The objective of OPAL Award for Best Practice that started since 2015, is to bring the best performing members to limelight and disseminate their achievements across the industry. The event also provides the opportunity to other members to emulate their counterparts and to encourage them to compete in such proactive developments.

OPAL’s Best Practice Awards program is designed to identify and honor companies and other organizations that have demonstrated best practices in developing, deploying, and maintaining solutions. Winners are chosen by a panel of independent judges who have expertise in the field. Judges select winners from written entry forms and, if needed, follow-up interviews. They score entries on business value, maturity, innovation, and relevance to other organizations.

CLASSES FOR AWARDS
1. Operating Companies
2. Contractors
3. Local Community Contractors (LCC)

CATEGORIES
■ Omanisation – Most innovative policies and procedures implemented towards recruiting, developing and retaining Omani workforce.
■ Health & Safety – Most successful HSE practice that has minimised risks to fatal injuries, damage to assets and reputation or change people behaviour and improve safety culture.
■ Environment – Practices that have significant positive impact in reducing emissions, saving of water and electricity or reduction of waste.
■ Energy Transition – Adopting of energy efficiency initiatives like use of renewables and better management of energy, thereby minimizing carbon footprint.
■ Operational Excellence – Technically recognized as best practice in the industry, using innovative approaches or techniques that improved the operational efficiency and effectiveness in terms of reduced resources, time, and/or scale of economy, improved profitability so as benefiting the company and the industry as a whole.
■ Omani Products and Services – Companies who maximize the use of locally manufactured products and/or services that retain and improve local business partnerships and supply chain.
■ Research & Development (R&D) – Sustained research and development activities that are developed or promoted or implemented for the benefit of the Oil and Gas Operations that enhance production without impacting safety and environment.

INTRODUCTION
<table>
<thead>
<tr>
<th>WINNING PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Al Baraka Oilfield Services SAOC</strong></td>
</tr>
<tr>
<td>Local Community Contractor (LCC)</td>
</tr>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>Operational Excellence</td>
</tr>
<tr>
<td><strong>Al Hassan Switchgear Manufacturing Co. L.L.C.</strong></td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
</tr>
<tr>
<td>Operational Excellence</td>
</tr>
<tr>
<td><strong>Alshawamikh Oil Services SAOC</strong></td>
</tr>
<tr>
<td>Local Community Contractor (LCC)</td>
</tr>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>Omanisation</td>
</tr>
<tr>
<td><strong>Daleel Petroleum Company L.L.C.</strong></td>
</tr>
<tr>
<td><strong>Operator</strong></td>
</tr>
<tr>
<td>Research &amp; Development</td>
</tr>
<tr>
<td><strong>Occidental of Oman, Inc</strong></td>
</tr>
<tr>
<td><strong>Operator</strong></td>
</tr>
<tr>
<td>Omanisation</td>
</tr>
<tr>
<td><strong>Oman Cement Company SAOG (OCC)</strong></td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td><strong>OQ</strong></td>
</tr>
<tr>
<td><strong>Operator</strong></td>
</tr>
<tr>
<td>Operational Excellence</td>
</tr>
<tr>
<td><strong>Petroleum Development Oman</strong></td>
</tr>
<tr>
<td><strong>Operator</strong></td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
</tr>
<tr>
<td>Energy Transition</td>
</tr>
<tr>
<td>Omani Products &amp; Services</td>
</tr>
<tr>
<td><strong>Petrofac</strong></td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
</tr>
<tr>
<td>Omani Products &amp; Services</td>
</tr>
<tr>
<td><strong>Schlumberger</strong></td>
</tr>
<tr>
<td><strong>Contractor</strong></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
</tr>
<tr>
<td><strong>Seeh Al Sarya Engineering L.L.C.(SAS)</strong></td>
</tr>
<tr>
<td>Local Community Contractor (LCC)</td>
</tr>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>Health &amp; Safety</td>
</tr>
</tbody>
</table>
Petroleum Development Oman (PDO) is the leading exploration and production company in the Sultanate of Oman. We deliver the majority of the country’s crude oil production and natural gas supply, but above all we focus on delivering excellence, growth and sustainable value creation within and well beyond our industry.

**Title of Best Practice:**
INTEGRATED JOURNEY MANAGEMENT SYSTEM (IJMS)

**Project Description**
With more than 300 million km driven yearly for PDO operations, road safety remains a highly exposed risk area. Motor Vehicle Incident Reports (MVIR) still encounters noncompliance on road safety such as not following the journey plan, over speeding and seatbelt violations, mainly from contractors’ side. MVIR requirements were mandated several years ago in all PDO contracts, however, there was no governing structure in place to overlook the entire set up and provide assurance on In-Vehicle Monitoring System (IVMS) implementation effectiveness, given that there are over 8,500 vehicles in operation, as well as more than 15,000 drivers. To tackle road safety issue Integrated Journey Management System (IJMS) was developed. First phase was a dedicated Journey Management Control Center (JMCC) that was established in January 2016. All contractors were requested to provide access to their IVMS platform so JMCC can track all vehicles in real-time. Vehicle movements and their respective speeds, as well as driving compliance to Life Saving Rule (LSR), are now tracked by JMCC. All violations are capture and insert in PDO Incident Management System (PIM) being subject of consequence management.

The second part of IJMS was digitalization of safe journey management by shifting from paper forms to digital application. That guide inquiry of each driver’s training currency, fitness to work, and understanding of the routes and hazards along the journey to an electronic software based systems. By combining these two functions, PDO has enabled full online monitoring of all land transport across its operations and is able to graphically display in the form of electronic dashboards and geo-referenced mapping through layers on PDO Earth including driver violations.

What makes this innovative solution particularly successful is the IJMS tackles road safety risk by optimizing journey time, removing or managing unnecessary trips, and illuminating driver behavior. This is done through the system, freeing the Journey Managers adequate time to act upon automated data analysis and real time intervening when violations occur. This includes both real time data, as well as historical trending, making for effect continuous improvement and program catering to minimize safety exposure.

**Business Impact**
PDO has enjoyed a cost benefit ration of 1:3 since commissioning IJMS as calculated on economic value of injury and fatality in Oman road traffic. More than the economics, this supports a care of people breakthrough program that ensure both PDO and public residents in Oman return home the same condition they left. It is difficult to capture these indirect economics, but the contribution to a general road safety culture across the Sultanate is noticeable even in public statistics.
Schlumberger

Schlumberger is the world’s leading oilfield services company. It employs 105,000 people representing 170 nationalities with products, sales and services in more than 120 countries. Schlumberger supplies the industry’s most comprehensive range of products and services, from exploration through production, and integrated pore-to-pipeline solutions that optimize hydrocarbon recovery to deliver reservoir performance sustainably. At the same time, Schlumberger develops methods and processes using ever-less-invasive means minimizing environmental footprints while maximizing positive influence on the communities where it operates.

Title of Best Practice:
IMPROVING DRIVING PERFORMANCE

Project Description
This project involves the development and application of technology and innovative solutions to improve driving performance based on extensive global company leading and lagging data analysis. This analysis has identified outcome focused solutions which the company has implemented to influence improvement in driver behaviors and actions. Tailored solutions were identified and implemented, ranging from innovative vehicle enhancements to high technology and mobile applications.

The data analysis was used to identify trends in the type of vehicle impacts and associated driving conditions as well as driver behaviors that lead to these events. Identified solutions include advanced driver assistance systems retrofitted into company vehicles. This technology provides pedestrian and cyclist collision warning, forward collision warning, lane departure warning, headway monitoring warning as well as a speed limit indicator. The instantaneous in-vehicle warnings provide the driver with additional reaction time to avoid potential collisions as well as giving real time feedback on critical behaviors, which act as performance coaching in improving driving performance.

Two innovative mobile technologies have been implemented to target driver behaviors and develop a self-improvement mindset for driving performance as well as engaging drivers in a more active trip risk evaluation. These technologies also assist line management by providing a simple digital trip approval process and the opportunity to give personalized feedback to the driver on their performance, including recognition and targeted coaching. Driving performance data collected is used to encourage healthy competition between individuals and teams through a variety of global and local recognition programs.

Business Impact
The Driving Performance lagging indicators in 2019 YTD shows a 50% reduction to the automative accident rate vs the same indicator in 2017. This represents a significant improvement to the company and contractors driving performance.
Health and Safety
Seeh Al Sarya Engineering L.L.C. (SAS)

Seeh Al Sarya Engineering LLC(SAS) is an ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007 Certified and Established Company incorporated in 1997. SAS is engaged in carrying out Oil and Gas related Engineering, Procurement, Construction and Maintenance work that includes Civil, Mechanical, Electrical, Control & Automation, Pipeline works. SAS has undertaken and completed all the projects on schedule to best quality and safety standards for Petroleum Development Oman, Daleel Petroleum Oman and Occidental of Oman Inc. Over the years, SAS has successfully marked itself as a cohesive service entity with a steady financial position and a strong competitive edge. An association with some of the highly reputed clients in Oman, apprises the strong credentials of the company. Within a short span, SAS has elevated and carved its competencies to capabilities of undertaking valuable projects and timely delivery of commitments.

Title of Best Practice:
LOWERING PIPE SPOOL

Project Description
For the last 3 years company management strives continuously to innovate HSE best practices in various discipline under the off plot mechanical construction project in the Oil & Gas Industry.

Workers working in the Oil & Gas construction industry are incessantly borne to unsafe working conditions and must confront several kinds of hazards. This embraces exposure to handling of tubular goods, working at height, heat, sound, dust and toxic substances, issues of ergonomics, stress etc. Therefore, looking for new ideas to manage workplace hazards in a systematic manner becomes inevitable. Also, because of increased number of reportable cases, SAS tried to develop good & best practices to mitigate the identified hazards by adopting the hierarchy of controls as fundamental to establish HSE best practices. These HSE best practices are prescribed as being correct or most effective safe method to do the job and not only lower the rates of workplace accidents and injuries but also helps develop new ideas for keeping construction workers safe.

Business Impact
Company have achieved enhanced Safe work environment through various range of HSE best practices, the number of work-related reportable cases has come down, and the workers morale has gone-up. Working crew efficiency has increased greatly through time & cost reduction.
Omanisation
Alshawamikh Oil Services SAOC

Alshawamikh Oil Services SAOC, is joint stock shareholding company with 1,615 shareholders from the concession area. It was established based on Royal Directives and Government Steer to create investment opportunities for the people living in and around the oil fields, as well as to achieve several national objectives and enhance in-country-value (ICV). With this wide shareholder base from the oil & gas concession areas Alshawamikh.

Incorporated in 2011 under commercial registration number CR1105135, Alshawamikh progressed steadily over the years to build its technical capabilities, portfolio of service and committed workforce. Underpinned by its vision to innovate in service delivery, achieve world class performance, and to maximize client’s value, Alshawamikh stands out today as one of the most recognised and trusted super local community contracts within the Omani oil & gas market.

Title of Best Practice:
ENHANCE OMANISATION IN PIPELINE MAINTENANCE PROJECT

Project Description
This is a unique “first-of-its-kind” initiative in the Omani Oil and Gas industry where a service provider / contractor comes forward with a self-developed proposal to train Omanis on the job and commit to employ them. After the job creation opportunity was identified, the Alshawamikh used their own expertise in Pipeline Integrity Maintenance to create training development packs for Omani graduates to follow and establish in this field. As a result 26 graduates have been selected and on-boarded in July 2018 to occupy productive and meaningful jobs such as:

- Site Management
- Quality Engineers
- Civil Supervisors
- Pigging Supervisors
- Pipeline Maintenance Supervisors
- Painting/Blasting Supervisors
- HSE Advisros
- Pigging Technicians
- Pipeline Maintenance Technicians
- Assistant Mechanics

With this initiative Alshawamikh will be running 100% Omani Crews in technical specialised areas such as pipeline integrity maintenance where the Crew Supervisor is a competent Omani, the Crew Technicians and Assistant Mechanics are all competent Omanis.

This is completely different from the current practice followed by many crews within Oil and Gas where Omanis occupy Crew Driver roles only.

Business Impact
Job creation for Omani graduates in front-line supervisory and technical roles. Has potential for hundreds or thousands of job creation opportunities.
Occidental of Oman, Inc. is a wholly owned subsidiary of Occidental, an international Oil and Gas exploration and production company, and one of the largest U.S. Oil and Gas companies based on equity market capitalization. Occidental has been producing in Oman for over 30 years, where it has steadily increased production and reserves and is honored to partner with the Government of Oman.

Today, Occidental is the largest independent oil producer operating in the country, with major operations in the north, primarily at Safah Field, and in central Oman at Mukhaizna Field. Occidental was recently awarded three new exploration blocks, more than doubling its land position in Oman to 6 million gross acres. Occidental is committed to safeguarding the environment, protecting the safety and health of employees and neighboring communities and upholding high standards of social responsibility throughout its worldwide operations.

Title of Best Practice:
TALENT MANAGEMENT STRATEGIES

Project Description

Maturity: Mukhaizna Project is a heavy-oil field in which such nature requires unique set of technologies, skills and equipment.

Relevance: The adopted talent management comprehensive framework to support this project considered three main pillars highlighted below:

1. Understanding Business Need: As Occidental acquired Block 53, expertise from all over the world have been engaged to create a detailed field development plan to start operating the field. Accordingly, and at a very early stage, there was an upfront engagement with all key stakeholders to define the needed technology, equipment and workforce.

2. Hiring Strategy: Due to the complexity of the project and the scarcity of the needed workforce from the local and regional market, Occidental Oman developed a robust workforce plan that assisted the organization to acquire the required expertise on temporary basis from all over the world during the startup phase. This was combined with a long-term sustainable plan in order to increase the national workforce and build local capabilities. The long-term strategy centered on the national fresh graduates as a key pool of talent that we targeted. This strategy helped in creating more than 1300 employment opportunities, which were filled by Omanis since 2005.
   - Over 55% of the hired nationals were fresh graduates.
   - More than 620 fresh graduate diploma holders were hired to handle core positions in the field as Operators and Technicians.

3. Talent Development: A full strategy has been developed that shifted the philosophy of the talent development within the organization from having short off-shelf ad-hoc sandwich courses based on managers’ requests, to long-term sustainable solutions. These solutions include competency based development programs and full packages of learning tools that are tailored to specific needs based on structured assessments. To support these solutions, Occidental Oman has invested in providing the required infrastructure such as state-of-the-art learning centers, training faculty, and the latest simulators and training equipment that support the learning processes and provide an excellent learning environment for employees. Moreover, with each training product, change management/communication strategies have been adopted to ensure we are associating the products with effective communication to all stakeholders, ensuring the desired cultural change is achieved and resulting in a successful implementation.

4. Innovation: Utilizing technology, Occidental Oman has successfully established the Virtual Reality Center (VRC). The VRC is well equipped with the latest technology to accelerate the learning of fresh graduates and expand the knowledge of the experienced employees under Operations and Maintenance departments. The VRC provides 3 dimensional process simulation and virtual walkthrough plant environment, which made Occidental Oman a pioneer in utilizing such technology in Oman to support the learning and development processes.

Business Impact
We have proudly achieved:
- 91% overall Omanisation
- 100% Omanisation in Asset Top Management
- 100% Omanisation in Operations Process Management
- 100% Omanisation in Subsurface Management
Al Hassan LLC Group, established in 1975, is a prominent business group in Sultanate of Oman, engaged in multi-spectrum activities in Manufacturing, Electrical products trading and EMI Projects. It has a multi-cultural workforce of 300+ employees comprising multiple nationalities including a large number of Omani nationals. The LLCs also operates in UAE & Qatar through its subsidiaries & representations.

Title of Best Practice:
LEAN MANUFACTURING METHODOLOGY

Project Description
Al Hassan Switchgear Manufacturing Co., a reputed manufacturer in the field of LV & MV switchgear products has a strong local presence since 1992, an organization having a vision to “Excel in providing quality products and services in engineering disciplines with special trust on power, oil & gas and water sectors, through a profitable and growing organization which exceeds aspirations of the stakeholders and contributes towards the country’s economic development and welfare of the society complying with health, safety and environment norms”.

Lean Methodology: Lean manufacturing or simply ‘Lean’ is a systematic way of optimizing the people, resources, effort and energy of organization toward creating value for the customer by eliminating non-added values to customer or to the business without affecting productivity. It is based on two guiding tenets, continual improvement and respect for people.

Al Hassan Switchgear Mfg L.L.C. have made remarkable changes from traditional way of manufacturing to modern way of manufacturing by introducing “Lean Manufacturing Methodology”. A steering committee was formed headed by CEO and members from various process department managers to deploy the LEAN Manufacturing in our operation.

A Project broad steps developed for the deployment of Lean manufacturing. Number of KAIZEN workshop identified & held with different stakeholders to understand the process and pain points using brainstorming exercise. A value stream analysis (VSM) was performed by consultant experts for the complete manufacturing & supply chain covering “end to end” process which includes detailed motion and time study which was carried out to map the process and after its comprehensive study, a future state map was proposed coining out from Kaizen burst on the respective process to create value addition to customers in delivering on time quality products & services.

Business Impact
As people are at the heart of any operation. Al Hassan LLC have spent a lot of energy in shaping up and up skilling their employees towards Lean Manufacturing. In Al Hassan perspective, Lean impacted employees / stakeholders in the following ways;

Leadership: Factory leaders use Lean to drive business performance.

People: Workers are engaged and enabled to drive business success through continual improvement.

Process: Factory processes are predictable and agile in response to market demand to create value to customers.
ChemTrack is a name of chemical tracking system that has been developed to present the performance of production chemistry in highly attractive way. ChemTrack has been developed to make auto updates in different sectors related to production chemistry like chemical stock and chemical performance. This project truly demonstrates the power of using the available resource (Microsoft Excel) to end almost with the same output delivered by highly advanced software. The main features of ChemTrac are:

- Hundred files get summarized in one page
- Auto calculate the stock.
- Auto generate stock reports and send it through email.
- Auto calculates the chemical performance.
- Auto generate graphs
- Flexibility
- Lean

ChemTrack helped in saving 52000 $ through optimization of demulsifier injection rate. The power of ChemTrack fills in its capability to lean the processed data in auto manner. All features that have been set in the intended vision have been met as majority of chemical performance is tracked through speedometer. Request for new chemical delivery is initiated based on figures given by the tracking system. Another power of ChemTrack is its capability to be readily implemented by other PC in other clients. More than that, it is strong enough to be implemented in other areas outside production chemistry scope. For example in OQ tracking system tools are in process to be used for the following:

- Measuring the uptime of RO plant.
- Stock and performance of conditioning loop oil monitoring.

Innovation part of ChemTrack is that how to utilize the tools used in other non-oil industry and implemented in oil industry. The majority of tools used in this tracking system are basically used for banking and trading matters. It worth to mention that Chemtrack is applicable at the conditions where a. You don’t have the luxury to make a contract for such services. b. You are requested to deliver more with limited recourses. c. You don’t have developers.

Business Impact
This project is extremely essential and useful to projects in Oman which don’t have the luxury to buy expensive and advanced software.
Operational Excellence
Al Baraka Oilfield Services SAOC

Title of Best Practice:
COMMISSIONING OF AN ONSHORE WELL IN PDO

Project Description
Commissioning of an onshore well in PDO consists of activities ranging from well pad construction prior to Rig arrival and post drilling operations when the Rig moves out, making sure that the well is hooked up from the Christmas Tree to nearest battery limit setup and further on connecting with flowlines up to the Manifold/Gathering station/Production station as appropriate. This involves working with an assorted discipline of team members ranging from Engineering Design professionals along with Civil, Mechanical, Quality, Electrical and Instrumentation technicians. Closely connected are the client-side Cluster Site Operations/Well Delivery team and the Al Baraka Site Coordinator along with his team members. The aim is to commission the well successfully within the stipulated target days as per Client’s KPI metrics keeping HSE ground rules intact. Various operational challenges are encountered starting from terrain conditions while constructing well-pads, waste-pits, cellars et al. On the flowline construction side, challenges are aplenty starting with changing subsurface fluid conditions affecting availability of suitable material of construction, sand dune obstructions, welding specifications and procedures needing re-certification etc. Over and above this, lies coordination with the various sub-contractors, all delivering their specific scope of work in a timely fashion so that the earliest start time of each small activity and their latest finish times are accurately monitored with scrupulous monitoring of the Critical Path so that no unwanted slack is generated causing delay in project commissioning.

Business Impact
Business value was achieved both from HSE and Operational best practices. The average time taken for commissioning typical wells in Petroleum Development Oman (PDO) varies from weeks to months depending on individual geological locations, Rig performance, well orientations and associated complexities with each of the nearly 200 fields across North & South Oman in Block 6 concession area. Commissioning of Anzauz 42 (an oil well in Anzauz - Bahja Cluster area in PDO Block 6) was achieved involving an assorted professional crew of Design Engineers, Civil, Mechanical, Quality, Electrical and Instrumentation technicians of around 25 people working relentlessly to complete pre-Rig on location activity of construction of Carbon Steel (CS) pipeline with High Density Polyethylene (HDPE) lining of 1.95 km length, two graded road crossings, three expansion loops, an ESP skid installation, transformer soaking, overhead line live tie-in and WIMAX installation without compromising QHSE standards at any point of time. Post-Rig move-out the engineering work of hook-up spool installation including hydrotesting, cable and instruments installation/loop checking and SCADA link for communication and final mechanical tie-in was completed in just one day and a few hours which is a record by onshore oil industry standards in the Middle East. Assuming an average of 20 m³/day of oil production from typical Anzauz wells, this amounts to saving in deferment cost of nearly 8,000 US dollars per day at current oil prices. If we assume a saving of approximately 7 days in commissioning time, it amounts to around US 56,000 in a week. The payback on investment for this project is estimated at less than 6 weeks.
Environment

Petroleum Development Oman

Petroleum Development Oman (PDO) is the leading exploration and production company in the Sultanate of Oman. We deliver the majority of the country’s crude oil production and natural gas supply, but above all we focus on delivering excellence, growth and sustainable value creation within and well beyond our industry.

Title of Best Practice:
HARWEEL FLARE REDUCTION PROJECT

Project Description
Gas preservation and conservation is vital to PDO and Oman, and as more gas is being used for Enhanced Oil Recovery (EOR) in PDO, it is clear that gas lost to flaring should be limited as much as possible. In GBA, associated gas produced through HMPS (CO2 5-10% and H2S 4-6%) is partly treated and exported, while the rest of the gas is injected back in the reservoir. Also during reinjection of gas, major GHG’s are stored back in the reservoir, thus reduce overall emissions of CO2 and H2S, and thus reduce carbon footprints from the operations significantly. Due to process upsets/station instabilities in HMPS flaring has been traditionally quite high (~500-600 km3/d).

Several activities have taken place to reduce/optimize the flare in HMPS by utilizing existing infrastructure during process upsets. Key initiatives are as follows:

1) Improving MP/HP compressor motors reliability by replacing the motor resistors with Rosenberry starting hub’s eliminated frequent resistor replacements and reduced flaring due to compressors down-time by (~ 120 kSm3/d) year average
2) Replacement of the Anti-surge Valve in HP Compressor reduced flaring due to compressor down-time for antisurge valve repair by (~50 kSm3/d)
3) Use of MP compressor for injection during HP compressor upsets in HMPS. Instead of shutting down full injection and flare all the gas MP compressor was utilized to inject part of the produced gas at lower discharge pressure into the reservoir instead of flaring the produced gas (~1.0-1.5 mln m3/d)
4) Commissioning of the Sour TEG Unit off gas blower reducing the flared gas by (~45 km3/d)
5) Reducing the flare purge gas by replacing the purge gas restriction orifices and minimizing purge gas rate to design recommended flowrates (~15 km3/d)

Overall gas flaring reduced from ~500-600 kSm3/d down to ~80 km3/d (purged gas) on daily rate from the improvements outlined above with savings/gas value of over $30 mln per year.

Business Impact
1) Current flaring in 2019 (~180 km3/d YTD) is only ~35% of the gas flared in 2017-18 (~520 km3/d YA) generating savings of ~$20 mln per year.
2) Daily flaring rate is limited at about 80 km3/d (purged gas) and the current YTD performance is dominated with non-routine flaring e.g. due to compressor trips.
3) Gas saved due to these initiatives is injected back in the reservoir which helps in oil recovery by ~30-40 m3/d 4) About 100-200 m3/d of extra oil production as wells not closed in due to flaring constraints.
Oman Cement Company SAOG (OCC) was established in the year 1978 as part of the renaissance initiated by His Majesty Sultan Qaboos bin Said. Cement plant with a clinker capacity of 600,000 MTS per annum was commissioned in 1983 and subsequently due to increase demand for the cement in the region; plant capacity was expanded to 1.2 Million tons per annum in the year 1998, which enabled OCC to produce 1.26 Million tons of cement.

In 2006, Company has installed a Cement Grinding Mill with a capacity of 3000 MTS per day. Further installation of third clinker line to increase the clinker production capacity from 1.2 Million MTS to 2.4 Million MTS per annum has been commissioned during year 2011. In 2016 OCC Installed a Grinding mill with capacity of 150 MT per hour thus increasing the grinding capability to 3600 Mt per day. OCC customers are from across Oman for construction cement and globally for Oil Well Cement Class OWC “G” cement.

**Title of Best Practice:**
RECYCLING OF SPENT CATALYSTS FROM REFINERY IN CEMENT MANUFACTURING

**Project Description**
Oman Cement Company (OCC) has taken the lead to recycle this Refused Fragmented spent Catalysts RFCC in its cement kiln as a raw material in the production of cement. Technical and feasibility studies were done for the project. After getting all legal requirements and permits, the plan of project was executed successfully.

Using this by-product material at a raw material to replace natural raw material has many advantage for the environment in term of saving the natural raw material by reducing the consumption, eliminating the accumulation of the by-product materials, saving the cost of building storages for storing it, saving the cost of transporting and exporting it and encouraging the social responsibility in recycling the by-produce. In addition, this is an integration between the industries regarding converting by-produce into products.

Thinking out of the box from traditional idea of dumping, storing, or exporting the by-produce to an innovative idea to minimize, re-use, recycle, or treat this by-produce in term to use it in another application as an alternative raw material.

Innovation also presented in the communication and negotiation process where win-win situation for all parties is achieved.

The project has succeeded and ready to increase the quantity consumed using a dosing system where the material flow can be controlled farther and easier. Also, exploring more by-produce to clear it from the environment and put it in the cement kiln is a continuous process in OCC.

**Business Impact**
OCC gained several values from this project direct and indirect. Some direct values were like building a strong relationship with ORPIC and its supplier which is important for long term cooperation and business continuity. In country value was a clear benefit since both OCC, which got some money per ton RFCC, and ORPIC save money from avoiding exporting the RFCC and both are Omani companies. Moreover, transportation contracts gain some contracts for material handling.
**Omani Products & Services**

**Petrofac**

Petrofac is a leading international service provider to the oil, gas and renewable energy industries. We design, build, operate and maintain our client’s facilities to provide assured and ultra-efficient delivery outcomes for some of the world’s leading national, international and independent energy companies. We provide services on and offshore, upstream and downstream. Petrofac has delivered more than 200 major and mega projects in some of the world’s most challenging locations. Whether in the desert or the Arctic, our focus is on assuring on-time, faultless project delivery.

Petrofac has been in Oman for more than three decades. Our teams have been supporting the Sultanate’s industry and economy since 1988, developing local workforce competence and generating in-country value (ICV). We are focused on maximising the local supply chain and resources, working hard to be an integral part of the community. In joint venture with Takatuf (a subsidiary of Oman Oil Company) our leading edge technical training centre of excellence in Knowledge Oasis, Muscat, aims to accelerate the development of skilled and competent Omani school leavers and diploma holders into technicians and operators for the energy industries.

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**Title of Best Practice:**

**LOCAL STEEL MANUFACTURER DHOFAR STEEL STRUCTURE**

**Project Description**

We have supported hundreds of subcontractors in various areas including skills, competency and capacity development as well as HSSE. We first engaged Dhofar structures in 2017; we held a roadshow in Salalah to meet potential suppliers and subcontractors for a project in the region. We immediately recognised the potential of Dhofar Structures and we worked closely with them to ensure they could deliver the scale required for the project. In recognition of the company’s potential, initially we provided equipment free of charge. We then went on to provide engineering drawings for the expansion of the facility and used our extensive Omani supply chain knowledge to help Dhofar Structures procure new machinery within Oman to ensure the economic benefit remained in-country. We have also introduced Dhofar Structures to other companies, leading to additional contracts being awarded.

Our best practice approach to developing local suppliers and subcontractors helps ensure ongoing and long-term sustainable development in Oman.

**Business Impact**

Through working closely with Dhofar Structures we helped the company:

- Increase manufacturing capacity by over 3 times
- Increase minimum wage by 23%
- Grow its factory to 7,500sqm
- Hire 30 Omani staff members
- Improve HSE standards and metrics through training
- Develop and upskill existing staff
- Grow from a local Salalah-based company to a national company.
Omani Products & Services

Petroleum Development Oman

Petroleum Development Oman (PDO) is the leading exploration and production company in the Sultanate of Oman. We deliver the majority of the country’s crude oil production and natural gas supply, but above all we focus on delivering excellence, growth and sustainable value creation within and well beyond our industry.

Title of Best Practice:
NON METALIC MATERIAL

Project Description
The nature of PDO reservoirs are very challenging and corrosive to a high number of materials. High end materials were imported for such application from abroad due to non availability of adequate materials for these application in the country.
One of the initiatives originated from the material and corrosion department to use Non-metallic solution to overcome the challenges faced. PDO is globally known to be the pioneer of the non-metallic materials.
PDO took initiative to develop/ qualify and mature Local Non - metallic material manufacturers to be able to supply to high end application with a cost effective solution. Currently PDO was able to achieve 90% of Non-metallic materials supply from local manufacturers which added in country value in terms of job creation, technology development & products manufacturing resulting in local economic development.

The initiative included a number of projects :
- Testing and qualification of new material for Oil & gas service up to high temperature (raise temperature Polyethylene)
- Testing and qualification of High pressure high temperature Materials for corrosive the testing and qualification of a number of two non-metallic materials GRE & Polyethylene raise.
- Rotolining qualification and supply.
- Shoplining trechnology to two local vendors.
- High pressure GRE technology to two local companies.

Business Impact
90% of non metallic material used in PDO is from Local vendors. with all technically qualified and manufactured.
Petroleum Development Oman

Research & Development

Daleel Petroleum Company L.L.C.

Daleel Petroleum Company L.L.C. is one of the leading oil producing company in the Sultanate of Oman. It is a 50/50 joint venture registered in Oman between Mezoon Petrogas SAOC (Subsidiary of MB Holding and Mezoon Petrogas BVI (Subsidiary of China National Petroleum Corporation). The company was formed during the second half of 2002. Daleel Petroleum is an exploration and production of hydrocarbon reserves located in Block 5, onshore Oman, approximately 450 km North West of Muscat.

Title of Best Practice:
MAXIMIZING DALEEL NATIH FIELD RECOVERY

Project Description

Production performance of the field indicates that the current development strategy will yield a moderate ultimate recovery factor URF of around 16%. This is mainly attributed to the tight nature of the reservoir units. In 2013, a full field simulation modeling was carried out to identify the remaining hydrocarbon and evaluate the benefit of infill drilling (50 m well spacing) to improve the field recovery. The simulation results showed that with 50 m well spacing, the field ultimate recovery can be improved up to 27%. Following the simulation study and in order to mature the re-development opportunity through infill, two field pilots were executed in 2013 and 2014. Results from both pilots were promising and a phased maturation plan was then put in place focusing initially in the top ranked areas.

1. Financial/Business impact: The full infill project deployment is expected to deliver a considerable additional oil reserves to Daleel’s books and hence improve the project’s economics.
2. Maturity: The project has already passed the piloting phase & currently the optimized first phase is being implemented.
3. Relevance: The project might open the doors to other operating companies in North Oman to develop such tight reservoirs with as narrow spacing as 50 m.
4. Innovation:
   – A unique project in North Oman with such narrow spacing development.
   – Coupling simulation work with real field pilots and active surveillance and proper well and reservoir management helps reducing subsurface uncertainties and mitigate the potential risk of pre-mature water breakthrough.
   – Phased trial & development strategy provides better understanding of the infill opportunity ahead of making tactical investment decisions on long term drilling and facility construction plans.
   – The project has enhanced Daleel’s experience in short distance well geo-steering.

Business Impact

The project is expected to mature a considerable amount of contingent resources that will maximize the project’s cash flow from such tight reservoir. Additionally, the production acceleration element is expected to improve the project’s NPV. This will positively impact Block-5 continuous growth.
Energy Transition

Petroleum Development Oman

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Title of Best Practice:
ENERGY EFFICIENCY SURVEILLANCE TOOL

Project Description
With respect to our energy saving initiative below impacts were recorded in the last two years.

Business: With reference to 2017 electricity bill, the team has achieved 11% reduction of the 2018 electricity bill which is around 14,026.799 MWH and cost savings of OMR 544,579.000

With reference of 2018 electricity bill, 25% reduction of the electricity bill achieved from January to Aug 2019, which is around 20,814 MWH and cost savings of OMR 440,000.000.

In terms of water savings initiative, around 22% of potable water was saved in the coastal location by fixing of smart water nozzles across MAF office building facilities with cost saving of OMR 36,000/year.

Environment: The energy usage reduction has ultimately reducing emission of CO2 level in the environment, which is 24,637,706 Kg of CO2 in the year of 2018 & 2019 which may support our environment as pollution free and helping our people to live as a healthy life.

The above-mentioned amount of CO2 emission reduction is equivalent to below criteria,
1) Reduction of 5,231 no of passenger cars driven for one year.
2) Saving of 2,950 no of homes energy used for one year.
3) Carbon sequestered by 407,390 no of tree seedling grown for 10 years.
4) 8,594 tons of waste recycled instead of land filled.

In other hand, it has resulted to reduce usage of 0.5 million-m³ gas in the year of 2018 & 2019. Which result to save gases and use it for some other necessary activities in our country.

Business Impact
Water saving initiative reflected to save around 36,000 m³ of water every year and helped us to save this water source for future generation.