## MIDDLE EAST TECHNOLOGY MARKET NEEDS INTELLIGENT ENERGY LAW

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he Middle East is experiencing an increasing demand for advanced technology and expertise at a time when the industry globally is changing its approach to acquiring, transferring and protecting its intellectual capital.

The factors influencing this shift include the accelerating need for enhanced oil recovery, sour gas, heavy oil, tight gas, LNG, GTL, "clean fuels" refineries, carbon capture and storage, nuclear and solar technologies.

This intelligent energy trend, which can be evidenced by Saudi Aramco's drive towards high technology solutions, presents major opportunities and challenges for international companies in relation to intellectual property acquisition, transfer and protection across the region.

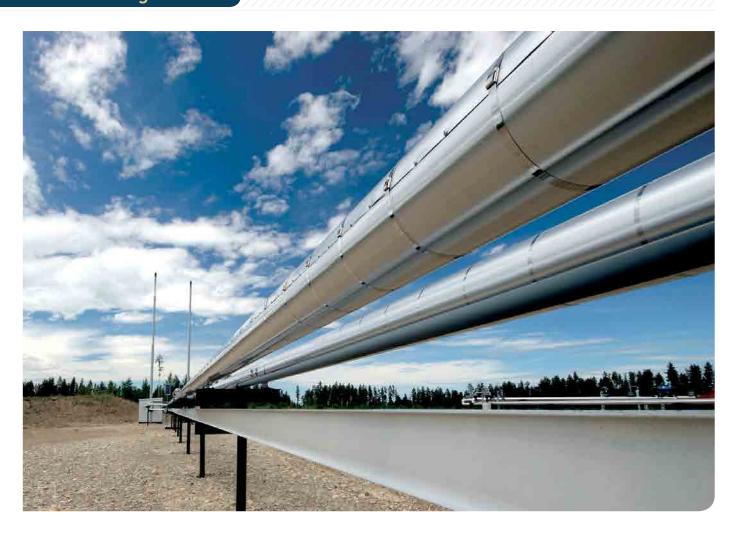
Just over half of the world's proven conventional oil reserves and 42 per cent of the world's proven conventional gas reserves are located in the Middle East and North Africa (MENA). The region has 13 of the world's 20 giant oilfields as well as the largest gas field in the world. There is an estimated US\$3 trillion of projects underway or planned in the six Gulf Cooperation Council countries (Saudi Arabia, United Arab Emirates, Kuwait, Oman, Bahrain and Qatar) plus Iraq and Iran. The majority of these relate to upstream oil and gas, downstream (including refineries, LNG and GTL), petrochemicals and related infrastructure projects.

The scale of opportunity is significant. There is an estimated \$480 billion of project work now under study, in design or out to bid.

Projects with values in excess of \$10 billion include the Jubail, Yanbu and



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Petrorabigh refineries and petrochemicals schemes in Saudi Arabia; the Rumaila, West Qurna and Majnoon field development in Iraq; Zadco Upper Zakum artificial islands field development, ADCO onshore field development programmes, ADMA-OPCO offshore field developments and Shah/Bab sour gas field developments in Abu Dhabi; Khazzan deep/tight gas project in Oman; and the Barzan gas development in Qatar.

A further drive to advanced technology will certainly follow if the current and prospective Red Sea and East Mediterranean exploration and appraisal programmes bring deepwater fields into play in a region historically dominated by onshore and shallow water production.

The need for nuclear power and renewables, especially solar, waste to energy, desalination, and IT security and asset protection technologies is also increasing.

As the technology needs across the Middle East become increasingly complex, service companies will have to ensure that they have the appropriate strategies and protections in place for their IP as part of their overall risk and reward assessments.

## IP and technology

There are a number of fundamental



**Greg Porter** 

commercial and legal considerations for market entrants. These include territorial application of patent rights, who owns new IP that arises from work, specialist personnel contracts and restrictive covenants that reflect the increasingly mobile and consultant-heavy workforce, licensing and enhanced technology services agreements, and infringement monitoring, defence and indemnities. Appropriate weight must also be given to the governing law of contracts and statutory laws, dispute resolution planning and jurisdiction issues.

With an increasing amount of private equity investment in the service sector, businesses also need to be planning ahead for corporate exit strategies and due diligence, including establishing IP asset registers and audits.

These issues are arising against a backdrop of significant change in how the energy industry trades in IP and technology.

The industry has traditionally been heavily invested in technology and innovation embodied in tangible

products, principally equipment, or in connection with services. The primary change now occurring is that transactions involving oilfield technology are becoming international, market-driven deals with new participants getting involved. At the same time, we are seeing a deconstruction of product and service components from IP and technology components. In other words, oil and gas is becoming like the other major, global technology markets.

The industry's traditional IP value chain - comprising creation, securing, acquisition and monetisation of IP - now has many complicating factors.

On the creation front, the mobility of innovative workers within the industry creates issues of who owns inventions and how information leakage is contained whilst collaborations can create problems around co-ownership.

Companies need to have clear contractual provisions, including assignment, license, sharing, enforcement and exit mechanisms, in place to address these factors. Likewise, when it comes to securing IP there needs to be far greater diligence and analysis on the creation and securing

If technology is what generates value for your business you need to be thinking about whether your strategies and safeguards are adequate 55

process to take account of the ebb and flow of IP strength.

In acquiring IP the importance of evaluation in the round is growing. Look in your backyard, your neighbour's backyard and your neighbour's neighbour's backyard. In evaluating the acquisition of IP you have to think of what competitors are doing, industry trends and the international dimension in order to have a strategy that is informed by gap and vulnerability analysis, alongside understanding of your IP strengths.



**Hugh Fraser** 

However, it is the monetisation section of the value chain where perhaps the greatest changes are occurring.

The industry is increasingly



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deconstructing IP from products or services to provide greater control over distribution and income streams. Monetisation of IP is considered earlier than ever before and this is driven by market forces that compel mining of IP to identify and unlock value. The market drives more aggressive IP acquisition or blocking, challenge and assertion and IP is being evaluated more thoroughly for repurposing in other industry sectors.

New financing arrangements and investors, wholly focused on IP, are also driving change, creating more visibility of IP value, or the lack of IP value, and facilitating international trade in IP and technology which is separate from the traditional products and services route.

The new market dynamics and techniques for decoupling and trading in oil and gas IP may not yet be as publicised as in other technology markets but they are evident and growing. Energy companies therefore need to evaluate their IP strategies in light of the changes to the value chain and recognise that the old US and European focus for IP



**Jeff Dodd** 

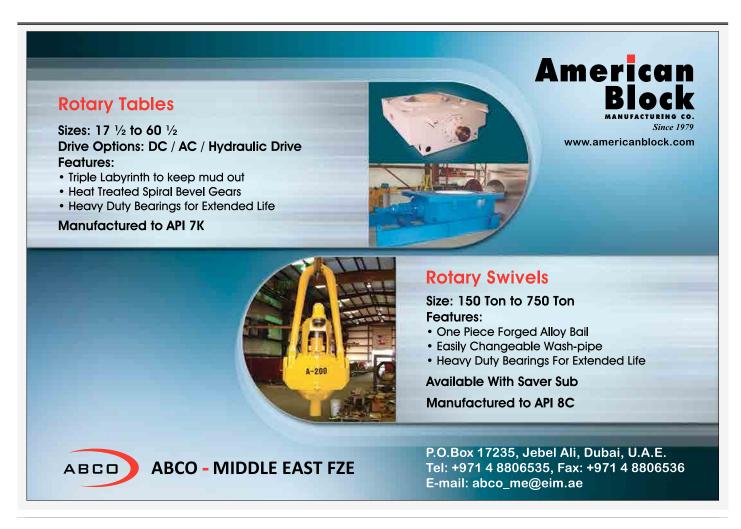
protection is outmoded.

The trade in energy IP and technology is, as with the rest of the industry, truly international. Evaluating strategy

Technology needs across the Middle East are become increasingly complex

for one geographic market must take into account approaches in other markets. Cross-market collaborations and transactions can create both issues and opportunities in other markets. Companies also need to take a 360° view of strategy and assessment across markets and recognise that new financial techniques and transactional structures around IP can facilitate the sharing and allocation of financial and other risk.

There has been a steady rise in annual patent filing numbers in the GCC countries, from 57 in 1998 to 2,198 in 2013 – illustrating the fact that companies increasingly see the value of



protecting IP in the Middle East. Of the 23,000 applications filed between 1998 and 2013, only 5 per cent were filed by residents but that balance may well be starting to shift.

Saudi Aramco's track record provides a case in point. It has been steadily increasing its number of patent filings over the past decade, from 49 in 2004 to a record 373 worldwide patent filings in 2013, suggesting a marked increase in research and design spend and consequent focus on IP value and protection.

The region's technology needs are evolving fast and the question companies in the market, or those wishing to enter it, need to ask themselves is whether their IP strategy is fit for purpose. However, this is not just a regional concern. The dynamics of the energy IP market are moving towards those of the major international technology markets and the energy sector needs to review and adapt accordingly. If technology is what generates value for your business you need to be thinking about whether your strategies and safeguards are adequate. 🐠



