Recognizing excellence in safety

Aramco sets sights on the moon with drilling skills earned on Earth
A young engineer on EXPEC ARC’s Drilling Technology Team, is helping design a rover to send to the moon.  
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Newly patented drone approach a double win for safety
A recently patented idea by Aramco is improving the safety of unmanned aerial vehicles — helping in turn to improve safety in monitoring facilities.  
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Young professionals engage in ‘thought accelerator’ program
Young engineers take part in SPE’s ‘Endogenous’ program that strives to find solutions to the energy industry’s strategic challenges.  
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Tales told of the best of times in ‘The Friendly City’ of Abqaiq
Young Abqaiq residents tell what makes family life in Abqaiq so appealing.  
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Do Your Part by Wearing a Mask in Public
Maintain physical distancing of 2 meters at all times

With restrictions now lifted ... we must not become complacent in controlling COVID-19
Al-Helal bids farewell to ‘the best company with the best people in the world’

by Eamonn Houston

Dhahran — Fahad E. Al-Helal, who led Aramco Project Management since 2012, was recognized in a special ceremony last week.

Hosted by Ahmad A. Al Sa’adi, senior vice president of Technical Services, the unique ceremony (complete with face masks and physical distancing) was attended by Amin Nasser, president and CEO, and other members of management.

remarkable contribution

“Fahad’s loyal and professional service to this company since he first joined in 1981 as an engineer has been exemplary, and his leadership and the human touch he brought to his career is a testament to that,” said Al Sa’adi, who noted Al-Helal’s legacy of overseeing a series of some of the most complex mega-projects in the world — from the Manifa Crude Increment to the Wasit NGL programs, as well as the Jazan Refinery, Integrated Gasification Combined Cycle, and the Terminal and Economic City Complex.

And the list goes on, said Al Sa’adi, who noted the special projects he has had a major hand in and helped deliver for the Kingdom and company, including King Abdullah Sports City, the iktva inspired King Salman Energy Park (SPARK), and others.

“He has been a champion of localization within our business and has carried a torch for our nation’s economic road map, Vision 2030,” said Al Sa’adi.

pride in a job well done

Al-Helal, a graduate of the King Fahd University of Petroleum and Minerals, spoke of his pride in Aramco employees during his career.

“I wanted to join Saudi Aramco from university at the age of 22 because I believed the company to be the best company in the world and it was,” he said. “And still is.

Always one to value human development and potential, Al-Helal said the biggest reward of his career was having a hand in the growth of local engineering and construction capabilities where “more than 90% of our work is now being executed in-Kingdom through local entities.”

While being appointed vice president of Project Management in 2014 and his experience working on Aramco’s many mega-projects has proven enriching; he has felt the most reward from the people he has worked with, and those who will carry that legacy forward.

“I see that the investment that we put in our people is significant and that will help them to lead the company forward,” Al-Helal said. “To be an Aramcon gives you a huge sense of recognition and gives you pride.

In retirement, he looks at refocusing on family activities that have been put off for some time. “They will be executed under a new leadership with a very aggressive schedule,” he said. “I am planning to complete projects at home, and I want to contribute to my community, my favorite sport club, and some charities.

a few parting words

In his parting words to Aramco, he voiced confidence in the company’s future and offered best wishes that it continue to be the “best company in the world … something that the Kingdom is always proud of.

“I’m confident that with current leadership and the great human capital Aramco has, the future of the company will be bright and prosperous,” Al-Helal said.

Al-Helal earned an MBA from the U.K.’s University of Hull in 1999 and graduated from KFUPM in 1981. He also completed the Saudi Aramco Management Development Seminar and executive education program at the London Business School.

Al-Helal also participated in many professional and leadership development courses, both in-Kingdom and abroad.

your voice

OE yesterday and today — Deming Cycle stands the test of time

Quality and Operational Excellence (OE) departments exist as a result of the increase in the size of companies and new challenges presented by market competition. In turn, companies seek direction and guidance from industry specialists and pioneers.

A great number of pioneers and practitioners have come along over the years to identify problems with product quality, and propose changes for better quality and OE. Some changes were radical but vital, and others were simple, yet effective. One of the best-known pioneers in the field was Edward Deming, father of the Plan, Do, Check, and Adjust (PDCA) cycle. Today, it is so well-known that the process is widely known by its creator’s name — the Deming Cycle.

In the 1980s, Deming visited Ford Motor Company and helped in the establishment of Ford’s Vision, Mission, and Guiding Principles, which were designed to help Ford management learn from its own historical lessons and experiences, using them to build a stronger and more competitive company driven by the customer focus mindset.

Ford was rejuvenated by Deming’s concepts in the midst of tough domestic competition. Deming believed in “instituting programs of education and self-improvement.” As a result, Ford’s Quality Education and Training Center and the Ford Design Institute were established in the mid-1980s to offer quality and statistics courses to its employees, with a focus on leaders.

Deming also advocated teamwork, knowledge management, knowledge sharing, and innovation within Ford. As employees brought forward new ideas, leaders and innovation teams ensured the implementation of these ideas. Ford Motor become an industry leader in the 1990s where excellence in process implementation was every employee’s goal.

Throughout this journey, Deming introduced the PDCA Deming Cycle, placing an emphasis on good planning as the key to robust process implementation, which is driven by sound data collection and analysis.

Aramco began its own OE endeavor in 2012 with the establishment of the OE Department (OE&D) — now named the OE and Engineering Services Support Department, or OE&ESSD.

OE&ESSD has a mandate to conduct OE corporate assessments for departments throughout Saudi Aramco. The assessments are designed to gauge the department level of excellence through the implementing processes such as customer focus, innovation implementation, and knowledge sharing, which happens to be the same concepts Deming used to help the Ford Motor Company excel and become a competitive car maker.

Additionally, the assessment methodology follows the Deming Cycle as the cornerstone for the assessment evaluation. Decades later, the PDCA developed by Deming is utilized around the world, including at Aramco, to establish a culture of excellence and continuous improvement.
drilling from the Earth to the Moon
Aramco engineer applies Earthly skills to lunar rover effort

Aramco has always been ahead of the industry in exploring new technologies. Moreover, as the research arm of the upstream business, our EXPEC Advanced Research Center (ARC) is at the forefront of the research and development of Fourth Industrial Revolution (IR 4.0) technology. This strategy has always been a cornerstone of EXPEC ARC’s investment objectives. Nurturing high-caliber talent is a challenge, and EXPEC ARC prides itself on attracting the best of talents and offering them the opportunities to contribute to our goals,” said Adem M. Al-Talhini, EXPEC ARC manager. “We believe such occasions enrich our young scientists’ knowledge and give them new prospects to approach technical problems with a different mindset.”

Abdulaziz S. Almusa is one of the young engineers on the center’s Drilling Technology Team. A part of this program since 2018, he was conducting research in the field of robotics at Carnegie Mellon University (CMU) as a part of his master’s degree in mechanical engineering, which focuses on robotics that operates in harsh and hazardous environments. “As an engineer in drilling technology, this domain perfectly resonates with the applications and design problems that we need to solve on a daily basis,” says Almusa.

to the moon, Iris
An interesting IR 4.0 project that Almusa worked on at CMU was to help design a lunar rover to send to the moon. Scheduled to launch in the fall of 2021, “Iris” is the first lunar rover to be designed and made by students. Almusa served as the deployment lead of the project and designer of the camera module. The rover has passed NASAS critical design review and is now on schedule for flight.

“This has been an eye-opening project,” said Almusa. “There is a strong resemblance between drilling engineering and space engineering.”

Drilling has always been a domain of extreme engineering. This is demanded by the severe conditions of high-pressure, high temperature, and the massive forces required to drill through thousands of feet into the ground. To incorporate that into robotics is indeed a challenge. However, after experiencing a similar style of engineering requirements in space applications, it struck Almusa how both these domains are alike. Launch vibrations, extreme vacuum pressure environments, and oscillating lunar temperatures are close analogues to the drilling environment.

As an extension of this analogy, the Curiosity Mars rover collects samples on the surface of Mars using a small drilling probe and a suite of sensors. One of the objectives is to explore the geology of this inaccessible environment where commands and data are transferred via telemetry, this is literally exploration drilling on another planet. Cross-pollination between such analogous domains serves as fertile grounds for innovative development. This will introduce a bilateral idea exchange between these two seemingly different, yet similar domains, which will play a role in advancing both domains. “I am excited to tie-in the knowledge I gained in field and planetary robotics to drilling technology.”

“It is vitally important that we build bridges to the best technologies from other leading industries to further advance our mission in creating the next generation of innovative solutions for upstream oil and gas,” said Tim E. Moellendick, chief technologist of EXPEC ARC’s Drilling Technology Division.

newly patented drone approach a double win for safety

A recently patented idea by Aramco is a double win for safety, improving the safety of its unmanned aerial vehicles (UAV), which themselves improve safety in the areas of monitoring and inspection of facilities. IDEA owner Saad A. Al-Jabr of the South Ghawar Producing Department’s Corrosion and Inspection Unit said he came up with the idea of developing intrinsically safe UAVs and electromagnetic acoustical transducers (EMAT) in a specific way when he realized that the common tools can present an ignition hazard at hydrocarbon facilities. By equipping them with EMATs for wall thickness measurement of carbon steel piping on the bottom rather than the side, it is more possible to locate corrosion in specific processes.

By configuring EMATs to take wall thickness measurements at the bottom of the pipework, where most corrosion occurs in our processes, and no need for surface preparation, it will help eliminate scaffold erection,” said Al-Jabr. EMATs normally require only electromagnetic coupling rather than physical coupling, and there is no need for a couplant. Furthermore, the UAV can feature a tethered or untethered design, depending upon the duty cycle required.

real solution for a real challenge
Adel O. Ben Duheash, manager of the South Ghawar Producing Department, said, “The idea addresses real field challenges for the company, and we are very happy it has completed the patent journey to be granted.”

Next up will be prototype development, field trials, and commercialization. “The application will be supervised, controlled by an experienced inspector-operator to be later reviewed by a corrosion engineer before uploading into the

This patented technology is expected to have wide applicability in refineries, gas plants, and oil and gas facilities within Aramco, as well as similar oil and gas companies globally. The next step is identification of a suitable system integrator for development of a prototype by incorporating recently developed low weight EMATs into a highly maneuverable UAV.

Intrinsically safe certification will be another future step. The patent is U.S. Patent No. 10,620,002.
going mobile
digital update brings surge in apprenticeship interest

Our reputation as the Kingdom’s employer of choice means that demand is always high for places on the apprenticeship and internship programs it runs.

Each year, Aramco hosts a number of these “non-employee programs” designed to allow young people to gain valuable workplace experience, or to give participants their first step into a career that can potentially last decades. These opportunities attract tens of thousands of candidates from across the country and offer both academic and vocational placements to successful applicants.

Over the past year, the Corporate Applications Department in Information Technology (IT), in partnership with Human Resources, has been undertaking a project to modernize the website through which candidates submit their applications to non-employee programs. The process looks to replace the aging technology used in the existing solution with more modern innovations, and to streamline the process of applying to make it as easy as possible for the candidates.

“As part of the Digital Transformation Program, the new Non-Employee Program solution was crafted to achieve the core objectives of the Staffing Services Department,” said Ali Qahtani, head of the Human Resources (HR) and Payroll Division.

new application drives numbers

Since its initial go-live in February this year, the new web application has been used by its owners (the Staffing Services Department) to run six intakes, and the numbers of candidates submitted has increased significantly compared to previous years.

“The Staffing Services Department, in collaboration with IT and the HR Systems Support Department, is leveraging the digital solutions available in the company to build a more customer-centric HR that helps accelerate our recruitment process, creates a positive customer experience, and reinforces equity of recruitment opportunities,” said Deya A. Eljas, Staffing Services Department director.

By modernizing the user interface and application process, the web solution Aramco offers is now more capable of meeting the users’ expectations in terms of compatibility with mobile devices, ease of use, and integration with their digital lives. Since the average age of applicants to the program is just 18, staying current with such trends is extremely important for retaining applicant interest and upholding the company’s public image as a modern employer.

More than 65% of applicants to the non-employee programs use their mobile phones when submitting their applications. The project was able to leverage cutting-edge technology during the creation of the new solution, which allowed the user interfaces presented to the candidates to adapt to whatever device they are being run on, whether it’s a laptop, tablet, or mobile phone.

This, coupled with simplified process steps and a reduction in the amount of data a candidate needs to enter, has led to a much better experience for the user and resulted in an increased number of submitted candidates for each intake.

looking for further improvements

The team is now looking at what other improvements can be made to the system to improve their users’ experience even further. These users include not only candidates from outside the company but also those internal Aramco system users who have to process the more than 100,000 applications that are received each year. Aramco’s IT strategy includes a strong focus on “IR 4.0” (or the “Next Industrial Revolution”) and how emerging trends in computing technologies can be used to add extra efficiency to business processes. Areas such as mobile apps, artificial intelligence, robotic process automation, chat bots, and the integration of government data are already being adopted by applications, and the team is pioneering the implementation of such technology within the organization.

The apprenticeship and internship programs are Aramco’s largest recruitment stream and continuous improvement to the ways candidates apply is helping to realize the company’s goals of attracting and retaining the Kingdom’s top talent and developing a more effective workforce.

working from home

making lists, dressing for work, and finding the right space

by Dalia Darweesh

Saudi Aramco has implemented preventative measures and best practices to ensure the safety of its employees during this pandemic. With many employees currently working remotely, in addition to other companies throughout the Kingdom, and worldwide, having easy communications with supervisors and colleagues at home, in addition to maintaining consistent productivity levels are essential parts to our work lives.

time of uncertainty

This has presented us with a new concept and a lifestyle during this uncertain time. Balancing personal life and work life from home can become overwhelming — not necessarily being defined by the amount of work, but more from working in the same physical space in which we live. Therefore, maintaining a healthy work-personal balance is essential during this “new normal.”

Defining boundaries tend to get difficult in the comfort of our own homes. We catch ourselves being overwhelmed with many responsibilities, mainly caused by several methods that we unknowingly follow while working at home. It is also important to mention how easy it is to lose track of time and to find ourselves unmotivated, or unproductive enough to work from home.

how to find that balance

Start your day every morning by making a list for work tasks, and make a separate list for post-work plans. That way, you will equally balance work and personal plans, without having to fit them in during your working hours.

Avoiding multitasking between the lists will bring you ease during the day, helping you avoid the stress created by the impulse to finish a certain personal task.

Getting dressed for work is a very important step. Your brain will adjust to the time and to find ourselves unmotivated, or unproductive enough to work from home.

Mute all notifications if needed.

We tend to lose our focus not only because of distractions, but also because of not having enough energy throughout the day. Remember to keep healthy snacks close to your workstation, and dedicate a time and area for lunchtime. Allow yourself to take breaks — never sit for eight straight hours, and remember to take short breaks at least every hour for five or 10 minutes. Stretching, walking, or even having a call with a friend or a colleague are a few things that you can do during your break.

Finally, be realistic, and accept imperfections. Your day might not go as smoothly as you expected, but know that if you follow these tips, you will bring more ease into balancing your life at home.
Fire Protection hones path to excellence through Strategic Reformation Program

In 2015, Aramco’s fire protection efforts underwent a fundamental change and operational focus that set the course of its Fire Protection Department (FrPD). Since that time, FrPD has made significant progress in implementing a strategic program to enhance its response capabilities.

In 2019, those efforts were reviewed and honed to ensure a continued path of excellence was being followed.

continually pursuing safety and excellence

Five years ago, FrPD initiated its Strategic Program, which established a framework for achieving excellence in fire and rescue services. To do this, it focused on 10 areas, each representing a single category of related challenges to the department’s mission to “Save Lives and Protect Assets.”

The Strategic Program’s 10 elements were tailored to support a series of high-level strategies and specific actions that helped guide the future direction of the department.

Last year, FrPD reviewed and reassessed its strategic focus elements to ensure the department continues to direct FrPD resources and energies toward achieving its mission. This renewed look at the process also helped ensure that strategies and interventions remain relevant, achievable, and measurable.

a refocusing of efforts

FrPD manager Albadr M. Jannah led these efforts by assigning a high-level team to review the Strategic Program and identify areas where it could be strengthened through the restructuring and merging of certain elements. During the review, some of the identified strategies were found to have matured, achieving their intent and being embedded into FrPD’s day-to-day operations. These were moved aside to focus more on elements that need further development.

Other elements were merged, and still others that have become engraved in the department’s culture and embedded into its operations were removed from the plan.

Through this restructuring, the department has helped ensure focus elements remain evergreen, applicable, and assigned a high priority.

Additionally, it was recognized that certain focus elements would benefit through merging with others. Some elements that are engrained into the FrPD culture and embedded into operations have been removed from the strategic program.

Through this restructuring, we have ensured the focus elements are evergreen, applicable and assigned high priority.

Through this change, the Strategic Program was rebranded as the Strategic Reformation Program.

The team has therefore reduced the number of focus elements from 10 elements to six, and has assigned new champions to take a fresh look at programs, interventions, and initiatives for these newly reformed elements.

These six elements are directly linked to Operational Excellence processes, and associated effective tracking and performance measures have been developed accordingly.

Through routine meetings with champions, areas of synergy are highlighted as duplication of efforts have been eliminated. Furthermore, a steering committee has been formed to evaluate the momentum, to guide implementation, and to monitor and further refine changes that may change the program’s direction.

Badr M. Burshaid named PMI-KSA Chapter president

Badr M. Burshaid, manager of the Project Management Office Department (PMOD), has been elected the new president of the Project Management Institute (PMI)-KSA Chapter.

Aramco has enabled a number of professional institutions with support over the years, and the same is true with PMI-KSA. PMI is the world’s leading association for professionals who collaborate, share their lessons learned, and encourage the KSA Chapter to reach its true potential, and add value to all its members and the community it serves,” he said.

Burshaid’s engagement with PMI has evolved over the years. He is an executive member of the PMI Global Executive Council, a body of influential individuals representing 88 of the world’s most powerful companies who collaborate, share the latest and greatest of practices, and share the ambition to make a positive impact toward the profession. His relationship with PMI also extends to Sunil Prashara, PMI CEO who recently visited Dhahran for the first time, and was introduced to Aramco’s PMOD’s practices, facilities, and vision.

Burshaid’s successful dovetailing of organizations, complemented with his invested network of professionals and project credentials, made him the PMI-KSA’s members’ most popular candidate and winner for the term's presidency.

“I pledge my utmost efforts to motivate and encourage the KSA Chapter to reach its true potential, and add value to all its members and the community it serves,” he said.

PMI-KSA representatives advocate the mission of the institute and support the elevation of the project management profession, establishing synergies that add value to the company’s drive for excellence.

By leveraging the strategic alignment between PMOD and PMI, improvements in project efficiency and other tangible benefits will be realized by adopting global best practices and sharing leadership insights and lessons learned. The collaboration will also yield additional capabilities in personnel by utilizing PMI’s training and certification frameworks.

Burshaid noted that this collaboration extends into the Kingdom as a whole. “Together, with our new team in PMI-KSA, we will work to align the chapter’s vision to serve our communities in line with the Kingdom’s Vision 2030,” he said. “We will achieve this by providing necessary project management tools and resources to enable the production of a vibrant society, support a thriving economy, and mirror the ambition of our nation.

a fruitful history with PMI

Burshaid said he is motivated by a passion for project management and driven by the instilled value of citizenship.

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Recognizing innovation in safety

In line with our core safety value, Saudi Aramco continues to seek out new and innovative ways to improve the safety of its people, while also promoting recognition of those leading the way with implementing novel and sustainable safety solutions.

Administered by the Loss Prevention Department (LPD), the company’s Exceptional Safety Achievement Recognition Program (ESARP) was launched in 2006 to recognize those teams and individuals that have embraced innovation to implement practices that can have a positive effect on our safety performance and culture.

Describing the ESARP, Ghassan Abulfaraj, manager of LPD, states: “Saudi Aramco has always strived to be a global leader in the area of safety, and the ESARP reflects this dedication at both an individual and team level. This renowned program continues to go from strength to strength, and strives to encourage all members of our workforce to challenge the status quo, and always be looking for new and innovative ways to make our business safer.”

Husam Khaldi, a LPD engineer and lead administrator of the program, adds: “To qualify, an initiative needs to be the very best of the best — something that has improved the overall safety of the company and something that can be replicated in other areas of the business.”

In 2019, a record 120 nominations for recognition were received with each initiative undergoing a rigorous selection process by the LPD. Following an in-depth review, a total of 10 initiatives and 34 individuals were shortlisted for recognition.

One of these saw the launch of a competency-based contractor safety training facility in the Khursaniyah Gas Plant Department, with Madhi Al-Enazi, one of the individuals associated with the project, explaining that the idea came about from a recognition of the safety challenges faced in higher risk facilities.

“While contractors attend mandatory safety orientations before entering our facility, there are still challenges faced in terms of language barriers, educational ability, and classroom settings. To counter this, we implemented a competency-based education approach whereby we use materials and equipment destined for reclamation to construct simulations that promote hands-on safety training,” says Al-Enazi.

In another training focused project, the South Ghawar Producing Department developed a mothballed facility into a hands-on field training center that is now used to conduct in-depth safety courses, in both a classroom and practical setting.

Speaking to a more technically focused project, Abdulaziz A. Alshamrany, an inspection unit supervisor from the Yanbu’ Natural Gas Liquids Fractionation Department (YNGLFD), notes his team applied technical solutions that not only make conditions safer, but also amount to substantial cost savings for the business.

“We introduced coating systems that eliminate the need for scaffolding when performing grit blasting activities. Previous methods required high elevation scaffolding, with substantial cost to the business. However, by using new and improved processes we have eliminated risks associated with working at heights, while also improving our bottom line,” he said.

Chet E. Hankamer, a technical advisor at Berri Gas Plant, was recognized for his sulfur dioxide analyzer design modification that has been instrumental in resolving a plugging issue in the sulfur recovery unit continuous emissions monitoring system.

Hankamer says, “We are proud of the results — a design that eliminates the release of toxic gas or chronic tube plugging, while also allowing for reliable and accurate measurement of sulfur dioxide emissions for recovery unit operating scenarios. This process enhancement has resulted in significant cost savings already, with further cost savings estimated at $20 MM per year once this solution has been rolled out across the business.”

There were also a number of submissions that underline the company’s commitment to embracing the Fourth Industrial Revolution (IR 4.0). With the goal to promote a safer work environment, the Sea Water Injection Department has introduced a robotic technology that provides a safe alternative to coating and blasting activities in confined spaces.

Ali Al-Qarni, an Operational Excellence and Compliance group leader, explains: “The J-Bot is controlled remotely, has 360 degree rotation capabilities, and operates using a water jet technology to complete blasting and coating activities. By using the J-Bot to complete this task, we will remove virtually any risk associated with confined spaces during Turnaround and Inspection activities, while also eliminating the need for scaffolding and man entry into confined spaces.”

Mokhles Mezghani, a science specialist from the EXPEC Advanced Research Center, was also recognized for his willingness to embrace technology with the adoption of drone technology to conduct virtual field work.

Describing the project, he notes: “We often schedule field trips to collect data from geological outcrops and this comes with a number of challenges and potential safety risks — most notably with working at heights. To counter this, we adopted a new drone-based technology called GeoDrone, which collects and analyzes geological field data without exposing our geologists to potential safety risks.”

Saudi Aramco has always strived to be a global leader in the area of safety, and the ESARP reflects this dedication at both an individual and team level.

Ghassan Abulfaraj
manager, Loss Prevention Department
Solar Panels during Blackout Emergencies
Safaniyah Onshore Producing Department
Falah Al-Dhafiri
Khalid Otaibi
Mohammad Shammari
Abdulhadi Al-Zuabi
During blackouts, it is essential personnel retain visibility and access to windsocks and self-contained breathing apparatus. To ensure this, this department installed solar panels and LED lights that are explosion-proof and fully compatible with hazardous area classifications.

Contractor Safety Training Facility
Khursaniyah Gas Plant Department
Madhi Al-Enazi
Ali Al-Mutawah
Hayder Al-Salem
Employees implemented a competency-based safety education approach where they made use of materials and equipment destined for reclamation. Materials were used to construct safety simulations that promote hands-on training for contractors, while providing a practical orientation on the hazards associated with facilities.

Innovative Coating Systems
Yanbu’ NGL Fractionation Department
Abdulaziz A. Alshamrany
Abdullah A. Al-Zahrani
Introduced a coating system that eliminates the need for scaffold erection when performing grit blasting activities. In addition to cost savings, this eliminates risks associated with performing grit blasting at heights and falling hazards.

Disposal of Gas Chromatography Vials
Yanbu’ Refinery Department
Yasser H. Al-Harbi
Tareq M. Ajabnoor
The ‘Yanbu’ Refinery Laboratory uses over 15,000 gas chromatography sample vials each year. To reduce this, a process was introduced that allows for cleaning of vials using a needle connected to a flexible tube, which in turn is connected to a conical flask situated under a vacuum. This has reduced personnel exposure to hydrocarbons and chemical samples.

Safe Zone Technology
Western Region Terminal Department
Mabbar Y Al-Jaafari
Ganesh Smart
Mohammed Akram
Bouziane Khlouf
Mubarak Balharith
Rayed Al-Mutaiari
Hisham Alqurashi
Abdullah Eshaq
Construction often involves welding, which are potential sources of ignition. To counter this, a safe zone technology was introduced that provides a higher level of engineering control. This enables hot work to be carried out in a clean, safe and hazard free manner, without the need to shut down operations.

Practical Safety Training for Field Compliance Personnel
South Ghawar Producing Department
Rami A. Al-Otaibi
Mohammed S. Al-Muqbil
Fayiz O. Al-Yami
Wessam A. Busfar
Fahad A. Al-Hammadi
Developed a mothballed facility into a hands-on field training center. This has improved the safety training curriculum and provided hands-on practical training to ensure effective transfer of safety knowledge.

QA Program — Calibration of Gas Cylinders
Shedgum Gas Plant Department
Khalifah Al-Salem
Aref Al-Jarbua
Ziyad Al-Harth
Mohammed Al-Gassadi
To ensure accurate calibration of hydrogen sulfide, this department developed an assurance program mandating quality checks on all detection equipment. This initiative has enhanced the process in which H2S gas detection equipment is tested and calibrated across the company.

Automated Self-Cleaning Sampling System
Berri Gas Plant Department
Chet E. Hankamer
Developed a design for sulfur dioxide analyzers that resolves plugging. This design eliminates the release of toxic gas and tube plugging, while allowing for reliable and accurate measurement of emissions.

Safe Virtual Field Work Using GeoDrone Technology
EXPEC Advanced Research Center
Mokhles B. Mezghani
EXPEC ARC has adopted a drone-based technology called GeoDrone, which collects and analyzes geological field data without exposing geologists to the risks associated with field work.

J-BOT Internal Blasting and Coating Technology
Sea Water Injection Department
Ali Al-Qarni
Mohammed Al-Saqaer
Munner Al-Awdah
Salim Al-Dossary
Introduced a robotic technology to undertake coating and blasting activities in confined spaces. This reduces risks associated with turnaround and inspection activities, while eliminating the need for scaffolding and man entry into confined spaces.

Chet E. Hankamer
Developed a design for sulfur dioxide analyzers that resolves plugging. This design eliminates the release of toxic gas and tube plugging, while allowing for reliable and accurate measurement of emissions.
with Aramco support, KFUPM team wins second place in oil and gas exploration competition

by Anvar Al-Beauji and Hala Al-Wagdani

Dhahran — A team from King Fahd University of Petroleum and Minerals’ (KFUPM) College of Petroleum Engineering and Geosciences won second place and a $10,000 cash prize in the 2020 Imperial Barrel Award (IBA) global competition held virtually in June 13.

The competition included very strong teams from a number of reputable universities such as the French Institute of Petroleum (IFP), the University of Calgary, the University of Louisiana at Lafayette, Pennsylvania State University, and Suez University.

The team, which was headed by lead faculty adviser Dr. Khalid Al-Ramadan and mentored by Aramco’s Mahdi Abu Ali (who works in the company’s EXPEC Advanced Research Center), is comprised of Aramco sponsored petroleum engineering student Fawaz Al-Qahtani and three geoscience students — Arga Ignatius, Muhammed Naveed, and Mohammed Al-Dubaisi.

The cream rises to the top

In March, the KFUPM team competed against 12 teams from Saudi Arabia, Kuwait, United Arab Emirates, Oman, Lebanon, Iraq, and Jordan. Showcasing interdisciplinary excellence, the team won first place in the Middle East Regional semifinals. As a result, it qualified to represent Saudi Arabia and the Middle East Region at the finals, which featured 11 teams representing Europe, Asia Pacific, Canada, Latin America, and Africa regions, as well as six teams from the United States. The IEP team won the first place, with the KFUPM team coming in second place and earning the Selley Cup, a cash prize of $10,000, and medals for team members.

"This award is a testament and a world standard proof that KFUPM, with its strong curriculum and partnership with Aramco, is providing its students with the right skill set and applications of their learning to the industry," said Misfir A. AzZahrani, Aramco’s executive director of Exploration.

"The IBA equips future explorationists with the right skills, tools, and knowledge base to explore for oil and gas," AzZahrani added. "We in Aramco’s Exploration organization take pride in our involvement in the competition, and we see it in a perfect alignment with other Aramco activities contributing to our social responsibilities.

"Aramco has maintained its position among the top sponsors of the IBA program, providing not only financial support, but also high caliber young professional coordinators, mentors, and judges who demonstrate an unwavering commitment to invest in future talents.

about the IBA

The IBA started in 1976 at the Imperial College of London as part of its master of petroleum geosciences curriculum. In 2007, the American Association of Petroleum Geologists (AAPG) adopted the competition as a means of promoting excellence in exploration training.

The IBA is a platform where the industry, academia, and the AAPG collaborate to impart best practices in the evaluation of hydrocarbon opportunities using state-of-the-art analysis techniques and computer technologies in hydrocarbon exploration, petroleum engineering, economics, and risk analysis.

AAPG offers industry data sets from various basins around the world to participating universities. Teams analyze these data sets in an eight-week period of simulating real life experience of an oil and gas exploration cycle. Competing teams showcase their comprehensive analysis and present their findings to a panel of industry experts.

In 2010, the IBA started in the Middle East region with many notable achievement. This year, KFUPM’s win marks the fifth time a university from the Middle East region has ranked among the top three globally. The KFUPM team is the first team from the region to win second place.

young professionals engage in ‘thought accelerator program’

Dhahran — Young professionals from Petroleum Engineering and Development (PE&D) were at the forefront of the recently held Society of Petroleum Engineers (SPE-KSA) event, Endogenous 2020. The flagship event was designed to provide an integrated, immersive, and enhanced experience for young professionals and student outreach committees in SPE-KSA.

Endorsed by the SPE board of directors and chaired by Nasir K. Al-Naimi, Saudi Aramco vice president of PE&D, Endogenous is a “thought accelerator” program that transforms innovative ideas submitted by young professionals into projects that will help solve the energy industry’s strategic challenges.

Endogenous 2020 focused on four main strategic challenges: strategy and development, operation enhancement, the Fourth Industrial Revolution and digitization, and energy sustainability.

Industrial Revolution and digitization, and energy sustainability. With the support of subject matter experts and mentors, participants in 12 teams went through an intensive, eight-week program to transform creative ideas into SMART (specific, measurable, attainable, reliable, and time-bound) projects in the energy sector. In addition to developing participants’ technical capabilities, the program also enhanced their leadership and communication skills.

Endogenous, a ‘thought accelerator’ program

At the program finale, Mohammed S. Alnahas, chairperson of SPE-KSA Young Professionals and an engineer with the Reservoir Description and Simulation Department, welcomed everyone to the event. He also spoke on the importance of youth empowerment and implementing sustainable strategies that will enable the industry to achieve global prosperity. Seba S. Maghloth, chairperson of SPE-KSA Student Outreach and an engineer with the Petroleum Engineering Application Services Department followed Alnahas. Maghloth highlighted the importance of integration between the industry and academia that will enable innovation and digital transformation.

Next, finalists presented their innovative solutions in front of a panel of experienced technical experts, industry leaders, and academia from Saudi Aramco and King Fahd University of Petroleum and Minerals (KFUPM). Apart from the panel, the audience included Abdulaziz K. Al-Sufayan, SPE-KSA Executive Board chairman, and more than 250 engineers and students, coming from various companies and universities.

the winning teams

Team members Hala A. Sadeg, Fatima N. Marzoog, Osama M. Kheshaifaty, Al-Batool M. Hejaj, and Hiba K. Alnasar won first place in the Young Professionals category for their idea “Leveraging Emerging Technologies for Sustainable Water Handling.” The project showcased the economic and environmental benefits of utilizing acoustic wave separation and electro-water separation for water use in hydraulic fracturing operations.

Team members Ahmed Mahmoud, Mahmoud Elsayed, Hany Gamal, and Basil Al-sugair from KFUPM won first place in the Student category for their idea “Automation of the Total Organic Carbon Estimation Using Artificial Intelligence and Tools.” The project reduces the cost of quantifying total organic carbon in unconventional resources, while maintaining proper quality levels by utilizing artificial neural networks.

With a significant representation of professionals, experts, and judges, Saudi Aramco played a vital role in the success of the program — right from organizing Endogenous to hosting the event. Drawing on the success of the program, SPE-KSA aspirers to develop and integrate the program on a larger scale, as part of a global energy think tank.

Endogenous 2020 focused on four main strategic challenges: strategy and development, operation enhancement, the Fourth Industrial Revolution and digitization, and energy sustainability. The team, which was headed by lead faculty adviser Dr. Khalid Al-Ramadan and mentored by Aramco’s Mahdi Abu Ali (who works in the company’s EXPEC Advanced Research Center), is comprised of Aramco sponsored petroleum engineering student Fawaz Al-Qahtani and three geoscience students — Arga Ignatius, Muhammed Naveed, and Mohammed Al-Dubaisi.
**‘Abqaiq — Place with Amazing Parks’**

It is always a challenging experience to live in another country and adapt to its culture. However, my feelings towards Abqaiq were just the opposite, where living in such a diverse camp was an unforgettable and quite a friendly experience. The Abqaiq community holds a strong bond that could never be disentangled.

This friendly city of Abqaiq is more like one big family because people support and help each other religiously and we all feel secure and welcomed. Several parks in the camp provide a tranquility and peaceful environment with children play areas, and adults conversing with each other over barbecues are considered a norm during everyday life in this friendly city.

I recollect one large park in particular called the Deer Park, which was quite barren and has now drastically changed over the years. It is now surrounded with a white picket fence, blooming flower beds, trees, green grass, colorful playgrounds with slides covered in shade, new seating areas, and a well-lit park with new LED lights where one could easily take a walk at night.

Overall, there are feelings of camaraderie and trust, which hovers around neighborhoods. Abqaiq Recreation always has some sort of event or activities lined up for children and families, which is one of the ways to keep this community connected and bonded. Me and my friends always participated in those activities enthusiastically, and always look forward to winning and receiving gifts provided by Abqaiq Recreation, a gesture always welcomed and appreciated by all. Today, with the pandemic situation, it has become gloomy as we all have to stay home and stay safe. However, I pray that this pandemic ends soon and our spirits are lifted once again, so that the positive vibes full of energy fill the streets of this friendly city again.

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**‘Abqaiq — The Happening Place’**

I am currently 12 years old and recollect my memories when I moved to the friendly city of Abqaiq from Canada seven years ago. When I first arrived in Abqaiq, it was very late at night, and I didn’t notice much about my surroundings. I thought to myself that it must be all desert with cactus.

To my surprise, when I woke up very next morning and looked outside my bedroom window, I could not believe my eyes and ears when I saw huge trees, lush green grass, beautiful different colored flowers, and birds chirping around my house. I felt like I was dreaming as I could not see any desert around me, as that is what I expected.

It always has been a gratifying experience while living in Abqaiq with such a diverse community. I have made so many friends considering it is a friendly city, and I have met so many people with different cultures and backgrounds from around the world. I have learned so much about Saudi culture, especially during the Arabian Nights and the Winter Festival every year. I even experienced local traditional food, in addition to so many other types of food from around the globe, especially at the International Cuisine Festival. I remember there were times when there was some sort of major event or festival almost every month of the year.

One thing is for sure: One can never get bored in Abqaiq with so many activities, self-directed groups, movie theatre, and different sports facilities at your disposal for all ages, including (just to name a few) Junior Tennis Club, Golf, Bowling Alley, Swimming, Horse Riding, Youth Soccer Club, Karate Club, and the list goes on.

I always enjoyed playing for the Abqaiq youth soccer club, and really appreciated the coaches who volunteered to teach in order to be the Abqaiq soccer team and prepared us to play in tournaments with teams from other Aramco camps like ‘Udhhailiya, Ras Tanura, and Dhahran, and winning lots of medals and trophies.

Sometimes, I do visit and play golf with my dad at the driving range, or just go for a bike ride around the camp when the weather permits.

Living in Abqaiq has always been a memorable experience, and I am glad to be part of this amazing community. God bless Abqaiq!
Shared office environments require special attention to minimize exposure and reduce risks.

Surfaces and equipment need to be cleaned between users/shifts to keep the spread of infection low.

Wipe down items such as your computer, mouse, keyboard, office phone, desk, and chair between shifts.

Ensure all shared work spaces and items are routinely cleaned.
With the pandemic continuing to impact life around the world and require continuing measures to prevent COVID-19, the ‘Udhailiyah Community Services Division recently hosted its first-ever Virtual Appreciation Ceremony.

Hosted through Skype for Business, the ceremony brought 205 awardees together “virtually” live from six different locations. And at each location, attendees observed physical distancing guidelines.

The objective of this event was to recognize and appreciate the efforts of employees who have served the community by implementing COVID-19 mitigation measures. The new type of recognition ceremony not only was conducted in the safest manner possible, but it also encouraged everyone to further excel in their efforts to manage COVID-19 in future phases.

virtually appreciated
recognizing COVID-19 mitigation efforts in ‘Udhailiyah

In January 1984, Deutsche Schachtbau und Tiefohrgesselschaft (DST) Rig 301 was selected as the Onshore Workover’s 1983 Rig of the Year. The rig accumulated points in seven categories throughout 1983, ranging from workload to safety, and came in first out of 12 other rigs. The Rig-of-the-Year jacket was presented to all rig workers. (Photo: NSC)
Making lists, dressing for work, and finding the right space is critical to stay productive in your work remotely.

Find your way easily and access information about our services using the JHAH navigation app. To download the app, search "JHAH" on the Apple App store or Google Play. Available in Arabic and English on Apple App Store and Google Play.

The London skyline appears almost serene against a partly cloudy sky in this photo taken by Pia Kokkarinen, who was in the U.K. visiting last summer when she captured this image with her iPhone 10. Kokkarinen lives and works in Dhahran, where she is a Government Affairs staff adviser. Kokkarinen has been with the company 13 years.