



Industry perspectives

Energy and natural resources

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Foreword

A plethora of exciting developments are taking shape within the energy and natural resources sector. Regionally, recent innovations will likely enable cheaper, more efficient renewable energy. Ten percent of the world's total hydrocarbon reserves lie in the Middle East, making energy companies significant contributors to the economy.

Challenges abound in the sector: the regulatory landscape is mutable and organizations face a burgeoning demand for sustainable energy sources. Companies may need to rapidly adapt to consumer demands while embracing new technologies, remaining in line with government agendas, and practicing veracious financial reporting. Some of these matters were highlighted in the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC), which took place on 12-15 November 2018. In this publication, we recognize the imminent need to address these issues and their relevance in the Gulf Cooperation Council (GCC).

We start with an introduction to the Industrial Internet of Things, delineating five potential areas of interest to the industry. These include identification and assessment of the business case, understanding the operational environment, implementation of cyber security controls, a robust health and fitness program, and a focus on the basics.

Greater connectivity and data analytics have immeasurably improved our living conditions, but with these manifold advantages comes a responsibility towards our environment and future generations. Organizations would probably do well to incorporate renewables into their operational framework. The United Arab Emirates has set a goal of 44% renewable energy use and a reduction of 70% in carbon dioxide emissions by 2050. It has also made the world's largest investment in concentrated solar power. The adoption of these sources could be expedited by fluctuating oil prices, customer pressure, and reporting standards that may necessitate quantification of the financial impact of climate-related risk in disclosures.

In a bid to support economic diversification, the Abu Dhabi National Oil Company (ADNOC) initiated its In-Country Value (ICV) program in 2018, which aimed to appraise third party suppliers under new criteria. This encompassed considering the extent of their locally sourced goods and services, work and development opportunities for Emiratis, subcontractors' local expenditure, expat contribution, and investment in the Emirates. Additionally, bonuses are now presented to suppliers based on their export revenue and Emirati headcount.

Lastly, we evaluate the impact of IFRS 15: Revenue from contracts with customers on oil and gas corporations. For different performance obligations – engineering, procurement, manufacturing – separate assessments will be required to conclude whether revenue is recognized at a certain point in time or over a period. We explore the concept of breakage, and the treatment of collaborative agreements and multiple deliverables.

I would be pleased to discuss with you the perspectives outlined within these pages. I trust you will find the report an enjoyable read, and I look forward to your feedback.



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The Industrial Internet of Things and cyber security

The Industrial Internet of Things (IIoT) encompasses a new breed of connected industrial devices with potential applications in the oil and gas sector. There are numerous benefits but also risks. Strong security procedures could help mitigate these risks, says Timothy Wood.

The Industrial Internet of Things (IIoT) may enable organizations to enhance operations, including carrying out real-time data analytics, predictive maintenance and remote monitoring. Companies must carefully identify the needs which the Internet of Things can address, and balance these against the possibility of cyber-attack, which could have far reaching consequences.

While the prospective benefits are obvious, use of IIoT-related technologies may expose industrial control systems (ICS) and operational technology (OT) to risk. Historically, these systems were isolated, and cyber security was

therefore not an issue. Enhanced connectivity between information technology (IT) and OT networks is required for IIoT solutions. In addition, the adoption of open standard protocols create an environment in which OT is increasingly subject to the full spectrum of cyber-attack and security risk.

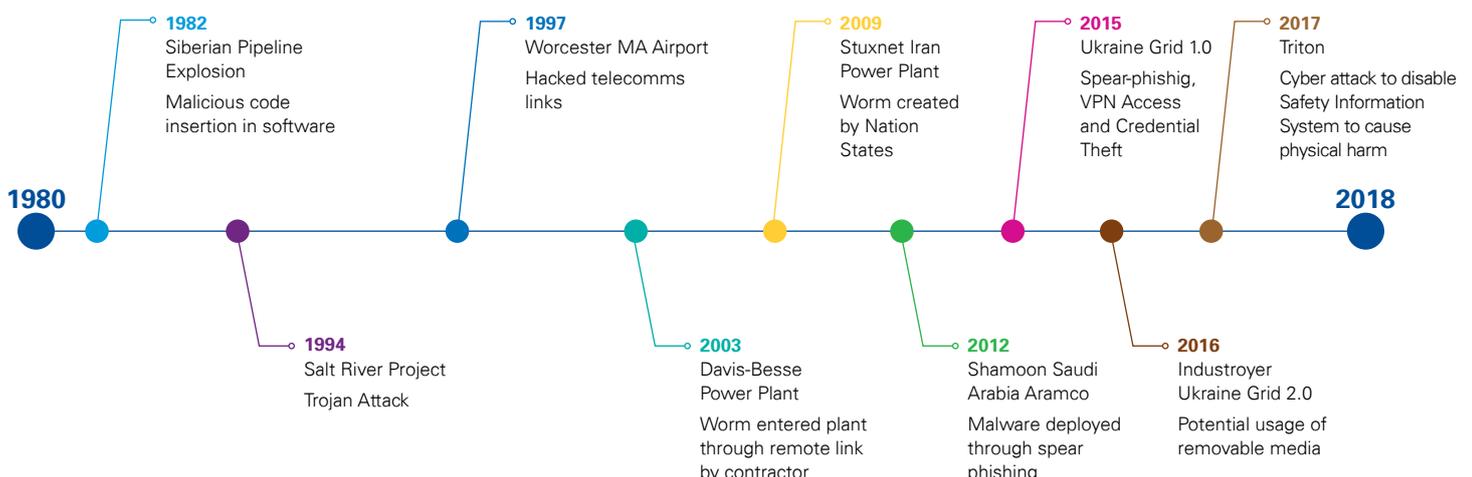
Operational technology

Cyber-attacks targeting OT have historically been far fewer in number than those against corporate IT systems. Although a rarity in the 1980s and 1990s, however, operational technology attacks are now occurring with increasing frequency, as shown in Figure 1.

As the IIoT takes off in earnest, the expanding attack surface of this new infrastructure will likely be targeted by 'hacktivists', organized crime groups and nation state actors, who will look to exploit the increasing dependence on the IIoT to further their ideological, political or financial objectives.

Furthermore, as the 1982 Siberian pipeline explosion demonstrates, attacks against industrial control systems have significant real-world consequences. Lives are put at risk and valuable equipment can be damaged beyond repair.

Figure 1



Recommendations

If cyber security is considered and risks fully evaluated when rolling out IIoT solutions, it is possible for stakeholders in the oil and gas sector to greatly benefit from competitive advantages provided by these technologies and the interconnectivity.

Building on our experience at KPMG, we have noted five potential key areas to focus on in order to realize the benefits of IIoT:

- 1 Identify and assess the IIoT business case.** Conduct a risk assessment focusing on why IIoT is being implemented and evaluate the risk-reward equation. The benefits gained through efficiencies and improved performance should exceed new risks created by IIoT solutions.
- 2 Understand the operational technology, ecosystem, use cases and environment.** It is critical to view security from a holistic perspective: IIoT devices are merely the tip of the iceberg when identifying potential risks and vulnerabilities. Devices, ecosystems and use cases related to your organization all interact to create various threats and risks.
- 3 Embed cyber security controls in company culture.** Users need to be aware of their responsibility for maintaining their enterprise's security – whether it be staff in the head office or engineers using drilling equipment in the field. Develop policies that illustrate each individual's role in terms of cyber security, ensuring it is perceived to be as important as health and safety.

4 Maintain a health and fitness program.

Develop a strategy and timelines to revisit your technology and business landscape on a regular basis. Take the opportunity to re-evaluate risks amid ongoing changes in the business environment and accounting for technological innovations. Revise your risk management strategy accordingly.

5 Concentrate on doing the basics brilliantly.

Traditional concepts of strong malware protection, vulnerability and patch management, security monitoring, and identity and access management are equally important, if not more so, in the OT environment as in the IT domain (see Figure 3). Focus on these activities to maximize resilience against cyber security attacks.



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UAE well-positioned in renewable energy

As the demand for renewable energy increases and prices decrease, the oil and gas sector is experiencing significant change. With major solar power initiatives currently in development, the United Arab Emirates could be in a good position to respond to demand, says Nizar Jichi.

Over the last few decades, the global renewable energy sector seem to have gone through significant change. Historically, developers and generating companies have led initiatives. The sector now, however, seems to be moving in a direction where consumers are influencing the conversation. They are increasingly interested in the proportion renewables contribute to their energy supply.

In addition to general consumers, there are a number of global corporations that are entering the industry and influencing trends. Major US corporations, including Walmart Inc. and General Motors, have become some of America's biggest buyers of renewable energy; Google is now the largest purchaser of renewable energy in the world.¹ Over 60% of Fortune 100 companies, and nearly half of the Fortune 500, have set clean energy targets.² The broad consensus is that renewables and investments in renewable generation is the first step in the process of moving toward a low or zero-carbon environment.

There are several push/pull factors influencing corporations' decisions to adopt renewables, including:

- **Declining prices:** Over time, the cost of renewable energy (especially coming from solar and wind) has decreased. This is largely attributable to continuous technological advancement in the sector.
- **Customer pressure:** Today's customers want to feel 'good' about the companies with whom they do business.
- **Changes to information reporting standards:** Under 'true value accounting' principles, corporations are asked to identify and quantify the financial impact of climate-related risk in their organization and to outline potential threats and opportunities to their own stakeholders through appropriate financial disclosure.³

There are two principal models used in the renewable sector: the traditional power purchase agreement and a direct-wire solution. Recently the number of direct-wire solutions based on renewables has increased steadily, resulting in much lower transmission costs.

At the same time, the renewables industry is defined by many challenges: crucially that although the price has declined, it is still high enough that in many countries consumers can expect to pay a 'green premium' for such energy. Determining a price that works for consumers and suppliers will be a critical factor for success.

Renewable energy in the UAE

Meanwhile, the UAE has set a goal of 44% renewable energy use by 2050, and it intends to reduce carbon dioxide emissions by 70% by then.⁴ Several related projects are in various stages of development across the country, including:

- The world's largest investment in Concentrated Solar Power (CSP) which is projected to provide clean energy to 270,000 homes. Plans include the largest single-site solar energy project in the world, with a intended total production capacity of 1,000MW by 2020 and 5,000MW by 2030⁵
- Third phase of Mohammed Bin Rashid Al Maktoum Solar Park, led by Abu Dhabi's Masdar, to develop 800MW, will be implemented in stages until 2020. It achieved a world record low tariff of \$2.99 per kilowatt through a competitive bidding process.⁶

Recent discussions have hinted that the cost of certain renewable technologies will be less than the cost of traditional fossil fuels by as early as 2020. As the cost of renewables continues to decline, competition is likely to increase, with generating organizations striving to provide cost-effective and cutting-edge renewable solutions. By investing now, the UAE could take advantage of this growing trend and develop an energy project that is sustainable in the long-term.



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Vivek brings over 13 years' external audit experience in India and UAE across a range of sectors, including energy and natural resources, the service sector, real estate, infrastructure, manufacturing and healthcare. He is responsible for planning, coordinating and managing our Audit teams, managing client relationships and ensuring the timely completion and quality of our deliverables. Vivek specializes in the oil and gas value chain, including upstream, downstream and oil field services.

1. <https://gulfnews.com/business/analysis/corporates-hear-the-renewables-message-loud-and-clear-1.2241249>

2. <https://www.worldwildlife.org/press-releases/report-fortune-500-companies-accelerating-renewable-energy-energy-efficiency-efforts>

3. <https://home.kpmg.com/content/dam/kpmg/ae/pdf/introduction-kpmg-truevalue.pdf>

4. <https://government.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governments-strategies-and-plans/uae-energy-strategy-2050>

5. <http://gulfbusiness.com/dubais-ruler-breaks-ground-worlds-biggest-concentrated-solar-power-project/>

6. <https://masdar.ae/en/energy/detail/mohammed-bin-rashid-al-maktoum-solar-park-phase-3>

ADNOC rolls out amendments to ICV

After launching its In-Country Value (ICV) program in early 2018, ADNOC amended the system as of 1 November 2018, in order to improve their bidding process for third party suppliers. Vivek Agarwal explains.

Announced in November 2017, ADNOC officially launched the ICV program in Q1 2018. The oil and gas giant integrated ICV criteria into the company's commercial evaluation process, with the aim of nurturing local and international partnerships and opportunities, improving knowledge transfer and creating job opportunities for UAE nationals. This is in line with ADNOC's 2030 growth strategy.¹

Through encouraging local third-party suppliers to bid for projects, ADNOC suppliers were initially allowed to submit ICV certificates (based on their declared ICV achievements) until 31 March 2018, which were then verified by one of six certifying bodies (including KPMG Lower Gulf Limited).

Since implementation, all technically shortlisted suppliers bidding for work with ADNOC – including engineering contractors, oil field service providers, technology suppliers and equipment manufacturers—are ranked according to their ICV scores, which are based on their respective ICV certificates.

Criteria used to evaluate suppliers' ICV contribution includes locally sourced goods and services, work and development opportunities for Emiratis, subcontractors' local expenditure, expat contribution and supplier's investment in the Emirates.

Six months after the initial process implementation, ADNOC undertook an internal review, requesting feedback from suppliers. Following these suggestions, ADNOC has now rolled out amendments to the ICV formula and guidelines, effective 1 November 2018.

Amongst other changes, modifications include:²

- Suppliers may receive a maximum 5% bonus based on the following:
 - Export revenue
 - Emirati headcount
- Suppliers receive a base score of 10% for investments (determined on an assessment of assets in UAE and total assets), and a top up of 15% on a progressive basis
- The calculation for cost of goods manufacturing and third party spending related to goods/service providers is based on total revenue
 - Total Emirati cost and 60% of expat cost is added to the goods manufacturing and third party costs, respectively
- Expat contribution score is based on head count

As part of the new guidelines, suppliers are required to submit both their ICV certificate and an ICV improvement plan with their commercial bids. The supplier with the highest ICV score is given the first opportunity to match the lowest/targeted price. There will, however, be no change in the technical bid evaluation. Accordingly, the current process gives consideration to the future plans of the suppliers as well.

Although suppliers were perhaps initially slow to kick start the process, they have become increasingly proactive and are pursuing ICV certification. In addition, they are also re-evaluating how they conduct business in order to improve their ICV scores in the future.

With the program approaching one year old, the impact has been positive so far:

- ADNOC suppliers continue to pursue certification
- Many companies are internally discussing what steps to take in order to improve their score in future years
- The program has become a topic of discussion among suppliers, some of whom are providing feedback to ADNOC



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1. <http://wam.ae/en/details/1395302667337>

2. In-Country Value (ICV) Supplier Guidelines, ADNOC Group

How has IFRS 15 changed the way oil and gas companies recognize revenue?

Since it became effective on 1 January 2018, IFRS 15 has forced relevant firms to reevaluate how they account for revenue, which could even result in a need to change the way they do business. Oil and gas companies face specific challenges in adhering to this new standard, says Yusuf Hassan.

Introduction

The new standard on revenue recognition, IFRS 15: Revenue from Contracts with Customers affects the way oil and gas companies account for revenue. The requirements affect arrangements involving engineering, procurement, manufacturing, construction and/or maintenance services, where a number of different goods and services are promised to the customers.

For each performance obligation, a separate assessment is required to determine whether revenue is recognized at a point in time or over time. This may result in a different revenue profile compared to current practices.

Collaborative agreements

Some complex collaborative arrangements entered into by oil and gas companies may be out of scope of the new standard, if a collaborator is not a customer. If the counterparty meets the definition of a customer, however, these arrangements fall within the scope of IFRS 15.

To determine whether such arrangements are under the scope of new revenue standards, oil and gas companies should consider all relevant details and facts of a given arrangement or collaboration with partners. This is also relevant when the partner may be defined as a customer for only a part of the arrangement.

In some circumstances, if an amount assigned to one partner differs from its proportionate entitlement, a second partner usually makes payments in order to settle such imbalances. There are a number of ways to account for such payments. Common approaches include the sales method and the entitlements method.

Under IFRS 15, revenue can only be recognized as consideration from contracts with customers. Given that not all collaborations fall within the scope of IFRS 15, oil and gas companies should consider whether all amounts previously reported as revenue should continue to be reported in a similar way under the new standard.

Take or pay arrangements

Breakage, a new addition to IFRS 15, is applicable for those arrangements in which customers do not exercise all of their contractual rights. Arrangements such as "take or pay," where customers may not receive the entirety of the output to which they are entitled, are affected by the new standard.

If an oil and gas company expects to be entitled to breakage, the estimated breakage amount is recognized as revenue in proportion to the pattern of rights exercised by the customer. Otherwise, breakage is recognized as revenue only when the likelihood of the customer exercising its rights becomes remote, which influence the change in timing for recognition of breakage revenue.

Multiple deliverables

Applying IFRS 15, companies must identify various goods and services promised in contracts with customers, and determine whether such goods and services are separate or distinct. In addition, entities must decide whether or not they are a single performance obligation, including a series of goods or services.

According to the new standards, after identifying performance obligations and considerations of the transaction, oil and gas companies must allocate the transaction price to those obligations. Typically, the transaction price is proportional to the separate sale price of goods or services, i.e. based on the relative stand-alone selling prices.

IFRS 15 has a significant impact on how oil and gas companies will account for revenue from contracts with customers, which could even result in a need to change the way they do business.



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Yusuf is responsible for assisting the Audit teams and our clients with issues related to technical International Financial Reporting Standards (IFRS). He has provided IFRS assistance and training to a wide range of blue chip clients in various industries and conducted IFRS training in across the Middle East.

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