite of anise called *biscochitos*. There are *callos* of tripe sautéed with chickpeas; *empanadas* stuffed with chard or spinach; kebabs, or *asados*, marinated in spices and olive oil, strung on skewers and grilled, and fritters dowsed in orange syrup or honey called *zababias*.

I can see prickly pear cacti and towering, flowering stalks of agaves such as sisal. I can taste the cactus juices, feel the texture of rich tomato pastes and revel in the heat of chili peppers stuffed with cheeses. All these and more were once agricultural passengers from the Americas transplanted to the Canaries and far beyond to a world eager for novelty and nutrition. It was the east-bound leg of what is known historically as the Columbian Exchange, which began with the Spanish arrival in the West Indies more than 500 years ago.

Of the many questions that swirl around in my head, there is just one really big one: How did people of Arab ancestry — people of all faiths and geographical origins who may claim

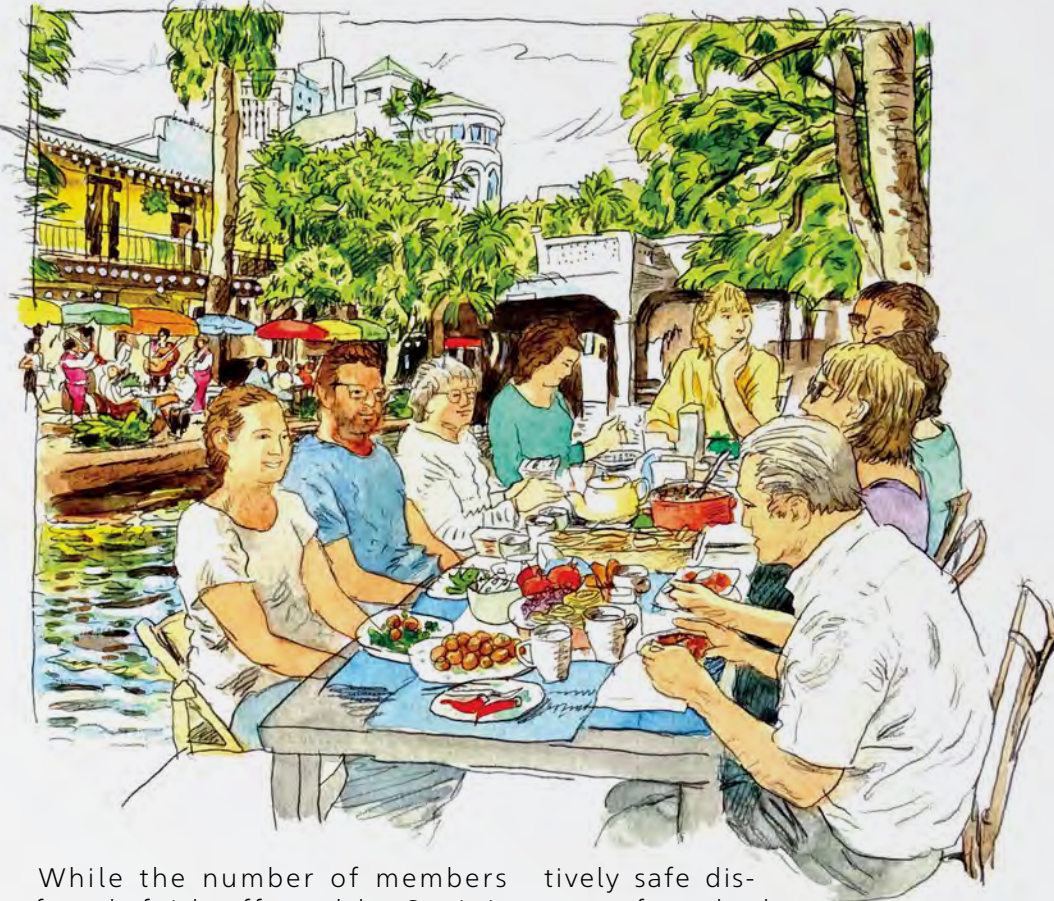


the name, in whole or in part — come to play roles in shaping what grows today in the region that includes Tucson, where I live? And how does that affect what I eat?

To deepen my search, I head for the Canaries, home of important, but not always well-known, "bridges" between Old and New Worlds. I pay a visit to noted Spanish and Arabic speaking agricultural ecologist Jaime Gil, and he guides me to Lanzarote, the easternmost island, which once had the largest population of people the Spanish referred to as *Moriscos*. Like many such ethnonyms, *Moris-*

co meant somewhat different things over different times and places. Most frequently it meant Muslims of North African or Iberian descent, who in the wake of the Spanish bans on Islam, Judaism, and Protestantism from the late 15<sup>th</sup> to well into the 17<sup>th</sup> centuries, either converted, or under duress, outwardly professed conversion to Christianity.

Gil also explains that just as the term *Morisco* has carried diverse meanings, so too has *Converso*, which was used to identify Sephardic Jews as well as Protestants who had to renounce or conceal their faith from Spanish authorities.



While the number of members of each faith affected by Spain's religious edicts are unknown, historians generally agree it is in the hundreds of thousands for both *Moriscos* and *Conversos*. Demographic historian Trevor Dadson and ethnohistorian Karoline Cook have explained that the numbers are difficult to assess because emigrants frequently either concealed their background in official port of embarkation records or avoided documentation altogether.

Though ruled by Spain then as now, the Canaries for a while lay at a rela-

tively safe distance from both the Crown and the Inquisition, Dadson says.

But the islands soon became overpopulated. Then the reach of the Inquisition spread, and the Crown's price for an official name change — a symbolic ritual called "blood cleansing" that was a tantamount profession of Catholicism — became out of reach for both native born Canarians and immigrant *Moriscos*. A voyage to the *terra incognita* — the West Indies and the Americas — became more attractive, despite the risks and uncertainties.

It was in this way that New World *Moriscos* and *Conversos* came with incentive to settle as far from the Inquisition tribunals as possible. In continental North America, many chose to head north to the arid hinterlands — especially after the establishment in 1610 of the Inquisitional Court in Mexico City. The austere lands of the Sonoran Highlands may have also been attractive because they likely reminded the newcomers of the semi-arid lands of al-Andalus, as the parts of southern Spain under Muslim rule were called.

In these remote outposts, from Tucson to Santa Fe to San Antonio, it seems that only a few were in fact arrested by Spanish authorities and charged with blasphemy, heresy or adherence to non-Christian food taboos and forced to travel to Mexico City for interrogation. Fewer still, it appears, were brought to trial, and yet even fewer were convicted, imprisoned or executed.

Records point to what scholars are coming to see as a practice by both *Moriscos* and *Conversos* to adopt new surnames that referenced animals or plants, and trees in particular. Fittingly, those who chose to adopt such surnames appear to be among those who helped introduce and adapt what number more than 50 kinds of Old World crops and animals.

Today we can make food-historical links, because by the time they arrived, these food crops were mostly called by names that were already in use in Iberia, and often also in the Canaries.

Along with Middle Eastern fruit crops like date palms — which arrived in Mexico as early as the 1530s — there came also figs, pomegranates, olives, and grapes; there came spices like anise, coriander, cumin, fennel, and safflower. Settlers essentially reconstructed the oases of their former homelands, using irrigation systems of *qanats* and *acequias* as models to better farm crops they knew best how to farm. They complemented these with plantings learned from Native American tribes, most famously squashes, beans, peppers, and maize.

Recently, historians have received help from geneticists in tracing the origins of crop and livestock species. The Mission olive, a cultivar of *Olea europaea*, prized in Arizona and the Californias, is closely related to both the Andalusian variety, *Cañivano Negro*, and its Moroccan counterpart, *Picholine Marroquine*, for instance.

Such discoveries of shared farming and food heritages, both large and small, now have support on a global scale through the UNESCO Cities of Gastronomy, which is part of the greater Creative Cities Network program. Out of 26 cities worldwide, three in the desert borderlands now belong to the gastronomic network — Tucson, San Antonio, and Ensenada — and Santa Fe participates as a UNESCO Creative City.

These affiliations are putting contemporary chefs and food historians in closer contact both with their own histories and with one another. Cultural culinary creatives from Spain, Lebanon, Turkey, and Iran are all engaging with North American counterparts.

And for me now, whether I am biting into a hot empanada in Tucson, savoring grapes in the Canaries or sitting down to lunch on my cousins' farms in Lebanon, I feel more connected than ever along this necklace of history strung across a hemisphere.





# Traffic Safety Excellence Award winners driven to success

## Enrollment now open Jan. 11 to Feb. 28, 2021

By Dalia Darweesh

The 25 winners of the inaugural Traffic Safety Signature Program (TSSP) have been recognized, bringing to an end the landmark safe driving campaign.

The vice president of Safety and Industrial Security, Aali M. Al Zahrani, honored 10 of the winners at a pared down awards ceremony — in response to the COVID-19 pandemic.

The award promotes defensive driving and encourages behavioral change. Overall, 25 winners were chosen, of which 15 were 30 years old and below, and 10 were older than 30 years.

Joharah M. Mulhem, a computer operating systems specialist with the Information Protection Department, initially felt hesitant about participating in the program.

Being one of the top 10 winners made her feel “overwhelmed,” especially since she only obtained her driving license in 2018 and had not driven before.

Yousef H. Khuraim, a project engineer from the Industrial Security Support Department, said times have changed on the Kingdom’s roads.

“It’s not easy nowadays to have a clear record of traffic violations with improved technology,” he said. “Safety should be a lifestyle adopted by everyone.”



Aali M. Al Zahrani

Ahmed G. Al-Ghizzi, a petroleum scientist from the EXPEC Advanced Research Center (EXPEC ARC), initially felt confident participating in the awards. He was also motivated by safety talks and posters in his department.

“Defensive driving is a habit and a way of living that’s built over years,” he said.

Bashayer S. Mishari, a laboratory scientist from the Research and Development Center, noticed that she met the initial qualifications for the award, and decided to try her luck. She received the news on a business trip and felt “genuinely happy.”

Muhammad A. Mulla, an engineer with the Power Systems Engineering Department, expressed his gratitude for being one of the winners.

“I was surprised. I didn’t anticipate

winning, especially seeing that it was Aramco wide, and the tests were somewhat challenging,” he said.

The top five departments, based on participation rates, were Power Systems Engineering, Industrial Training, the EXPEC ARC, North Area Industrial Security Operations, and Loss Prevention.

Handing out the awards, Al Zahrani reminded the small, physically distanced audience that traffic safety is a significant public health risk and emphasized the importance of road safety.

“One motor vehicle accident fatality is one too many,” Al Zahrani said.

“We are determined to exert all necessary efforts to prevent the occurrence of motor vehicle accidents. Nothing hurts more than losing someone close in a tragic way like this,” he said.

The program director of the TSSP, Abdullah S. Al-Rajhi, said, “As a traffic safety expert, a critical role in enhancing traffic safety rests on road users. Around 93% of motor vehicle accidents are caused by poor driving behavior, which can be prevented.”

The 2019 winners were announced on Oct. 12, 2020. Enrollment for the 2020 program was launched on Jan. 11 and will run until Feb. 28, 2021.

لجنة السلامة المرورية بالمنطقة الشرقية  
Eastern Province Traffic Safety Council



Process and eligibility.

- A valid Saudi driving license, insurance, periodic check-up, and registration of employee vehicle or the vehicle the employee is authorized to drive.

- A clear record of Aramco traffic violations and notifications, and government violations from Jan. 1 to Dec. 31, 2020.

- A valid Aramco Driving Intensive Program (DIP) e-Learning course, or a certificate of Qyadati program for light vehicles.

- Register and upload copies of the above requirements from Jan. 11 to Feb. 28, 2021, through the award registration link.

- Pass a theoretical and a practical test.



One motor vehicle accident fatality is one too many.

— Aali M. Al Zahrani

## Keep your guard up

# COVID-19 is still around us



## Follow the 3 Ws to stop COVID-19:

**W**ear a mask  
**W**ash or sanitize your hands  
**W**atch your distance

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# Well-being

## Caring for your health and wellness

### The danger of COVID-19 is still around us ... stay vigilant

The world breathed a collective sigh of relief when COVID-19 vaccines were announced, approved, and started to be distributed across the globe.

Anticipating that the virus will soon become obsolete, we all signed up to take the vaccine to protect ourselves from COVID-19, and in doing so, eradicate it.

But the danger of COVID-19 is still around us, and we cannot let our guard down now that we are nearing the end of the fight. Stay vigilant because the threat of COVID-19 has not disappeared.

Whether you have taken the COVID-19 vaccine or not, you should follow the recommended preventive measures and abide by the following 3 Ws to stop the virus until we end the pandemic.

#### Wash your hands

Hand hygiene is one of the most important acts that will help prevent the spread of the new coronavirus.

To correctly practice hand hygiene, be sure to wash your hands frequently with soap and water for at least 40 to 60 seconds, or if soap and water are not available, use an alcohol-based hand sanitizer for 20 to 30 seconds.

**Tip: Check the label of your alcohol-based hand sanitizer to make sure it is at least 62% alcohol.**

#### Wear a mask

Wearing a face mask can help prevent the spread of COVID-19. Even if you have taken the vaccine, you must continue to wear a mask to protect yourself and those around you.

A face mask should be worn at all times when leaving the house, according to the Saudi Ministry of Health's current guidelines.

#### How do I wear a cloth mask correctly?

1. Before putting on your face mask, wash your hands with soap and water for at least 40 to 60 seconds, or sanitize your hands for 20 to 30 seconds, and make sure the mask fits securely against the sides of your face.

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2. While wearing a mask, avoid touching the mask or your eyes, nose, and mouth.
3. Before you remove your mask, wash your hands (or sanitize) again, and avoid touching your eyes.
4. When removing your mask, handle it only by the ear straps.
5. Repeat hand hygiene again immediately after removing the mask.
6. Cloth masks should be machine or hand washed in hot water with laundry soap after each use and dried thoroughly. This is sufficient for sterilization.
7. If you are using a disposable face mask, dispose of it responsibly in a covered trash can.

#### Watch your distance

You can prevent the spread of COVID-19 by keeping a two meter distance from others at all times, even if the people around you appear to be healthy.

You should continue to avoid large gatherings, and if attending small gatherings, you still need to take precautions and keep your distance from those around you while also wearing a mask at all times.

This will help slow the spread of COVID-19 and will help you protect yourself, your loved ones and everyone in your community.

Although a COVID-19 vaccine is available, we have a responsibility to continue following the COVID-19 prevention guidelines and precautionary measures

to win the fight against this pandemic.

For more JHAH COVID-19 prevention content, visit <https://www.jhah.com/en/new-coronavirus/useful-resources>.

**Register to take the COVID-19 Vaccine:** Getting a COVID-19 vaccine can protect you and the people around you.

Register your interest in the COVID-19 vaccine with the Ministry of Health. Scan the QR code to download the MOH Sehhaty application and register.

Sehhaty App

App Store

Google Play Store

For more specific information on the COVID-19 vaccine, please contact the Ministry of Health's COVID-19 helpline at 937.

Visit our COVID-19 Vaccine FAQ page.

#### What are the tips before getting vaccinated?

- Advise the clinician if you have symptoms of COVID-19 or any other illness.
- Inform the clinician about your medical history if you have a chronic disease, such as diabetes or asthma.
- Advise the clinician if you are taking medication and/or if you have allergies to any known vaccines or medications.

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### Top tips to improve your mood

**Get moving:** Having an active lifestyle can contribute positively to your mental well-being, reduce stress, and fight off depression. Try to start with at least 30 minutes of physical activity a day.

**Try something new:** Routine can be a mood killer, so trying something new and out of your usual norm can improve your mood and give you a fresh perspective on life. Sign up for a course that you have been meaning to take, read a book you have always planned to read, take up a hobby that can feed you intellectually, or that is just fun.

**Limit screen time:** Staring at a screen for hours on end can have a negative effect on your eyes, and your physical health. Strive to limit your screen time to less than two hours per day, and try reading a book, working on a puzzle, or bonding with people in your household.

**Get your beauty sleep:** An adequate amount of sleeping rejuvenates your body, improving your productivity, performance and mood while also reducing your risk of stress. As an adult you need at least 7 to 9 hours of sleep to gain all the benefits it provides.

**Wellbeing Magazine:**  
*Winter 2020 Special Edition*

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Visitors taking one of the multiple routes to the edge. (Photo: Mathew Starling)



The spectacular escarpment looming over the barren desert landscape. (Photo: Mathew Starling)



Tuwaiq weathered exposure. (Photo: Salvatore Di Simone)

# Edge of the World rocks

## its ancient beginnings under the waters of 'Paleo-Tethys Ocean'

By Misfir A. AzZahrani

Towering dramatically over a barren desert floor stretching to the horizon, the Edge of the World, or *Jebel Fihra-yn*, is a geological wonder.

The carbonate rocks form sheer cliffs surrounding the beautiful city of Riyadh like a necklace, encompassing the capital from its northwest to southeast limits. Similar in appearance to the Grand Canyon, located in the U.S. state of Arizona, the imposing cliffs are of different rock types and have experienced different weathering.

The rocks of the Edge of the World started the sedimentation process in a marine environment known to geologists as the "Paleo-Tethys Ocean," which covered the entire eastern half of the Arabian Peninsula 160,000,000 years ago.

"Marine? Near Riyadh?" asked Misfir A. AzZahrani, executive director of Exploration, rhetorically.

"Some might question this, but the

answer is definitely 'yes'," said AzZahrani.

"Look around you when you are on any route to the cliffs, and you will certainly be able to collect at least four or five different types of marine fossils. On the top of the flat surfaces, you might even see big coral reefs," he added.

"These collections are exactly similar to those found near the shorelines today. Obviously, these sea creatures have not traveled across the desert all this distance to find themselves here."

The Edge of the World is the most popular part of the Tuwaiq escarpment, which runs approximately 800 km in length from Al Qasim in the north to the Rub' al-Khali, or Empty Quarter, in the south.

Recently, the site has attracted hundreds of thousands of visitors from the Kingdom and around the globe. The Edge of the World is 90 km northwest of Riyadh with road signs directing travelers to the area. There are mul-

tle routes, but vehicles are required to eventually leave the bitumen road and drive across the rough desert to reach the top of the escarpment. Once there, it is a walk on rocky terrain and loose gravel to the overlook to enjoy the breathtaking views.

"Standing on the edge gives one the feeling like being a bird ready to spread its wings to fly over the wide plains of the lowlands underneath," said AzZahrani.

But in the wider sweep of time, these beautiful golden rock walls standing strongly as they endlessly face the emptiness hold a different proposition. Geologists have analyzed this section of the stratigraphic column and concluded that it forms the source rocks of most of the oil found in Ghawar, and other oil fields in the area.

Generated oil migrated to shallower rock units, one of which is the Arab Formation. The same rocks are exposed in Riyadh, but the oil has not accumulated there due to a lack of entrapment.

Tuwaiq Mountain cliff overlooking the low plains of the Najd plateau. (Photo: Mathew Starling)

# You have the power to defeat it

COVID-19 is still a threat. But we have the advantage to defeat it. Because the virus needs us to survive and spread.

**Don't give it that chance.**



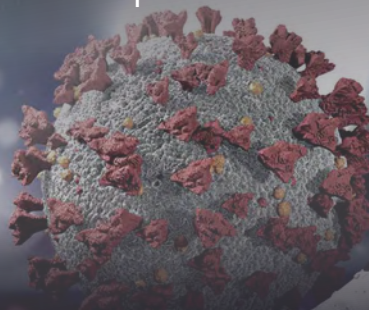
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# New ‘Udhailiyah mall a shopper’s delight

‘Udhailiyah — The remote Aramco community of ‘Udhailiyah is celebrating the expansion of its shopping center.

The Hajar Mall was refurbished over three months to make it a hub for shopping, leisure, and socializing, according to Mohammed M. Al Khamsan, administrator for ‘Udhailiyah’s Community Services.

“It’s a very good place for people to shop,” Al Khamsan said.

“The mall is designed to serve everyone living and working here, including residents in the GC 11+ community, GC 3-10 community residents, and everyone working in the nearby Core Area office buildings,” he said.

The renovation included relocating Housing offices, building seven new outlets, extending a seating area, creating a lounge area, enhancing the garden, and installing a fountain. The work was performed after office hours and on weekends.

New shops added to the mall include food outlets, fashion shops, and elec-



tronics and appliance units, as well as a pop-up shop.

The Flower City is the company’s most remote family community, with almost 2,000 residents living 160 km southwest of Dhahran. The closest city is al-Hasa, approximately 55 km away.

“If you want to go out for a coffee in al-Hasa and you think about the time it

will take, you don’t go as it’s too far,” Al Khamsan said.

“Here everyone can enjoy a good coffee and relax.”

The mall has been refurbished almost a year after the opening of the new community center, House of Jasmine.

“I think the community looks good,” Al Khamsan added.



# Aramco Americas brings game changing high-tech library to Houston

Houston — Aramco Americas’ collaboration with the City of Houston made possible the first new construction of a high-tech library concept, called TECHLink, in the city’s north side neighborhood of Trinity Gardens.

Officially named “TECHLink Dixon,” and powered by Aramco, the company fully funded the rebuild and all the state-of-the-art technology inside as part of its comprehensive response to the Houston community after hurricane Harvey.

“We looked and listened closely to how we could help the city to rebuild with lasting impact after Harvey. This facility is a natural fit for a city with such a strong tradition of innovation in energy, engineering, and technology,” said Nabeel I. Al Afaleg, president and CEO of Aramco Americas, during a virtual ribbon cutting ceremony. “It is also a natural fit for Aramco where we are big believers in STEM education and applying creativity to solving energy challenges.”

The facility, rebuilt in the same location, bridges the technology divide with the latest interactive technology to enhance learning. Features include free access to computers and the internet, technologies to enhance learning, music and video production studios, digital animation, graphic design, photo editing, and multimedia presentation capabilities.



TECHLink Dixon powered by Aramco is the first new construction library of its kind in Houston. The library serves as an example of one of the best new library models in the nation, incorporating digital and information technologies. Left, Kenneth Thomas, technology service specialist, TECHLink, composes, records, and produces music in the Music Studio.

“The City of Houston is extremely proud of the new TECHLink Dixon and thankful to Aramco for its generous investment that will provide Houstonians equitable access to digital resources and services,” said Houston mayor Sylvester Turner. “TECHLink Dixon will be a game changer for the Houston library system and will take us one step closer to closing the digital divide in our city.”

The high-tech modern design incorporates a lot of technology in a small space

with flexible space to adapt over time to new technologies and equipment. The library serves as an example of one of the best new library models in the nation incorporating digital and information technologies.

The library incorporates Leadership in Energy & Environmental Design (LEED) sustainable building practices throughout, including material selections, building placement on the site, use of north facing glass to reduce heat gain and im-

proved energy efficiency and LED lighting throughout to reduce energy consumption.

On the outside, the design utilizes surface drainage as much as possible to increase infiltration and improve storm water quality. The library’s finished floor is elevated above the prior height to help protect against future water damage.

The library opened in 1972 and was named in honor of community advocate Amanda E. Dixon, serving the community for nearly 50 years until Harvey hit.

“This is a reality because of you, because you [Aramco] stepped up to the plate to fund this project, your legacy will be inextricably tied to our success for years to come,” said Super Neighborhood Trinity-Houston Gardens #48, president, Huey German-Wilson.

Aramco Americas received the Houston Public Library (HPL) Foundation’s 2020 Igniting Impact Award for its support of HPL’s vision for serving the community.

“Aramco’s corporate investment in the under resourced Trinity Gardens community bridges the technology divide and goes light years beyond free access to computers and the internet. They are changing the future through their social investment,” said Licia Green Ellis, chairperson, HPL Foundation, who presented the award to Aramco.



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