The Kuwaiti Digest is a quarterly magazine published by the Kuwait Oil Company (K.S.C.) since 1973.

Editor-in-Chief
DCEO (Administration & Finance)

Correspondence concerning The Kuwaiti Digest should be addressed to:
Editor-in-Chief, Kuwait Oil Company (K.S.C.)
Information Team
P.O. Box 9758
Ahmadi 61008, Kuwait
Telephone: 965-2398-2747
Facsimile: 965-2398-1076
E-mail: kocinfo@kockw.com
or visit the KOC homepage at www.kockw.com

The Kuwaiti Digest invites newspaper, magazine and trade journal editors to reprint or otherwise make use of articles or illustrations appearing in this issue. Material should be credited and a copy mailed to the Kuwait Oil Company.
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Kuwait International HSE Conference &amp; Exhibition</td>
<td>3</td>
</tr>
<tr>
<td>KOC Attends 3rd KIACS Conference</td>
<td>6</td>
</tr>
<tr>
<td>National and Liberation Day Celebrations</td>
<td>10</td>
</tr>
<tr>
<td>The KOC Offshore Drilling Committee</td>
<td>14</td>
</tr>
<tr>
<td>KOC Participates at Kuwait 2nd Oil Spill Conference</td>
<td>17</td>
</tr>
<tr>
<td>The Training &amp; Career Development Group “Walks the Talk”</td>
<td>18</td>
</tr>
<tr>
<td>The Kuwait Air Compliance Management Program</td>
<td>20</td>
</tr>
<tr>
<td>KOC Signs Service Level Agreement with KIPIC</td>
<td>23</td>
</tr>
<tr>
<td>At KOC, Environmental Protection Runs in the Family</td>
<td>24</td>
</tr>
<tr>
<td>Nano Coating Can Reduce a Building’s Energy Consumption</td>
<td>26</td>
</tr>
<tr>
<td>The Environmental Waste Management Program</td>
<td>28</td>
</tr>
<tr>
<td>KOC Gas Operations Team (S&amp;EK) Wins Engineering Excellence Award</td>
<td>32</td>
</tr>
<tr>
<td>Gamification – Full Stop!</td>
<td>34</td>
</tr>
<tr>
<td>KOC Participates at MEOS 2017 in Bahrain</td>
<td>37</td>
</tr>
<tr>
<td>Training &amp; Development Roadmap for New KOC Hires</td>
<td>38</td>
</tr>
<tr>
<td>How to Secure Your Future: Saving &amp; Investments</td>
<td>41</td>
</tr>
<tr>
<td>Hi-Tech: Hyperloop May Bring Faster, Cleaner Travel to the GCC</td>
<td>42</td>
</tr>
<tr>
<td>Health: Feeling Tired? Check Your Iron.</td>
<td>44</td>
</tr>
<tr>
<td>Travel: Visit Hong Kong</td>
<td>46</td>
</tr>
<tr>
<td>Sheikh Jaber Al-Ahmad Al-Sabah Causeway Nears Completion</td>
<td>48</td>
</tr>
</tbody>
</table>
Kuwait will be in the midst of enjoying the beautiful springtime weather by the time this issue of The Kuwaiti Digest has reached your hands. While summer, no doubt, is fast approaching, we can look back on these days with great happiness, as much has occurred during the first quarter of 2017 that KOC can be proud of. For example, as part of a longstanding tradition, our Company was instrumental in helping Kuwait celebrate the National and Liberation Day holiday by setting up an impressive display of lights and ornaments throughout Ahmadi. Thousands of families from around Kuwait made the journey to Ahmadi to view this impressive display, which by all accounts was a joyous occasion for all.

There is also much to be proud of in terms of accomplishments the Company has registered. Over the last quarter, KOC attended the 2nd Kuwait International HSE Conference, delivered presentations concerning information security at the 3rd KIACS Cyber Security Conference, made strides in terms of planning for possible future offshore exploration, and KOC has also recommitted itself to environmental preservation and protection. I encourage all KOC employees to spend some time with the articles that follow in order to learn more about what the Company is doing to turn the vision of our 2030 Strategy into reality.

As many KOC employees know, a key component of successfully achieving the 2030 Strategy relies on staying current with emerging technologies, and KOC plans to adopt these new and useful technological breakthroughs as they become available. In the pages that follow, we have included submissions from various Teams throughout the Company that are working hard toward the implementation of technologies that will help KOC facilities become safer, more efficient, and more productive. From nanocoating technology used on the windows of buildings to innovations in industrial automation and security, employees throughout our areas of operation are working tirelessly to ensure KOC remains a safe and reliable supplier of energy to the world.

As we continue our work in maintaining our current production levels and achieving future goals and targets, it gives me great pleasure to commend all KOC employees who have helped transform KOC into a larger, safer and more efficient exploration and production company. Your hard work has enabled KOC to usher in a range of new accomplishments in terms of Health, Safety, Security and the Environment, and each of you will have an opportunity to be noticed for your contributions in the upcoming CEO HSSE Award Ceremony, which I look forward to attending.

While our goals for the future include raising the production of heavy oil in North Kuwait and exploring the possibility of our offshore resources, KOC will remain committed to the protection of the health and safety of its employees and the population at large. In addition, our commitment to the environment and serving the community we operate in remains a top priority, and we look forward to making more positive contributions over the next quarter.

It is my sincere wish that our commitment to KOC and the State of Kuwait remains as strong as ever as we continue our work to be a responsible provider of energy to the world.
2nd Kuwait International Health, Safety and Environment Conference & Exhibition

Under the patronage of H.E. Essam Abdulmohsen Al-Marzouq, Minister of Electricity & Water and Minister of Oil for the State of Kuwait, KPC recently organized the 2nd Kuwait International Health, Safety and Environment Conference & Exhibition at the Regency Hotel. The event took place over the course of two days.

H.E. the Minister of Oil presided over the inauguration of the conference on the first day along with the Omani Minister of Oil & Gas, H.E. Mohammed Hamad Al-Rumhy. Saudi Aramco Senior VP, Operations & Business Services Dr. Muhammad Al-Saggaf, and OAPEC Secretary General Abbad Al-Naqi were also present during the opening ceremony. The list of speakers included a number of CEOs from Kuwait’s oil sector such as KPC CEO Nizar Al-Adsani, KOC CEO Jamal Jaafar, KNPC CEO Mohammad Al-Mutairi, EQUATE Petrochemical Company CEO Mohammad Hussain, and KUFPEC CEO Sheikh Nawaf Al-Sabah.

In a speech he made as part of opening remarks for the Kuwait International Health Safety and Environment (KIHSE) Conference and Exhibition, H.E. Al-Marzouq said that Kuwait’s Al-Dabdaba solar plant, expected to be completed in the fiscal year 2020/2021, will produce around 15 percent of the oil sector’s power consumption. The solar plant will help reduce carbon emissions by 1.3 million tons yearly.
Moreover, he noted that the project fits into national strategies that rely on renewable energy and promote environmental conservation, adding that the use of renewable energy requires the support of continuous development for the country.

On the sidelines of the conference, the Minister of Oil said that Kuwait will address solutions to environmental challenges against the backdrop of lower oil prices, noting that oil production methods in Kuwait strictly adhere to environmental safety procedures.

H.E. the Minister of Oil added that Kuwait is eager to invest in highly efficient energy sources with minimal carbon emissions content, which highlights the need to invest in projects that focus on renewable energy and the efficient use of petrochemicals locally and abroad. He also pointed out that Kuwait is always on the lookout for new energy sources to meet the country’s increasing power needs.

Production

In a statement he made during the conference, KOC CEO Jamal Jaafar said that Kuwait’s total oil production has reached approximately 2.75 million barrels per day. In comments made to the press on the sidelines of the conference, the KOC CEO underscored Kuwait’s commitment to an OPEC deal to cut oil output, which has no bearing on production.

In regard to Kuwait’s production of natural gas, the CEO revealed that free gas output totals out to be 180 million cubic feet per day, while production of associated gas is at 40 million cubic feet per day for every 100,000 barrels.

The KOC CEO also noted that the Company is eyeing a boom in natural gas production to around 800 or 900 million cubic feet per day, adding that KOC’s production capacity amounts to 3.1 million bpd.

Moreover, Jaafar said that the Company has launched a wide range of megaprojects that aim to increase production capacity, all of which are environmentally friendly.

Free Gas

The Minister of Oil said that free gas production remains one of Kuwait Petroleum Corporation’s top priorities. Speaking to journalists on the sidelines of the conference, the Minister said that KOC will consider measures to expedite free gas production, adding that plans are in the works to privatize oil projects. Meanwhile, Al-Marzouq’s Omani counterpart, Dr. Mohammad Al-Ramhi, who was in attendance at the conference, said that OPEC’s decision to reduce oil production is a measure to protect consumers.

A group of experts, HSE specialists and decision makers from the largest operational oil companies and national, regional and international service companies attended the event. Included among them was KFAS Director General Adnan Shihab-Eldin.

Panel Sessions

The 2nd Kuwait International Health, Safety and Environment Conference & Exhibition featured a number of panel discussions where industry experts and specialists were able to come together and discuss some of the most important issues related to HSE in the oil and gas industry.
The first panel discussion was titled “HSE and Sustainability” and featured the participation of KNPC CEO Mohammad Al-Mutairi, President and CEO of Equate Petrochemical Company Mohammad Husain, KUFPEC CEO Sheikh Nawaf Al-Sabah, CEO Japan Cooperation Center Petroleum (JCCP), and the Managing Director and Director of Consulting from Mission Excellence, Justin Hughes. During the discussion, panelists discussed how the development of HSE strategies can affect business performance in the evolving oil and gas world.

KOC CEO Jamal Jaafar also took part in a panel discussion at the event titled “Investing in HSE.” The discussion examined how HSE can be viewed as a profit center that encourages investments for short term and long term benefits within challenging market conditions.

Importance of HSE

During the event, EQUATE’s President and CEO Mohammad Husain participated in panel discussions regarding health, safety, the environment and sustainability, as well as efforts to create a cleaner and safer industry, with a number of industrial leaders from Kuwait and around the world. Husain highlighted the importance, responsibility and role of HSE management at any organization. He said that achieving HSE excellence is not about unlimited spending, rather it is about properly executing risk analysis, setting optimization objectives through training and cost of safety equipment, as well as simplifying safety standards. This requires innovation-based planning and execution to ensure optimum results.

He also noted that the safety of people and equipment must never be compromised to save costs. “The partnership with our human capital to deliver outstanding performance includes utmost safety as a critical element,” he said. EQUATE’s participation in the conference also included EH&S Leader Mohammad Al-Shamary, as well as two specialized presentations on industrial safety.

The conference was held in order to reflect the strong belief of regional leaders that matters related to HSE are important. In part, the conference aimed to show a commitment and adherence to HSE regulations by hosting discussions which focused on how to work on and improve HSE matters. In this regard, panel discussions comprised of international oil and gas leaders addressed the major challenges facing the HSE sector and associated activities that are considered fundamental to all energy companies in the region.
The 3rd Kuwait Industrial Automation and Control System Cyber Security Conference (KIACS) took place recently at the Hilton in Mangaf, where a number of senior officials from Kuwait’s oil sector and IT specialists from around the world gathered to discuss the future of Kuwait’s information security. The event, which was jointly hosted by Kuwait National Petroleum Company and EQUATE, has the stated objective of bringing experts from the oil and gas industry, in addition to representatives from the private sector, government, academia and consumer groups together to address critical concerns and trends related to the development of cyber security threats in Industrial Control Systems (ICS).

Officials from Kuwait’s oil and gas industry have seen recent attacks occur in neighboring GCC countries. Therefore, there is an implicit understanding of the enormity of the impact these cyber attacks can have. The increasingly sophisticated and complex nature of these attacks necessitate a progressive approach toward the prevention and protection of attacks that can affect a company or nation’s industrial control systems. KIACS 2017, therefore, serves as an important element in Kuwait’s approach to acquiring the necessary skills and information to protect the nation’s oil and gas industry from cyber attacks.

The event was officially held under the patronage of H.E. the Minister of Oil and Minister of Electricity and Water Essam Al-Marzouq. KPC CEO Nizar Al-Adsani delivered the event’s opening remarks and said
that the field of information security continued to grow around the world, particularly in Kuwait and other GCC countries, where there is a strong interest in applying new and sophisticated technologies to industrial control systems.

The KPC CEO also said that in today’s age of digital information and as part of our knowledge-based economy, it is important to support the role played by advanced technologies in transferring information to citizens so that they may better protect their nation’s industry from cyber attacks. In this regard, Al-Adsani upheld the importance of building an integrated cyber security strategy based on the following three core pillars: defense, deterrence and development.

In his address to the audience, KNPC CEO Mohammad Al-Mutairi said that attacks on industrial control systems have become more frequent and increasingly sophisticated, adding that all stakeholders now have a new responsibility in promoting the process safety, reliability, and stability of critical industrial infrastructure.

“Process industries have no place for uncertainty and risk. Companies in the oil and gas, refining, petrochemical, and power-generation industries, among others, must prevent and mitigate cyber security threats than can jeopardize their production operations, including risks to plant infrastructure, assets, personnel and the environment. Cyber security defensive strategies must evolve to keep up and industrial firms need to take certain steps to protect critical facilities,” the KNPC CEO said.

**KOC Presentation**

During the event, Dr. Reem Al-Shammari, Team Leader Information Security, delivered a presentation titled “Changing the Mindset” which focused on industrial control systems, how they play a critical role in our daily lives, and how important it is to continue the very important work of ensuring industrial control systems are protected from malicious attacks that could harm the general population.

In her presentation to the audience, Team Leader Information Security Dr. Reem Al-Shammari highlighted the importance of creating cyber security awareness among KOC’s workforce. For many employees, the correlation between cyber security and industrial control systems is not readily apparent. For example, many individuals fail to realize or simply forget that some of the most important aspects of our lives are governed by industrial control systems that are vulnerable to cyber attacks. Oil facilities, power stations, and even traffic lights are governed by industrial control systems – and our lives and livelihood are dependent on the smooth operation of these systems.

If hackers are able to penetrate KOC’s industrial control systems, this can affect the Company’s production of oil, which in turn affects the national economy. If malicious attacks target traffic lights or power plants, this can affect the safety and security of citizens and residents. Therefore, TL Dr. Al-Shammari maintained that it is important “change the mindset” of all stakeholders, employees, vendors and contractors so that everyone can realize how, collectively, they can help protect their company and country’s assets.

And how, exactly, can this be done? According to TL Dr. Al-Shammari, it is of great importance to not ignore the “weakest link” when viewing a company or country’s cyber security infrastructure. The weakest link, in most cases, is the human element. For example, a hacker or malicious user may simply target an employee through a “phishing” or social engineering attack instead of using complicated means to penetrate an information system. An email with a malicious file or link opened by an unsuspecting employee is a much easier and cheaper way to penetrate a system than by sophisticated modes of hacking. It is therefore of the utmost
importance that all employees, vendors and contractors understand the very real threat these social engineering attacks can present. Any suspicious emails or questionable links should never be opened and reported to the Company’s Information Security Team immediately.

To achieve better all-around cyber security measures, the Information Security Team Leader said that employees could exercise caution, not share personal data, use encryption, have a strong password, dispose of confidential material properly (shredding before being thrown away), and always report suspicious activity to the Information Security Team immediately.

The talks and workshops that followed TL Dr. Al-Shammari’s presentation focused on some of the aforementioned themes, which included a focus on internationally accepted Cyber Security Standards that have been created in order to enable organizations to implement and practice safe security techniques to protect against cyber security attacks.

Technical papers authored by security professionals, researchers and industry experts were also presented during the conference, with some highlighting the “Human Factor Dynamic.” This aspect of cyber security can be defined as the human element, which includes users that manage the physical and logical access to systems and data. Well-informed users are crucial in the creation of better security for network systems, and this aspect is often overlooked, which is why KIACS (and TL Dr. Al-Shammari’s presentation) devoted special consideration to this important issue.

Speakers were also invited to the conference to discuss Cyber Security Best Practices implemented in Operational Technologies. These speakers presented information about lessons learned on how to secure Industrial Automation and Control Systems. The objective of this segment of the conference was to learn and understand the best practices implemented in the area of Industrial Automation and educate those in the audience to prepare for a safer and more reliable use of Operational Technologies.

Preventing Cyber Attacks at KOC

Cyber attacks refer to the deliberate exploitation of computer systems by individuals who use malicious computer code in order to alter, disrupt and compromise data. By exploiting computer systems in this way, hackers have the ability to conduct cybercrimes such as information and identity theft. Recent reports from Symantec Internet Security indicate that approximately 10% of global cyber attacks are focused on industries in the energy and utilities field, with 45% of those attacks having cyber-crime as a main motivation behind them.

The recent rise in cyber-related attacks has led KOC to increase security within its systems. The steps being taken at Kuwait Oil Company in order to prevent cyber-attacks include the formation of an Information Security Team empowered by the Company’s senior officials to handle all aspects related to the security of KOC’s information. This includes gathering intelligence, monitoring activity throughout the Company’s systems, assessing vulnerabilities and risks in the system and penetration testing. It also includes raising information security awareness across KOC through all communication channels (trainings and workshops, portal messages, email notifications, screen savers, and social engineering activities), information security compliance, studying the market for new security...
KOC focuses on the three corners of the information security triangle that is composed of Process, People and Technology. Information Security Operations at KOC always consider the importance of utilizing standard industry processes, acquiring experienced personnel and resources to operate such processes and making use of the latest technology to enhance the efficiency of the information security automated operations.

KOC’s Information Security Program is a process that requires continuous monitoring and updates. The difference between a project and program is that the latter does not have an end date that indicates the nature of the information security operations. The technology component of the Information Security Program is continuously updated to ensure that KOC is always up-to-date in terms of information security trends.

Today, information security threats are developing and evolving on a daily basis. This requires KOC’s best efforts to be at the same level so that the Company can secure its environment against every new threat.

About KIACS

The KIACS Conference & Exhibition aims to bring experts together from the oil and information technology industries to address critical concerns and developing trends with regard to cyber security threats in industrial control systems. Over the last few years, the cyber security conference has done much in the way of spreading awareness among K-Company employees in regard to the importance of implementing proactive safety measures that will help protect the assets and interests of their respective companies and the State of Kuwait.

Attendees at the 2017 KIACS Conference were able to:

- Share cyber security best practices.
- Identify looming cyber security threats and learn about emerging cyber law trends.
- Acquire awareness about new types of cybercrimes that can affect K-Companies.
- Identify areas in cybercrimes where cyber laws need to be further evolved.
- Educate the community at large about the importance of protecting information.
- Enhance their technical skills.
As part of KOC’s commitment to the society it operates in, the Company recently inaugurated the lights and decorations that have been set up throughout Ahmadi to celebrate Kuwait’s National and Liberation Day holiday. The celebration was sponsored and attended by KOC CEO Jamal Jaafar, a number of DCEOs and other senior officials.

The celebration began with a captivating light show that was projected onto the face of the KOC Main Office building. The show highlighted the beauty of the building and underscored its artistic aspects through the use of impressive visuals. Meanwhile, KOC CEO Jamal Jaafar ceremoniously flipped the switch to turn on the lights that were set up throughout the Main Office and Ahmadi gardens.

The lights and decorations throughout Ahmadi have become an annual, signature occasion for KOC and Ahmadi residents. This year, the lights and decorations were set up under the supervision of the Utilities Team under the leadership of Team Leader Abdulaziz Al-Obaidan.

As the CEO toured the garden in front of the KOC Tent, he listened to Al-Obaidan’s explanation of the Utilities Team’s efforts to create the models, the time it took to build and light them as well as the meticulous work that has gone into reflecting a positive image of KOC and Ahmadi.

Flag Raising Celebration

Represented by CEO Jamal Abdulaziz Jaafar, KOC recently participated in the annual flag raising celebration organized by Ahmadi Governorate. The event was attended by Ahmadi Governor Sheikh Fawaz Khalid Al-Hamad Al-Sabah.

In addition to the CEO, other Company officials were also present, including DCEO Corporate Services Yousef Ali, Ahmadi Services Group Manager Nouri Al-Khatrash, and Public Relations & Information Group Manager Mohammad Al-Basry.

During the event, the Ahmadi Governor delivered a speech in which he expressed his sincere congratulations and blessings.
to His Highness the Amir, His Highness the Crown Prince, the Government of Kuwait, and the Kuwaiti people. He then asked that God Almighty protect Kuwait as an oasis of peace and safety, and to achieve more prosperity, development and progress on the regional and international levels.

In addition to the flag raising ceremony, the celebration included musical compositions delivered by the Saad Al-Abdullah Academy Orchestra and an operetta by the students of Abu Hulaifa and Um Amara Primary Schools. Furthermore, the Awlad Amer Band performed several traditional Kuwaiti songs, and the event also included an exhibition of images commemorating H.H. the Amir’s accession of power.

KOC CEO Jamal Jaafar, DCEO Corporate Services Yousef Ali and DCEO (NK) Badria Abdul Rahim took part in the celebration, along with other KOC officials including Ahmadi Services Group Manager Nouri Al-Khatrash and Public Relations & Information Group Manager Mohammad Al-Basry.

During the celebration, the lights were switched on, revealing models and installations with national characteristics that add another

KOC Inaugurates Lights & Decorations at Souq Al-Mubarakiah

As part of its annual contribution to Kuwait’s National and Liberation Day celebrations, KOC recently organized a celebration to commemorate the inauguration of decorations and light works at Souq Al-Mubarakiah, which also mark the 11th anniversary of His Highness the Amir’s accession of power.
layer of beauty to the historic market, which represents one of the most important cultural and commercial hubs in the country as it holds a high position in the minds and hearts of Kuwaitis and residents.

The event comes within the context of KOC’s commitment to social responsibility, as it always makes sure to actively participate in different social and national events. This event is part of other similar activities that will be launched soon, most prominently in Ahmadi.

KOC Takes Part in National & Liberation Day Celebrations

As part of Kuwait’s National and Liberation Day celebrations, KOC also participated in a three-day celebration that took place along the Arabian Gulf Road. The Company took part in the celebration by dedicating vehicles to the festivities which represented the Company’s operations. The vehicles were prepared by the Mobile Plant Maintenance Team, Central Workshop Team, Transport Operations Team and the Information Team.

The efforts put forth by the Teams resulted in a beautiful and distinguished show that conforms to the name and reputation of KOC. The Company’s participation during the celebrations received the appreciation of all who attended the National and Liberation Day festivities.

In addition, the Marine Operations Group took part in the celebrations through a display of the Company’s fleet that included three different vessels specializing in maritime operations and activities. Meanwhile, a special booth was prepared to direct messages of appreciation to H.H. the Amir Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah titled “Sabah Al-Kuwait.”

KOC Officials Visit KOC Hospital

To take part in annual activities commemorating the National and Liberation Day celebrations, KOC’s higher management recently visited patients at Ahmadi Hospital.

Hospital Manager Dr. Emad Al-Awad accompanied the delegation during the visit, which included Acting CEO Abdullah Al-Sumaiti, DCEO CSD Yousef Ali, DCEO (NK) Badriah Abdul Rahim, and Public Relations & Information Group Manager Mohammad Al-Basry.
During the visit, the delegation distributed gifts to patients in an effort to spread happiness and joy on this special occasion.

On the sidelines of the visit, Al-Sumaiti congratulated the hospital patients and wished them a speedy recovery so that they could be reunited with their families soon. He upheld the importance of these visits and also commended the work put forth by the nursing staff and medical personnel in their effort to relieve the patients from their suffering.

**Nawwarat Al-Ahmadi Festival**

As part of its annual contributions aimed at commemorating Kuwait’s National and Liberation Day holiday, KOC recently participated in the celebrations through various events and activities. Among those activities is the “Nawwarat Al-Ahmadi Festival” that took place at Ahmadi Stadium, where a large crowd enjoyed the activities presented by popular folklore bands and the various recreational activities that added an atmosphere of joy for participants and their families.

Meanwhile, the HR Team (Export Operations & Marine Operations) participated in the 15th Al-Faresi Kite Festival that displayed creative kite presentations of different sizes and shapes. The Company also set up booths to raise awareness among chalet-goers and campers about the importance of environmental preservation.

Furthermore, the Company also made an effort to raise awareness among bikers about the importance of personal protection equipment. Manager Support Services (WK) Saeed Al-Duwaisan and HR Team Leader Faleh Al-Azmi attended the festival.

**A Brief History of Kuwait**

Archaeological finds on the Kuwaiti island of Failaka suggest that the island was a trading post at the time of the ancient Sumerians. Failaka continued to serve as a trading post for approximately 2,000 years, and was known to the ancient Greeks.

Kuwait's modern history began in the 18th century with the founding of the area that would later become Kuwait City by the Bani Utba, a federation of Arab clans originating from Najd. In January 1899, H.H. Sheikh Mubarak “The Great” Al Sabah signed an agreement with the British Government that governed the terms of a protective agreement. When Mubarak died in 1915, the population of Kuwait of about 35,000 was heavily dependent on shipbuilding (using wood imported from India) and pearl diving.

Kuwait achieved independence from the British under Sheikh Abdullah Al-Salem Al Sabah. By early 1961, the British had already withdrawn their special court system, and the Kuwaiti Government began to exercise legal jurisdiction under new laws. On June 19, 1961, Kuwait became fully independent following an exchange of notes with the United Kingdom.

Kuwait enjoyed an unprecedented period of prosperity under Sheikh Sabah Al-Salem Al-Sabah, and the country was transformed into a highly developed welfare state with a free market economy.

In August 1990, Iraq attacked and invaded Kuwait. Following several weeks of aerial bombardment, a UN-mandated coalition led by the United States began a ground assault that finally liberated Kuwait on February 26, 1991.
The KOC Offshore Drilling Committee

For decades, Kuwait Oil Company has enjoyed a strong and well-deserved reputation as an international leader in the oil and gas industry. For many years, KOC has been a pioneer in terms of utilizing new and advanced technologies throughout its areas of operation. However, this work has been limited to onshore activities in the field, with very little practical development of offshore activity throughout the Company’s history.

It is likely, however, that this will change soon, as the Company recently decided to move forward with plans to develop the prospect of offshore oil production. In this regard, the KOC Offshore Drilling Committee was formed with the responsibility to conduct necessary studies, develop plans, schedule meetings with specialists, and conduct field visits to learn more about the latest in offshore drilling technologies, processes, and trends. Company officials hope this new initiative will allow KOC to safely explore for oil offshore, which is a significant component of the Company’s 2030 Strategy.

The KOC Offshore Drilling Committee has been quite busy recently. In fact, the foundations for its work have already been laid, and its members are currently hard at work with the goal of turning KOC into a competitive player in the offshore drilling world.

Recently, during the Abu Dhabi International Petroleum Exhibition and Conference, a delegation from KOC comprised of members from the Offshore Drilling Committee met with Emirati oil and gas officials to learn more about the prospect of oil exploration beneath the waters of the Arabian Gulf.
To learn more about the KOC Offshore Drilling Committee, we met with Committee Coordinator Sulaiman Al-Raish (Senior Planner, Strategic Planning Team), who provided us with a clear picture of the current work the committee is involved in regarding efforts to create a viable offshore oil exploration and production operation for the Company.

The Search for Best Practices

Al-Raish maintained that the Committee is composed of several prominent leaders from the Company who hail from various disciplines. The Committee itself is headed by Emad Sultan, DCEO of the Planning and Commercial Directorate.

In regard to work that the Committee is currently focusing on, Al-Raish said that members are currently dedicating their resources to determining what best practices exist in terms of marine exploration activities. Part of this search requires the Committee to look into how companies from around the world with years of offshore oil exploration experience conduct their respective business. In addition, the Committee is interested in how energy companies with offshore oil exploration contracts conduct their business.

According to Al-Raish, this type of research is a necessary component of ensuring KOC is provided with the best information before fully committing to offshore oil exploration activities. In this regard, close attention must be paid to contractual considerations, and learning how other companies have moved forward with these types of contracts will provide invaluable information to the Company.

For example, Kuwait Gulf Oil Company (KGOC) and a number of its associates have experience with matters related to offshore exploration. Therefore, the Committee met with KGOC officials and toured the company’s facilities to gain a better understanding of how this type of work is conducted. They also met with Hamoud Al-Otaibi, Chairman of the Board of Khafji Joint Operations, and Abdullah Al-Hilal, CEO of the Aramco Gulf Operations Company.

Al-Raish added that members from KOC’s Marine Operations Group joined members of the KOC Offshore Drilling Committee during their visit to Khafji Operations, where they were presented with information that assisted in how the Company can plan to move forward with this very important KOC initiative.

Gulf Cooperation

KOC’s visit to Abu Dhabi to attend ADIPEC served a number of purposes. From the perspective of the KOC Offshore Drilling Committee, the visit was important because it provided Company officials with the opportunity to learn from the experiences of regional companies and how they have proceeded with offshore exploration activities of their own. In particular, KOC has been interested in the drafts of agreements made between national oil companies from the region and international oil companies and contractors. During their time in Abu Dhabi, members of the committee discussed the details of various aspects related to their Emirati counterparts’ agreements with various service providers and contractors.

While the Committee was in Abu Dhabi, they also met with officials from the Abu Dhabi National Oil Company, in addition to also meeting with officials from Saudi Aramco and Qatar Petroleum, where they were then invited to visit facilities in the two neighboring countries.

Fruitful Meetings

A number of important and successful meetings were held by the Committee during their time in Abu Dhabi for the ADIPEC conference. On the second day of the conference, a large workshop took place in which Committee members were able to discuss issues related to the offshore exploration of oil with contracting companies.

In addition, Committee members were able to visit the Dubai facilities of Baker Hughes, Schlumberger, and Halliburton – all of whom are involved in some way with the offshore exploration and production of oil.
Various Contracts

In regard to differences between contracts that govern onshore and offshore exploration and production activities, Al-Raish said that from a logistical standpoint, the differences are many. For example, onshore exploration and production activities require cars or other vehicles to get to the work site. Naturally, transportation to and from an offshore rig is a bit more complex and requires seafaring vessels – not only for the transportation of personnel, but for the transportation of equipment as well. This is another primary difference between the two types of operations – offshore activities are much more complex in the sense that they require specialized seafaring vessels to set up offshore rigs. In addition, the permits required for offshore drilling are much more complex. For example, some offshore rigs will require a steady issuance of permits as it is possible that seafaring vehicles will have to cross or operate in waters that are governed by other countries.

In addition to offshore platforms and getting the equipment to them, consideration must be given to the actual equipment they require. In many cases, the equipment used on offshore rigs is specialized – therefore, it cannot be assumed that workers familiar with onshore operations are readily able to transmit their skills to offshore environments. The skillsets and knowledge of equipment is simply different.

The Committee is fully aware of the types of new challenges offshore oil exploration and production presents to the Company. However, it is currently doing everything in its power to ensure that the proper measures are being made to not only allow KOC to gain knowledge and expertise in terms of offshore production, but to do it in a way that is safe for both employees, contractors, the population at large, and the environment. This is why special consideration must be paid to any future contracts that are signed between KOC and third parties – a major concern is that any offshore work does not go against any of Kuwait’s laws as they apply to industrial and environmental regulations.

In short, the Committee is working hard to learn from the experiences of other regional companies before applying that knowledge to any future Company operation. In this regard, KOC is examining all of the collected information and determining what may or may not work for the Company as it proceeds forward with this initiative.

Senior Management Considerations

The Senior Management at KOC must look into a number of factors before fully moving forward with any work related to offshore exploration and production. For example, the details of various drafts for many items related to this possible project must be considered before any work can commence. There are still a number of considerations that must be looked into before moving forward with the project. However, according to the work and progress that has already been made, Al-Raish estimated that operations could commence as early as the fourth quarter of the 2017/18 fiscal year.

The KOC Offshore Drilling Committee is comprised of several leaders from various disciplines from throughout the Company. It is headed by DCEO Planning & Commercial Emad Sultan, with assistance from a diverse selection of KOC Teams and employees who are working together to turn the vision of offshore oil exploration for Kuwait into reality.
KOC recently attended the Kuwait 2nd Oil Spill Conference which took place at the Radisson Blu Hotel. The event, which was attended by an international group of specialists and professionals from the oil spill management industry, witnessed the exchange of information and collaboration between individuals whose primary focus is to safely and efficiently manage marine oil spills when they occur.

The Company was represented by the Marine Oil Spill Management Team at the event. Captain Alharith Al-Ateeqi, Controller I, Marine Oil Spill Management Team, delivered a presentation that provided an overview of his team and the core work it engages in. The newly established Team was formed in 2015 with the aim of maintaining a healthy marine environment for the State of Kuwait. In this regard, the Team regularly plans training exercises and educational programs for its staff throughout the year.

International speakers at the event from the region and beyond discussed both new and established methods of addressing marine oil spills. The event also witnessed the sharing of best practices and was an opportunity for governmental bodies and the private sector to interact. Some of the organizations in attendance included Kuwait’s Marine Rescue Department, the Marine Emergency Mutual Aid Center (MEMAC), KISR and KEPA.

About the Marine Oil Spill Management Team

While Kuwait Oil Company follows a strict set of carefully followed procedures throughout all stages of its operations, the Company recognizes the serious potential threat posed to the environment that handling large quantities of oil and oil products through seaports and offshore oil handling facilities can bring. By remaining conscious of its binding moral responsibility in preserving the community and the environment in general and the marine environment in particular, the Company recently decided to strengthen its capabilities in the area of rapid response in the case of any unfortunate event of spill or loss of containment of oil into the sea.

The important function of oil spill management was previously overseen by the Port Operations Team of the Marine Operations Group at KOC. Because the Company realized the importance of effective preparation for combating oil spill incidents, a new team of highly trained individuals under the able leadership of Captain Naser Ahmed Ibrahim Al-Najdi was formed within the Marine Operations Group, with Al-Najdi now serving as Team Leader of the Marine Oil Spill Management Team.

In the short amount of time that has elapsed since its formation, the Marine Oil Spill Management Team has quickly engaged with regional and international players in the relevant fields associated with oil spill management such as the Regional Clean Seas Organization (RECSO) and the Regional Organization for Protection of Marine Environment (ROPME).

The Team has also entered into a consultation contract with independent experts from around the world such as Oil Spill Response Limited (OSRL) to review and upgrade its existing infrastructure in oil spill response procedures and tactics. The Team also organized a joint “Pollution Combat Exercise” between KOC and KNPC earlier in the year to streamline coordination between the two K-Companies.
T&CD Group Manager Qusai Al-Amer recently met with a delegation of T&CD Group employees who participated as presenters in various international events over the last fiscal year. During the meeting, Al-Amer took the opportunity to recognize their willingness and enthusiasm to be involved in this international initiative. Meanwhile, the T&CD Group employees shared their experiences and discussed how proud they were to be KOC envoys during the events that happened internationally.

The T&CD Group has been working on developing and enhancing KOC’s External Conference Management as a business process with foundations that foster a learning organization leveraged by the potential that international conferences offer to KOC employees. By exchanging information during the knowledge sharing activities and networking with professionals from around the world, KOC employees are able to develop their technical competence while promoting an organizational culture of planning for various conferences. Company officials said they hoped this initiative would also enhance the culture of KOC employees presenting papers and presentations during regional and international conferences and exhibitions. This, in turn, will do much in the way of bolstering KOC’s reputation as a leader in the oil and gas industry.
The T&CD Group is committed to “Walk the Talk.” During the past fiscal year, an initiative was launched to increase the number of Group conference attendants as presenters. Al-Amer has led the project in cooperation with Dr. Olimpia Salas Guzman, and as a result of this new strategy, KOC has experienced a substantial increase in the ratio of attendees to presenters. This undertaking has been met with great success after Group experts and senior employees were matched with young employees with a vision to better prepare them for international conferences by developing their presentation skills and abilities.

This fiscal year has had great significance for the Group, as it marked the first time the T&CD Group presented at the Association for Talent Development International Conference 2016. During the conference, a KOC case study presentation was delivered by Manager T&CD Qusai Al-Amer and T&CD Specialist Dr. Olimpia Salas Guzman titled “Pumping Up a Talent Development.” This is especially pertinent because the presentation was conducted during a time of revenue downturns due to the decline in oil prices.

In addition, T&CD Group efforts have involved six more additional conference presenters, two experts, and four seniors and young professionals, adding to the achievement of promoting the growth of the Group’s human capabilities and mastering business skills by performing in the international arena.

For instance, during the in 4th Getenergy VTEC Conference in Milan, Italy; Frans van Heerden, Consultant T&CD Group, presented a paper related to influencing the learning culture at KOC. During the same conference, Abdul Razzaq Al-Khudhair, Training Officer from CD&P Team, participated by delivering information related to training local technical engineers to the highest levels of competence with his presentation about the T&CD Group’s role in implementing the Organizational Capability Development project.

Meanwhile, Hamad Wael Al-Adsani, M&R Officer from the M&R Team, presented information related to Manpower Planning and how industry and education partnerships drive business. In addition, Sara Al-Ahmad, Training Officer from the TC Team, shared her experiences with KOC Leadership Training.

Additionally, a delegation from the T&CD Group recently traveled to the 2017 PetroSkills Conference in Texas, where Dr. Imtiaz Ahmad, Specialist from the T&CD Group, and Mohammed Hamad Saleh, Senior Training Officer from the CD&P Team, presented information relating to KOC’s experience with the UD Road Map (Accelerated Blended Learning Development Program - Conceptual Model Versus Functional Model).

Over the course of the next year, the T&CD Group’s journey will continue to have a priority on improving the Group and Company’s human capabilities, and it will also move forward with the second phase of the project. In addition, the Group will remain committed to improving its capabilities in all areas related to KOC’s External Conference Processes Management.
The Kuwait Air Compliance Management Program

SUBMITTED BY THE HEALTH & ENVIRONMENT TEAM, HSE GROUP

Kuwait is one of the largest oil producers in the world. However, it is also the tenth most polluted nation in the world, as per a WHO report published in 2011. Very high population densities combined with the air circulation of emissions from industrial areas have created public health concerns in Kuwait.
Kuwait Oil Company, which is involved in the exploration, drilling and production of oil and gas within the State of Kuwait, has undertaken a landmark project in conjunction with the Kuwait Environment Public Authority (KEPA) to develop and implement a regulatory air compliance management program (ACMP). The initial program was a five-year project (2011-2016). It is currently being carried forward as part of a new five-year project (2016-2021).

The Kuwait ACMP was born out of the need to identify the extent of air pollution in Kuwait and to develop a strategy to reduce its impact. The challenge was to identify and address the impact of the air pollutants on the environment in general and on human health in particular. The project utilizes various advanced technologies, integrating advanced IT and air quality monitoring techniques to provide an effective way of managing emissions from exploration and production activities in Kuwait and reducing their impact on human health.

The ACMP is the first-ever joint venture of its type between the industry and regulators, and includes the development of a system that provides real-time measurement of pollution across the country as well as a pioneering national air quality inventory with research-grade dispersion modeling techniques to determine human health risks. Based on the modeling, an emissions abatement strategy and reduction program has been established. Subsequently, an innovative source apportionment study is undertaken, utilizing satellite based techniques to define pollutant source contributions from various sources.

The project’s scope included development of visual-based emission information, use of hyperspectral remote imagery for surrogate estimation, use of remote sensing information for tracking pollutant masses during the project as well as carrying out a Human Health Risk Assessment (HHRA) based on US EPA HHRA Protocol (HHRAP).

The benefits of the project will be felt indefinitely and will not all be realized at once, this is because the project will result
in a permanent change in culture within KOC whereby reducing emissions is engrained and at the heart of KOC operations. Nevertheless, the ACMP is already contributing to emissions reductions; for instance in West Kuwait, the Gas Compression Project and Gas Reinjection Project became operational in March 2015 and these have resulted in huge reductions in emissions, on the order of 95% for the facilities involved.

The ACMP is improving knowledge regarding Kuwait’s air quality problem and with improved knowledge, better-informed decisions can be made to improve air quality and its effects on human health. The ACMP is particularly relevant in this era of low oil prices when there are pressures to produce greater quantities of oil whilst minimizing costs; the ACMP will help ensure that rigorous environmental standards will be adhered to.

The project is unique in its overarching aim and ambition and has been recognized with the following honors:

- 1st place at the 26th Session of Council of Arab Ministers Responsible for the Environment.
- HSE Initiative of the Year at the 2016 Middle East Oil & Gas Awards.
- Project Merit in Air Quality by the Environmental Business Journal (EBJ)

Statement from Yousef Al-Qallaf TL (HSE):

The HSE Group has been conferred with the 2016 Middle East Oil & Gas Award for the year 2016 under the HSE Initiative of the Year category. The winning entry, submitted by the Heath & Environment Team, featured the KOC Air Compliance Management Program. The award was announced at a grand ceremony featuring energy professionals from across the region gathered at the Sofitel Hotel Abu Dhabi Corniche.

The project is a long term project that is aimed at protecting our environment as well as human health and minimizing the adverse impacts of KOC’s operations. This project is unique in its overarching aim and ambition in the region. It is the first-ever joint venture of its type between the industry (KOC) and regulators (Kuwait Environment Public Authority), and includes development of a system providing real-time measurement of pollution across the country as well as a pioneering national air quality inventory with research-grade dispersion modeling techniques to determine human health risks. Subsequently, an innovative source apportionment study is undertaken, utilizing satellite based techniques to define pollutant source contributions from various sources and develop abatement strategies.

The recognition of KOC’s efforts and achievements at a regional platform of such repute is a matter of great pride for KOC and as well as the HSE Group. The entry submitted by Health & Environment Team (HSE Group) was one of the 13 winners (from both upstream and downstream segments) across the whole region, who were recognized for their achievements and initiatives across various categories. The award further cements KOC’s position as an industry leader with its unique vision and commitment towards the environment and sustainable development.
KOC recently signed a cooperation protocol agreement (Service Level Agreement) with Kuwait Integrated Petrochemical Industries Company (KIPIC) that aims to provide logistical support and services through contracts available through KOC.

KOC was represented during the signing ceremony by Acting CEO Menahi Al-Anezi while KIPIC was represented by CEO Hashem Hashem. A number of KOC DCEOs and Group Managers attended the ceremony with representatives from KPC also in attendance.

This recently finalized agreement is based on the needs of KIPIC for technical and logistical support during the initial stages of its establishment, which KOC is able to provide given the Company’s expertise, resources, and services and operations contracts it holds.

The Kuwait Integrated Petrochemical Industries Company is a subsidiary of KPC that was recently established to oversee three strategic projects for the State of Kuwait which include: Al-Zour Refinery (Fourth Refinery), the liquefied gas import facility project, and the integrated petrochemical complex in Al-Zour.

About KIPIC

The Ministry of Commerce and Industry (MCI) recently approved a request from Kuwait Petroleum Corporation (KPC) to set up what would become one of the largest oil companies in Kuwait with an estimated capital of KD 1.8 billion.

The new company will be known as the “Kuwait Integrated Petrochemical Industries Company.” It will serve as a KPC subsidiary that runs refining and petrochemical projects, including running and executing the integration project between the refining and petrochemical complex in Al-Zour, which includes Al-Zour Refinery, a petrochemical complex and a liquefied natural gas (LNG) importing facility.

According to KUNA, it is expected that KPC’s next step will be to offer 50% of the new company’s shares in an initial public offering in order to present investment opportunities for citizens to participate in oil ventures, though this issue has not been confirmed yet. If this goes through, the company will then be listed on the Kuwait Stock Exchange. Deputy Chief Executive Officer (CEO) of Kuwait’s Mina Al-Ahmadi Refinery Ahmed Al-Jeemaz confirmed recently that the government and the Supreme Petroleum Council gave their approval to establish the company, saying that it was “born giant and very significant because of its importance in running Al-Zour refinery and terminals to import liquefied natural gas and the presence of an attached petrochemical complex.”

The company’s production capacity will be close to 615,000 barrels per day, making it one of the largest refineries in the region. Approximately 40% of its production will be dedicated to power stations that use low-sulfur fuel.

Meanwhile, Deputy Premier and Finance Minister Anas Al-Saleh said that Kuwait’s reserves enable it to address challenges resulting from low oil prices. In a recent interview, Al-Saleh said the country’s financial surplus helped the Government of Kuwait take “well calculated” decisions.
At KOC, Environmental Protection Runs in the Family

It may be common for many KOC employees to have immediate or extended family members who also work at the Company. However, how many employees can say that both they and their twin work for KOC? For Aisha and Fatemah Al-Baroud, doing everything together as they grew up was just a fact of life. During their years at university, the two even worked toward the same degree, where the two competed against each other in their quest to be top of their class, a spot the two traded amongst each other year after year. Today, Aisha, a Senior Environmental Engineer from the Soil Remediation Support Team, and Fatemah, a Senior Environmentalist from the HSE (Gas) Team, are both setting very high standards for the work they are conducting at the Company.

Aisha and Fatemah both joined KOC in July of 2012 after receiving Master’s Degrees from Kuwait University in Chemical Engineering. However, before assuming very important roles at the Company, the two spent five years working in the Department of Technical Affairs – Laboratory Control at Kuwait’s Ministry of Defense. One day, while Aisha was reading a newspaper, she came across an advertisement for an open position at KOC for an Environmental Engineer. The two sent in their applications, and when they received a call back from the Company, they made it clear that in order for them to join, both had to be accepted. KOC agreed, and it was good the Company did, because together, Aisha and Fatemah comprise a serious force to be reckoned with. In their short time at the Company, Aisha and Fatemah have worked tirelessly to bring an unparalleled sense of work ethic and quality to their respective teams.

Speak to Aisha or Fatemah about their roles and responsibilities at KOC, and you will quickly discover that the two both share an equal drive and determination to bring everything they can to their jobs. Fatemah, who works in Burgan, helps handle and provide support to five KOC
Groups. In total, Fatemah oversees the provision of HSE support to 20 teams throughout the Company’s areas of operation. She has prepared and presented six technical papers at international conferences and is constantly working on new initiatives related to HSE. Fatemah has also been awarded with the NEBOSH International General Certificate in Occupational Safety and Health, and she was also awarded as “Best Employee of the Quarter” for the HSE (Gas) Team.

Meanwhile, Aisha is responsible, in part, for handling tenders, bids, evaluations and developing strategies for KOC’s soil remediation efforts. She also participates as a soil remediation representative on several committees, in addition to handling and tracking Soil Remediation Group (SRG) courses and arranging several events and forums. This type of position requires very efficient task management skills, to say nothing of the coordination and communication skills that are also required. In addition, Aisha has also conducted at least 20 awareness sessions for fellow SRG employees on a variety of important topics. She also prepared and presented more than 16 technical papers at international conferences, some of which also appeared in published journals. Aisha was selected as a fast track employee from the Soil Remediation Group for 2016, and she earned first place on a recent trip to Korea for a presentation on innovation and creativity.

Together, the two are forging ahead and overcoming challenge after challenge through sheer determination and skill. To say the two are committed to their jobs is putting it lightly, as the two often work happily after hours and over the weekends. For Aisha and Fatemah, there is no greater goal than working for the good of their Company and country. When asked about some of the challenges associated with being a female in a male-dominated environment, the two admitted that some obstacles had to be overcome in the beginning.

“At the beginning, a lot of people asked me: Why are you going to KOC? It’s for men only. You face that a lot,” Aisha said. In time, however, Aisha said that through hard work and determination, she was able to prove – to herself and to others – that she was exactly where she needed to be. Fatemah has also faced similar obstacles, as she works in Burgan and conducts regular site visits to locations where the workforce is predominantly male. “The impression from some of the men in the field at the beginning was not very welcoming. For example, they asked why it was that a woman should be coming to them. However, by remaining persistent and being a good communicator, our relationship has evolved into one where we now work together closely, and I am respected. We have good coordination with all the engineers and operators throughout the Company’s facilities, and everyone understands that we are working together as one team for the benefit of KOC and Kuwait,” Fatemah said.

One might wonder where Aisha and Fatemah find their motivation to work so tirelessly. Both agree that family plays an enormous role in providing the support necessary to create a positive balance in their lives. An added benefit is the fact that their father is an experienced coach who is able to lend guidance in regard to the ideal ways in which to work with and communicate with colleagues in the workplace. This, the two said, has helped greatly in their ability to work and communicate effectively with colleagues who hail from a diverse set of backgrounds.

When asked about what kind of advice they could offer to Kuwait’s next generation of female professionals in the oil and gas sector, Aisha and Fatemah cited qualities such as patience, commitment, perseverance, and good communication skills as some of the more important attributes. Before parting, the two offered the following bit of advice: “Not all of your goals will be reached easily, and it is quite likely that you will have to overcome some obstacles to get there. But if you remain strong and believe in yourself, then you can do anything. If you have a vision for yourself and your career, you can reach your target easily.”
Nano Coating Can Reduce a Building’s Energy Consumption

SUBMITTED BY THE PLANNING AND SUPPORT TEAM (TS)

The prompt growth in energy use worldwide has raised concerns over the difficulties of its supply. The contribution from buildings towards energy consumption has steadily increased, reaching figures between 20% and 40% in developed countries for both commercial and residential buildings. In countries with hot climates such as Kuwait, the major elements that cause such increases in energy consumption include air conditioning systems along with the type of glazing used for building windows. This is due to sunlight, which increases a building’s inner temperature from infrared heat radiation that passes through the windows.

Moreover, openings in a building’s envelope, referred to as “fenestration,” which are primarily windows and doors, have a major impact on providing thermal comfort and high illumination levels in a building. Therefore, a proper selection of building envelope components will considerably lower the energy usage. Windows, particularly, have a high thermal emissivity. Buildings receiving large solar energy through the window at daytime will cause the indoor temperature to rapidly increase during daytime and to drop at night.

Recently, many advanced research materials for building window technologies have seen significant progress. These technologies include solar glasses, insulating glass units, low emissivity (low-e) coatings, evacuated glazing, aerogels and gas cavity fills along with improvements in window frame and spacer designs.

Researchers have focused on improving the thermal efficiency of windows by either applying thin film coatings or specially manufactured coatings on one or more surface of installed glass. These coatings reflect the radiant infrared energy, keep radiant heat on the generated side of the glass, and allow visible light to pass. The main idea of generating windows that are more efficient is produced when radiant heat originating from indoors in winter is reflected back inside, while infrared heat radiation from the sun during the summer is reflected.

Consequently, new coating materials have reached the industrial market that use nanotechnology. They are aimed at enhancing the efficiency of windows with the vision of substantial improvement of energy conservation,
which is the most important issue. Thus, by modifying the glass material, this function can be controlled practically. The use of nanotechnology has pushed the glass vision far ahead of expectations. The enhancement of properties via nano coating has changed the glass technology into viable energy saving solutions for buildings.

For this reason, an idea was born to study the effect of nanotechnology with respect to heat transfer on a building’s glazed windows by managing light and heat generated from the sun to reduce energy consumption.

Homoud Bourisli, Snr. Planning Engineer from the Planning and Support Team (TS), initiated a body of research to study the effect of window nano coating on buildings in Kuwait, in coordination with the Kuwait Institute for Scientific Research (KISR). The research objective was to study the effect of nano coating on the heat transfer of building windows using building simulation software with different cases and scenarios. A sample building was selected and modeled to evaluate the effect on energy consumption by applying different types of window shading and nanotechnology solutions for a full year. In order to reduce the time that this research would take, simulation software was used to measure the effect of nanotechnology solutions on energy consumption, day lighting, heat transfer, and comfort levels among other simulation characteristics based on the building description.

Five cases were considered and examined in this research to experimentally measure light transmission, solar transmission, and solar heat gain coefficients through double glazed glass (6 x 6 x 6 mm) using the Window Energy Profiler ‘In-Frame’ Window Tester as following:

1. Clear type glaze.
2. Shading layer (30%).
4. Single layer nano coating.
5. Multi-layer nano coating.

These measures were then entered in Design Builder software to simulate the selected building energy consumption for a full year. Furthermore, the simulation was performed for two scenarios of the same building, one with a small window-to-wall ratio of 5.65% and the other one with large window-to-wall ratio of 17.66%. Both scenarios included the five cases mentioned previously.

The simulation results showed that using multi-layer nano coating was the best solution for the five considered cases. It will allow 71% of sunlight to be transmitted while reducing solar/heat transmission to 27%. In addition, it will reduce the yearly overall energy consumption of the building by 5.63% and 9.5% for Scenario I (5.65% window-to-wall ratio) and 9.5% for Scenario II (17.66% window-to-wall ratio) respectively. It is very important to note that the building location, window-to-wall ratio, and the number of nano layers will have a different effect on a building’s overall electrical consumption.

This research was published and presented by Homoud Bourisli at the 3rd International Conference and Exhibition on Industrial Engineering, held recently in Dubai, UAE. Moreover, Bourisli was awarded the “Best Young Researcher Award” which was presented to him in appreciation of his research paper quality, originality and significance in terms of the conference’s scope.

KOC CEO Jamal Jaafar also recognized Bourisli’s achievement during the Company’s Leadership Committee Meeting, along with Esam Al-Houti, DCEO (MP&S), and Bader Najim, TL Planning and Support (TS). Furthermore, senior KOC officials have suggested finding ways to implement nano coating technology on a KOC building as a pilot project to study the effect on overall energy consumption.
Populations in major urban areas around the world have steadily increased on an annual basis over the last century. Historically, this increase was the result of the industrial revolution in Europe and the subsequent growth of new industries year after year. To feed this growth, raw materials were needed to power the machinery and create the goods and products that were needed to satisfy the demands of growing populations. Naturally, the byproduct of these undertakings was an enormous amount of waste. In many cases, this waste proved to be harmful to human health.

For many years, waste was left untreated or ignored before individuals around the world began demanding that some action be implemented to protect the health and wellbeing of all members of society. It may have taken years of lobbying and the creation of awareness among the general populace, but the concern in developed countries evolved to such a degree that business and political leaders finally began implementing environmental protection systems for the benefit of all.

At KOC, Company officials have long understood the importance of sustainable and efficient containment of waste that is generated in Ahmadi and within the Company’s areas of operation. As a result, KOC has worked hard to help preserve and protect Kuwait’s environment, which is one of the Company’s top priorities. This later gave rise to the creation of KOC’s Environmental Waste Management Program, a pioneering project for Kuwait and KOC which was born out of the recognition of the importance of environmental custodianship.

In the article that follows, we will learn more about the aforementioned project and the recycling center that was constructed with the aim of lessening the Company’s impact on the environment. Additional information will be presented that provides an overview of recycling, including its procedures and advantages.
Methods and Procedures

Various methods and procedures have been adopted by countries around the world to eliminate waste that posed a threat to their environments. One way to tackle the issue of waste is by disposing unwanted material in landfills. Another includes burning the waste in incinerators. Other methods have included discarding waste in open landfills, or, far worse, dumping the waste into rivers, lakes, seas or oceans.

In reality, none of the methods previously mentioned provide an adequate or real solution to the problem of waste. In all of the scenarios mentioned, there is a significant impact on the natural environment. Moreover, permanently disposing unwanted materials provides an additional environmental cost: more natural resources must be used to create new goods. This poses a significant threat to future generations, and humans today run the very real risk of depleting certain natural resources. This is where the excellent benefits of recycling come into play as a solution to this dilemma.

Recycling involves the treatment of consumed materials in order to bring them back to their raw form before repurposing them so that they can be used again. The recycling process is an alternative to conventional waste disposal and can help save materials and lower greenhouse gas emissions. Recycling can prevent the waste of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing energy usage, air pollution (from incineration), and water pollution (from landfilling).

Recyclable materials include many kinds of glass, paper, cardboard, metal, plastic, tires, textiles, and electronics. The composting or other reuse of biodegradable waste - such as food or garden waste - is also considered recycling. Materials to be recycled are either brought to a collection center or picked up from the curbside, then sorted, cleaned, and reprocessed into new materials destined for manufacturing.

Japan, for example, is a pioneer in terms of recycling, where the recycling culture is common among its citizens. In Japan, and other countries with advanced recycling programs, recycling starts by sorting waste in houses, schools and governmental institutions. The waste is then sent to companies that specialize in reprocessing the raw materials, and those companies, in turn, will achieve profits while also helping citizens profit by not having to pay a compulsory tax on waste they do not recycle.

Different Benefits

Recycling aims to preserve the environment – this is the main goal. It aims to protect the environment from the risks of burning the waste, burying the waste or keeping it uncovered. This will eventually contribute to less pollution of the oceans, seas and rivers from the solid waste thrown into it that threatens marine life. It also lessens the pollution in subsurface water formations from the waste seeping down after it is buried.

Recycling also contributes to preserving the air from waste flaring, which contains toxic emissions and carbon dioxide that increases the problem of pollution. Recycling also has economic advantages because recycling will diminish the demand for raw materials. Subsequently, the raw materials will last longer and be available for future use. Recycling also saves energy that is used to extract raw materials in the first place. On the whole, recycling cuts overall energy demand; for example, it is much easier to repurpose a ton of plastic than it is to produce a ton of plastic from raw materials.

Recycling at KOC

Studies indicate that Ahmadi produces approximately 25-30 tons of waste daily, and this
is out of 2,500 tons of the total waste production in Kuwait. Recent studies indicate that Kuwait is one of the largest producers of waste in the world per capita, with most of this waste going to Kuwait Municipality landfills.

Within this context, KOC has refocused its attention on environmental protection by dedicating a significant amount of money, time and energy into developing the Environmental Waste Management Program for KOC residences and offices in Ahmadi.

This project took more than 10 years of research, study and experimentation until it reached its form today as an integrated system that helps preserve the environment by adequately disposing of and eliminating the risks associated with home and office waste. The project includes the transport, sorting and primary treatment to transform these materials from undesired waste to raw materials that support local industries. In addition, this pioneering project was awarded UN recognition. The UN is a major supporter of environmental preservation systems and projects, and the recognition by the UN has done much in the way of bolstering confidence in this important KOC project.

Recycling Center

The project, which falls under the purview of the Road and Support Team, aims to decrease the amount of waste by repurposing disposed materials in a proper way. Therefore, the Company has enacted a number of procedures and methods that will enhance the recycling culture and implement best practices in accordance with effective procedures used around the world.

As part of work being conducted to achieve those objectives, the Team recently inaugurated a center to receive waste in Ahmadi. We toured the center and were guided by Building Maintenance Supervisor Nasser Al-Hajri, who helped explain details related to the new center and the procedures applied in sorting operations and other special modern methods related to the project. It is worth mentioning that the first beneficiary of this project that has been under construction since 2004 is the citizen. One of the goals of the project is to help KOC meet its objectives as they relate to environmental protection and custodianship.

Sorting Methods

Sorting methods at the center depend on the awareness that the consumer has about his or her role in implementing this operation. This happens through the utilization of the bins that the Company distributed to offices and KOC houses which consist of four different types, in addition to a paper bin that exists in offices. The first phase of sorting solely depends on KOC employees and their families by sorting waste in the proper bins. Wrong sorting of these materials, whether it is paper, glass, metal or food will lead to the damage of these products and the inability to recycle them.
Afterwards comes the second phase, which is the responsibility of the specialized team whose role is to collect the waste from the distributed bins and transfer it to the recycling center in the city. Then, it must be ensured that sorting has been done properly so that waste can be transferred to the contractor in charge of recycling and environmental treatment of the products and materials.

**Smartcard**

The recycling center works in conjunction with an electronic system where the residents of KOC homes have an electronic smartcard that contains all data related to them. This card will allow for communication with residents and will help verify their commitment to the project. It also allows the team and the resident to know the interaction level and the waste amount that has been maintained since the launch of the project. Furthermore, this smartcard enables the Road & Support Team to determine the different contributions of KOC home residents in the recycling project in order for the team to distribute gifts and awards to the most organized residents. This initiative aims to encourage KOC employees and KOC home residents to sort waste properly and contribute more, which will result in a recycling culture in the city.

**Awareness Campaigns**

The Team in charge of this project is keen to enforce the recycling culture among KOC employees and KOC home residents through a number of successive awareness campaigns that aim to focus on the importance of proper waste sorting and placement in the proper bins.

This campaign doesn’t only target KOC employees and home residents. Instead, the Team began to also conduct seminars and distribute awareness brochures in Ahmadi schools, especially after setting aside a number of bins and smartcards to the schools to include them in major environmental projects. Furthermore, the Team conducted a competition among participating schools in implementing this project and granting awards accordingly.

**Statistics:**

- Each plastic ton received by the recycling center allows for 700 kilograms of raw oil to be saved.
- Each ton of received cardboard helps spare 2.5 tons of wood.
- Each piece of received paper saves a liter of water in addition to 2.5 watts per hour of electricity and 15 grams of wood.

**Message from the Team Leader**

Team Leader Road and Support Abdual Aziz Al-Otaibi said that the Environmental Waste Management Program falls under the context of KOC’s concern for the environment and its keen efforts to preserve it. The Company, he said, considers this undertaking a humanitarian duty for future generations, as protection of the environment will ensure Kuwait remains a safe oasis that is free from the dangers of pollutants.

Al-Otaibi also pointed out the importance of the role of KOC employees and Ahmadi residents, as they are the cornerstones in implementing this project that aims to draw on best practices related to the integrated management of waste and recycling. He also added that one of the future plans pertaining to this project is to share this experience with all Ahmadi facilities in order for them to allow Ahmadi to be looked upon as a model city in terms of waste management and recycling.
The KOC Gas Operations Team (S&EK) recently participated at the TEF Forum that was held at the Radisson Hotel, where they won an engineering award for the project they carried out which handles LP gas in the Magwa operational field to achieve zero flaring during BS-140 shutdowns. The event was held under the patronage of KNPC CEO Mohammad Al-Mutairi. Abdullah Al-Khaledi, Team Leader Gas Operations (S&EK), received the award on behalf of KOC, which was presented to him by KNPC CEO Mohammad Al-Mutairi during the TEF forum.

In a speech he made during the event, Team Leader Gas Operations (S&EK) Abdullah Al-Khaledi explained the importance of the in-house project that was carried out through MOC (Management of Change). The project, he said, resulted in a major impact on the LP gas network-operating envelope to reduce LP gas backpressure in the Gathering Centers. It also provides operating flexibility to transfer LP gas from Magwa to South Kuwait area through a 30” LP gas loop line header. Earlier, during any emergency or planned shutdown of the BS-140 facility, large flaring would affect the Magwa area, causing damage to the environment. This also affected the Magwa Gathering Center LP separator backpressure. After implementing the in-house modification project, this resulted in zero flaring even after the BS-140 total shutdown. This took place recently in November of 2016.

Al-Khaledi then expressed his appreciation to all Team members who were involved in the project, from conceptual studies to the commissioning of the project. This included representatives from Gas Operations (S&EK), OTS (Gas), Gas Maintenance (S&EK) and I&C (S&EK). He also thanked Mohammad Al-Zoubi, Manager Gas Operation’s Group, for his extensive support.

The Gas Operations Team Leader reiterated that the Gas Operations Group is developing various conceptual proposals to operate the LP and HP gas networks with new operating envelopes and is redefining the operating pressures to provide Gathering Centers with effective operating margins.

**Summary of Achievement:**

- Magwa area LP gas is unable to reach South Kuwait compression facilities in order to compress and export to KNPC-MAA. In order to ensure effective gas optimization, KOC successfully implemented a new modification from MF S2 to the old slug catcher by providing a 30” LP gas line from the S2 manifold to the old gravity connection and converted the old gravity to LP gas service. Also, an existing 30” loop line was converted to LP gas service from the old slug catcher to BS-150 suction by providing a 12” crossover between the loop line and the LP gas network S2-S4 and S5-S6 manifold networks.

- The entire old and redundant 30” gravity HP 066 pipeline was utilized for 1.8 km, which translates to very high cost savings. Due to the provision of an alternate pipeline facility, all Magwa Gathering Center LP gas system backpressure was reduced and LP gas in the order of 80-100 MMSCFD was transferred from
Magwa to South Kuwait. In turn, gas flaring was reduced and potential hydrocarbon recovery met KOC benchmarks for the year.

- Approximate savings stand at $1.2 million after implementing the in-house project.

**Definition of the Issue/Concern:**

- In Burgan Field, a total of three Booster Station facilities were available to handle LP gas and HP gas, which are producing from Gathering Centers and transported to Gas Booster Station facilities.

- Due to the recent increase in the LP gas production profile and lowering the HP gas well operating pressures, suddenly the Magwa area LP gas production profile was more than the gas handling capacity at the BS-140 facilities.

- Even though LP gas network is interconnected between Magwa and South Kuwait, there are bottlenecks in the LP gas network piping.

- Due to the limitation of the LP gas transportation, backpressure was common on the LP gas system network, and the BS-140 facility was forced to run at full operating capacity without any standby availability.

- This also impacted BS-140 TR-I & II for the annual major survey and shifted the original schedules from the planned schedules due to forced LP gas flaring in Magwa, and it was very evident during the breakdown of one operating compressor train in BS-140 for a few hours, resulting in large flaring in Magwa.

- In South Kuwait, additional operating capacity is available, but due to piping network limitations, it is unable to reach to BS-150 and BS-160.

**Options Considered for Resolving the Issue/Concern:**

- A conceptual analysis was carried out by using the Pipe Phase simulation to study the possible options to transfer LP gas from Magwa to South Kuwait.

- Provision of local compression facilities to convert from LP Gas to HP Gas (Long Lead issues).

- Reducing the high GOR wells production and production cutback. (Highly impossible).

**Steps of Implementation:**

- Conceptual proposal scheme, stakeholder’s request and loss of gas estimation memo from GO-SEK, GM (SEK), I&C (SEK),OTS (Gas).

- Approved Management of change, P&ID modifications.

- ISO metrics and bill of materials documents.

**Conclusion of the achievement, including a summary on its impact to one or more of the Company’s Strategic Objectives:**

The following are major achievements for the above modification by utilizing the in-house resources.

- Effective cost savings by utilizing the old redundant piping after verification and approval of I&C (resulted huge cost savings)
  1. 2 KM 30”pipe costs around
  2. Utilized 30x32” Piglauncher along with associated accessories)
  3. Utilization of 30” Loop Line from old slug catcher to BS-150 Q manifold

- Effective hydrocarbon recovery and available opportunity utilization by exporting to KNPC-MAA at increased flow (approximately 80-100 MMSCFD).

- Flaring reduction in Magwa and LP separator downstream system network pressure dropped and provided a very good operating envelope for Gathering Centers (6-8 PSIG drop in the network)

- During the BS-140 total shutdown period, KOC was able to sustain zero flaring in Magwa due to the enhanced modification and successfully transferred the gas to South Kuwait.
Gamification – Full Stop!

SUBMITTED BY ABDUL JALEEL THARAYIL, SPECIALIST – QUALITY ASSURANCE & BUSINESS IMPROVEMENT TEAM

In June of 2013, Maersk launched “Quest for Oil” - a freely distributed online gaming experience. It was an attempt to spread awareness and reach a younger, global talent pool. The game tests the strategic and practical skills of the player, taking gamers on a quest for oil. Since the launch, the game has been played by more than 40 million people in 182 countries.

Quest for Oil gives players the chance to understand what it is like to explore for oil from a rig made of 53,000 tons of steel, drilling to the ocean floor thousands of feet below. The game allows Maersk to expand potential job candidates’ horizons and show them the unknown universe of oil exploration. By inviting players to conquer the great abyss and supply the world’s energy needs, Maersk is tapping into something every young person likes – a good challenge. This is how Maersk has played into the latest corporate buzzword: Gamification.

Gamification, as defined by Sebastian Deterding (one of Gamification’s gurus) and others is the application of game-design elements and game principles in non-game contexts. When we talk about game elements, there are multiple dimensions to this: Mechanical, Personal and Emotional. The mechanical dimension involves incremental progression, onboarding, instant feedback, goals and quests. The personal dimension involves avatars, collective responsibility and leaderboards. The emotional dimension uses the concept of “flow” - a state of total focus on the task at hand. This idea was pioneered by psychologist Mihaly Csikszentmihalyi, who suggests that there are three necessary conditions for flow to be achieved: A clear goal, immediate feedback and a clear balance between challenge and skill.

While it is not the intention of this article to suggest to gamify everything, we shall strive to unfold the mystery behind Gamification and explore some of the industry trends, successful attempts, and impacts thereof. This article largely focuses on the oil and gas industry while not ruling out great examples from other sectors.

Gamification for Health

According to the World Health Organization’s (WHO) 2014 report, there was a 3% increase in the obesity rate of the Kuwaiti population above the age of 18 during the past four years. For males that figure is 35.5%, and for females, the figure stands at 45.9%. It is within this context that we will discuss some of the Gamification applications that have significantly helped improve exercising habits. Applications like Fitocracy and QUENTIQ use gamification to encourage their users to exercise more effectively and
improve their overall health. Users are awarded varying numbers of points for activities they perform in their workouts and move up levels based on points collected. Users can also complete quests (sets of related activities) and gain achievement badges for fitness milestones. “Health Month” adds aspects of social gaming by allowing successful users to restore points to users who have failed to meet certain goals.

Nike+ is perhaps the most compelling case from this portfolio. It is a free application launched in 2006 and today membership has surpassed 11 million users. This is a system that allows people to track, share and compare exercise results while earning fuel points. The community earns more than one billion fuel points daily, equivalent to the electricity required for 6,772 days.

Gamification for Scientific Discovery

In 2011, a game called Foldit caused a sensation by solving a 15-year-old scientific mystery in just 15 days. Scientists and some of the top PhDs in the world have long struggled to determine the structure of a monkey enzyme that played a critical role in how the AIDS virus matured and spread. Knowing its structure would help in the development of drugs to fight the virus.

The online folding protein game, which was created by computer scientists at the University of Washington, challenged thousands of gamers worldwide to come up with the enzyme’s structure in exchange for points and rankings. Even though most gamers had little or no background in biochemistry, the approach worked.

Gamification for Road Safety

Kuwait is among the top ranked countries that recorded the highest number of road traffic accidents in the year 2015. As reported by KUNA, there were 3,523,241 speeding violations, 363,584 red light crossing violations and 205,872 violations of safety measures, leading to the deaths of 424 people. In such a scenario, implementing successful Gamification techniques such as the Speed Camera Lottery could be considered. The Speed Camera Lottery is a fun way of encouraging speed limit compliance. In addition to ticketing you when you run through a speed radar too fast, the Speed Camera Lottery also notices when you are under the speed limit. It then automatically enters you into a lottery scheme. Here is where the really smart and fun part comes in: The prizes come from the fines paid by speeders. It was observed in Sweden, where it was tested, that there was a 20% reduction in the speed of the cars going by the sign.

Gamification to Improve Learning

In the book “Playing to Win: Gamification and Serious Games in Organizational Learning”, a survey was conducted by ASTD, with 25% of responding organizations indicating that they were using gamification for training and development. Additionally, analysts have posited that the Gamification market will grow by $5.5 billion in 2018, an annual growth rate of 67% (Markets and Markets global research firm). Apart from “Quest for Oil” by Maersk, there are plenty of organizations using the Gamification techniques to improve learning. Here are some great examples.

The Shell Explorer Game:

“Explore the region in a sustainable manner and find as much energy as possible, earn bonus points by solving HSE and Shell learning topics,” reads the byline on the site. The Shell Explorer Game is an exploration and production strategy game that provides users with a simplified glimpse into the oil industry. Some of the things that users can learn include cost estimations for each process, from seismic surveys and discovery to drilling and production. As one user noted, the game includes several industry and HSE statistics along the way to make it even more educational while not interfering with the “game” aspect.

Deloitte uses a gamified learning platform – “Badgeville Game Mechanics” to provide instant feedback to their users on their progress and guide them along clear learning paths. As the Deloitte consultants completed related coursework, they built up a reputation that intrinsically motivated them to continuously engage. With lifts in course completion and regular adherence, Deloitte has improved learning, making it easier to locate and source experts for projects and holistically evaluate employee performance.

Gamifying Energy Saving

OPOWER is an energy efficiency software company that applies social influence to successfully encourage
consumers to reduce their energy usage. OPOWER was co-founded in 2008 by two young Harvard graduates, Dan Yates and Alex Laskey. They observed that the best way to change people’s behavior was by showing how their neighbors are doing. You show them their utility, your utility, your best neighbor and your average neighbor and so on. Currently, OPOWER works with more than 95 utilities around the world to engage 55 million customers with their energy use. What more do we need to seek out? Especially when the energy industry is experiencing some of the fundamental challenges in terms of carbon emission, affordability, sustainability, security of supply and so on? Gamification is perhaps the way to go.

Gamification Trends

According to Gallup’s “State of the Global Workplace”, more than 35% of today’s workers in the Middle East region are not “engaged” at work, and 17.5% among them are actively disengaged. Organizations are looking forward to new and creative ways to increase engagement and work toward making positive changes that affect the outlook of employees. After all, enhancing employee engagement is critical to a company’s ability to achieve its business goals. A recent (2013) study by Gartner estimates that more than 50% of Fortune 2000 firms will be using Gamification as the primary mechanism to transform business operations by 2017.

Arabian Gazette estimates that the number of game downloads in the GCC during the past five years have almost doubled and more than 10% of downloads come from mobile users. Contrary to popular belief, the M&R firm affirms that the average gamer is 35 years old, with more than 46% being women. In essence, Gamification has proven to be very successful in engaging people and motivating them to change behaviors, develop skills or solve problems, provided they are designed correctly.

As seen in some of the examples above, Gamification is currently being applied to customer engagement, employee performance, training and education, innovation management, personal development, sustainability, health and wellness – and the list continues to grow.

In a country like Kuwait, where the social media penetration is relatively high, it would be quite reasonable to assume that the adoption of some of these techniques could be tried out for the benefit of the organization and the larger community. As Gamification takes influence all across the world and all across sections of the society, it is preferable to evaluate the opportunity presented by the trends, and explore the ways and means to adopt them into the organizational fold.

Associating with other emerging trends and technologies, Gamification is likely to cause disruptions in many different areas. This article aimed to highlight some of those areas for evaluation and possible customization and adoption. However, there are certainly other areas that will be affected. Organizations must begin now to prepare for, and take advantage of, the changes that Gamification will enable. We must look for early signs of the impact of Gamification in our industry and evaluate opportunities to leverage Gamification to change behaviors, develop skills, improve employee engagement and enable innovation. It is intriguing to note that by the time you complete reading this article, OPOWER would have saved 6,000 kWh of energy, abated 1,200 lbs of CO₂ and $600 USD on energy bills. And that sums up the power of Gamification.
Kuwait Oil Company recently participated at the 20th Middle East Oil & Gas Show & Conference (MEOS 2017) that was held recently in Manama, Bahrain. Bahraini Minister of Oil Sheikh Mohammad bin Khalifa Al-Khalifa and more than 8,000 individuals from around the world attended the conference, including 2,000 specialized professionals from the oil and gas sector.

KOC DCEO (Corporate Services) Yousef Ali led the KOC delegation to the conference that was held under the patronage of the Prime Minister of Bahrain, Sheikh Khalifa Bin Salman Al-Khalifa, and organized by the Society of Petroleum Engineers (SPE).

“2017 marks the 20th edition of MEOS, building on 38 years of successful and expanding interactions between industry and technical leaders, all in the center of a region leading the world in energy supply,” said Nabeel Al Afaleg, MEOS 2017 Conference Co-Chairman and Chief Petroleum Engineer, Saudi Aramco.

“The MEOS conference theme this year is Transforming the Industry through Innovation and Operational Excellence. Fluctuations in the oil and gas markets have made our industry very challenging. Therefore, emphasis on innovation and practicing operations excellence has never been greater. This transformation will allow the industry to continue to meet future global energy demands ensuring continuity of economic growth despite the cyclical nature of the business,” he continued.

Following a record number of abstract submissions, over 270 papers were presented during 50 technical sessions covering topics related to reservoirs, production and facilities, exploration and appraisal, drilling and completions, project management, human resources, business models and HSSE.

The packed agenda at MEOS also included an executive plenary session featuring leading industry figures discussing the conference theme, an industry keynote session entitled: Oil Price Volatility: Continue Investing in the Future to Meet Future Demands or Control Cost to Survive?, six panel sessions discussing important matters relevant to today’s industry, and a special workshop entitled: Women in Leadership - Invest, Initiate, Innovate, with influential speakers.

KOC also partook in the accompanying exhibition that was inaugurated in the presence of Bahrain’s Deputy Prime Minister Sheikh Ali bin Khalifa Al-Khalifa and Minister of Oil Mohammad bin Khalifa Al-Khalifa. The KOC booth included presentations on various disciplines and activities that were given by different Company Groups such as Planning, Research & Technology, Research & Development, Management Support, Contracts, and Exploration.

A three-day exhibition of oil and gas products and services ran parallel to the conference. Featuring over 200 exhibitors from 25 countries, it covered all areas of the upstream industry, including exploration, development, production, transportation, and processing of oil and natural gas.

Principal exhibitors included GCC national oil and gas companies, who exhibited alongside international supermajors, service industry giants and independent specialist suppliers and distributors from across the globe.

About MEOS

The MEOS exhibition is one of the most established showcases of oil and gas products and services in the Middle East, attracting NOCs, IOCs and major operating companies. Inaugurated in 1979, the profile covers all areas of the upstream oil and gas industry, and this three-day event consistently attracts over 8,000 high quality attendees.
In addition to Kuwait Oil Company, many companies around the world face problems related to bimodal age distribution of their technical manpower. For example, a sizeable group of experienced personnel are close to their retirement age and a large pool of young professionals and new hires are joining the oil and gas sector with no or very little practical exposure and experience. As a result, there is a significant shortage of a fully qualified, mid-level technical workforce to bridge this generation gap. Therefore, the need of the hour is a fast track development process for these new hires in order to equip them with sufficient knowledge and skills in the shortest possible time.

In order to develop new recruits and assist them in reaching a competent operational level through the “Blended Learning – Internally Certified Program”, a “Competency Based” new hire’s roadmap has been designed by KOC. The program is being implemented successfully to develop new hires (NH) on a fast track basis. After completion of the roadmap, a technical employee may attain the competency level where he or she can perform routine tasks and related assignments independently.

The New Hires Roadmap

A comprehensive competency-based fast track roadmap for New Hires (UDs) consists of four segments. It has been designed with a vision to have an accelerated development to meet future strategies.
These four segments include the following:

1. Familiarization
2. Customized workshop
3. Mandatory Foundation Assignment (MFA)
4. Final Technical Assignment

**Familiarization Program**

The program is designed for subsurface graduates who join the upstream organization as geoscientists, petroleum engineers, reservoir engineers or drilling engineers. Here, the target level of competency is “2” in respect to knowledge and skills as defined by the competency matrix of Kuwait Oil Company. The program includes technical sessions covering the entire range of the oil industry spectrum, site and field visits, generic courses and HSE sessions. It is an internally certified program and is mandatory for any new hires of the upstream business.

**Customized Workshop**

After completion of the familiarization program, the participants proceed to attend the second phase: Customized Workshop. In this phase, the participants are grouped as per their job family. Here, the participants are exposed to the knowledge and skills in their area of specialization, i.e. their respective job families with a focus on practical experience and doing real work under guidance. Coaching and mentoring is an integral part of the workshop where the participants receive exposure to related software and exercises in Kuwaiti fields.

**Mandatory Foundation Assignment**

The third segment of the New Hires Road Map is a unique blended learning program where they are attached with ongoing real projects. The target level of knowledge and skill is “3.” This means they can perform their routine tasks under supervision.

The MFA program has been in practice since 2009 and received international recognition through the “Get Energy Award” in 2014 under the category of “Learning at Core Category.”

**Final Technical Project**

The fourth and final segment of the New Hires Roadmap is being implemented internally where New Hires are required to complete a routine project at their respective team independently or with minimum guidance. The expected level of competence is “4” (on specific competency only) where they apply their skills to some routine or frequently performed task with no or minimum guidance. This is more challenging and determines the career path of the New Hire.

**Highlights of the Roadmap**

The uniqueness of the Roadmap for New Hires can be summarized as follows:

- Blended Learning Environment (Class, Field, E-Learning, Workplace).
- Accelerated Development (2-2 ½ years).
- Smooth Gradual Development – Segment 1: Cross Training; Segment 2: Job Family Based; Segment 3 & 4: Career Path Oriented.
- Integrated (Technical, Supporting, Soft Skills, HSE).
- Strongly supported by “Coaching & Mentoring” in all segments.
- Fully assessed and internally certified at each stage.
- Three Segments out of four are delivered through internal resources (DEC Members/coaches/mentors/L&D staff) with more control on quality.
- Support and contribution of higher management and all other stakeholders.
- Implementation of an effective communication plan, processes and QA system and procedure.

**Challenges and Change Management (Cultural Change) while Implementing the New Hires Roadmap**

A large challenge presented itself when implementing the full roadmap through complete outsourcing or through internal resources. With the management directives, a dedicated team of experts had decided to deliver three segments of the roadmap through internal resources and outsource one segment, which is the Extended Technical Workshop.

It was a great challenge to manage the training and development of the large number of new hires through internal resources. A comprehensive and systematic cultural change campaign was needed to mobilize and convince a large number
of Learning and Development (L&D) technical staff to contribute to these projects. With the help of the management, KOC succeeded in identifying and establishing a pool of talents who are categorized as Coach, Mentor and Trainer (L&D). Additionally, KOC has also approached service companies who are currently involved in KOC projects to contribute to this program.

We have now successfully implemented the first and second segment of the roadmap with minor customization. The third segment of the roadmap (MFA) has already been in the implementation process since 2009. The fourth segment of the New Hire’s Roadmap is being implemented internally where a project is set to be completed independently. This will confirm that routine tasks can be carried out independently by the new hires.

**Quality Assurance**

The assessment and internal certification is an essential part of the program. Many discussions took place with stakeholders and it was agreed by the management that each stage will be assessed and internally certified based on the findings and evidence produced. This provided full confidence to the management for signing career progression, and it also reflects transparency in the system.

An assessment tool kit for each stage has been established and implemented thoroughly. The role of the TPD QA team and group Discipline Experts in the assessment process is very critical because their reports are considered the most reliable.

**Summary and Conclusion**

For any new initiatives, there will always be resistance. Therefore, a comprehensive feasibility study with strong justification and aligned with the Company strategy was prepared and presented to the management. Additionally, a communication plan was established to take all stakeholders on board for effective implementation.

The other challenge was to identify the adequate resources. A discipline expert council with management support was established for multiple purposes. This was one of the projects we have assigned to the council members for quality assurance and delivery of some of the training sessions. In order to make the program more diverse and effective, service companies were engaged at certain stages of the roadmap. This was a good idea to establish an early link with the service companies, since the new hires will be dealing with them at later stages of their career.

**Acknowledgment**

We acknowledge the support of KOC’s higher management, group management and all other stakeholders for their efforts and contribution to make this program highly successful.

Below are the main stakeholders:

- Higher Management (CEO & DCEO –D&T- Subsurface TIU HEAD)
- Group management (Managers/Team Leaders)
- CDU members
- DEC members
- Mentors, coaches and administrative staff
- Public Relations Team and Information Team
Saving your extra dinars is the foundation of all financial success, including investing. Having money saved is what provides the means for you to take advantage of situations, whether it’s starting a new business or buying shares of stock when good opportunities present themselves. The following pieces of advice will help provide a foundation for good saving and investment habits and answer questions such as “How much money should I be saving?” and “How can I make the best investments that suit my lifestyle?”

To begin, we should start with the understanding that there is a very large difference between saving money and investing. Saving money and investing should play important functions in your life, but it is important to note that they have very different roles. How you handle your savings versus your investments can have big implications for your financial success, stress level, and how wealthy you ultimately become. It can mean the difference between suffering through a recession or depression or sleeping soundly knowing you have enough spare liquidity on hand.

Even if you are committed to saving money, you may find yourself falling into the trap of spending an extra KD 5 here, or KD 10 there, thinking, “It’s not that much. I’ll never miss it.” Depending on your age, this could be a huge mistake. One of the cornerstones of saving money is understanding the time value of money - that is, the concept that KD 1 today is more valuable than KD 1 a year from now. This single money saving tip could help transform your balance sheet over the next ten years as you free up cash to put into reserves.

Of all of the personal finance and investing techniques ever developed, one of them stands above the others in terms of making it easier to save money, and that is the strategy known as “pay yourself first.” While it sounds too simple to work, the “pay yourself” method has proven roots in behavioral economics and can make an extraordinary difference in the amount of ultimate net worth you accumulate for yourself and your family as that surplus cash quickly builds into funds you can use to invest in stocks, invest in bonds, build a portfolio of index funds, or even begin accumulating cash generating real estate properties. The pay yourself first technique is all but effortless to implement, usually costs nothing, and you can begin it with minimal planning.

Pay yourself first requires you to treat your savings or investing accounts as bills that have to be paid before any of your other bills can be paid. In the best-designed setups, the money gets transferred automatically so it requires no willpower. Depending upon the type of program you’ve created, the funds are either piled up in cash, perhaps in a savings account, or used to grow your ownership of assets that generate passive income.

If you want to build wealth, become financially independent, gain control over your time, and spend your days having your money work for you rather than you working for your money, you must master saving and investing. Anything you can do to make saving and investing easier is a victory because it accelerates your ultimate arrival at the life you envision for yourself. Saving the first KD 100,000 is the most difficult part but once you get beyond that threshold, things get a lot easier because your money starts to compound for you as your dividends, interest, and other investments grow.
Hyperloop May Bring Faster, Cleaner, More Efficient Travel to the GCC

Hyperloop One, the global leader in developing the world’s first operational Hyperloop, recently released never-before-seen images of its development site (‘DevLoop’) in the Nevada desert at the Middle East Rail Conference that was held in Dubai.

Providing the international keynote address at the 11th annual conference, CEO of Hyperloop One, Rob Lloyd, shared a bird’s-eye view of how construction is progressing at the world’s only full-system and full-scale Hyperloop test site, proving the company is well-positioned to deliver the first working Hyperloop. The 500 meter-long DevLoop, which has a diameter of 3.3 meters, is located 30 minutes from Las Vegas in the Nevada desert. The company is expected to perform a public trial in the first half of 2017. The DevLoop trial will follow Hyperloop One’s first public test of a prototype propulsion system, which took place in the same area less than twelve months ago in May 2016.

Speaking at the conference, Lloyd also shared the company’s vision for how Hyperloop One could transform the future of the Gulf Cooperation Council (GCC) with a faster, more efficient and cleaner system of mobility. A Hyperloop system is a new mode of transportation, capable of connecting to all modes of existing transportation and helping individuals be anywhere and move anything with on-demand autonomous transport. A Hyperloop One system would ease pressure on existing infrastructure and presents the potential for the Middle East to reinvent and transform transportation.

“While technology is revolutionizing many facets of our lives, we have not seen a radical change in transportation since the Wright brothers introduced air travel over 100 years ago,” said Lloyd. “Tying together the Middle East region would produce greater virtual density, without congestion and pollution, spurring innovation, productivity, job growth and more powerful sharing of knowledge, labor and investment. Building a Hyperloop would vastly impact the economy and make any major city in the GCC accessible within one hour.”

Josh Giegel, President of Engineering and Co-founder of Hyperloop One, joined Lloyd during his presentation at Middle East Rail via video from the DevLoop location in North Las Vegas, Nevada.

“I am so excited to be able to share images of DevLoop at Middle East Rail and update the world on our progress. Our team of more than 150 engineers, technicians and fabricators have been transforming what was, just over five months ago, a barren stretch of desert, into a hive of activity and now home to the world’s first full-scale Hyperloop test site,” said Giegel. “We have come
so far in such a short space of time, and our team of over 240 employees are working tirelessly to eliminate the barriers of distance and time and reinvent transportation.”

Not only will a Hyperloop system benefit the GCC economically, but socially, by facilitating easier access to critical infrastructure such as hospitals and schools, expanding access to city attractions and unlocking urban development. It could create a UAE pan-urban area within a 30-minute Hyperloop reach between Abu Dhabi, Dubai and Al Ain.

“With a Hyperloop One system in place, there is ability to further unify the alliance of the GCC, socially, culturally and economically,” said Shervin Pishevar, Executive Chairman and Co-founder of Hyperloop One. “Hyperloop could further enable diversification and make a huge impact on the region’s relatively young and growing population, reimagining how cities and countries in the region work together. Progress made on the DevLoop in just five months demonstrates how quickly we could bring Hyperloop to the GCC and to the world.”

Benefits of Hyperloop include higher standards of safety than a passenger jet, close to half the construction and lower maintenance costs than high-speed rail and energy usage that is similar to a bicycle per kilogram-kilometer. Hyperloop One estimates that around 4,000 vehicles travel every day between Abu Dhabi & Dubai, with traffic congestion in Dubai costing the economy $800 million in lost working hours. Reducing this commute to 12 minutes opens a whole new realm of options, and Hyperloop One shows an investment in a UAE Hyperloop network could unlock economic value 3.5 to 4 times over high speed rail.

Hyperloop One has announced a series of achievements in the last 12 months, demonstrating the company’s rapid progress in developing the new form of transportation. One week ago, Hyperloop One convened a landmark innovation summit – The Hyperloop One Vision for India – in New Delhi, discussing how the company could integrate with and augment India’s vast transportation network with reliable, clean and on-demand autonomous transport, connecting India’s major cities at faster-than-airline speeds.

 Held in Dubai on March 7-8, 2017, Middle East Rail brings together more than 350 construction and engineering companies, contractors and solution providers, regional and international railway operators to offer their services and present their plans for the future systems of transportation.

What is Hyperloop?

The Hyperloop is a concept proposed by billionaire inventor Elon Musk, CEO of aerospace firm SpaceX. It is a reaction to the California High-speed Rail system currently under development, a bullet train system that Musk feels is lackluster, as it will be one of the most expensive and slow-moving in the world.

Musk’s Hyperloop consists of two massive tubes stretching between San Francisco and Los Angeles. Pods carrying passengers would travel through the tubes at speeds topping out over 700 mph. Imagine the pneumatic tubes people in The Jetsons use to move around buildings, but on a much bigger scale. For propulsion, magnetic accelerators will be planted along the length of the tube, propelling the pods forward. The tubes would house a low-pressure environment, surrounding the pod with a cushion of air that permits the pod to move safely at such high speeds, like a puck gliding over an air hockey table.

Given the tight quarters in the tube, pressure build-up in front of the pod could be a problem. The tube needs a system to keep air from building up in this way. Musk’s design recommends an air compressor on the front of the pod that will move air from the front to the tail, keeping it aloft and preventing pressure building up due to air displacement. A one way trip on the Hyperloop is projected to take about 35 minutes (for comparison, traveling the same distance by car takes roughly six hours.)

About Hyperloop One

Hyperloop One is reinventing transportation by developing the world’s first Hyperloop, an integrated structure to move passengers and cargo between two points immediately, safely, efficiently and sustainably. The company hosts some of the world’s leading experts in engineering, technology and transport project delivery, working in tandem with global partners and investors to make Hyperloop a reality, now. Founded in 2014 and headquartered in Los Angeles, the company is led by CEO Rob Lloyd and co-founded by Executive Chairman Shervin Pishevar and President of Engineering Josh Giegel.
Feeling Tired? Check Your Iron.

Do you have iron deficiency and not know it? Fatigue, weakness, and cold intolerance are common symptoms of low iron. Standard blood tests may not reflect early iron deficiency. There is, however, a special lab test that tells you how good your iron stores are even before extensive changes occur. This lab test is called serum ferritin. Serum ferritin levels reflect the actual amount of iron stores in the body. A depletion of iron stores indicates a functional deficiency and early iron deficiency, which can cause a variety of health disorders. There is more to low serum ferritin and iron deficiency than meets the eye.

Symptoms of Iron Deficiency

When ferritin levels are low, there is inadequate iron transported in the red blood cells which then compromises oxygen transport. This can cause a number of symptoms related to iron deficiency. These include fatigue, weakness, headaches, dizziness/lightheadedness, rapid or irregular heartbeat, hearing the heartbeat in the ear, chest pain, feeling short of breath with simple tasks, feeling faint or fainting, cold sensitivity or unable to get and stay warm, cold hands and feet, pale skin and pale mucous membranes, yellowing or graying of the skin, hair loss, nails with ridges or depressed areas, irritability, depression, anxiety, and craving ice or non-food items like dirt, sand, clay, or starch.

Our bodies must maintain an adequate supply of iron in the body. Everyday bodily processes like sweating, urination, and bowel movements cause daily trace losses of iron. Heavy menstrual cycles, bleeding and poor absorption in the digestive tract, interference from acid blocking medications (Tums and Zantac), high bran/fiber intake (phytates), black tea, inadequate iron intake and vegetarian diets compromise iron levels. Athletes, especially runners, individuals with inflammatory bowel disease and gluten intolerance, chronic kidney disease patients, and expectant mothers are at high risk for insufficient iron and low serum ferritin levels. The adult recommended dietary intake to compensate for these daily basic needs is 18-20 milligrams of iron per day.

Low Ferritin Increases Disease Risk

Knowing what your serum ferritin levels are may just help save your life or prevent a major problem. Red blood cell, hemoglobin, hematocrit, serum iron and iron binding capacity tests may be measured and not completely reflect iron status, but serum ferritin does. Several health risks and disorders may not be properly diagnosed if serum ferritin is not evaluated. Elevated ferritin levels are problematic too, but for different reasons. Get your lab levels measured for serum ferritin to determine your status. For best results, know your serum ferritin level and iron status before supplementation.

The serum ferritin lab reference range for men is 12-300 ng/mL and women is 12-150 ng/mL. Optimal levels are generally between 50 - 100 ng/mL. Menstruating women often do better with levels closer to 100 ng/mL.

Research shows that low serum ferritin lab values are due to iron depletion and only two other known concerns: hypothyroidism and vitamin C deficiency.
Sleep Disorders and Low Ferritin

Restless Legs Syndrome (RLS) may reflect low iron and ferritin levels. In RLS, muscle twitching and legs feeling jumpy occurs as a person is drifting off to sleep. Replenishing iron stores often resolves this nuisance, sleep interfering problem. Pregnant women are especially prone to RLS.

If you suffer from periodic limb movement disorder (PLMD), check your ferritin levels. This sleep movement disorder (PLMD) causes repetitive movements usually in the legs during sleep. This is different than RLS, which occurs prior to sleep onset. You or your family member may recognize PLMD as brief muscle twitches or jerking movements as a person is sleeping. The PLMD sufferer will kick in the middle of the night and not remember the activity, but they will wake up exhausted despite a full night’s sleep. Research published in Sleep Medicine studied a random selection of 801 adults. In the study, they found a significant correlation with serum ferritin stores at 50 ng/mL or lower and PLMD. The lower the serum ferritin level, the bigger the problem with PLMD.

Mood, Cognitive Function, and Neurodegeneration

There are other significant risks and disorders that may sneak up without warning within the brain with low serum ferritin. Iron metabolism is a very delicate, tightly regulated nutrient essential to the brain. Anything outside this delicate balance is harmful. Without adequate iron, several problems occur.

Iron is essential for the synthesis and use of the neurotransmitters dopamine, serotonin, adrenalin, and epinephrine. These major neurotransmitters help emotion, focus and attention, physical movement, pleasure and motivation, etc. Iron is essential for the fatty sheath or membrane around nerves, i.e. the myelin sheath. Without iron, nerve conduction is slowed throughout the body; even the parts of the brain that process sound and sight information are compromised. Poor coordination or clumsiness, anxiety, depression, mid-life cognitive changes, and social and attention (ADD, ADHD) problems have been associated with insufficient iron.

Increased Risk of Strokes and Clots Linked with Insufficient Iron

Stroke events and risk can markedly increase with low serum ferritin and iron levels. A study in the journal Thorax found a surprising revelation with pulmonary embolism or deep vein thrombosis (blood clots in the lungs or legs) linked with low ferritin and iron levels. They found that patients with low iron and stroke history had an elevated genetic clotting factor called factor VIII. This combination led to a 2.5 fold increase chance of having a blood clot. Blood tests called coagulation studies will measure factor VIII. This study showed that high levels of factor VIII are strong risk factors for blood clots. Low iron levels were strongly associated with higher levels of factor VIII.

Congestive heart failure patients must be aware of their iron status. Iron deficiency is an independent risk factor of death in heart failure. Research shows that about half of all patients with heart failure have functional iron deficiency (low ferritin) or significant, absolute iron deficiency. Without adequate iron, the heart muscle and exercise capacity changes even when there is no change to hemoglobin levels or actual iron deficiency anemia. Iron is an essential component of myoglobin, which is a protein that carries oxygen to the heart and skeletal muscles. Without adequate iron and properly functioning myoglobin, oxygenation of the heart and skeletal muscles suffer. This leads to worsening fatigue, higher lactic acid, and further compromise of the heart muscle.

Prevention

Iron supplementation is imperative if your serum ferritin levels are low. Use highly absorbable iron bisglycinate for a non-irritating, easily absorbable iron supplement. Add in extra vitamin C and make sure your thyroid is healthy, as these are other direct causes of low serum ferritin.

Work on supporting healthy blood flow and reducing platelet stickiness, especially if there is a family history of blood clots. Helpful nutrient support includes omega-3 oils DHA/EPA, pantethine, tocotrienol vitamin E, grape seed extract, resveratrol, curcumin, and bromelain. Protect your mitochondria and your brain from this lack of iron and consequential changes in tissue oxygenation. Support may include PQQ, magnesium with malic acid, chlorella, and tocotrienols. There are an estimated two billion people on the planet with iron deficiency. You don’t want to be one of them!

*Parts of this article were sourced from material published in Wellness Resources by Linda Dobberstein.*
By the time this issue of The Kuwaiti Digest reaches your hands, preparations will be under way across the country for another long and hot Kuwaiti summer. It is around this time of year that citizens and residents alike throughout the country will begin planning their summer escapes. If you find yourself having a difficult time narrowing down your list of possible destinations, why not consider Hong Kong? This modern, vibrant city is known throughout the world as a premier destination for those wishing to shop, dine, or simply enjoy all the amenities that can be found in an international metropolis.

Hong Kong is best known as a shoppers’ paradise. However, there is so much more to Hong Kong than shopping. This dynamic and vibrant cosmopolis is a fusion of many cultures. Remnants of its colonial past and the British culture and values share space with the Chinese tradition. Hong Kong is one of the two Special Administrative Regions (SAR) of China (the other being Macau). Before the transfer of sovereignty to China in 1997, Hong Kong had been a British colony for nearly 150 years. As a result, most infrastructure inherits the design and standards of Britain.

During the 1950s to 1990s, the city-state developed rapidly, becoming the first of the “Four Asian Tigers” through the development of a strong manufacturing base and later a financial sector. Hong Kong is now famous for being a leading financial center in East Asia, with the presence of some of the most recognized banks from around the world. Hong Kong is also famous for its transition port, transporting a significant volume of exports from China to the rest of the world. With its political and legal independence, Hong Kong is known as the Oriental Pearl with a twist of British influence in the culture.

**Things To Do**

A famed shoppers’ paradise, Hong Kong offers a unique shopping experience. From trendy boutiques to traditional Chinese product stores, from luxurious shopping malls to the bustling
street markets, you can find everything from the latest designer fashions and electric products to best-value collectibles and antiques.

Hong Kong offers perhaps the widest and most exclusive range of products, from international luxury goods to local souvenirs. Most goods from all over the world, except for wine and cigarettes, are tax free, and the prices are relatively low. Moreover, there are two sales seasons in Hong Kong when the prices are much better. You will enjoy the best service as the shopping assistants are always well-trained and put customers first. The following locations are places where travelers can do some of their best shopping:

- Central, Hong Kong Island: Hong Kong’s business and economic center with top boutiques and large shopping malls.
- Causeway Bay, Hong Kong Island: A microcosm of the entire Hong Kong shopping scene, with high-end malls, medium-priced boutiques, affordable department stores, and bargain street markets.
- Tsim Sha Tsui, Kowloon: A flourishing luxury shopping and recreational area, with many high-end shops and restaurants.
- Mong Kok, Kowloon: A shopping area that preserves Hong Kong’s traditional characteristics with an array of markets, small shops, and food stalls.
- Sham Shui Po, Kowloon: A heaven for market lovers, famous for its vast amount of gadgets, electronic appliances, and computer products at competitive prices.

Where To Eat

Renowned as the culinary capital of Asia, Hong Kong is a world of exquisite, mouth-watering international dining options. Apart from trying the regional Cantonese food, tourists can also enjoy a full choice of authentic Asian and western cuisines. The local dim sum and fresh seafood are must-tries.

Dim sum means "to touch the heart". Dim sums are to Hong Kong people what tapas are to the Spanish. It is all about small servings of different dishes that are always served in piping hot bamboo baskets. The classic dim sum dishes are shrimp dumplings (har gau), congee (rice porridge), steamed meat dumplings (siu mei), sweet meat buns (char siu pau), and rice noodle rolls (cheung fun). It helps to assemble a small group of people so as to be able to order many different kinds of dim sum. Dim sum restaurants, which are always lively and crowded with diners, are good places to have a close interaction with local people and experience local life.

Hong Kong consists of more than 200 islands. Seafood is certainly an integral part of Hong Kong cuisine. If you are a seafood lover, you should not miss a seafood experience in a local restaurant in Hong Kong. The main seafood options are grouper, abalone, crab, clams, shrimp, lobster, and scallops. Seafood restaurants can be found everywhere in Hong Kong, but the ones in seaside villages and on small islands are the best. You will find that the restaurants have tanks full of their live swimming offerings. You just pick your meal on the spot and tell the server whether you want them to be braised, steamed, or stir-fried.

Hong Kong is a perfect destination for family tours, with parks, temples, museums, and natural reserves. Children will have fun meeting cartoon characters in Disneyland, taking a boat ride at a fishing village, and riding the tram all way up to the Victoria Peak.
Kuwait is building one of the world’s longest causeways to the north of the country where it will pump billions into “Silk City”, a project that aims to revive the ancient Silk Road trade route. Kuwait is currently making bold plans to inject life into the uninhabited Subbiya region on its northern tip that has been chosen as the location for Silk City.

The plan is to reinvigorate the ancient Silk Road trade route by establishing a major free trade zone linking the Gulf to central Asia and Europe. The 36-kilometer bridge, three-quarters of it over water, will cut the driving time between Kuwait City and Subbiya to 20-25 minutes from its current 90-minute journey.

Investment in the Silk City project is expected to top $100 billion, and a 5,000-megawatt power plant has already been built in Subbiya. At a cost of KD 904 million ($3 billion), the Sheikh Jaber Al-Ahmad Al-Sabah Causeway, named after His Highness the Amir who died in January 2006, is one of the largest infrastructure ventures in the region. It is already nearly three-quarters completed.

Despite the sharp drop in oil income which made up 95 percent of public revenues, Kuwait has pledged to keep spending on capital projects almost intact.

A Strategic Link
Kuwait boasts a $600-billion sovereign wealth fund and is in the middle of a five-year development plan stipulating investments worth $115 billion.

“The causeway project is a strategic link connecting Kuwait City to the northern region,” said Ahmad Al-Hassan, Assistant Undersecretary for Road Engineering at the Ministry of Public Works.

He maintained that in addition to the fully integrated residential Silk City, other economic ventures are planned for Subbiya and its surroundings. A large container port is also under construction on nearby Boubyan, Kuwait’s largest island.

About the Causeway:
The length of the causeway will be approximately 37.5 kilometers. The project starts in Shuwaikh, connecting to Ghazali Intersection and Jamal Abdul Nasser Street, passing by Jouan Al-Kuwait, and north to Subbiya. The causeway will feature three per direction, plus an emergency lane. In addition, two artificial islands will be constructed. Each island will contain buildings for traffic and emergency services, causeway authorities for maintenance control, a gas station, and a boat dock. The causeway also includes a main navigation causeway that will be 23 meters high with a 120 meter navigation opening dedicated for passing ships.
1960s
A Kuwaiti rigman conducts work in the field.