

the arabian sun

September 11, 2019 | Vol. LXXIV, No. 35

a weekly Saudi Aramco publication for employees



HRH Prince Abdulaziz ibn Salman named Minister of Energy

Dhahran — On Sept. 7, a Royal Decree was issued appointing His Royal Highness Prince Abdulaziz ibn Salman ibn 'Abd Al-'Aziz Al Sa'ud as Minister of Energy for Saudi Arabia.

HRH the Minister has vast experience in the energy sector, having served as, among other roles, Minis-

ter of State for Energy Affairs, and is well known to many of Saudi Aramco's senior management.

"On behalf of the company, I have conveyed my congratulations and best wishes to the Minister and wish him every success in his new role," said Saudi Aramco president and

CEO Amin Nasser during his weekly call to management.

Nasser also said he would like to extend the company's sincere gratitude and appreciation to His Excellency Khalid A. Al-Falih for leading the Ministry of Energy through times of transformation.

World Energy Congress:
making oil and gas ultra-clean is an urgent priority

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reshaping the future of nonmetallics

Nonmetallic Innovation Center opens in the U.K.

see page 5





Amin Nasser and Yuan Jiajun are joined by Saudi Aramco management and officials from China's Zhoushan City government following a signing ceremony highlighting Zhoushan's support for incentivizing Saudi Aramco's greater investment in Zhejiang province's future downstream growth.

expanding in Downstream, Saudi Aramco strikes remarkable deal in the heart of China

Amin Nasser and Yuan Jiajun (standing) watch during a signing ceremony of an agreement that will expand investment in the Zhejiang Free Trade Zone in China.



Dhahran — Saudi Aramco signed a Memorandum of Understanding (MoU) last week with China's Zhejiang Free Trade Zone, in which the Zhoushan City government emphasized its support for incentivizing Saudi Aramco's greater investment in the Zhejiang province's future downstream growth.

The MoU was signed Thursday in conjunction with a visit to Saudi Aramco's headquarters in Dhahran by Yuan Jiajun, Governor of the Chinese province of Zhejiang.

Together with prior agreements signed during HRH Crown Prince Mohammed Bin Salman's visit to China in February this year, this MoU facilitates Saudi Aramco's planned acquisition of a 9% stake in the Zhejiang integrated refinery and petrochemical complex.

It will also include a long-term crude oil supply agreement and the ability to utilize

Zhejiang Petrochemical's large crude oil storage facility to serve its customers in Asia. These activities reflect the company's strategy to expand its presence in the Chinese energy sector.

potential opportunities for investment

The agreement solidifies Saudi Aramco's participation in the 400,000 barrels per day refinery from Phase III of the Zhoushan Petrochemical Greenfield project, and also allows the parties to evaluate potential opportunities for investment in other parts of the value chain.

These may include refining and petrochemical production, storage and trade of crude oil and natural gas, retail, as well as distribution of oil products within the Zhejiang Free Trade Zone.

your voice

keeping loyalty programs in check



by Ahmad A. Hadab
Dammam
Ahmad.Hadab@aramco.com

A few months ago, the pharmacy near my house was reopened after closing for about a month for an expansion and complete redesign of the store's layout, as well as a rebranding of the business.

The shiny new white shelves now contain a wider selection of health care products such as beauty, nutrition, fitness, health supplements, baby and mother care, baby strollers and car seats, and home safety products — in addition to the usual medical prescription products.

According to a staff member working there, the management's strategic team did an analysis on customer purchasing history records. The analysis revealed that most of the customers have been loyal customers for around 10 years.

Over all that time, these customers have been coming back looking for medicines and health care products for themselves, their children, spouses, and sometimes their older parents, as well. Based on these facts, the company board agreed to invest in introducing more services and products.

Around the world, many businesses rely

on the historical data of their customers' purchasing behavior to decide on various business decisions. One of the best and most cost-effective ways to gather this data is by utilizing customer loyalty programs.

A customer loyalty or reward program is a marketing program offered by a company to customers who frequently make purchases. It is a marketing tool used by all types of businesses to motivate customers to continue to shop at or use the services of businesses associated with each program. By accumulating points, customers are usually rewarded with discounts, or special offers.

Today, loyalty programs are used by many businesses. A recent study showed that on average, a household has memberships in nine different loyalty programs. Looking in my pocket, I discovered that I am already a member of 15 different loyalty programs.

Although the use of consumer shopping information seems like a great tool to further enhance consumer satisfaction, there have been rising concerns regarding personal privacy around loyalty programs —

with customers a potential target for email scammers, hackers, identity theft, and credit card information.

For this reason, there are some steps that can help mitigate risks and ensure loyalty programs remain in balance.

First, before signing up to any loyalty program, make sure you read the end-user agreement to identify the ways your data will be used and how it will be secured. What are you going to share, and with whom?

If signing in requires an email address, use a secondary email account you have created for joining such programs and not the one you use for your personal social media accounts. Also, use a different password that is not identical to your other passwords.

Finally, if the loyalty program has an app that you need to download and use on your smartphone, make sure your smartphone is properly protected, and also check the app security authorization to know exactly what you are sharing with the app.

meeting world expectations for sustainable energy

World Energy Congress: ultra-clean oil and gas will unlock incredible industry future



Delivering yesterday's keynote address on day two at the 24th triennial World Energy Congress in Abu Dhabi, Saudi Aramco president and CEO Amin Nasser advises thousands of energy specialists — gathered from across the world — that it is critical for the oil and gas industry to come together to meet society's demand for ultra-clean energy.

by Janet Pinheiro

Abu Dhabi — Deliver on the world's demand for ultra-clean energy, and there is no limit to our potential was the inspiring call to action made by Saudi Aramco president and CEO Amin Nasser on Tuesday to the world's oil and gas industry.

"We have heard, loud and clear, the call from stakeholders and society at large for cleaner energy," Nasser said during his keynote address to the more than 15,000 energy stakeholders from approximately 150 countries gathered at the 24th triennial World Energy Congress. "The world faces an incredible climate challenge, and we need a bold response to match."

Taking the opportunity to lead international dialogue on vital issues facing the energy sector, he said society's expectation for sustainable energy had overtaken the four historical competitive advantages en-

joyed by the oil and gas industry: resource abundance, safe production, reliable supply, and affordability.

"Quite simply, our products need to be much cleaner," Nasser said, adding that there is "a massive task ahead if we are to meet society's expectations."

Noting the significant clean energy progress by oil and gas companies within their gates — particularly in terms of conventional emissions and carbon management — he petitioned the industry to embrace a "mission-critical" transformative role beyond its gates.

"In my view, that means the entire industry must come together around a new mission beyond our gates of making oil and gas much cleaner across the full spectrum of end-use applications," said Nasser.

"Whatever the framework, it needs to be a comprehensive, industry-led effort, it

needs to move fast, and it must articulate clear, long-term carbon management strategies that give our stakeholders sufficient confidence in our programs," he advised.

policy miscalculations costing energy transition

Describing oil and gas as a global industry requiring massive investment, Nasser said energy security was threatened by governments adopting energy policies lacking consideration of global energy complexities, oil and gas business's long-term nature, and the need for orderly energy transitions.

While supporting the essential and growing contribution of alternatives in meeting rising global energy demand, the CEO highlighted widespread industry concern at government policies that "seem to assume there are quick and easy answers to the many challenges alternatives face, policies that also seem to assume rapid electrification of transport, overlooking the issue of clean electricity and a life-cycle measurement of greenhouse gas emissions, and policies that will cost tens of trillions of dollars, with the burden often falling on those who can least afford it."

"The world can no longer afford such policy miscalculations," he warned. "We need regulators to be policy holistic and technology agnostic."

sustainable energy future

Commenting that roughly 1 billion people on the planet still lack access to reliable electricity, with population growth exploding (particularly in sub-Saharan Africa), he added: "Acute energy poverty will remain a huge challenge. It would be inhumane to ignore the issue, wish it away, or dismiss our industry's central role in tackling it."

Goal 7 of the 17 "Sustainable Development Goals" — a collection of global goals set by the United Nations General Assembly in 2015 for the year 2030 — is "Affordable and Clean Energy."

World Energy Congress panel mulls a hydrogen future

Aqil Jamal, chief technologist for Carbon Management at Saudi Aramco's Research and Development Center (R&DC), participated in an international panel discussion on "The Role of Hydrogen in a Sustainable and Secure Future."

The panel included global energy leaders and experts on hydrogen, and the discussion centered on potential technical and commercial challenges in driving the emerging hydrogen-based mobility and power generation markets forward, and exploring the dynamics around the hydrogen supply chain linking potential hydrogen producing and consuming countries.

Jamal explained to the audience that, in a way, as a fully integrated energy and chemicals company, Saudi Aramco is already a major supplier of hydrogen in the form of hydrocarbons.

"We recently concluded a comprehensive assessment of the overall hydrogen value chain and found that the leveraging the existing global hydrocarbon infrastructure and transport network is the most practical way to jump start a global hydrogen market," he said.

Hydrocarbons transported across the globe can act as hydrogen carriers until



Aqil Jamal participates on an international panel discussing hydrogen's promising energy future.



long-distance hydrogen transport becomes feasible. Hydrogen is then produced from these hydrocarbons at the target market, with an option to capture CO₂ and transport it back for utilization and/or storage using the same transport network.

Questioned on why Saudi Aramco was looking at hydrogen for mobility, Jamal said more than 50% of oil goes into the transport sector globally, making it an important sector for the company.

He concluded by describing Saudi Aramco's research efforts in converting oil to

hydrogen while capturing the CO₂ in an efficient and cost-effective manner, and highlighted a novel membrane reformer technology under development at the R&DC in Dhahran.

a first for the Middle East

Hosted for the first time in the Middle East, the four-day congress was held Sept 9-12 at Abu Dhabi's national exhibition center under the patronage of United Arab Emirates President HH Sheikh Khalifa Bin Zayed Al Nahyan.



HRH Prince Abdulaziz ibn Salman ibn 'Abd Al-'Aziz Al Sa'ud speaks at the 24th World Energy Congress in Abu Dhabi.

a welcoming presence at Saudi Arabia's Energy Exhibit

Welcoming hospitality is a famous hallmark of Saudi culture, and at the 24th World Energy Congress, the Kingdom of Saudi Arabia generously hosted the largest stand.

Titled "Saudi Arabia's Energy Exhibit," the curved white lines of the 1,400 square meter pavilion formed an elegant composition of understated minimalism, telling a modern story of the country's sophisticated energy industry, and highlighting the important work being done to transform the Kingdom in a sustainable way.

Newly appointed Saudi Arabia Minister of Energy, HRH Prince Abdulaziz ibn Salman ibn 'Abd Al-'Aziz Al Sa'ud, visited the pavilion on Day 1 of the congress.

Later, while being interviewed on stage by RBC Capital Markets managing director Helima Croft, Prince Abdulaziz urged the audience to visit the pavilion's display of the Kingdom's new and improved energy mix, saying Saudi Arabia was proud of the energy solutions it was bringing, and the technologies it was deploying.

Saudi Aramco representation

Traveling Exhibits representative Faisal A. Alissa said the pavilion presented the work of more than 27 organizations from the energy sector, including an introduction to some of Saudi Aramco's diverse initiatives.

"Some of the initiatives presented by Saudi Aramco include its new industry initiatives such as the King Salman Energy Park (SPARK), the International Maritime Industries, iktva, Converge®, flaring minimization, and biodiversity," he said.

With utmost professionalism, Kingdom and company representatives welcomed visitors with warm greetings, Arabic coffee and dates, and impeccably mannered farewells.



Saudi Aramco participated in an elegant pavilion hosted by the Kingdom of Saudi Arabia at this week's World Energy Congress, which for the first time in its 95-year history, was held in the Middle East and dominated by an atmosphere of global energy transition. Here, Faisal A. Alissa answers a question from a visitor.

EAGE 2019: embracing change and emerging technologies

Dhahran — Saudi Aramco played a significant role at the 81st European Association of Geoscientists and Engineers (EAGE) Conference and Exhibition held recently in London.

EAGE brings together geoscientists and engineers to discuss the latest developments across a wide range of geophysics and geology themes and activities. More than 6,000 industry professionals attended this year's conference.

In addition to being a main sponsor of the event, Saudi Aramco's participation included chairing and co-chairing five workshops, along with the contribution of a number of presentations and posters from more than 80 delegates representing Exploration, Drilling and Workover, EXPEC ARC, and Unconventional Resources.

The technical program focused on core themes, including "New and Emerging Basins to Mature Basins," the "Integration of Geophysics and Geology," and "From Petroleum Systems to Traps and Reservoirs," as well as the Fourth Industrial Revolution, machine learning, and artificial intelligence (AI).

delivering low carbon energy needs

Saudi Aramco has initiated a carbon capture pilot project within the Kingdom of Saudi Arabia. The goal of this project is to reduce greenhouse gas emissions into the atmosphere by storing carbon dioxide emissions deep within the earth's crust.

By doing so, Saudi Arabia will lower the Kingdom's carbon footprint. The Saudi Aramco Exploration Organization has identified several subsurface geological reservoirs using state-of-the-art exploration technologies. These reservoirs are suitable candidates to sequester carbon dioxide.

Rawan N. Al-Zayer, a geophysicist with Saudi Aramco, emphasized how technology advancements will help meet low carbon energy needs globally.

"It is the blessing of ample resources in Saudi Aramco that enable us to be pioneers not only in the oil and gas industry, but in the energy industry as a whole," Al-Zayer said, noting that in accordance with the increase in demand globally for clean energy, the company is venturing into alternative energy solutions that are a mix of hydrocar-



Geophysical consultant Turki Al-Rowaili explains Spicerack, an autonomous underwater vehicle (AUV) to attendees of the 81st European Association of Geoscientists and Engineers Conference and Exhibition. Each AUV records seismic data via a hydrophone and a three-component geophone. The engine and fans are located at the back. It can operate in water depths from 300 m to 3,000 m. The ultimate goal of AUVs is to increase the productivity and lower the cost of collecting seismic data in the field.

bons and renewables.

"This is where we fit in as young professionals — to take up the mantle of adapting and integrating new technology such as automation and artificial intelligence to augment our daily operations," said Al-Zayer.

reservoir computing with machine learning

One of the more prominent workshops at the conference addressed the science of reservoir computing with machine learning, demonstrating state-of-the-art neural computing, and its applicability to reservoir applications.

The workshop combined a theoretical introduction to the concept of learning from data and AI applicability in the context of geoscience — typical examples of AI applications to reservoir modeling problems — and a practical hands-on exercise illustrating machine learning capability with real reservoir data. The workshop, co-chaired by Abdulrahman M. Al-Moqbel, a Saudi Aramco geophysical specialist, attracted more than 150 professionals.

Another workshop, chaired by geophys-

ical consultant Bahaeldin O. Kamel, highlighted the optimal processing workflows that can improve the quality of multicomponent seismic data. The workshop focused on processing workflows that can be optimized for specific objectives, such as fractures characterization and the accurate estimation of reservoir properties.

Norman Falcon Award

Simon A. Stewart, Northern Area chief

explorationist with Saudi Aramco, was awarded the Norman Falcon Award for his paper titled "Hormuz Salt Distribution and Influence on Structural Style in Northeast Saudi Arabia."

The award is presented to the author of the best paper published in the peer-reviewed international journal *Petroleum Geoscience* that represents a significant contribution to one or more of the EAGE disciplines.

Stewart's paper used deep seismic reflection imaging to map out the distribution of rock formations that, although deeper than drilled wells, are important in controlling the shape of the oil fields in northeast Saudi Arabia. The award consists of a certificate, as well as a specially bound edition of the issue in which the paper appears.

Conrad Schlumberger Award

Andrey V. Bakulin, geophysical consultant with EXPEC ARC, became the first Saudi Aramco employee selected to receive the coveted Conrad Schlumberger Award, which is presented to an EAGE member who has made an outstanding contribution over a period of time to the scientific and technical advancement of geoscience — particularly geophysics.

Bakulin has worked in many areas of geophysics, with a particular emphasis on solving problems that impact data quality and efficiency. This technical achievement award is a recognition of EXPEC ARC becoming the preeminent center for subsurface technology research and development.



Rawan N. Al-Zayer, a geophysicist, showcases a 3-D demo simulation of drilling operations at a rig site. The demonstration showed all drilling equipment and processes starting from the wellhead all the way down to the subsurface pipes.

YLAB initiative seeks to capture the accomplishments of employees



Dhahran — Saudi Aramco's Young Leaders Advisory Board (YLAB) is seeking to film employees telling the story of their role with the company, and any amazing contributions they make beyond the workplace.

The board, comprised of younger employees, wants to record and share some of the captivating work adventures of our

employees as they go about contributing each working shift toward discovering, recovering, processing, and shipping massive amounts of hydrocarbons.

Sarah Shabib, a YLAB coordinator, said the goal is to shed light on some of the amazing work done by our multinational team of more than 70,000 people.

"Saudi Aramco's employees operate and maintain some of the world's most significant facilities, drive across deserts, dive into the oceans, fly in the skies, and keep our fingers on the pulse of the world's markets and issues," said Shabib.

"We are looking for stories such as technicians monitoring pipelines with pressures above 5,000 psi, pilots taking employees to our platforms, divers repairing pipelines under the sea, and firefighters ensuring the safety of our employees," she said.

adventures in line with our values

The YLAB team is searching for employees who, through their work or beyond their workplace, live Saudi Aramco's corporate values of citizenship, safety, accountability, excellence, and integrity.

"We want people who go beyond the call of duty, the work adventures of people with unusual jobs, and those with impressive achievements beyond the workplace," said YLAB member Abdulgader Alalli.

Alalli added that the initiative would also

feature more personal aspects.

"The company has people doing amazing charity work on their own time and others who dedicate their personal hours on fascinating hobbies."

how to get your story told

For YLAB to film your story, you can nominate yourself — or one or more of your inspiring work colleagues — through the application link on YLAB's ShareK page <http://ylab.aramco.com.sa>.

YLAB plans to communicate the filmed stories within the company.

There is no specific closing date for applications, and the first set of videos is planned for production during September and October.

Founded in 2011, YLAB serves as a bridge between Saudi Aramco's management and the company's younger workers. Board members voluntarily serve for 18 months in addition to their normal work roles.

For more information on YLAB, visit: <http://ylab.aramco.com.sa> or email YLAB@exchange.aramco.com.sa.

TWI, Saudi Aramco and ADNOC open Nonmetallic Innovation Center in the UK

Cambridge, England — TWI Ltd. (TWI), Saudi Aramco Technologies Company (AramcoTech), and the Abu Dhabi National Oil Company (ADNOC) on Monday officially opened the Nonmetallic Innovation Center (NIC) — a research center focused on innovation and advancing the use of nonmetallic industrial applications.

The launch of NIC will play an important role in advancing nonmetallic solutions across industries.

The center is based at TWI in Cambridge and will develop technologies for new non-metallic pipeline solutions.

Nonmetallics are increasingly deployed across multiple industries including oil and gas, construction, automotive, packaging and renewable. They combine several benefits as they are corrosion-resistant, lightweight and durable.

“Nonmetallic materials, especially in the oil and gas industry, are key to maintaining the integrity and safe and reliable operation of our facilities and providing protection from corrosion damage,” said Ahmad O. Al-Khowaiter, chief technology officer with Saudi Aramco.

Al-Khowaiter told attendees at the inauguration that the cost of corrosion across all sectors worldwide was estimated the costs due to maintenance, repairs, and shutdowns are approximately \$2.5 trillion.

“Such risks and costs can be significantly reduced by using corrosion management best practices, including the deployment of nonmetallic materials where applicable. These materials have demonstrated outstanding corrosion resistance due their chemical nature that does not support the electrochemical processes driving corrosion,” he noted.

“By bringing together TWI, AramcoTech, and ADNOC to set up NIC, we can be assured of producing industry-led research for the complete supply chain from research and development to production,” said NIC program director Mihalis Kazilas.

“NIC combines academia and industry so that there is a continuous chain between universities producing high-level research and industries that require academic-level analysis for real world applications,” Kazilas said.

‘important initiative’

“We are delighted to be part of this important initiative,” said Ahmad O. Al-Khowaiter, chief technology officer with Saudi Aramco.

“The center will promote the utilization



During the inauguration of the Nonmetallic Innovation Center in Cambridge, Ahmad O. Al-Khowaiter noted that the facility will help advance tools to combat the approximately \$2.5 trillion it costs to treat pipelines and equipment across the oil and gas industry. (Photos: Ben Fisher)



A TWI-built high-pressure facility is part of the Nonmetallic Innovation Center in Cambridge. (Photo: TWI Ltd.)

of advanced polymeric materials by conducting research that addresses challenges in their development and use,” Al-Khowaiter said. “This initiative is part of Saudi Aramco’s efforts to leverage our extensive hydrocarbon resources and technology development capabilities to deliver solutions that meet the world’s needs in a sustainable way.”

Dr. Alan Nelson, chief technology officer with ADNOC, said, “Nonmetallic solutions are continuing to reshape industries around the world.

“From cost-efficient and durable pipelines to lightweight car designs, this technology has abundant science and engineering uses. In line with our Oil and Gas 4.0 mission, ADNOC is dedicated to leading and advancing this technology. Accelerating growth in new nonmetallic applications also creates new markets for crude and refined products. We are excited to partner with TWI and AramcoTech to help drive cutting-edge nonmetallic solutions for the oil and gas industry and beyond,” Nelson said.

Al-Khowaiter called for closer interactions with manufacturers and research centers to expand collaborations — inviting key players in the area to the join the center as research sponsors.

The inauguration also included a panel discussion on the “Future of Plastic and Composite Pipeline Technologies” with representatives from TWI, AramcoTech, ADNOC, Baker Hughes, SoluForce and Future Pipe Industries.

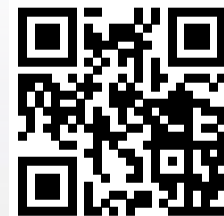
NIC is a part of the Private Technology Innovation Partnerships initiative at TWI, working to address technology priorities, fostering open innovation, and commercialization of technology with sponsors and supply chain.

The center conducts a research program that covers Technology Readiness Levels 1 through 9, with partners being drawn from leading academic institutions, research centers, and composite material manufacturers.



This initiative is part of Saudi Aramco’s efforts to leverage our extensive hydrocarbon resources and technology development capabilities to deliver solutions that meet the world’s needs in a sustainable way.

— Ahmad O. Al-Khowaiter





spreading a culture of reading

recreational libraries at the center of learning for 73 years

by *Maytham Al-Musawi*
(Photos: Ding/MPD)

Dhahran — They are knowledge stations situated across the company. Once you enter any one of them, a visitor encounters a sea of books, with the sailors being the employees and their family members, coming from various backgrounds and different ages.

What is common among them, however, is a passion for knowledge and an eagerness to discover what the books have in store for them.

The story of Saudi Aramco recreational libraries goes back to the beginnings of the company itself. In 1946, the first recreational library opened in the heart of the residential community of Dhahran. Since then, the expansion of knowledge and awareness took root wherever the company's employees had a presence. There are now 16 recreational libraries that make more than 260,000 books available to visitors.

Far from the company's main communities, there are recreational libraries in remote locations such as the Empty Quarter in Shaybah, and near the east coast at Manifa, where employees are provided with an opportunity to enlighten themselves during off-work hours while away from families and friends.

vessels of knowledge

Since the origins of the company, Saudi Aramco has had a commitment to make these vessels of knowledge and awareness accessible to employees and their families.

"Our employees come from all parts of the world," says Julie Scott, who is with the library in Dhahran. "They are highly educated people and the company realized early on the need for libraries."

In addition to the Arabic and English

books stocking the shelves, the recreational libraries offer Saudi Aramco publications and a number of dailies. They also seek to serve everyone, providing various audio and visual materials.

In addition to being a place for those who love knowledge and education, these libraries are also an optimal haven for students who pack study rooms throughout the scholastic year as they find calm that enables them to concentrate and take advantage of knowledge resources they need for research.

a world of movement and interaction

Although one might have the first impression that Saudi Aramco recreational libraries are static, a closer look can reveal a lot of activity and change.

At the entrance, one can find a place set aside for new books procured by the library every month. These books are not exclusively selected by the library staff, as all visitors can suggest books that they want to see.

The libraries also include book clubs where reading lovers gather for knowledge and fun.

Activities held by the libraries through the year are a link between them and the



In addition to the Arabic and English books stocking the shelves, the recreational libraries offer Saudi Aramco publications and a number of dailies and magazines.

community.

"We use Library Week to promote libraries and reading," said Turki Hazza, Dhahran Recreational Library coordinator. "We also hold special activities at our libraries, and go to various places in the company to highlight our access to information."

Every Saudi Aramco library has two advisory committees that include a number of English and Arabic readers who give advice regarding the selection of books and contribute to the activities held by the library. The libraries also welcome volunteers — both employees and dependents.

promoting love for reading among young generations

The employees who work at the recreational libraries dedicate a great deal of their efforts to instilling knowledge among youth, holding reading programs for children from various ages throughout the year and participating in the back-to-school programs.

Meirna M. Rizk from the Najmah Library in Ras Tanura said these activities are effective communication channels with families.

"When the child comes here, they come with their family, and so everybody benefits from the library," said Rizk.



Recreational libraries mark Library Week every year, organizing book pavilions at various locations in the community. (Photo: Yara Ziyad/MPD)



Recreational libraries are the optimal haven for students within the company. They pack study rooms throughout the scholastic year as the calm they find there helps them concentrate while having access to knowledge resources.



By attracting children, recreational libraries instill the love for reading of the libraries.



Yasmine Ahmad participates in a storytelling event held recently in the Dhahran main camp library. Story telling events are a crucial part of the programs organized by the recreational libraries in Saudi Aramco, as they take place on a weekly basis to encourage reading among the young generations.

Her colleague Fatimah A. Al-Ansari noted that activities are designed to attract children to books by highlighting the benefits they offer.

In addition to enjoying the activities held by the libraries, children are also engaged in organizing them.

"I was eight when I first visited the library to make a show to children about animals," said Mohammed Al-Shammari, 15, who recently made a similar show.

pleasure at work and an interesting path

Although work at recreational libraries involves a lot of effort in indexing, classifying, selecting and distributing books, holding library activities, and interacting with visitors, library staff say they enjoy their work.

"The work experience here is great," said Noor K. Al-Olaig, who is with the Najmah Library in Ras Tanura. "I have acquired great expertise in dealing with customers."

"I love work here as it allows us to deal with various cultures and people of different ages," said Noora A. Al-Kaabi, who works in Dhahran. "It also involves a lot of reading."

"When parents tell us that their children wish to return to the library, we feel happy and consider that a great achievement."



In addition to traditional services such as offering books for checkout and activities including story time, the Saudi Aramco recreational libraries also sponsor events like the annual back-to-school event held Aug. 23 and 24 in Dhahran.

“When the child comes here, they come with their family, and so everybody benefits from the library.

— Mirna Rizk



among new generations and attract all family members to make use



Muhammad Al-Shammari, 15, delivers an interesting show to children about animals at the Dhahran Recreational Library.



New books obtained by the recreational libraries every month encourage more activity.

safety first

SMS implementation — a system that works

by Gregory Wilson and Eli Viloria

Working in the oil and gas industry inherently involves risk. Saudi Aramco understands this and continues to place a strong emphasis on safe operations.

But how does a large and complex organization systematically identify and manage its risks? How do we achieve and maintain excellence in safety performance?

the beginning

In 2004, Saudi Aramco replaced its Corporate Loss Prevention Manual with the Safety Management System (SMS), ushering in an era of safety excellence.

SMSs were introduced into the oil and gas industry following the North Sea Piper Alpha disaster in which 167 workers lost their lives when an oil rig caught fire. This disaster demonstrated the need for a defined system aimed at controlling risk and directing safety efforts within the industry as a whole.

An SMS provides a blueprint for a company to define and deploy its safety vision, policies, procedures, and standards to ensure effective implementation and proper accountability for safety performance.

a defined focus on safety

An SMS focuses on maximizing opportunities to improve safety. Regardless of the company, or even the industry, an SMS is structured to provide an internal framework that defines elements, processes, and procedures, which when implemented and maintained, result in effective safety performance across an organization.

To work efficiently, it is critical that an SMS has a commitment from management and a personal commitment from all employees to achieve safety performance goals. Its intent needs to be clearly understood, and this is achieved through a comprehensive and transparent practice of open communication that is not punitive.

benefits of an SMS

A fully functional SMS has multiple benefits, which include improving safety by preventing incidents and losses through proper risk control, providing increased efficiency and reduced costs, and improving the overall morale of a workforce. Therefore, having a functional SMS in place is an important way of improving



A core element of Saudi Aramco's Safety Management System focuses on asset integrity, which describes the life cycle management processes for the integrity of the company's varied assets.

a company's bottom line.

Saudi Aramco's SMS manual is divided into 11 elements. Each element describes a set of expectations that must be met by company organizations. The role of management in leading the implementation effort is central throughout the SMS manual, and all of the elements were developed to create an effective, comprehensive system that encompasses the company's operations.

To further improve implementation effectiveness, the Loss Prevention Department (LPD) partners with company organizations to ensure that their own SMS manuals are effectively suited for their specific operations.

SMS implementation

LPD has played an integral role in the implementation of Saudi Aramco's SMS. It supports individual proponent organizations in the design, implementation, assessment, and continuous improvement of their respective manuals.

This is primarily achieved through the provision of effective and continuous daily field support and engagement to ensure that timely guidance is provided by LPD to all company organizations.

In addition, the Loss Prevention Compliance Review process helps

proponents identify areas of strength and weakness in their own SMS manuals, highlights areas for improvement, and provides support to enhance the system. Other efforts include training and consulting support on specific topics for both management and SMS process owners. The result has been a measurable, quantifiable, and

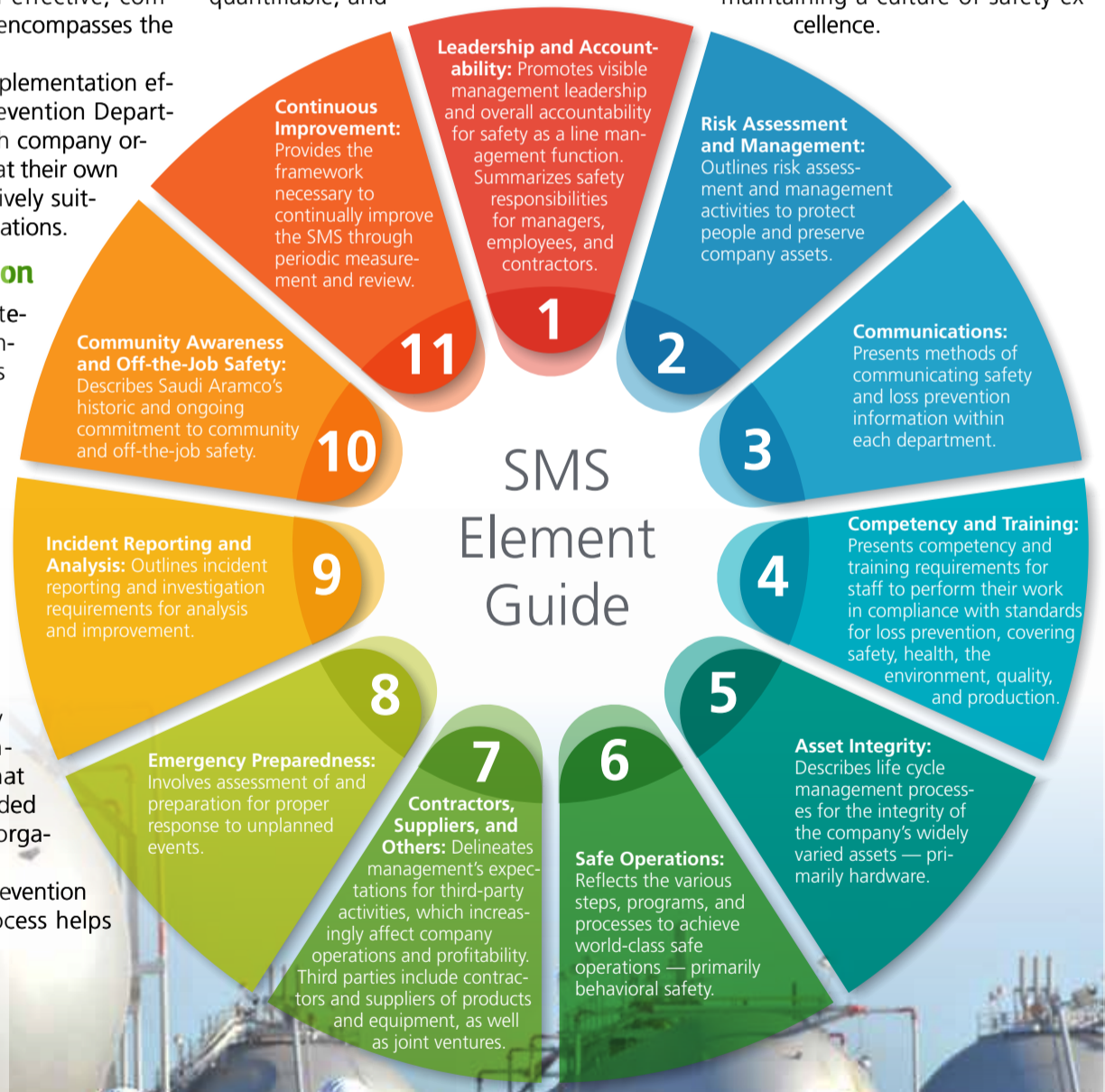
continuous improvement in safety performance.

future challenges

Saudi Aramco has successfully implemented its SMS across the company, but there are still a number of challenges and opportunities ahead. LPD will continue working with organizations facing challenges and focus on process safety enhancements, as well as increasing individual and organizational capabilities to identify, manage, and mitigate operational risks that the company faces on a daily basis.

Saudi Aramco has a track record of consistent and continuous improvement in its safety performance and practices, and has made great strides in managing its operational risks.

Fundamentally, this has been the result of the company's drive to embrace and integrate the SMS philosophy through every facet of the organization. The SMS frames Saudi Aramco's approach to safety management, and remains the central feature in overcoming challenges while maintaining a culture of safety excellence.



A core element of Saudi Aramco's Safety Management System focuses on safe operations, which reflects the various steps, programs, and processes to achieve world-class safe operations — primarily behavioral safety.

‘Lean and mean’

creating better outcomes through the Lean Six Sigma journey

by Abeer O. Aljabr and Ahmad A. Alghahaity

When you earn a large sum of money, do you want to spend it all or keep increasing it?

When you learn how to use a tool, do you want to stay at the same level or improve and become an expert?

When you lose weight, do you want to sustain it or go back to your previous weight?

But these are never easy! We can reach that weight goal at a specific time, invest “some” of that money, or we can learn the basics of a tool, but it’s never easy to sustain that accomplishment and keep improving on it. The same happens in organizations all across the world.

In today’s world, businesses that can innovate and improve thrive. Those clinging to old practices, however, eventually die out. To stay ahead of the competition, we should focus on continuous improvement, constantly re-evaluate business processes, find improvements, and implement them.

It is a blessing to be with a disciplined team in a collaborative culture working on vibrant projects. Working in such an environment with a continuous improvement mindset allows people to grow personally and within the entity, which leads to greater performance and therefore greater results. Yet, many concerns are not mentioned when continuous improvement is brought up — mainly how to build and sustain this improvement in processes, organizations, and even people themselves.

To tackle these concerns, Saudi Aramco has delegated this objective to a team since 2004, and that team has been delivering results since. Fortunately, there are many tools and techniques to improvement and to assure continuity. One of the top methodologies is the Lean Six Sigma (LSS) approach. LSS is a process improvement methodology designed to eliminate problems, remove waste and inefficiency, and improve working conditions to provide a better and customized result to the customer’s needs.

team-oriented approach

LSS is a team-oriented approach that



Participants in the recent Lean Six Sigma (LSS) workshop engage in discussions prior to taking the LSS Yellow Belt test that will qualify them to start working on their respective projects.

Lean Six Sigma is a process improvement methodology designed to eliminate problems, remove waste and inefficiency, and improve working conditions to provide a better and customized result.

has proven results in maximizing efficiency and dramatically improving profitability for businesses all around the world. The main objectives of LSS are to maximize process performance and improve customer satisfaction.

The processes improved by LSS become standardized and data oriented, while also bringing about a continuous improvement culture within the team, (Fig. 1) LSS uses a systematic approach to resolve problems that impact the efficiency of any process. This approach consists of five phases — define, measure, analyze, improve, and control, (Fig. 2). But then, who is responsible for applying this methodology at Saudi Aramco?

The LSS group falls under the Process Optimization and Change Management Division (PO&CMD) in the Organization Consulting Department (OCD). Part of its mission is to be the focal point of OCD’s LSS program to provide training and mentoring to support and develop candidates around Saudi Aramco via selected “real-time” projects that designate them a Lean, Yellow Belt, Green Belt, or Black Belt certification upon the completion of their projects. As of now, the team has successfully complet-

ed more than 500 projects across all admin areas.

‘developing innovative, holistic, and sustainable solutions’

“We have the right expertise to support Saudi Aramco in providing consulting services to positively impact organizational effectiveness, efficiency, and business continuity utilizing our balanced approach of analysis and recommendations,” said OCD manager Nayef S. Otaibi. “To achieve this, we partner with our clients and develop innovative, holistic, and sustainable solutions.”

In alignment with the Saudi Aramco People Strategy — Capability Development Program Strategic Initiative — two young engineers representing the PO&CMD LSS group recently delivered a two-day LSS Yellow Belt certification workshop to 21 co-op and summer students from OCD and the HR Systems Support Department. The workshop covered the essential principles of LSS and gives the participants a skill set to improve efficiency and reduce costs, involving almost any business and nonbusiness processes. With a satisfaction rate of 95%, the workshop was well received by the participants.

Fig. 1: LSS Objectives



Fig. 2: LSS Road Map



King Abdulaziz Center for World Culture by saudi aramco



Ithra movies

in cinema

Ithra Heroes Adventure

Sept. 11, 12, 14, 16, 17, 18 10:30 a.m.

Abu Nassir

Sept. 11, 12, 13, 14 4:10 p.m.

Book of Sand

Sept. 13, 14 1:45 p.m.

Pen of Mirror

Sept. 12, 13 6:15 p.m.

Kung Fu Style

Sept. 16, 17, 18 6:30 p.m.

Swan Song

Sept. 12 2:15 p.m.
Sept. 16, 17, 18 4:45 p.m.

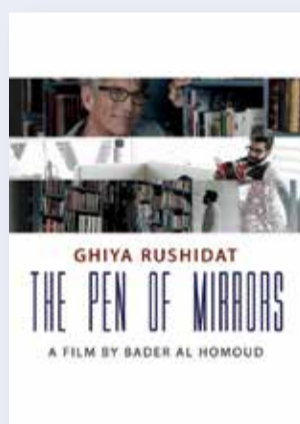
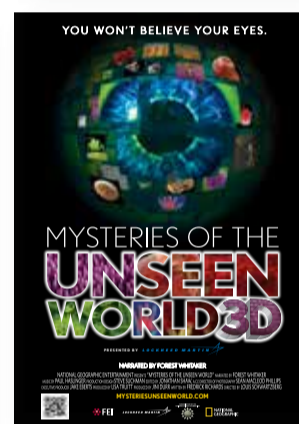
Tom Little and the Magic Mirror

Sept. 11, 14 6:30 p.m.
Sept. 12, 13 7:30 p.m.

Energy Exhibit Theater

Mysteries of the Unseen World

Sept. 11, 16, 17, 18 6 p.m.
Sept. 12, 13, 14 5 p.m., 7 p.m.



Abu Nassir

This documentary provides viewers a window into the life of a generation that has witnessed many social and economical changes during "The Boom" through Abu Nasser's inspirational story, and despite his struggle, he did not give up his dreams.

Book of Sand

The "Book of Sand" film narrative is captivating. It was inspired by the short story with the same title, written by the legendary Jorge Borges himself.

Pen of Mirror

The search is on for a mythical pen, which grants its holder the ability to write an immortal line forever engraved on the collective memory of mankind.

Tom Little and the Magic Mirror

In a magical world, small but brave Tom Little embarks on an adventure of a lifetime to release the kingdom from a spell and win the hand of a beautiful princess. But who is his true love: the king's daughter or the courageous thief?"



The Arabian Sun is a weekly publication issued free of charge by the Corporate Communication Support Department for Saudi Aramco employees.

North Admin Building, Room AN-1080, C-05A, Dhahran, Saudi Arabia
Telephone (013) 876-0374
Email: publishing@aramco.com
ISSN: 1319-156X
Articles may be reproduced provided The Arabian Sun is credited.

Publishing director: Jamsheed M. Din (A)
Editors: Jeff McCoshen, Todd Williams
Editorial staff: Musherf Alamri, Eamonn Houston, Scott Baldauf, and Shaista Khan.
Designer: Husam Nasr.

Articles and coverage can be requested through the company's CRM system. Correspondence may be addressed to the editor, North Admin Building, Room AN-1080, C-05A.



Saudi Arabian Oil Company (Saudi Aramco) is a joint stock company, with certificate of registration number 2052101105, having its principal office at P.O. Box 5000, Dhahran, Postal Code 31311, Kingdom of Saudi Arabia, and with fully paid capital of SAR 60,000,000,000.

the arabian sun



recreation libraries at the center of learning
 Since 1946, Saudi Aramco has helped quench its employees' thirst for reading and learning.
 see pages 6 and 7

building a *dhub* hub in Tanajib

caring for nature while creating mega-projects



Tanajib — The Tanajib area, situated on the northern coastline of the Eastern Province in Saudi Arabia, is a natural habitat for various animal and plant species. The environmental and climatic conditions of the deserted area, along with the rich and diversified flora and fauna existing in the region, make the area an ideal home for many species — including the spiny tailed lizards known as *dhubs*.

collaborating to save a species

According to the assessment of the International Union for Conservation of Nature, the *dhubs* are considered to be vulnerable and, as such, are covered under Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Their numbers are decreasing as a result of habitat loss from industrial and other developments, road kill, and hunting.

Earlier this year, the Marjan Increment Program and the Safaniyah Onshore Producing (SONPD) departments joined forces to help protect the vulnerable spiny tailed lizard species.

The collaboration came very timely as heavy equipment is being brought in to kick-start mega-project construction. During the movement of heavy industrial equipment, lizards tend to run toward their burrows (holes) to hide and can end up trapping themselves and eventually be

killed as the holes cave in.

The objective of the protection initiative was to capture a limited number of *dhubs* for release into a protected reserve and monitor the health and population of the lizards in upcoming years, while continuously seeking ways of improving the program.

23 *dhubs* moved to a new home

The previously reserved and fenced Tanajib Biodiversity Area adjacent to Tanajib Community Camp was used for the project, with a total of 23 *dhubs* captured and transferred to the sanctuary.

This biodiversity area is protected from development and disturbance while excluding camels and sheep to maintain strong vegetation inside the fenced boundary. To prepare for the new arrivals, temporary burrows were dug and the *dhubs* were identified with passive integrated transformer tags for future monitoring.

The Tanajib sanctuary incorporates cameras that will help remote monitoring and viewing of *dhubs*.

environmental stewardship and being a good neighbor

SONPD will continue to fulfill its environmental commitments while establishing examples as an environmentally friendly producer of hydrocarbons and a responsible neighbor to nearby communities. The joint efforts between SONPD and MIPD set an excellent example of environmental stewardship for vulnerable species.

Meanwhile, the environmental stewardship effort has enabled identification of five other species of mammals and six species of lizards in the area and provided a better insight into the *dhubs* living in the Tanajib Area.

The program is a continuous effort, and further work to transfer and monitor *dhubs* is expected to continue through 2020.



◀ Andrew Gardner (right), a consultant from Australia, works with Mohammed S. Shammery, a superintendent with the Safaniyah Onshore Producing Department (SONPD), with final checks prior to the release of a *dhub*. Shammery is also the champion of the Corporate Social Responsibility Program at SONPD.

Several mounds mark new *dhub* habitat in a protected area near the Tanajib Community Camp. ▶



scene from a beach in summertime

Waddah A. Musaiter was recently on vacation on Boracay Island in the Philippines when he captured this beach image with his Canon 6D camera. Although he used no special settings, he did use a tripod to shoot the photograph. Musaiter works as a staff analyst in the Human Resources Group of the Central Region Distribution Department in Riyadh. He has been with the company for 19 years.