

Vol. 1 January 2016

# DRILLING

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# INVESTMENT AND INSURANCE IN Drilling

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- Influence of macro economy and oil market on drilling industry



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## DRILLING MAGAZINE January 2016

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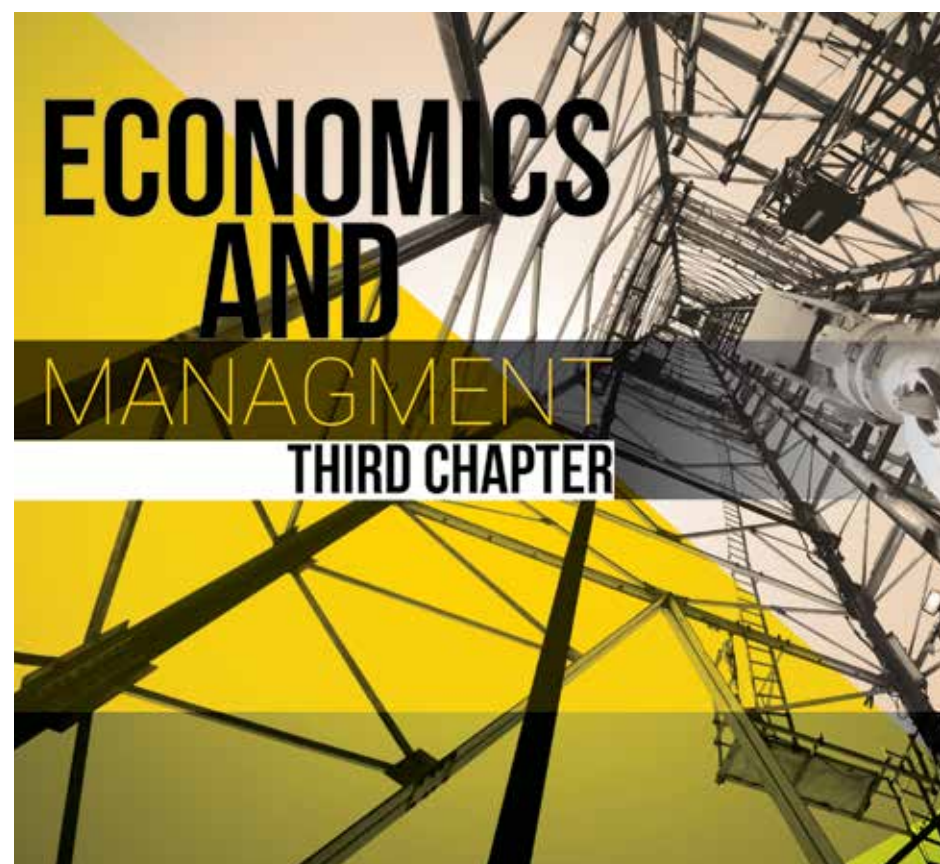
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# THE KEY ROLE OF DRILLING INDUSTRY IN ACHIEVING DEFINED GOALS

**Farrokh Alikhani, Manager of Oil and Gas Engineering and Vice President of Offshore fields Pars Oil and Gas Co.**



There are ideal opportunities for oil and gas exploration and development in Iran. Considering new potentials, there is necessary will to take these opportunities. With the regulation of new oil contracts which are specifically developed for upstream oil industry, the scene is being set for international contractors beside Iranian counterparts.

Undeniably, drilling industry has a key role in achieving defined goals. Apart from its high costs, the significance of this field is associated with its complicated nature and its related unknown risks. What happens in the clash of earth with technology makes this industry both appealing and highly risky. The complexity of drilling operation commence with the inter-relatedness of its different sections such as drilling tools, drilling equipment supply, drilling services, human resources, research and knowledge, contracts, work-over and maintenance together with their mutual impact on each other. Undoubtedly, addressing such an industry requires an integrated system that is compatible with its complexities; in addition, solely a systematic program-oriented view is able to manage its different parts in an integrated manner. A holistic integrated view in planning hand in hand with an analytical one in the precise executions of programs are among the essential requirements of this industry.

Pars Oil and Gas Company have had a large number of international and Iranian business partners in its less than two decade lifetime. In the last five years, however, it has been highly dependent upon the abilities of domestic contractors, and has managed to launch and complete seven phases of

Southern Pars, with a high prioritized development view in rig management, accompanied with the increase in the number of rigs, the ownership of them attracted attention as well so that supports of Petroleum Ministry resulted in the rise of rig number from one in 1390 to twenty in 1392; in other words, the share of owned rigs reached up to 50 per cent.

Drilling services are among the most significant sections of drilling industry. Their extensive required specialties in both quantity and quality aspect, have made drilling services the most challenging part of drilling industry. For instance, Southern Pars drilling services have allocated 30 per cent of project financial costs and 55 per cent of waiting times to themselves. Furthermore, it can be claimed that more than 80 percent of hidden waiting times are related to drilling services. Considering the fact that more than 30 drilling services are utilized in Southern Pars can contribute to realizing the importance of addressing drilling issues. To this end along with management of these services in terms of variation and specialty, they are divided into three parts of Low Technology, Medium Technology and High Technology. Moreover, beside the identification of present potentials and domestic companies, it has been tried to empower and expand the number of technical services companies in the past years. By doing this, at the present time all the services pertaining to low technology and medium technology are provided by Iranian drilling services contractors except the five percent of High Technology part.

With regard to equipment, with an emphasis on the empowerment of manufacturers

and localization of equipment, some executive plans were developed through the formation of equipment pyramid and classification based on needs to different parts ranging from accessible parts to challenging ones. The support of empowered domestic companies has led to the localization of numerous well equipment and reduction of our need to foreign resources.

In human resources and knowledge and technology sections, we could make remarkable improvements through training specialized workforce and reliance upon the capabilities of young manpower.

In sum, it can be said that the maximal deployment of domestic abilities has placed us in a proper position in drilling industry; nevertheless, we welcome the presence of international contractors in the market of Iran's oil industry. Being aware of their domestic potentials, all the stakeholders of chain value including Petroleum Ministry, governmental and private clients, drilling contractors, technical service providers and even material and equipment suppliers and manufacturers of Iran are considering constructive interactions with foreign actors of this field. They are not only in need of the technology offered by international companies, but also plan to expand the market of Iranian contractors beyond the borders of Iran.

# A NEW ERA IN IRAN'S DRILLING INDUSTRY

**Amir Abedpour, Editorial Administration Manager**



The long history behind oil industry of Iran dates back to the beginning of the twentieth century. Crude oil, which was later called "black gold" due to its scarcity, has entered political, social and economic equations as a major variable and influenced a part of the past century major changes since William Knox D'Arcy dominated the rights of oil exploration and production in the southern region of our country through signing a contract with the government at that time. Today, the importance of energy in the continuation of global development is obvious. Due to the fact that Iran is assumed as the 1st owner of the overall huge oil and gas reserves in the world, it can be the main destination for major oil companies' investment. Concurrently, energy supply is of considerable significance for Iran as it encompasses a part of development process for increase in energy resources exploration ability in the first place; moreover, energy supply is indispensable for industry development trend in the second place. Iran's strategic status in the Middle East oil-rich region adds a touch of glamour to the aforementioned elements and can bring about golden opportunities for knowledge and technology transfer to the surrounding countries with the central focus on Iran.

In recent years, a number of international restrictive policies provided the chance for the enhancement of qualitative and quantitative capabilities of domestic companies whereas they led to some failures in the transfer of up-to-date knowledge and technology to Iran, particularly in "drilling industry". This interruption, however, can be rapidly compensated through the

empowerment of domestic companies in the absence of foreign companies in the past years as well as the execution of Joint Comprehensive Plan of Action and lifting the sanctions. Furthermore, it can be proceeded by reciprocal and systematic cooperation on the basis of win-win game among domestic and foreign companies within a professional framework.

Making an optimal use of post-sanction opportunities with the aim of oil and drilling industries development requires taking some measures paving the way for realizing the aforesaid aim. "Drilling" magazine is an attempt to put one step forward in this regard. Undoubtedly, the first stage is the clarification of information in order to describe the current status of drilling industry in Iran as well as the identification and introduction of its strengths and weaknesses. The second stage is the provision of an accurate, authentic and general scheme of investment opportunities for interested active companies in this field, so that capital and technology holders can set their goals in Iran's drilling industry market properly and having sufficient awareness, enter the market intelligently. The third stage is to deepen statistical, analytical, and qualitative research relying upon the present infrastructures and their equipment and enhancement in order that Drilling could stand in a valid position of reference for Iran's drilling industry.

Nevertheless, what "Drilling" magazine offers its audience is composed of four parts; the first part is dedicated to the news of upstream oil and drilling industry in Iran and throughout the world so that the readers would be aware of the latest changes and events of this industry. The second part includes a statistical description of Iran's drilling industry and the extent of

supply and ability of domestic companies; it has been attempted to create a tangible information flow in this field through statistical and analytical reports of market and its dominant trends along with different sectors of drilling industry and provision of proportionate guidance for investments. The third section is designated to the qualitative description of Iran's drilling industry in the form of fixed technical and managerial parts indicating the strengths and weaknesses of drilling industry as well as introducing its requirements so that it can contribute to the presentation of the current status and solutions to the enhancement and growth of domestic technical power. The fourth part of Drilling aims at the introduction of empowered domestic and foreign companies from a new perspective so that all of the stakeholders of this industry can benefit from both domestic and foreign powers.

In the end, I would like to mention the simultaneous publishing of Drilling magazine and the annual gathering of active people and companies in drilling industry organized by the graduates of oil industry and Pars Oil and Gas Company. What makes this concurrence appealing and noticeable is that both of the magazine and conference follow the same aims with different approaches. Moreover, they both rely on the research studies of think tanks' professionals; in addition, they are in search of providing transparent information for investors and transfer of knowledge and technology in this field. Notwithstanding, Drilling has considered separate objectives including market analysis, benchmarking, converting to the reference for drilling industry's facts and figures and permanent observation of drilling industry in Iran and the region in order to accelerate the pace of development.

# IRAN'S OIL ENTRANCE TO FINANCIAL MARKETS



Amir Hossein Zamani-Nia  
Iranian Deputy Petroleum Minister for International Affairs

"Iran enters global stock markets and starts oil trade," Deputy Minister for International Affairs and Commerce Amir Hossein Zamani Nia announced. He added that National Iranian Oil Company has made some contacts with some of the traders and will enter global stock markets after lifting of sanctions.

Zamani Nia did not talk about the volume of deals and investments in global stock markets and postponed the disclosure of details to the execution time.

Mentioning the attempts of Petroleum International Affairs Management for gradual winning back of Iran's market quota in the world, Zamani Nia spoke about creating the potential of two hundred thousand barrels in Europe, and stated that Petroleum Ministry is optimistic about its market within the next months. Below is a part of what Mr. Zamani Nia said in response to an interview with "Drilling" reporter. Iran's Oil Industry Will Be International within the Next 10 Years

With the lifting of sanctions, Iran is ready to enter global markets; however, after living several years in conditions imposed by sanctions, the coordination of oil industry with new international status will naturally

take some time.

## Opportunities for Iran

After the Joint Comprehensive Plan of Action, I have attended at least 100 foreign meetings ranging from oil ministers to international oil companies as well as small and medium-sized enterprises in the last four months. They understand the values and opportunities our country provides for them. From security and political perspective, Iran has complete stability in the region, and this issue is notably important for investors. We have proper rules and regulations in this field; however, I think that we should clarify them for foreign sides more than before. Considering the potentials of Iran's market, International oil companies are interested in returning to Iran.

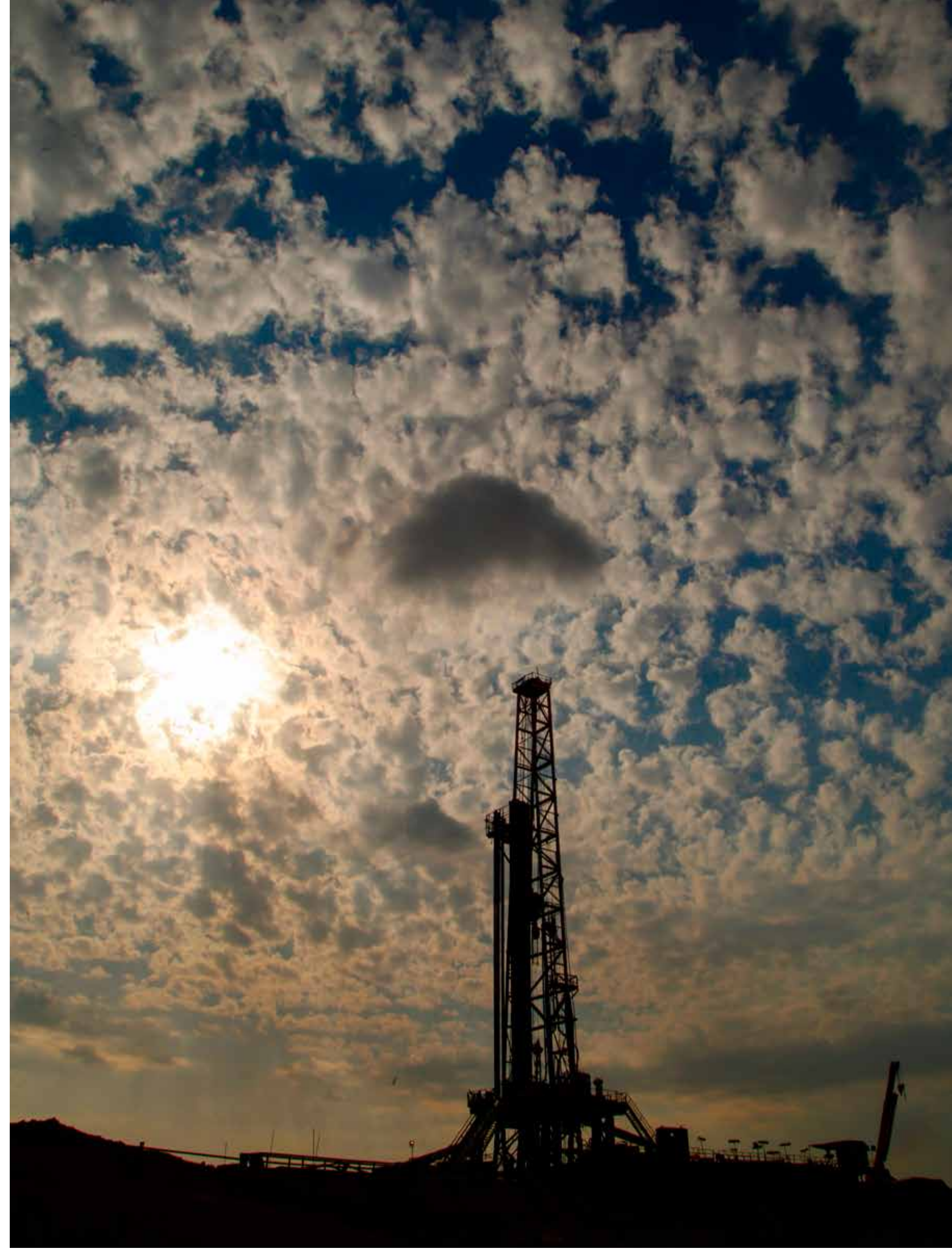
## Oil Strategies of Iran

According to IPC, we have several strategies in this field; the attraction of capital, technology and management. In new oil contracts, these strategies are predicted in a way that they will lead to the empowerment of private sector. Definitely, Iranian National Oil Company will also benefit from this issue

along with the private sector. The aim, however, is to empower the private sector. Accordingly, we hope that we will have a number of international oil companies which operate not only in Iran but also overseas within the next ten years. Oil plays a leading role in the future strategic plans of the Islamic Republic of Iran, and all the authorities admit the importance of oil industry development unanimously.

## The Capabilities of Drilling Industry

Drilling industry is one of the most capable fields for international activities. This industry requires new technologies which can be gained through the collaboration and cooperation with international oil companies. We expect that Iran will have the potential of international prosperity within the next ten years. Due to our rich engineering basis of oil industry alumni, it will be possible for our drilling companies to be able to enter international markets after the provision of such technologies.



A photograph of a large offshore oil rig, likely a jack-up rig, with a prominent lattice structure. The rig is positioned in the ocean under a cloudy sky. A white banner with the Transocean logo and name is visible on the rig's structure. The image is overlaid with a semi-transparent orange and red gradient on the left side and a semi-transparent orange gradient on the bottom right. The text 'News' is written in a white, sans-serif font, and 'FIRST CHAPTER' is written in a white, bold, sans-serif font on a black rectangular background.

News

**FIRST CHAPTER**

## Iran Can Attract \$30b thru New Oil Contract Model: Minister

Iranian Minister of Petroleum Bijan Zangeneh said there is the prospect of entering oil investment deals to the tune of 30 billion dollars under the new contracts to be unveiled next week.

"The industry faces numerous problems, one of which is the oil contracts model," he added, "The new contract model will remove part of the problem."

"It requires related means to secure an idea's success," the minister said.

The IPC conference is expected to be embraced by foreign firms longing for participation in Iran's oil industry in the post-sanction era.

A follow-up conference will be held in London on February 22-24 after the IPC event in Tehran.

Zangeneh has said that Iran welcomes foreign investment in its energy industry, but stresses technology transfer by foreign partners in the new contracts.



News

## IDSC 2016: Forecast of Iran Drilling Market to unleash

Economics and Marketing Committee of Iran Drilling Services Conference, which has been held with the participation of active governmental and private companies in upstream of Iran's petroleum industry, is investigating the current situation and vision of drilling industry in next years.

The companies are estimating the demand for drilling services by the official data from National Iranian Oil Company and the results of this analysis will be presented to the attendance of the conference. This demand fits Iran's sixth development plan which is going to be implemented from 2016.

Also in this conference which is going to be held in 20th and 21st of January 2016, 52 introduced oil and gas fields for investment in new model of contracts (IPC) will be investigated in drilling market point of view.

Iran and Russia: Offshore Oil Rigs Construction Contract  
SOICO Managing Director Hamid Rezaian said the agreement will allow his company to take advantage of the Russian firm's facilities to produce certain equipment. The deal was signed earlier this month in Tehran where representatives of 80 leading Russian companies showcased their products in the biggest foreign display of the kind ever held in Iran.

Under the agreement, the two sides will jointly build rigs for exploration and production of hydrocarbons in the Persian Gulf waters.

"The construction cycle is planned not for one year, but for decades," Ilyichev has told Russian media.

Press TV



## Schroeder: New Chapter to Open in Cooperation Between Iran, Germany

Iran is one of the world's most important oil hubs, said Gerhard Schroeder in a meeting with Iranian Minister of Petroleum Bijan Zangeneh on Tuesday.

Germany is, politically and socially, fully prepared to expand cooperation with Iranian companies, he stressed. Schroeder said his country is willing to invest in Iranian projects, train Iranian workforce and transfer technology to the country.

shana



## NIOC: Six South Pars Phases to Become Operational by June

The on-shore section of the phases 17 and 18 are currently ready to operate at full capacity, said Rokneddin Javadi addressing the inauguration ceremony of the South Pars phases 15 and 16 located in Pars Special Economic Energy Zone.

In addition, phases 19, 20 and 21 will be ready to be launched by June 2016, Javadi said, adding, "In case we overcome the present financial crisis, the remaining South Pars phases will also become operational within two years."

NIOC chief recalled that currently, South Pars phases produce 420 million cubic meters of natural gas per day. "Once all South Pars phases are fully launched, the gas field's output will reach a figure equal to 5.8 million barrels of oil." he added.

shana



## Oil Production Cost Is Less Than 10\$ in Iran

Iran says it spends less than \$10 for production of each barrel of crude oil, stressing that it expects such low production costs to encourage foreign investors to flock to its oil industry in face of plunging market prices.

Mehdi Assali, Iran's national representative to the OPEC, maintains that this issue is due to the fact that Iran will double its current oil production next year after the removal of the sanctions.

Iran has already emphasized that it will increase its oil production by 500,000 barrels per day (bpd) as soon as the sanctions against the country are lifted.

It says a further increase of 500,000 bpd could take place within a matter of months. Iran's production of oil stands at around 2 million barrels per day of which it can only export about 1 million barrels based on the current regime of sanctions.

Press TV



## Drilling 20 South Azadegan Wells Put to Tender

Mahmoud Marashi said 200 km of wells have so far been spudded in South Azadegan, adding that by 2017 Iran is expected to boost early production from the field which it shares with neighboring Iraq.

Expressing satisfaction with the progress of the oil field during the past six months, Marashi said oil production from the oil field will reach 320 thousand barrels per day in the first phase.

Stating that drilling operations are underway by deploying 16 drilling rigs, the operator added that 185 wells are to be drilled for development of the first phase.

Development contract of South Azadegan oil field was signed for the first time in 2004 with a Japanese company in the form of a buyback contract but the Japanese partner refused to go ahead with the plan after two years mainly due to sanctions. After that CNPC from China took charge but it made very little progress in development of the oil field after 19 month presence in the project.

At present, the project faces no problems with regard to meeting necessary funds for development of the oil field and it is projected the first phase come online in 2017 with production of 320 thousand barrels of oil per day.



## Zangeneh: Completion of South Pars Phases Requires \$20b

Bijan Zangeneh, Iranian petroleum minister, said that to complete development of South Pars phases within the next two years, the Petroleum Ministry will have to channel funds worth up to \$600 million into the projects per month.

The minister also said that \$6 billion were invested in the project, adding once operational, the phases will produce 50 million cubic meters of gas and 80,000 barrels of gas condensates per day.

shana



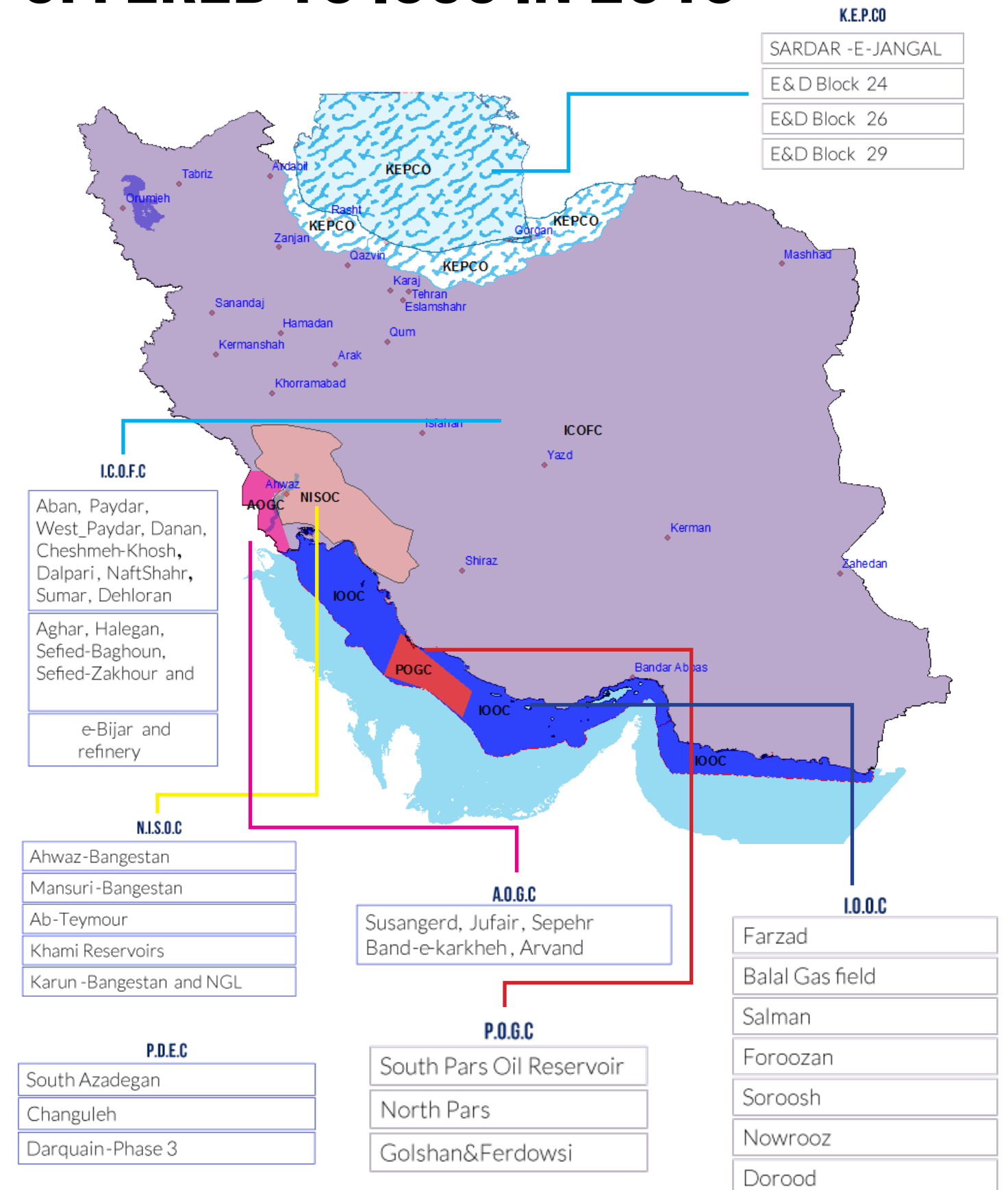
# IRAN PETROLEUM CONTRACT (IPC)

Iran Petroleum Contract (IPC) is the latest of NIOC's oil contracts which is being described as a hybrid oil contract, as it is not a PSC, but tries to include some of its advantages. Booking reserves is still a red-line but several short-falls of the buy-backs seem to have been addressed (see following table).

IPC Highlights	
<b>Term</b>	25+ years (versus 5-10 Y in case of buy-backs).
<b>Sign-in Bonus</b>	None
<b>Reserves</b>	Includes provisions allowing transfer of ownership of hydrocarbons to the foreign partner at a defined delivery point. But no reserves booking.
<b>Ownership</b>	Has a provision for shared ownership of the project assets.
<b>JV</b>	In IPC the IOC and Local Partner form a JV and jointly develop the field. NIOC will act as the owner and supervise the planning and operations.
<b>Capex</b>	Capex is not preset anymore. JV will create the master development plan and has provisions to allow changes in Capex if needed. A yearly budget and work-plan will be developed and approved by the JV.
<b>Complexity Factor</b>	Risk-reward factors linked to the complexity of each field. These factors allow higher fees paid to IOC for 'high risk' fields compared to 'low risk' ones.
<b>Remuneration</b>	Cost recovery (up to 50%), plus fee per barrel; in cash or in-kind.
<b>Asset Life-Cycle</b>	Allows smooth transition over various stages of the reservoir i.e. exploration, development, production and EOR/IOR without retendering.
<b>Marketing</b>	Allows IOC to market products if they choose to.
<b>SCR</b>	Encourages IOC to undertake civil and other social projects (e.g. hospitals) in oil-producing regions.
<b>Transparency</b>	Higher financial transparency to reduce risk of corruption.
<b>Local content</b>	Min 10% and max 20% local partnership, first priority with Iranian companies, 2nd with Iranian-foreign JVs.

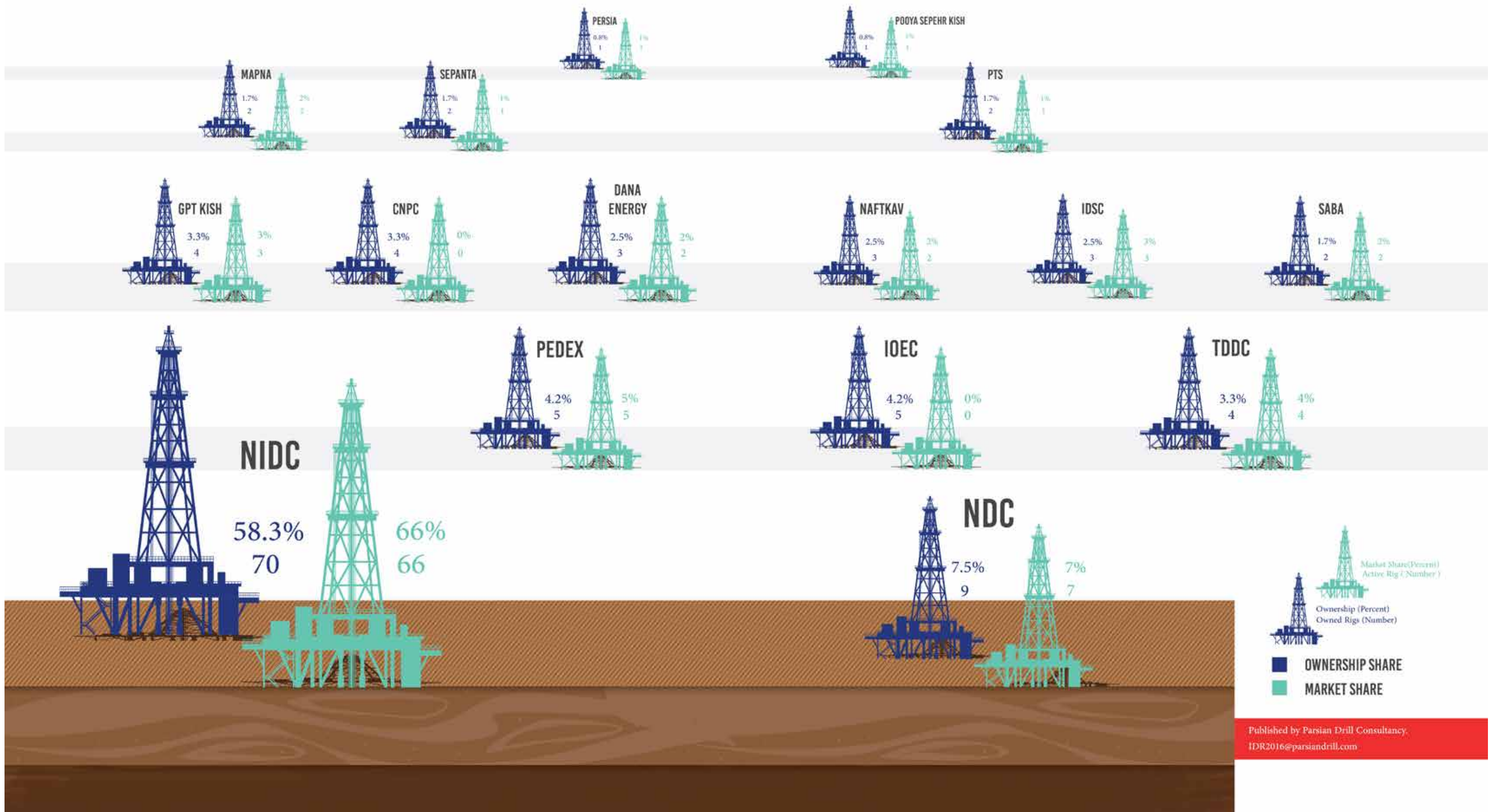
Source: [www.iranpetroleumcontract.com](http://www.iranpetroleumcontract.com)

# IRAN UPSTREAM PROJECTS TO BE OFFERED TO IOCS IN 2016





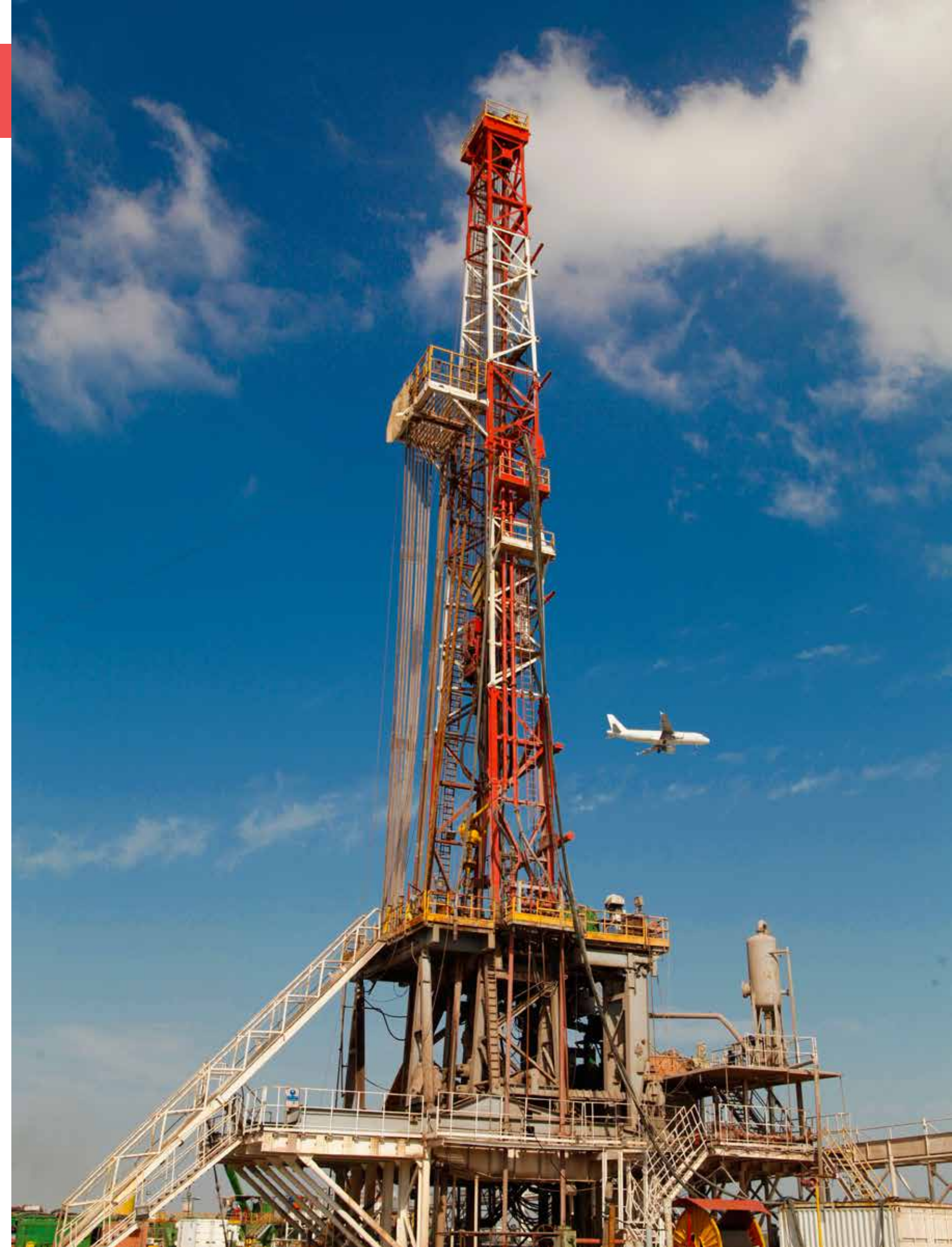
# ONSHORE DRILLING FLEET OF IRAN



# IRAN COILED TUBING UNIT COUNT

## IRAN COILED TUBING COUNT

COMPANY	COILED TUBING SITUATION	
	Available	Under buying
National Iranian Drilling co.	9	5
Iran Drilling Services co.	6	0
Mehran	5	1
OTS	4	0
Algheys	3	0
Well Services of Iran	2	0
Oil Exploration Operations co.	2	1
Zagross Group	2	0
COEC	1	1
Nepta	1	0
Petro Sanate Hafar	1	1
Toseye etemade Kish	1	0
Mabna Drilling	0	3
<b>Total</b>	<b>39</b>	<b>12</b>



# Technical

## SECOND CHAPTER



# The Road Map of Iranian Drilling Services

Technical

The development and variety of drilling services have been the results of the professional view to different elements of drilling operation; in a way that none of the drilling operation stages is possible without benefiting from drilling services companies. Today, even production from drilling rigs is performed in the form of Drilling Rig Services and installing equipment is also done professionally under the name of installation services.

Staff safety, high rate of drilling operation, the quality of the drilled well, access to maximum expected production from the well and even the realization of optimal hydrocarbon fields' development and well safety in the long run require the provision of appropriate drilling services. Assigning the complete responsibility of service provision to a company paves the way for the supply of desired materials

and equipment, employment of experienced people, development of technologies with the help of research and development (R&D) departments and finally the ever-increasing enhancement of drilling services' quality.

In addition, the great importance of drilling services has led to deficiencies and failures in the form of drilling rigs' waiting time increase, operational problems and well drilling and completion time increase (Hidden Non-productive Time).

The noticeable enhancement of drilling operation performance can be expected through the focus on addressing the challenges of this field.

Fortunately, the increase of variety and expansion of domestic companies in the field of onshore and offshore technical drilling services is conspicuous in recent years.



**Ahmad Reza Bonyadi**  
Drilling manager, Pars  
Oil and Gas Company

Although some of these companies do not have the required standards of drilling services range, they have been able to meet the requirements of Iran oil industry in the face of challenging international conditions. These days, the mentioned companies will have the chance to establish relationships with well-known international companies to benefit from up-to-date technologies for the enhancement of their services together with continuing the current activities due to the elimination of some restrictions. In addition, they can expand the scope of their activities to oil-rich countries in the region.

The first Iran Drilling Services Conference is a golden opportunity to investigate the current situation of technical services in drilling industry, define future objectives and vision, and create a comprehensive road map for the realization of this vision.

# Paving the Way to Progress

Technical

Addressing the ever-growing drilling services industry in Iran and delving in to systematic and qualitative issues, the first Iran Drilling Conference was organized. Considering the conference vision on drilling operations performance enhancement, as well as having an eye on the three aspects of quality, quantity, and empowerment, professional, economy and management committees were established supposing that symmetrical growth in the outputs and objectives would be focused through the parallel investigation of infrastructures in economy and management committees together with professional committees encompassing technical drilling services.

Furthermore, it was necessary for all value chain stakeholders to have an active participation in processes in order to meet the expectations. To this aim, all key stakeholders were divided into four parts of governmental clients, private clients (main contractors), technical drilling services companies and investors and consultants; then they were invited to participate in the committees.

The framework of all committees (except market and economy) commenced with creating a picture of the current situation which required qualitative and quantitative clarification. In order to address quantitative clarification, questionnaires were developed so that proportionate information to each service could be re-

ceived. To create the qualitative picture, brainstorming technique was employed for service pathology. Then, all members prioritized the resulting service pathologies on the basis of assigning scores to each item's importance and necessity. In addition, the cause and effect of prioritized issues were investigated and some solutions were proposed through modeling and benefiting from the professionals' experiences. Definitely, these service pathologies were the main cause of many other problems whose handling will have a considerable influence on the current situation's optimization.

With regard to the primary mission of the conference that is the increase of quality and quantity as well as a glance at product approach, key performance indexes (KPI) were defined in three parts including time, cost and quality, and their compatible formulas were developed. Target definition is a significant issues in key performance index definition. Nevertheless, these targets can differ from one field to another and they highly depend on the contract type. In typical contracts, a target must be a range of previous records; in incentive contracts, however, there must be best practice so that the contractor attempts for optimization and the cost of good quality is divided between the parties.

In the committee of economy, the members were divided into three subcommittees including the investigation of contractor-client relationships effects on contracts, effective factors on economic



**Elina Bagheri**  
Head of Drilling Planning,  
Pars Oil and Gas Company

evaluation and post-sanction conditions in order to examine the aforesaid issues; as a result, a document was developed.

In the committee of market, internal market demand for Petroleum Ministry annual drilling services requirements within five years were investigated with the participation of Petroleum Ministry and its affiliated companies.

The subcommittee of supply embarked on data collection through the distribution of developed questionnaires so that they could create a clear image of human resources and equipment potentials for each service.

The subcommittee of foreign demand that was established due to the expansion of technical drilling services market to the Middle East concentrated on current competitors' drilling plans, and minimum requirements of entering these markets through collecting data from Iraq and Oman.

In the final step, due to the service pathology of common problems with particular regard to structure and system, committees managed to achieve some solutions. With a systematic holistic view, the scientific committee of the conference suggested some solutions influencing all the drilling services industry. Definitely, we considerably benefited from the participation of all technical drilling industry value chain who have a great impact on the comprehensive road map creation.

We hope that the support of this industry leaders will result in favorable outcomes.



## LOGGING



# Logging Early Development and Challenges

**Mojtaba Khadem**  
Well Services of Iran

It is more than a century since Oil has been discovered in Iranian plateau. Iran is one of the majors and leading countries in Oil & Gas reserves. In fact, oil industry has been established in the Middle East since the drilling bit reached to oil at well number one at 356m in Masjed-Suleiman field (MIS1-) on 26th May 1908. Since the first well was drilled in United State the importance of the

black gold has been increased day to day as main source of the energy worldwide. At the same time, one of the primary challenges that Oil & Gas industry encounter was reserve evaluation and simultaneously importance of Electrical Loggings have been considered necessary.

In Iran, Logging Operation of continuous measurement of hydrocarbon and reserves

properties has been recorded in Lali field (Lali1-) in 1938 by Schlumberger brothers for the first time. Since then, the logging companies put their tools and technology into service in Iranian onshore and offshore fields.

Since 2012 and prior to that, due to sanctions against Iran, logging tools & technologies have been restricted

and limited to Traditional and long-established tools. Also, recent tools & technologies in Iranian logging market are mainly imported and not well-built. Although few local companies (despite of the vast challenges) have had some achievements in this field most of the local technologies are copied from the imported traditional ones. Although there are limited number of patents in this regard and in some cases; for instance, Perforation domain (Guns & Bullets) local knowledge and technologies are completely independent.

The main challenges that Iranian logging domain and industry has been encountered during recent years could be classified as human resources, technology, management, Procedures & communications, and data quality. In

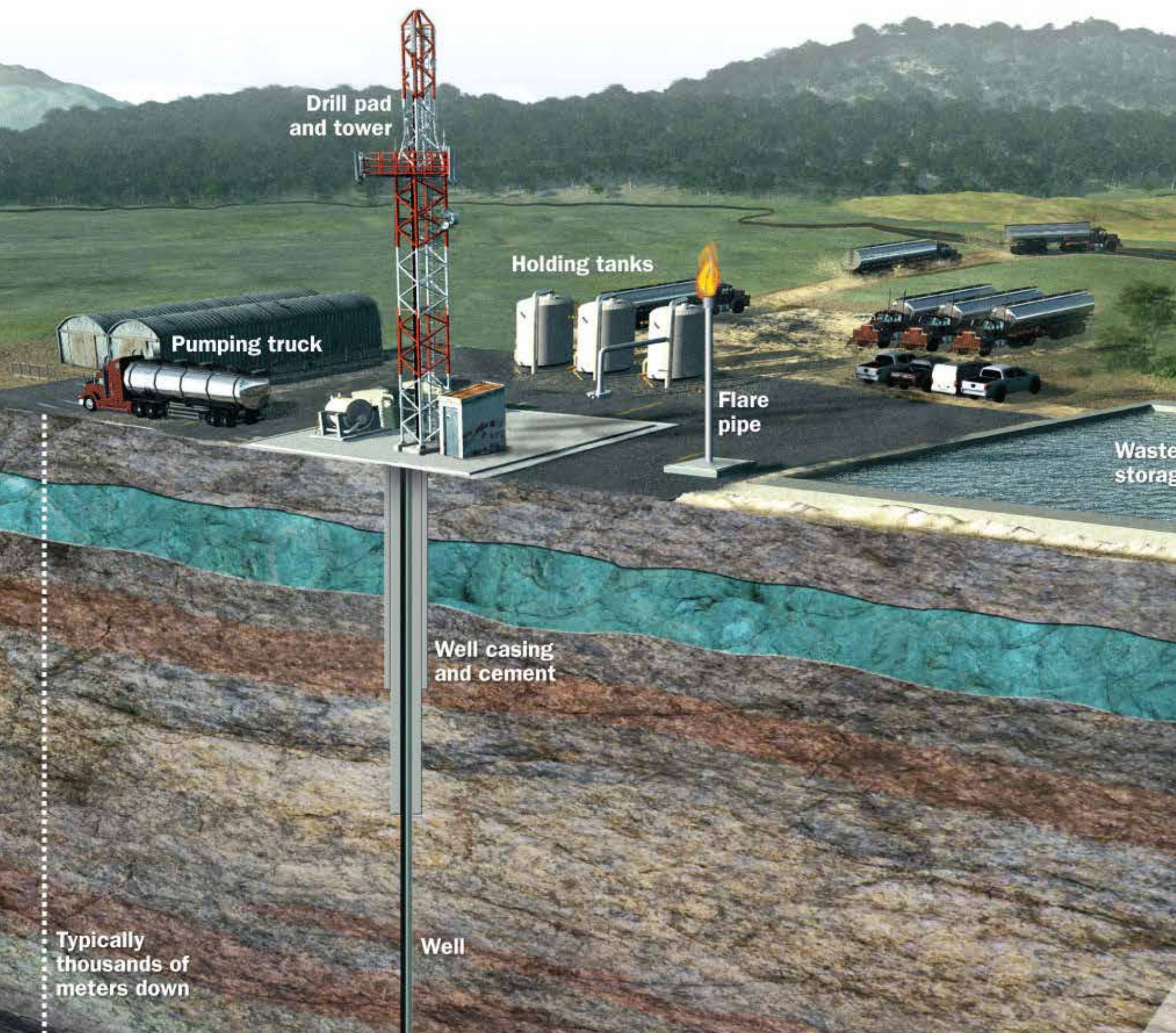
this regard, the technology gaps and human resources have had the largest affects as per Priority Matrix (refer to Logging & Petrophysical Committee). In detail, each challenges included some subsidiaries, as an example Financial, Investments, Payments, Contracts terms and conditions Problems are included into Management challenges.

**The main challenges that Iranian logging domain and industry has been encountered during the recent years could be classified as human resources, technology, management, Procedures and communications, and data quality.**

In brief, access to new technologies is not

simple at the present time, and lacks of new and up-to-date technologies imposed the most damage on Iranian logging industry during sanctions. In fact, the implementations of substandard tools and technology with low quality bring about poor quality results at most of the cases. Therefore, at the moment by reinforcing the human resources and increasing knowledge and expertise levels with integrated educations at least could improve data quality at logging domain.

In this regard, Iranian Logging and Petrophysics Committee has been trying to evaluate and prioritize the drawbacks and root causes of the challenges in order to provide the solutions. Also as a committee, we are trying to determine logging Road Map and KPI to improve the logging domains future in Iran and looking forward to post sanction time.



Technical

# A Glance at Directional Drilling, Taking on the Challenges

**Hamid Reza Mir Galavi Bayat**  
**Petropars Company**

**W**orld economy prosperity requires energy resources. According to the present studies and statistics, hydrocarbon will remain as the major energy supply until 2050. Geographical distribution of these resources indicates that by 2025 vision, the main oil producers in the Persian Gulf region will be Saudi Arabia, Iran, Kuwait, Iraq and the United Arab Emirates; in addition, Iran, Russia, Qatar and the United Arab Emirates will be the main key players in gas production.

According to a report published at the end of 2013, Russia possesses the most gas resources of 43/3 trillion m<sup>3</sup> equals to %24 of the proven reserves, and Iran follows Russia as the second gas resources owner with 34 trillion m<sup>3</sup> which equals to %18 of the world proven reserves. Since access to and exploitation of majority of the hydrocarbon reserves requires application of directional drilling method, it is inevitable to employ such advanced technologies in order to reduce overall drilling operation costs. It should be highlighted that the most significant advantage of such drilling method is penetrating those reservoirs which could not be produced economically except for applying directional drilling technology.

Although it is over three decades since directional drilling has been applied in Iran drilling industry, but supplying main tools, equipment, spare parts & related software is highly dependent to foreign sources, and access to the newest and the most optimized technologies is so difficult and even

impossible in some occasions. As the most of active local service providers just play the intermediary role to import directional drilling equipment to cover country basic requirement and due to the fact that there have not been effective efforts for entrance of advanced technologies therefore, a considerable gap could be observed between Iran and Middle East countries in terms of subjected service quantity and quality.

Commenting about current shortage and challenges of directional drilling service in Iran needs comprehensive database and precise statistical surveys of available information. Nevertheless, the major diagnosed challenges could be addressed as following:

- 1.Lack of national comprehensive database about past and current directional drilling workloads, future requirements, number of active local service providers and their hardware and software capabilities.
- 2.Limited access to well-known and valid manufacturers to supply substantial equipment and maintain reliable and sufficient spare parts and poor after-sale services.
- 3.Limited access to advanced technologies.

## PERFORATION



Technical

# Precision Coiled Tubing Perforation

**Ali Irani Kermani**  
**Petro Danial Kish Company**

**R**unning perforation guns with coiled tubing conveyance is an effective method of oil and gas wells perforation. Since other services like acidizing and well stimulation can also be carried out by coiled tubing, this method can be considered economical and efficient in several cases.

Precise depth determination and perforation precision have been continually controversial issues from the beginning of coiled tubing perforation in the region. Since it is not possible to perform wire line logging through coiled tubing, and compare the achieved log results with initial open hole base log, the classic method of depth correlation by the use of a pip tag

in the perforation string is out of question. For this reason, currently, if perforation operation is supposed to be carried out with coiled tubing conveyance, the depth correction is determined by tagging the LDC (Latch Down Collar) during a dummy run (Coiled tubing with MHA and empty guns) and applying corrections on the coiled tubing counter based on the drillers depth of the LDC.

Two major errors occur in this method:  
 1-Final well depth is approximated by drilling pipes and their approximate length in the well. This lacks required precision for perforation operation.  
 2-In some cases, required depth for perforation operation is widely different from final well depth which affects the precision of the operation further.

In the absence of a precise method, the

coiled tubing perforation operation depth precision has been continually questioned. Petro Danial Kish Company with the support of its client's (Petro Pars and Pars Oil and Gas Company) has lately managed to gain high precision in perforation for the first time in Iran:

According coiled tubing perforation operation manual, a dummy gun is carried out before the main coiled tubing runs. As mentioned above in this run, coiled tubing, MHA, firing head and Dummy (Empty) guns are run in hole to make sure the well path is clear and there is no possibility that coiled tubing gets stocked with live guns. Also during the same run the LDC is tagged and mechanical depth correlation (which was described as

non accurate) is carried out.

The innovative method proposed here is to utilize wireless gamma ray sensors working with batteries during the same dummy run. Now the new precise correlation method is based on placing these sensors in empty perforation guns of the dummy run and by comparing the values gained by gamma ray and CCL sensors with values of the base open hole log, exact depths can be determined.

**According coiled tubing perforation operation manual, a dummy gun is carried out before the main coiled tubing runs. As mentioned above in this run, coiled tubing,**

**MHA, firing head and Dummy (Empty) guns are run in hole to make sure the well path is clear and there is no possibility that coiled tubing gets stocked with live guns.**

In this method: First, gamma-depth log of executed operation by coiled tubing is achieved through the comparison between gamma-time logs of sensors in empty perforation guns with depth-time log of coiled tubing device. After comparing this log with the basic open hole log which perforation depths have been determined based upon, differences are captured and depth modification is carried out. Additionally, this method prevents the need for E-coiled tubing units which in turn can add to the complexity of the operation and

might also be considered uneconomical.

According to the mentioned instructions, the depth of perforation in South Pars gas field has been considerably modified. It is notable to mention that in the absence of such method, the existing technology is not capable of depth modification so precisely. It is now considered crucial to apply this method in almost any coiled tubing perforation operation.

# Well Test; Demand and Challenges Revealing over Time

Technical

Having passed a few years after advent of delivering production services and experiencing remarkable changes in capabilities and challenges in volume, extend and context, there are some requirements to maintain the records achieved, to keep the pace of development and to enhance the trends. Specific ranking formulations can be devised and companies ranked accordingly in a predefined structure in order to have a definite frame for evaluating the service providers and facilitate the route for organizing and implementation of performance-based contracts

**Alireza Zangeneh**  
**Mehran Engineering and**  
**Well Services Company**

Not a very long time has lapsed since Iranian private companies first began delivering production services to the upstream industry, however a dynamic growth in service quality and structure has been experienced. The situation has changed considerably. The capabilities and shortages have changed in volume, extend and context. A different balance has formed compared with 5 years ago when the market suffered a vacuum in sufficiency of available equipment, facilities and human resources to run the operations. The offshore sector is almost saturated by service providers at an acceptable level of quality. Onshore has moved at a slower pace however. Generally speaking, the production services in the private sector have been promoted to very admirable and expectant levels, meanwhile they've been confronting challenges technical-wise as well as in terms of market clarity.

Technically speaking, there are some requirements to maintain the records achieved, to keep the pace of development and to enhance the trends. Amongst which one may short list more focus on

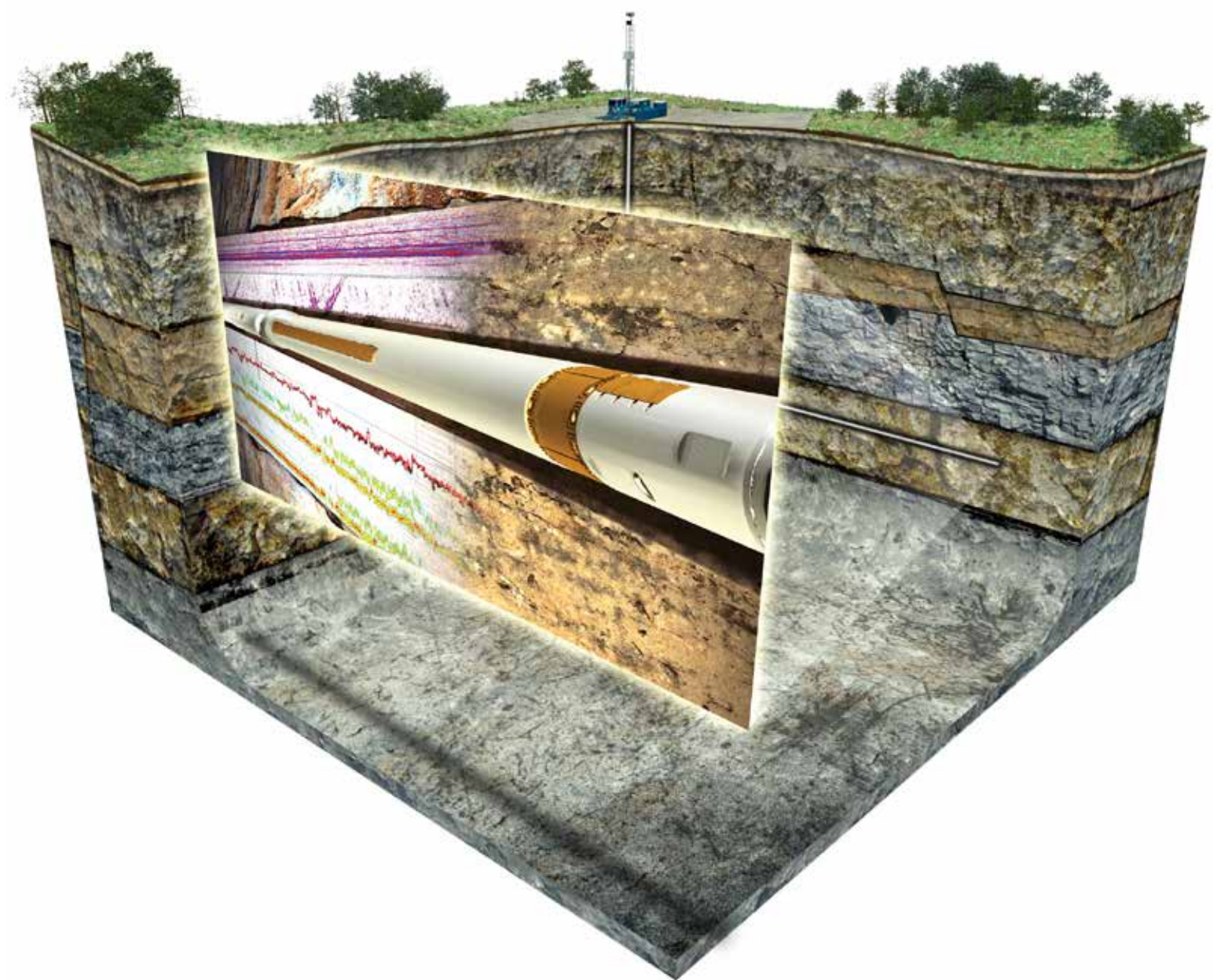
new solutions, engineering and modeling practices, expertise reproduction by defining solid training programs at different levels, revising the procedures by continual incorporation of lessons learnt in both client and testing operator sides and supplementing the current fleet with the new technologies other spots of the world are exercising.

In order to have a definite reference frame for evaluating the service providers, service quality indices have to be revised into specific formulations and companies ranked in a predefined structure based on their actual records so that they can orient their efforts upon definite criteria and they can anticipate proportional consequences. This will also facilitate the route for organizing and implementation of performance-base contracts these days spoken of.

Production well services, on the other hands, suffer an unclear market. E&P operators might organize a clearer assessment of their minimum service requirements and their demand frequency especially in mature fields. Service providers need a clearer market perspective in order to invest in the above on a mid and long-term basis.



Technical **Mud Logging: A Blessing in Drilling**



The collection and storage of all operation information including drilling tools performance and all other related services together with other parameters provided by this service can make a great and effective contribution to the field studies, along with current and future planning.

**Mohammad Javad Noorani**  
**Technical Manager, Pars**  
**Geo-Data Company**

Having been accounted for a part of special technical services in gas and oil well drilling operation, mud logging services bring about valuable impacts on the optimization enhancement during drilling operation and increase occupational safety coefficient by means of on time and precise drilling information provision.

It is notably beneficial to interpret data and information derived from this service for layer identification, geological studies, and reservoir engineering. The collection and storage of all operation information including drilling tools performance and all other related services together with other parameters provided by this service can make a great and effective contribution to the field studies, along with current and future planning.

The truth is that international projects perform project management in a way that they would encounter minimum operational risk, damage and delay compensation costs through the application of effective and comprehensive services of mud logging including dominance on all aspects of drilling operation by means of signs,

tools, engineering soft wares application, expert professionals and data collection. We hope that recent attempts have paved the way for a more realistic understanding of this service facilities and capabilities so that national capitals and domestic capabilities could be preserved more efficiently.

Among the main factors and obstacles hindering the maximum growth and flourish of this service, the following items can be mentioned:

- Ambiguity of contractor evaluation criteria in tenders
  - Differences among employer, main contractor, and technical services contractors' contract nature
  - No useful and thorough use of the whole potential of mud logging services
  - No procedures and minimum requirement definition of mud logging services
  - Poor geological knowledge and experience among contractor's staff
- Suggestions and solutions to enhance quality level and effectiveness are as follows:
- Sufficient consideration of discipline, operation and business rules and regulations
  - Prevention of price inquiry in contractor identification process

- Accurate execution of all tenders along with excellent supervision
- Developing rules and regulations for contractor evaluation and its annual update by referent department, and its reference to all related departments requesting tender
- More specialists' familiarity with modern technologies
- Development of pervasive meritocratic management system for active private, public, governmental sectors' performance evaluation
- Accurate supervision on all phases of project execution and contractors' technical-engineering services; from contractor selection phase to final project report provision

In the end, with regard to global free trade rules and the right for entering trading activities for everyone on condition that all professional, occupational, international and legal principles together with not causing instability and disorder, it is recommended to all advocates and enthusiasts of this field not to sacrifice sustainable development based on production quality for transient unsustainable benefits so that they will not wreak havoc on the active members of this field.

# Sustainable Development in Drilling Fluids Industry

Technical

**Koorosh Tahmasbi**  
**Pars Drilling Fluids Company**

**D**rilling fluids are made of the combination of materials with different properties suspended in water or hydrocarbon surroundings. It is a delicate and complex issue to reach appropriate drilling fluids formulation for the implementation of multiple aims, which are sometimes contradictory, together with its rotation in the depth of earth and connecting layers composed of various lithology under pressure and high temperature. Although it is estimated that the costs pertaining to drilling fluids approximately allocate 5 to 10 per cent of the drilling costs of a well, a great percentage of drilling operation problems stem from the negative effects of drilling fluids.

For this reason, engineering, development and execution of drilling fluids is one of the mysterious sciences. Apart from their multiple role, remarkable issues in the engineering of drilling fluids influence drilling economy through ROP increase, prevention of damages to formations for the continuation of proper drilling and more important than that prevention of damage to the reservoir due to large production. To attain these aims, international oil companies the provision of integrated services of drilling fluids ranging from design, engineering, and supply to operational execution are regarded considerable. The cycle that is undoubtedly the result of ten years of experience and optimization in the drilling fluids industry of international companies includes the following stages:

- Design, engineering and planning
- Supply and maintenance of materials
- Development and execution of fluid operations in drilling rigs' site
- Performance supervision, HSE and QC through reference laboratories
- Continual research in relation with the operations
- Refinery and recycling of drilling fluids

At the present, the integrated position of drilling fluids encompassing design, engineering, operational execution, refinery and recycling is provided as a comprehensive plan (Total Fluids Management-TFM). Undeniably, such coordination among different actions with the same goal under one single management result in various achievements which some of them are mentioned below:

- 1- Optimal and close relationship between execution and technical-engineering in order to achieve operation supervision and transfer of operational problems to technical-engineering for investigation and study
- 2- Research on operational problems after technical-engineering investigations in order to achieve methods for productivity enhancement in the form of making formulations or production of required additives
- 3- Developing high-quality additives proportionate to drilling fluids system through performing QC in the company's laboratories
- 4- The improvement of staff capabilities (especially drilling fluids engineers) through progressive trainings
- 5- The execution of HSE and QC in the departments of the company

6- Making use of technical-engineering and research learnt lessons in drilling fluids design, engineering and planning in new projects in the form of continuous improvement.

7- Ongoing supervision and continuous reports to top management in order to identify the strengths and weaknesses of the company's operations

8- Useful and easy company's access to modern technologies through establishing relationships among companies and international research institutes and employing these technologies in the company's operational research.

A glance at the manner of providing drilling services in the past years indicates that nearly 60 to 70 percent of our country's projects are conducted separately. In addition, beside the integrated view of service execution, the client's supervision share and services provider's share of execution and quality enhancement are considerable and they require revision.

Meanwhile, parallel to technical and engineering structures QC, operation, research, development and specialized training are notably important and support this complex but seemingly simple industry. International companies consider principled research and relations with universities for industrial research and specialized training for executive-level model for technical and economic optimization. In this regard, the identification of knowledge-based structures can result in sustainable development in drilling fluids industry so that it could dynamically lead our present and future drilling industry needs toward optimal and executive solutions.

# Technical The Knotted Skein of Offshore Drilling Logistics

Hossein Ghadami  
Petro Gohar Farasahel Kish

At first glance, offshore drilling logistics is viewed as the management of coordination with selected contractors and intracompany managements in order to transfer required tools to the rigs and return them to operating bases; however, from a more in-depth perspective, it is a complicated process which can become more intricate by some limitations and conditions of Port and Customs Offices and involving governmental organization during execution.

Apart from that, the mentioned issue particularly in the management of vessels' implementation and operation is a main specialized issue, and I doubt a person can claim perfect specialty in this field. According to this field contributors, no one claims such specialty given the present situation.

As far as vessels are concerned, fuel management, traffic control, loading and unloading of vessels and leading operations as well as supervising ship crew and interaction with ship commander is other professional issue which deserve establishing a new academic major from my perspective. Other professional issues in search of considerations range from knowledge on modern standards and navigation issues to the ability of proposing solutions in bad weather conditions and vital rigs 'goods supply including

fuel, water, and other consumptive materials carried to rigs.

**Offshore well drilling plan is heavily dependent to proper and on time supply of goods, and in most of the designed plans, its weight factor is %40-35.**

Given the present conditions in which we encounter lack of cash flow, fuel supply and transfer is a greater challenge itself. Moreover, there are restrictions in getting fuel from National Distribution Company from which the majority of companies suffer, and they have to allocate the main part of their current cash flow to this. At the same time, they cannot make sure of permanent on time fuel supply from this area (Everyone in aware of the special conditions of getting fuel from National Distribution Company). Considering all aforesaid items, it is revealed that handling marine and vessel operations is of significance which emphasizes senior management cooperation in the provision of fundamental needs and requirements of logistics managers. Certainly, everyone is aware that offshore well drilling plan is heavily dependent to proper and on time supply of goods, and in most of the designed plans, its weight factor is %40-35. Therefore, it is essential for the senior management to take heed to the supply

of financial requirements and specialized workforce considerably.

The following items which put new challenges in the way of logistics management and are in need of spontaneous decision-making and suitable solutions are to be added to the mentioned concerns:

- Present limitations in ports including necessary human resources for loading and unloading operations, machinery and special rules for this field
- Customs restrictions leading to major problems for drilling companies in some cases
- Rules related to goods and staff entrance and exit and existing limitations in this field especially in case of workforce with different nationalities
- Restrictions of Free Zones Organization and the necessity of continuous interaction in order not to interrupt operations
- Limitations in supply of goods during sanctions
- Restrictions of Emirate ports from which most companies suffer

# A Service-Oriented Glance at Bit

**Davood Koukhani**  
Exxon Dena Company

**As service provider companies are in charge of bit selection, drilling knowledge acquirement and direct relationship with clients and bit producers, they are seemingly the missing link of the chain. In addition, repair and maintenance enable them to use bits several times, and suggest the best solution to final clients through choosing specific bits of different producers.**

These days, we witness an increasing downturn of natural gas and oil prices despite population growth and ever-expanding consumerism. On the other side, the increase of service and goods price in comparison with the previous century is the fruit of consumerism due to the fact that each task fulfillment is in need of a product. The accordance of this issue in drilling industry together with oil and gas production indicated the increase of a well costs compared to the past years. From another perspective, the reduction of oil price pushes companies to be in search of decreasing their drilling costs or generally speaking their production costs so that they can make profits or continue production. One factor playing an instrumental role in gas and oil price is drilling, consequently; drilling bit is among the important drilling elements. The advancements in bit production has led to the decrease of drilling days which is essential in considerable decrease of production costs. Compared to other drilling tools, bits are inexpensive but their efficiency has a huge impact on drilling costs. To achieve this, there must be a close relationship between people

holding technical knowledge of appropriate bit selection and its users. Lack of such a relationship will cause waste of time and money as well as diversion from the general objectives.

## Lack of Technical Knowledge Holders Presence on the Market

Today, the rough economic atmosphere amalgamated with complexities of well conditions, it is inevitable to ensure bit efficiency. This issue drives bit producers to adhere to productivity enhancement through increasing bit efficiency. In most of bit applications, useful life time and rate of penetration are two key factors on the base of which users select either polycrystalline diamond compact (PDC) or rock bit. On the one hand, useful lifetime causes reduction in top tube down tube for bit changing; on the other side, rate of penetration leads to reaching total depth (TD) sooner. These two factors directly affect well costs.

The improvement of metallurgy, its alignment with rock geology conditions of drilling formations and fluids results in different bit designs which bring about

revolutionary models and design concerning one or both of the aforesaid factors. On regional or global markets, producers' sales offices perform as the technical marketing; in that, they follow up consumers from receiving information to suggesting solutions and conclusions. If technical sales experts are not considerably present, this role will be assigned to service provider companies; the ones who provide bit services not its sale.

## Reduction of Income, Decline of Services

Considering the remarkable decrease of profit margin, reducing service scope has been preventing high cost are prioritized. Clients are not willing to macro purchase because this issue, with no regard of high costs, has accumulated capital on the equipment which may go out of the cycle due to changing priorities. Additionally, repair and maintenance of old bits in operation is so time taking and energy consuming for costumers. This created more tendencies toward inexpensive products followed by later problems because such products lack the principles of useful lifetime and high rate of penetration. Reduction of income causes decrease of budget and purchase ability. Considerable presence of producers and their consultants lead to productivity enhancement, but they may suffer income reduction because better services are restricted due to considerable decrease of sales' rate and amount.

## The Investigation of Problems and Solutions

In contrast to the deteriorating trend of oil market conditions, bit clients' technical expectations have increased; Moreover, they are looking for cost reduction which means less purchase, less money and more services. It is the

opposite of what producers prefer: wholesale, larger numbers and higher prices. What should be done? Considering partial purchases and low-budget clients, producers cannot technically cover all clients. It means that it is not possible to design a special bit for each well. Customized bit design can lead to increase of sale expenses and total cost, but this issue is still convenient for producers on condition that it is not accompanied by extra services.

As service provider companies are in charge of bit selection, drilling knowledge acquirement and direct relationship with clients and bit

producers, they are seemingly the missing link of the chain. In addition, repair and maintenance enable them to use bits several times, and suggest the best solution to final clients through choosing specific bits of different producers. Furthermore, no extra expenses are imposed on either of the two main parties, client or producer. Others are also aware of incomes and costs that ensures a win-win situation.

## Service Orientation in Bit Supply

In our country, in addition to the aforementioned challenges, there is special regional and transregional conditions. It means that despite regional competitors

striving for oil and gas utilitarian application, due to transregional policies and competitions, direct service provision is not feasible even in post-sanction epoch. Therefore, service provider companies can simply take the responsibility of this issue. Service provider companies are obliged to acquire precise information on formations and employ existing facilities maximally in order to achieve long useful lifetime and maximizing the rate of penetration. The main reason is the payment mode of such companies. In fact, they are paid according to their performance not their presence or tools. This is a must and better bits with more accurate parameters are gained and record breaking commences.



# Importance, Challenges, and Approaches in Post-Sanction Epoch

**Mahdi Babayee Rostami**  
Well Services of Iran

## Oil & gas sector & QHSE

Iran is considered as one of the main countries possessing the greatest oil and gas reserves.

Aiming to reserve preservation, optimized exploration till production, safe transmission with least wastes & final refinement, require up-to-date technologies as well as practical commitment to apply the highest level of safety & quality within the oil & gas sector.

## Domestic & global major challenges

Oil & gas projects have always been associated with uncertainties & various risks affecting quality, safety, cost & time of each single project in. During the past years, the industry was suffering from those issues as the sanctions were avoiding new technologies to come into the country. On the other hand, the world has been in challenge with some critical environmental crises such as climate change & global warming which are threatening the earth & people's health.

Strategic planning in terms of QHSE to be in such a way to overcome the current industry risks and to take serious steps towards our social responsibilities in protecting the world particularly by copying with greenhouse gases sources.

## How to overcome challenges?

QHSE is believed as a mutual responsibility among involved parties.

All organizations must allocate sufficient resources for improving QHSE and have to make sure their management systems are capable to maintain the whole operation within acceptable boundaries.

It is crucial to fortify the QHSE atmosphere in the post sanction plans as this will lead the O&G sector to protect people, country capitals & environment etc.

Similarly, operation must be absolutely aligned with strategies & plans.

Thus constant monitoring of the system and performance based management, would be an inevitable approach to be chosen.

Notably, applying this approach requires introduction of national integrated documents; specialized integrated training system; and integrated auditing system, which can build up a mutual language through the whole O&G companies. Those items along with resource allocation, are considered as the fundamentals of a comprehensive management system.

Furthermore, the management system has to comply to international models such as OGP's operating management system (OMS). In this comprehensive model, all concerned segments must gather together and by means of an integrated management approach, the whole industry towards will be directed towards goals and objectives. Since Iran has one the most educated young populations in the region, there are many individuals including HSE degree holders, are potential to assist O&G professionals in implementation of the integrated management system.

## Way forward

Considering six key elements in organizational dimensions, many of national oil companies (NOCs) tends to outsource

their services to a range of competent operators & contractors. Hesitating to deal with large amount of details, NOCs are attempting to support all their affiliates up to the subcontractors and are monitoring their performances accordingly.

To achieve this goal, they need to have an efficient & effective mechanism enables them to overcome the challenges in projects specially in QHSE related fields

This mechanism would be a supportive umbrella to be defined through the highest executive body in oil & gas sector. The umbrella would be an integrated management system complies to international structures. All active companies & segments must be covered through this comprehensive managerial system. The leading part of this plan, would be a tool to make this system, dynamic; Enterprise Resource planning (ERP) software, would play a vital role, ensuring all elements of the opted management system is being followed properly.

Online data gathering & processing, will provide a powerful platform for knowledge management and assist the managers to take the best decisions in terms of quality, safety, environmental protections & technical matters. Conclusively, obtaining higher level of safety; sustainable development; and commitment to social responsibilities in oil industry can be undertaken with an unprecedented pace by boosting systematic thinking model through development of a national integrated management system & implementing it through an ERP tool.

This will result in people & organizational maturity in Iran oil & gas sector & will lead the industry towards continuous improvement mainly regarding QHSE principles, in post sanction epoch.

Technical

# Coiled Tubing Services in Iran: Development, Current Status and an Eye to the Future

**Mohammad Hooshmand**  
**National Iranian Drilling Company**



In the mid 1990-s, only a couple of foreign or international companies exclusively provided coiled tubing services in Iran. Since it was developed in oil and gas industry shortly before that, coiled tubing was considered as a novel technology.

After the approval of coiled tubing capabilities in repair activities, its limited application in operations increased gradually; consequently, service provider companies embarked on supplying more tools with higher technologies. National Iranian Drilling Company supplied and launched its first owned coiled tubing device in 1992. Shortly after that, having purchased its foreign partner's coiled tubing device, this company's fleet reached two devices.

It was the time when Pira Haffari Company, which is accounted for the pioneer service provider company for coiled tubing services, set to launch its coiled tubing device again. Both National Iranian Drilling Company and Pira Haffari Company continued developing their fleet up to 2002, so they became the lead actors of coiled tubing services in oil and gas industry. However, Iranian Offshore Oil Company (IOOC) and National Iranian Oil Exploration (NIOCEXP)

which continued its activities under the name of Oil Exploration Operation Company (OEOC) later and supplied coiled tubing devices and performed some of the required coiled tubing operations. With the development of onshore oil and gas fields' projects and more awareness of capabilities of coiled tubing, public acceptance resulted in the presence of private companies in this field as well as developing coiled tubing fleet in government-owned companies affiliated to Petroleum Ministry. In this way, there are more than 40 coiled tubing devices in public and private sectors of Iran.

Due to the expansion of coiled tubing physical fleet, expectations of this technology exceed its primary applications for fluid injection, acidizing operations, cement conduit strap, Nitrogen lifting, etc. Furthermore, clients inquire coiled tubing service provider companies to offer more advanced applications such as completion/work-over, fishing services, advanced well operations, tools for entering multilateral wells, etc.

**Due to the expansion of coiled tubing physical fleet, expectations of this technology exceed its primary applications for fluid injection, acidizing operations, cement conduit strap, Nitrogen lifting, etc.**

**Furthermore, clients inquire coiled tubing service provider companies to offer more advanced applications such as completion/work-over, fishing services, advanced well operations, tools for entering pronged wells, etc.**

According to the strong software potential of coiled tubing, expansion is possible for specialized service provider companies offering well coiled tubing tools due to the fact that advanced well tools and their related operations require different knowledge and experience ranging from management to the maintenance of coiled tubing devices.

With coiled tubing technology being known, the existing work-over devices the outer diameter of which are 1-1/2" or 1-1/4" cannot meet the operational requirements of clients. Therefore, it is essential to have modern coiled tubing devices. In this regard, the need to coiled tubing rigs is revealed. On the other hand, the growing number of coiled tubing devices necessitates technical maintenance and supply of peripheral devices such as coiled tubing reels. As a result, developing a supply chain for coiled tubing devices and equipment can be an ideal opportunity in coiled tubing business expansion.

# Meeting the Challenges of Oil and Gas Well Cementing

**Soheil Saeidi**  
Mehran Engineering and Well Services Company

The drilling of an oil or gas well encompasses numerous operations and services; undoubtedly cementing is one of the most influential services on the lifetime and integration of wells.

During cementing, annulus between casings/liners and well is filled with cement slurry having specific and designed features tailored for the existing conditions. After being hardened, the cement slurry plays different roles including protection of weak formations and casings against the imposed stresses and tension as well as corruptions stemmed from formation liquids, and layers hydraulic isolation especially in the productive zone of interest.

**One of the remarkable issues that is worthy to mention in this field is the employment of different classes of cement and additives according to the existing standards such as API, ASTM, etc.**

Having miscellaneous conditions of cement slurry application, cementing operation is accompanied by several challenges. In this regard, cement slurry proportionate to each operation is specifically designed. Features such as various specific weights from 8 to 20 pound per gallon, different thickening times, various compressive strengths from 500 to 4000 pound per square inch, elastic feature of the hardened cement, cement slurry resistance against gas migration, etc. can be mentioned.

Specific additives are employed in order to reach optimal design which is carried out by running numerous experiments in oil well cement laboratory.

One of the remarkable issues that is worthy to mention in this field is the employment of different classes of cement and additives according to the existing standards such as API, etc. At the present, drilling cement and limited number of additives are manufactured in our country.

**-Making use of developed technologies related to the simulation of cementing operation**

**and its calculations can make a contribution to the decrease of operation risk and more compatibility of operation execution with engineering principles.**

Considering the necessity of highly practical and strategic cement additives compatible to Iran's oilfields and reservoirs, it is essential to develop knowledge-based companies more than before so as to expand knowledge borders and localize the mentioned additives. This can lead to improvement in this field of drilling services that may finally result in the cementing quality enhancement and overall well construction.

In addition, making use of developed technologies related to the simulation of cementing operation and its calculations can make a contribution to the decrease of operation risk and more compatibility of operation execution with engineering principles. From this perspective, it is considerable to expand the use of such softwares and activity development in this field.

The background of the slide is a photograph of an industrial facility, possibly a refinery or chemical plant, featuring a complex network of metal pipes, scaffolding, and large cylindrical tanks. The image is overlaid with a yellow and green geometric design consisting of diagonal bands and shapes. The text is positioned on the left side of the slide.

**ECONOMICS  
AND**

MANAGEMENT

**THIRD CHAPTER**



# LIGHTNING THE WAY

Ramin Foroozandeh  
Economics Expert

## Things to Know before entering IRAN DRILLING Market

Oil and Gas (O&G) data put Iran's proven oil reserves at 157.7 billion barrels and its natural gas deposits at 34 trillion cubic meters (tcm). Iran's oil production hovered around 3.1 million barrels a day (mb/d) in 2014, which officials say could reach 4 mb/d with a year after international sanctions are lifted on the country. Iran's current oil and gas output capacities are estimated at 3.8 mb/d and 760 mcm/d respectively. Regardless of the impact of sanctions in recent years, Iran's oil production has diminished in recent years. Over the coming year, production boost from West Karoun fields – Yadavaran and Azadegan – will add 150,000 b/d to Iran's oil production capacity. The "enhanced crude oil and gas condensate production capacity with focus on recovery from shared fields" plan requires Iran's oil production to reach 5.7 mb/d by the Iranian calendar year 1396 (starting in March 2017) and the country's gas production to hit 1 bcm/d by the calendar year 1397. Iran's Ministry of Petroleum envisages 5 mb/d of oil, 1 mb/d of

gas condensate and 1.3 bcm/d gas by early 2021 when Iran's 6th Five-Year Economic Development Plan ends. The supergiant offshore South Pars gas field, which is a shared field between Iran and Qatar in the Persian Gulf, will make the highest contribution to Iran's gas production. Eight megaprojects, valued at 53\$ billion, are currently under construction in South Pars Field which will be started up by the end of

### Iran Upstream Oil Structure

Iran's oil and gas sector has a fully state-run structure, under which ownership of oil reservoirs, production, transmission and sale of oil and gas are run exclusively by National Iranian Oil Company (NIOC). Private companies can operate in exploration, development and drilling, refining, petrochemical production and selling oil and petrochemical products. NIOC has six subsidiaries that are tasked with developing and operating oil reservoirs. They are National Iranian South Oil Company (accounting for %80 of Iran's oil output and holding several subsidiary

companies), Arvandan Oil and Gas Company (running West Karoun oil fields), Iran Central Oil Fields Company (running oil production in central, eastern and western Iran), Iranian Offshore Oil Company (operating oil production in the Persian Gulf), Khazar Exploration and Production Company (conducting exploration operations in the Caspian Sea) and Pars Oil and Gas Company (operating South Pars, North Pars, Golshan and Ferdows fields). Meanwhile, some fields are developed under the supervision of Petroleum Engineering and Development Company on behalf of NIOC. Some oil companies directly involved in development and drilling operations are partly or fully owned by NIOC subsidiaries. Some of them are Petropars (operating in South Pars), Petroiran Development Company (active in Persian Gulf fields) and National Iranian Drilling Company (the giant drilling service provider with 72

drilling rigs). Private companies are mainly engaged in procuring drilling rigs, providing consulting services, drilling services and manpower.

### Iran Upstream Projects

Iran's oil development projects are currently focused on South Pars gas field and West Karoun oil fields including North Azadegan, South Azadegan, Yadavaran, South Yaran, North Yaran and Azar. Development in several oilfields like Forouzan, Jofeir and Sousangerd is stopped or slowed down. NIOC is still operating numerous projects related to the development of ageing and new oil fields. To that effect, NIOC has presented a list of 28 opportunities for investment, totaling 33\$ billion, in exploration and development. There are other investment opportunities for the development of oil and gas fields, but either economic feasibility studies have not been carried out for

them yet or they could be awarded through direct negotiations. Since some aging fields have reached maturity, enhanced recovery, optimized production and production preservation projects through well workover are among other opportunities for investment. It's estimated that at least 70 percent of oil wells need workover and remedial actions.

### Contract Terms

Development of green fields and also well completion and workover in brownfields are often carried out under EPC and buy-back contracts. Under buy-back, the contractor finances the project is remunerated from a portion of revenues from the sale of products. Under EPC, the contractor develops the project financed by the developer. The most common framework of contract for drilling is EPD which has a turnkey basis. Drilling in most development phases of South Pars is done under EPD framework. POGC and IOOC use Integrated Drilling Services (IDS) contracts

for their projects. Iran started developing a new type of oil contract two years ago. The first draft of Iran Petroleum Contract (IPC) was unveiled in Tehran in March 2013 and the final version is to be unveiled in London in December 2015 when 50 investment opportunities will be also introduced. Under IPC, all development operations including exploration, development, production and enhanced recovery are done in an integrated manner with both contractor and developer involved. The contractor is remunerated per oil barrel produced from the field in question. This new structure of oil contracts is expected to bring about fundamental changes in drilling services required in Iran. These changes include the necessity of using state-of-the-art technology, integrated drilling services and applying new methods in workover, preservation and enhanced recovery. Some of these services could be provided by Iranian companies, but some others will necessitate the cooperation of foreign companies.



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# DRILLING : THE GOLDEN GATE OF OIL INDUSTRY DEVELOPMENT

Abdosamad Rahmati  
National Iranian Oil Company



The Drilling industry is probably considered as the most important principle of oil and gas discovery and production. Without planning for the development of this key industry, the realization of oil and gas production goals will not be possible. Today, the significance of drilling in the oil industry has placed this industry as one of the ranking indices for countries in international professional energy organizations. Among the oil-rich countries, Iran is a country with a long history of oil and gas extraction. A short glance to Iran's drilling industry over the past 36 years reveals that this industry has successfully paved the way for growth, development and prosperity in that drilling is one of the prosperous Iranian industries. However, there is a long way to achieving growth, excellence, and competition with international competitors.

At the present, there are 17 drilling companies in charge of 135 drilling rigs in Iran. Among these companies, National Iranian Oil Company, as the greatest drilling company in Iran has 75 off-shore and on-shore rigs. Each of the remaining drilling companies are responsible for 3-4 rigs. Among the mentioned companies, only 6 companies have off-shore drilling rigs and the rest deal with on-shore rigs. The importance of Iran drilling services expansion is due to the fact that there are approximately fifteen independent and drilling services companies associated with drilling. This can express the

greatness of this industry in terms of technology and workforce. The development rate of oil and gas industries are dependent on drilling more than what is expected. Compared to the budget of developing companies, drilling costs have allocated 45% of the on-shore and 65% of the off-shore to themselves. However, the costs related to drilling services are nearly one-third of drilling operation costs.

**Compared to the budget of developing companies, drilling expenses have allocated 45% of on-shore and 65% of the off-shore to themselves.**

In its initial period, oil and gas industry performed a large section of its required services related to the drilling operation, well repair and maintenance with the help of its oil companies in the form of trust work. After this period, most of the employer companies removed drilling services section from their organizational structure and assigned these services to contractor companies. At that time, the majority of contractor companies had a tendency for development and provision of more various services; finally, they became capable of providing different services by joining others companies.

The important of drilling services issue in

the growth of drilling industry with regard to proper implementation and the appropriate pace has led to considering drilling services issue as an essential element and executive arm of this industry. Fortunately, numerous service companies offering drilling services have been established over the past decade and private sector has been actively participating in this field. With the transition from sanctions, the mentioned companies have been capable of the localization of services which used to be dependent on foreign companies, and Iranian competent experts have created fundamental change and development in this regard in order to enhance our country's drilling productivity. However, there is a distance to international standards and common technologies, and we should identify our present problems with the help of our experiences and consider our challenges so that we can employ and localize up-to-date technologies in order to compensate.

According to the received reports, nearly 4550 on-shore and off-shore wells have been drilled in the past 36 years. At the present, the general policies of oil ministry are based on the development of shared oil and gas fields, protective extraction and production, and the prevention of burning asso-

ciated gases. Besides, our oil industry requires protection and preservation of the current and newlydrilled wells in order to keep its maximum production in oil importing countries organization. It is obvious that we must pass the golden gate of drilling so as to achieve these objectives.

**According to the received reports, nearly 4550 offshore and onshore wells have been drilled in Iran in the past 36 years.**

Considering the main role of drilling costs in developing companies' budget, we must identify the present challenges in this field in the first step and following that, we must propose principle solutions related to them in order to reduce the costs of field development and increase operation productivity. At the moment, the most significant challenge of drilling operation is related to human resources. Given the rich technical knowledge pertaining to drilling and its academic studies, the training level does not have a remarkable quality due to the lack of practical and professional drilling training center

and not having the possibility of operational training in some companies. Furthermore, suitable training facilities are mainly concentrated in one of the active companies in drilling field. Lack of specialized workforce and incompatibility between the organization and expected operation are among other issues which have obliged some of the active drilling companies to supply their manpower via consultants. From training or experience aspect, this action does not meet the requirement, and consultants have had a poor performance considering engineering and technical knowledge. However, the salary difference among domestic companies and difficult working conditions leads to the fact that the specialized workforce leaves drilling industry after a short time.

Since recruitment, training and maintenance of workforce is of great importance, revision in recruitment and employment methods according to approved organizational structure, development of technical and engineering center for drilling consisting suitable facilities and educational atmosphere, and use of incentive patterns in all drilling aspects are necessary for increasing drilling operation productivity.

Another crucial challenge in drilling area is associated with drilling contractors. No clear regulations and integrated classifications have led to several inconsistencies, and lack of clarity in drilling contracts has creat-

ed problems for drilling companies. Modifications in drilling contracts and reaching a uniform procedure with regard to drilling execution type through notified approved guidelines can be helpful in this regard.

These days, challenges related to human resources from one side, and challenges related to the problems of drilling equipment supply, dealing with contract problems, impossibility of using valid companies product and services from the others side have led to decrease in our drilling productivity compared to other active drilling companies in the Middle East. However, a better productivity is expected from one hundred-year experience in hydrocarbon fields production and drilling.

One way to access up-to-date information and knowledge is organizing seminars similar to Iran Drilling Services Conference. We hope that we can go one step further in enhancing and increasing drilling operation productivity through the improvement of drilling services provision by our country's professionals, with the aim of convergence of employer contractor objectives and benefits beside strong management and organizational structure.

# THE IMPACT OF CLIENT-CONTRACTOR RELATIONSHIP ON COST DECREASE

Hesam Nedayihour Ali Hejr  
Ebrahim Rasouli ParmisEsmailinia

Client-contractor relationships have a significant influence on the decrease of drilling cost. The contracts made between drilling clients (operators) and contractors are of great importance in decreasing drilling cost. Incentive contracts are one instance of contracts leading to drilling cost decrease. These contracts enable the contractors to provide their staff with incentive pay. It is worthy to mention that the application of such contracts involves some complications in need of prompt management. Incentives can be either financial or non-financial; financial ones are considered as making adjustments in the contract digits or paid shares whereas non-financial incentives are in terms of change of contractors' ranking, assigning priority in future contracts, etc.. This issue brings about a mutual advantage for clients and contractors. Another important issue is proper risk sharing between clients and contractors who encounter different kinds of risk during drilling operation execution.

Drilling clients face prolonging the drilling of wells; contractors encounter equipment damage or workforce injuries. Proper risk division between clients and contractors contributes to the establishment of a win-win relationship resulting in cost decrease in long term. On time client's need declaration including staff, equipment and services is another remarkable issue. Since drilling services contractors make planning related

to staff, equipment, and materials on the basis of client needs, they cannot have an accurate planning for investment if the need to new technology or drilling services is not declared on time. We should bear in mind that early need declaration is not solely sufficient; this request must have a high level of assurance otherwise lots of damage is imposed on the contractor. On time need declaration to services has a special effect on decrease of cost and planning fluctuations. Advance Order Commitment (AOC) is one method to this end. In this way, contractors can undertake their operational planning with greater transparency.

**The contracts made between drilling clients (operators) and contractors are of great importance in decreasing drilling cost. Incentive contracts are one instance of contracts leading to drilling cost decrease.**

Precise definition of each mentioned factors in drilling services contracts has a remarkable impact on the effectiveness of this method. Additionally, a shared think tank can contribute to synergy and collaboration

in case of special and unforeseen situations and optimal management of risks stemming from such situations. Organizing brain-storming meetings with regard to these cases can be a helpful manner for the identification of risks and the origins of these situations. Integrated risk management by clients and contractors can be beneficial in different phases. In risk identification phase, interactions of clients and contractors can help the complete risk definition.

By doing this, not only the risks are defined comprehensively, but also they are defined on the basis of root causes with more thorough investigations. In qualitative and quantitative analysis phase, more accurate evaluations of risk occurrence possibility and its intensity will be achieved. For instance, it is possible that client or contractor lack sufficient data for quantitative analysis. By these interactions, both sides can have a more clear understanding of shared and even unshared risks.

These interactions are also fruitful in the phase of control and response plan development. Mutual notification of response plans helps to their successful execution. On the other hand, shared response plans which are gained through integrated risk management, are necessary for shared risks.

# THE INVESTIGATION OF THE EFFECTIVE FACTORS OF ECONOMIC EVALUATION

Ali akbar vahidi Alagha  
Melika Mohammadpour  
Mohammad Amrollahi

Niloofer Sarmadi  
Bibinaz Pordeli



The investigation of the effective factors of economic evaluation is among critical issues associated with Iran drilling services economy and market.

Several factors are of importance to be mentioned. The main factors are as follows:

1-Cost estimate (capital, operation), 2- Income estimate (work load and rates), 3- Planning horizon, 4- Discount rate (Cost of capital, value for money and minimum absorption rate), 5- Measures of profit, profitability ratio of income to expenses, 6- Project repeatability, 7- Risk and risk management, 8- economic and political conditions of project location, 9- The effects of exchange rates, 10- Taxes, 11- Customs rate, 12- Uncertainty in profit-benefit sector, 13- Dumping, 14- The cost of lost opportunity, 15- Methods of financing and investment in projects, 16- The impact of capital sleep.

In the economic evaluation of a project, there are instances of the aforementioned items uncertainty. We will briefly discuss the main factors.

Cost estimate: It is more reliable than the other factors, and its acceptance or refusal depends to the investor.

Income estimate: This estimate is based on variables such as workload and rates. As far as workload is concerned, tender documents are referred to and oil price is the most important factor for rates the unprecedented global fluctuations of which have been unpredictable in the past year. Consequently, a large amount of incomes are not gained, projects progress are halted. Planning horizon: This horizon is usually based on the useful lifetime of an asset unless the mentioned asset is outdated sooner than its useful lifetime.

Discount rate: Discount rate includes cost of capital, value for money and minimum absorption. The last item has a numeric value between the first two digits. This factor is various among different companies and it is a remarkable difference among domestic companies and their international competitors, and it is determining.

Risk and risk management: It includes supply and consumption risk. Supply risk is related to the on time procurement of services, and consumption risk involves the failure possibility in providing on time services; in other words, it is the created potential remaining vacant despite the readiness of supplier.

Exchange rate: Since drilling services market has a combination of various currencies, this rate has a considerable role. Exchange rate, exchange type (exchange or abroad)

and location of payment (at the present: China, Dubai, Turkey) can make a revolution in the economic evaluation of a project or investment.

Profit and Profitability Considerations: Although these measures provide similar response in a project being absolutely economic, they can respond differently in comparison of projects and determination of the better one. For this reason, it is important for the investigator to know which measure is considered.

Tax, Customs, Guarantees, Other costs: All of them involve uncertainty encompassing two parts: The fee (tax rates, tax type, and social insurance rate) and its application to the contract. It is worthy to consider that due to time value of money, the amounts retained by the client are not equal to payable debts at the end of the project, and contractor has lost considerable amounts.

Other Conditions: Other conditions can have a notable influence on economic evaluation among which we can mention the clarity of tender and its documents, health and honesty in work relationships, unprofessional competitive methods such as dumping or corruption, and special political, economic, social condition of project location. Although none of these conditions has been defined as a variable in economic evaluation, they should be considered by managers and authorities of this industry.

# THE INVESTIGATION OF ECONOMIC FACTORS IN POST-SANCTION CONDITITONS

Mojtaba Khani  
Jaleh Mesgari  
Mehdi Sanei



The investigation of economic factors in post-sanction conditions is among the issues creating a lot of concerns in Iran's economy and market.

**The most important expectation of Petroleum Industry is that foreign companies bring required technology and capital to our country; moreover, they can benefit from the maximum potential of Iranian companies which have flourished in recent years in projects and pave the way for the training of Iranian workforce**

The main factors include: 1- updating technology, 2- investment inside the country, 3- releasing blocked capital, 4- drilling services equipment quality enhancement, 5- definite prosperity of business market, 6- The necessity of efficiency increase in drilling services companies, 7- Dramatic increase of competition, 8- Increase of clients; required standard level, 9- Access to financial resources,

10- Access to global market banks, 11- Access to main equipment manufacturers, 12- the possibility of organizing training courses related to new technologies in Iran. One of the objectives of drilling service provider companies is to supply finance and attract workforce for new projects in post-sanction epoch.

The most important expectation of Petroleum Industry is that foreign companies bring required technology and capital to our country; moreover, they can benefit from the maximum potential of Iranian companies which have flourished in recent years in projects and pave the way for the training of Iranian workforce and companies especially in the field of project management. This issue is in favor of the majority of domestic contractors and manufacturers working professionally and competitively. Partnerships with global brands, the reduce of providing services costs, production with more export orientation, access to new global and regional markets, enhancement of source country role with the purpose of branding,

reduction of business costs particularly in the field of " usance " and " finance " and the use of new technologies, is the important opportunity facing Iranian oil industry. In case of banking sanctions uplifting, monetary and financial communications will be normal. As a result:

1- The money of oil export will be received without delay. 2- Foreign purchases are done by opening letters of credit and directly from the main seller preventing dealership and its consecutive corruption; additionally, its costs and risks are less than present ways of money transfer, and it will reduce the costs of manufacturing sites and their needs to cash flow. 3- Our country's export is done by credits and export exchange will be directly possessed by exporter. 4- The possibility of using international financial resources will be brought about for the country. 5- Foreign investment will be possible. 6- Normal financial and economic relationship with international countries and organizations will be established.

## DRILLING MARKET: BOOM AND GLOOM

Abdosamad Rahmati  
National Iranian Co.

Oil Exploration and Production is a complex process, and each step of the oil supply chain involves specialized technology. Oil reservoirs are identified through geological field work, geological modeling, seismic imaging and exploratory drilling.

Worldwide, the oilfield services industry generates about \$160 billion in revenue, according to GBI Research. Drilling and field service locations are determined by oil and gas production and reserves.

Demand is driven by oil and gas prices. The profitability of individual companies depends on technical expertise and efficiency of operations. Large companies can offer a broad range of services. Small firms can compete effectively by specializing in a particular type of service or geographic area. Oil and gas field service companies provide drilling (about 30 percent of sales) and support services (about 70 percent) for oil and gas wells. Major support services include preparing wells for production, maintaining and enhancing the output of producing wells, and exploration. Some larger companies also manufacture oil and gas field equipment.

Customers are major oil and gas companies and smaller independent oil and gas producers. Sales are through direct contacts or competitive bidding.

In microeconomics, supply and demand are an economic model of price determination in a market. It concludes that in a competitive market, the unit price for a particular good, or other traded item such as labor or liquid financial assets, will vary until it settles at a point where the quantity demanded (at the current price) will equal the quantity supplied (at the current price), resulting in an economic equilibrium for price and quantity transacted.

**Oil and gas field service companies provide drilling (about 30 percent of sales) and support services (about 70 percent) for oil and gas wells.**

One of the important problems in development of the drilling industry is that the owners of drilling services have lack of access to clear information in this field. In all developed countries, access to information for study and analysis of market conditions, supply and demand of products or the most basic facilities of services and an essential infrastructure that government creates.

For this reason in Iran, according to the forecast of five-year development plan (2016–2020) by National Iranian Oil Company an infrastructure was created so that it will provide the possibility of study and access to this information for owners of drilling services companies. However, considering that in recent years the rate of realization of programs had not been linear and

not followed the certain trend. Also according to international conditions changes will unpredictable, the perfect realization of the forecasts, investments, and development in drilling sector is dependent to its own terms.

Due to the importance of providing good technical services to increase drilling efficiency, improve the quality of production wells in terms of safety, continuity of production as well as the necessity of organizing technical service provider companies along with a view to increase investments in this sector, "the first Iranian Drilling Services Conference" puts on its agenda creating a technical committees and providing solutions for challenges of drilling industry with the purpose of producing practical and specialized knowledge.

Accordingly, Committee of the economy and the market of drilling services conference formed attended with governmental and private companies active in the upstream sector of the oil industry in Iran was and paid to review the current situation and prospects of drilling industry in the coming years that eventually according to formed numerous meetings in collaboration with mentioned companies after taken studies it was decided the most important output of this Committee will Statistical analysis of drilling industry market with a breakdown of the different drilling services. It should be mentioned that aforesaid achievements will be presented at the conference because of some considerations.

# Economics and Management

## SHEDDING LIGHT ON THE CONCEPT AND FUNCTION OF INTEGRATED DRILLING SERVICES CONTRACT

**Khashayar Zainali**  
Well Services of Iran



### Overview

Integrated Drilling Services ("IDS") is a new concept in which integration of all services, equipment and in some cases procurement of materials for drilling services are covered under a single contract between operator or oil company, as owner of the project, and one service company or IDS Contractor instead of having several service contractors. IDS contract utilizes for complicated drilling projects both in land and offshore and could be tailored for drilling projects with rig or rig-less which is technically and commercially much more beneficial.

### Background

In a traditional contracting relationship between operator and service contractor, it was required that operator or oil company to monitor, supervise and coordinate many specialized services including drilling services. To sweep away all time, cost and management barriers associated with individual services under several contracts for a single oilfield project new models of services contracting developed and adapted in the upstream industry and enabled operators to focus on their core business and manage

fewer contractors and on the other hand service contractors become more flexible in adapting to operators and oil companies requirements. This trend resulted in some new contracting relationships such as Alliances and Integrated Services (IS) for provision of different types of oilfield services including but not limited to IDS. In traditional contracts service company provides an individual service to operator while an Alliance is a long-term contracting relationship between service company and operator. An IS contract combines expertise and resources from several services and third parties to work as a team on one project with supervision of a project manager who reports to oil company.

International service companies positively responded to the upstream industry's need and operators request to increase efficiency and reduce costs by developing new model of IS contracts. Among the most sophisticated systems to deliver IS, Schlumberger and its IPM (Integrated Project Management) activities became widely implemented and accepted by oil companies which carries out a range of activities such as Asset management, Field development, Field re-development, Well construction and inter-

vention, Well intervention, Production enhancement, Integrated Services (IS) and Rig management. Under IS model of contract adapted by the world's well known service companies, the IS provider delivers several types of services such as Integrated Well Testing Services, Integrated Well Construction Services and most importantly Integrated Drilling Services (IDS).

From legal and contractual perspective, an IDS contract bears more technical risks with huge financial implications for contracting parties, therefore in negotiating and concluding an IDS contract a due diligence must be made on the allocation of risk to contracting parties fairly, reasonable and logical through liability and indemnity clauses as per industry's standards. Proper risk mitigation mechanisms through HSE system of IDS contractor and finally provision of required insurance for uncovered risks shall also be crucial parts in concluding and executing of IDS contracts.

### IDS Contract and Its Advantages

The traditional drilling process consists of many individual services and tasks, each with narrow work-scopes directly controlled and supervised by oil company. The interfaces between each task are potential sources of additional costs and waste of time. Instead of contracting for each specialized service independently, operators and oil companies prefer to bundle tasks and contracts for fewer or one IDS contract with larger work scope and fewer interfaces.

An IDS contract delivers managed services, products, third parties and includes an experienced IS Project team lead by a Project Manager which is the focal point of contact between the project owner and the various services, ensuring that project objectives are aligned with IDS principles. IDS model of contract provides the expertise and processes needed to improve performance and increase efficiency by integrating all the services and technologies a project requires, it also secures supply of services and competent personnel, which ensures cost efficient operations through stan-

dardization and focus on the quality of tools and services. This model ensures access to key drilling technologies as well as multidisciplinary work processes.

Among many advantages and benefits of IDS contract model compare to having several individual service contracts for a single drilling project these are few to mention: less delays in the drilling time plan, increased quality of communications, higher quality of services, reduced costs and less overhead, easier monitoring of the project and processes, integration expertise and higher safety standards.

### IDS Contracts in Iran

The IDS contract in the country is tied up with Schlumberger name and its IPM activities. Schlumberger, as one of the pioneer and best provider of the Integrated Services including drilling services laid down the foundation of IDS contracts in the country to meet expectations of Iranian operators and NIOC's affiliated oil companies for a most efficient IS in drilling operation with reduced costs, less supervising and monitoring and higher quality. Integrated Services contracts both for land and offshore concluded between Iranian operators like

POGC, IOOC and KEPCO with Schlumberger are considered as best model of IDS contracts concluded and executed in the country.

In the shade of international oil and gas sanctions posed to the country's industry in recent years, international IDS contractors, including Schlumberger, pulled out of Iran. However, the need and gap for provision of IDS still remained and this gave more space for local Iranian IDS contractors lining up their resources, expertise and capacities to switch this challenge to an opportunity.

Regardless of how successful have been Iranian IDS contractors in recent years, this challenging period was a constructive stage for them to get more involve in carrying out IDS. With the shining beams of post-sanction era for the Iranian upstream industry, local IDS contractors are recommended to warm up and team up for partnership with foreign partners as one of requirements of new Iranian Petroleum Contracts (IPC) for international oil companies and is joint venturing with local partners, hence IDS could be one of the most demanded types of ventures in post sanctions era and a good opportunity for local IDS contractors to beef up their expertise and ability in this field.

# THE POSITION OF PASS-THROUGH PRINCIPLE IN INDEMNITY CLAUSE OF DRILLING CONTRACTS MULTIPLICITY OF LIABILITIES RISK IN DRILLING PROJECTS

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Risk management is a broad concept in oil and gas industry, and it must be implemented precisely in all the company's activities ranging from official and legal issues to technical and operational ones. An important issue in which risk management has a considerable role is the determination and allocation of both parties' liabilities in the contract of a given project. What doubles the importance risk management is that it can greatly influence elements such as drilling contracts, drilling operations, construction contracts due to technical complexities such as considerable damage potential and simultaneous presentation of several stakeholders and contractors in the project atmosphere.

Conventionally, a huge oil project encompasses a large number of contracts made between different stakeholders including client, contractors group, production groups, supervisors, advisors and constructors. Despite some differences, all these contracts share the common ground of risk management. This means that different liability scopes of contracts overlap with

each other. The most important issue that deserves thorough investigations is that contract risks should be designated in a way that they would enjoy optimal consistency, avoid liability overlap as well as prevent void contracts in terms of liability which is a far more dangerous issue. In other words, contract clauses pertaining to liability scope determination, known as Indemnity and Insurance, have a special position in risk management scope.

**One major difference between current oil and gas contracts with the previous ones is that damage compensation liabilities are allocated without considering which party is the main liable one for damage, and under special conditions one side of the contract accepts the liability of financial and bodily damage of another part.**

One major difference between current oil

and gas contracts with the previous ones is that damage compensation liabilities are allocated without considering which party is the main liable one for damage, and under special conditions one side of the contract accepts the liability of financial and bodily damage of another part. This method of risk allocation is devised and developed by oil and gas companies for numerous reasons including high costs, the difficulty of determining error share for each person and companies involved in the project together with trusting insurance services as a reliable solution. For instance, contractors attempt to avoid accepting the liability of compensating devastating damages such as environmental pollutions, damage to the well and its installation, and damage to oil reservoirs. The rationale behind this is that "damages can be so huge that not only the contractor cannot afford its expenses, but also supply of aforementioned dangers insurance cover can be remarkably gigantic." The client

**In order to control and manage the load of such huge commitments, legal and contract experts try to use a principle under the name of "pass-through".**

is liable for the compensation of such damages without respect to whether they stem from contractor's actions or not. On the contrary, contractors accept the liability of physical damage to the project equipment, installations, machinery, third party property, bodily damages such as death, and medical costs.

The mentioned solution application without considering the errors and mistakes of each party went under some modifications due to some reasons the most important of which is creating a new system for risk allocation under the name of "knock-for-knock". According to this system, each party in the contract is liable for compensating damages to his own properties and accepts the bodily damages of his own staff. Historically, this procedure first appeared in drilling contracts in which the client was liable for all damages on behalf of his staff and those of contractors. This new approach puts the burden of liabilities on the shoulder of clients in addition to prior ones.

Although this method of risk allocation is controversial, its application in

drilling contracts in comparison with drilling services contracts is more justifiable because drilling client is in the danger of remarkable risk of losing valuable equipment such as drilling rig and a large number of staff in the project site. In any case, the main effect of this agreement is the mutual damage compensation in which the client is liable for damages to everyone except the contractor (and his minor contractors). This vast domain of commitments makes the client to supply liability support and alternative for other current project contracts with other contractors including drilling services contractors and present contractors in the project.

In knock-for-knock approach which is typical and accepted in the majority of drilling contracts especially drilling services ones, indemnity contract clause is written holding this concept that without regarding who is liable for the damage, "client group" and "contractor group" are liable for the damages of their own property and staff. According to client definition, all the subset companies, parent companies and all other contractors of the client are placed in the client group; contractor and all his related companies and contractors are considered in the contrac-

tor group. For example, the contractor is liable for all the damages to minor contractors' equipment even if a member of the client group had created the problem. Conversely, the client is liable for all the damages to other contractors even if it has been created by a member of the contract group.

According to this issue, it is obvious that the commitments of the client group will be far more comprehensive considering the number of different contractors and other groups. In order to control and manage the load of such huge commitments, legal and contract experts try to use a principle under the name of "pass-through". Based on this principle, the main client is required to mention contract requirements of indemnity section in his contracts with minor contractors; for instance, transfers their property liabilities without regarding its causes. Client group mentions this principle in his contracts as well. By applying this principle, each party in the contract is liable for his property and staff and he can benefit from insurer services through the insurance coverage proportionate to its commitments and requesting extra services such as waiver of subrogation and additional insured.

# IRAN DRILLING

## COMPANIES

### FOURTH CHAPTER





# IPC BRING ABOUT OPPORTUNITIES FOR DRILLING INDUSTRY MARKET

TechTalk

Gobal Petro Tech Kish Negotiating for the Middle East Drilling Projects.



Bahman Sorooshi, CEO, Global Petro Tech Kish

## -Are you planning to expand your company? What novel services do you offer?

In view of the new circumstances being developed by lifting of sanctions, GPTK plans to expand its activities not only in Iran Oil & Gas field drilling works but also bolster & venture overseas programs. In this regards, we have started extensive negotiations with Oman, Kazakhstan, Turkmenistan and Iraq and we are hopeful to get the necessary market collaboration with the local partners and undertake projects in these countries which have been named. We are qualified as EPD (Engineering, Procurement and Drilling) Contractor and undertake to also provide drilling services required as per the drilling program. Our approach with overseas companies shall be to undertake oil & gas field development as EPC Contractor also.

## -Please elaborate on your company and its activities scope. What are your current instrumental projects in your country or the region?

We are one of the leading drilling contractors including the execution of drilling services contractor in Iran and currently, Global Petro Tech Kish is involved in drilling of 10 Wells in Azar Oilfield which necessitates

operating with Three (3) Land Rigs at the same time for the project. So far, drilling of 3 Wells are completed, the remaining operations continues according to the Drilling Program/s which has been approved by the Client as the Project is on EPD (Engineering, Procurement and Drilling) basis.

Azar Oilfields is one of the Iran-Iraq joint oilfields and GPTK has been awarded on EPD for execution of the field drilling development. Further, we have one offshore Jack-up Rig as well as 2 other Jack-up Rigs are leased to other Clients in Iran for execution of Development and workover drilling works.

## -Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?

owning several fields, Iran is accounted to be 2nd Largest for Gas & 4th Largest Oil reserves. During the sanction period Iran has invested in execution of exploration activities

and currently possess the preliminary information's of the fields which are to be developed. This action will result in reducing the cost of exploration in field development and also reduces the risk associated with exploration work. Most of Iranian oil fields have considerable liquid hydrocarbon reserves, the average extraction cost per barrel is relatively low comparing with other countries, and additionally Iran still has significant potential in local expertise and performance of drilling operation in compliance and field development with nominal ways of implementation. Iran requires technological & financial support on joint venture collaboration basis from foreign companies who are attracted to Iran because of lower cost of operations and also many of local resources which are available at their disposal for execution of field development activities with financial resources being made

available to enable development of EOR (Enhanced Oil Recovery) which can have positive impact of joint collaboration/cooperation invariably affecting the operation and development cost.

With new IPC (Iranian Petroleum Contract) which will facilitate the participation of international business partners and investors (either in form of Foreign Direct Investment [FDI] under rules FIPPA) and indirect investment on IPC basis whose advance technology can help us to promote and implement new technology, added value to our operations and also transfer know-how and technological advancement which will inadvertently result in country economy more viable.

## -The vision of this conference is to increase the productivity and efficiency of oil and gas well drilling influenced by technical services with emphasis on the

## national companies' strength. In your opinion, how can this objective be realized?

We are aware that better applying of new technologies has invariably changes the outlook of the drilling industry, we are hoping to get access to these advanced technology including the imparting the necessary know-how and training to develop competent personal for execution facilitate in cost reduction.

## -How do you see the role of Iran's Drilling Services Conference in advancing Iran's Drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?

Holding these conventions at international level and Joint collaboration of national companies with international entities will facilitate and set the ground for technology transfer, know-how and experience for promoting increase of the local content of the project and improving the management

system of related job, which will also enhance financial collaboration and promote investment by leading international partners.

## -Given the holding of Iran's Drilling Industry Congress in the previous years and organized Iran's Drilling Services Conferences, how do you evaluate the progress of the conference during these years? What do you think of the significant features of Iran's Drilling Services Conferences?

Professional Conferences can be productive only if the result of these meetings are set out in practice and can be implemented which has enabled us to deploy new approach to the drilling industry also other related required skills and fields. Frankly, with the information restrictions, we were not able to evaluate the progress of previous conference/s; meetings properly and we do hope to get advantage of the result of the study carried out by the secretary of the conference.

# BORN TO DRILL

Global Petro Tech (GPT) is an international private company based in U.A.E; Having 8 solid years of experience, doing business in this regional market, has gained GPT a lead position within the upstream industry.

The main activities include:

- Supplier of Offshore jack up rigs and Land Drilling Rigs
- EPD Contractor
- Drilling Services Contractor
- Logistic Services



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- Drilling Fluids Services
- Well Test Services
- Mud Logging Services



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# TAKING THE CHANCES OF NEW CONTRACTS

Siamake Javid, CEO, Well Services of Iran



## -Please briefly describe the key opportunities of your attendance in drilling industry.

There are numerous attractive opportunities for drilling companies in post sanctions epoch. The new model of petroleum contract, referred to as IPC, which was introduced by NIOC offers extensive opportunities for all domestic and international oil companies. We participated in the IPC conference held at end of November 2015 in Iran and we observed the list of upcoming projects offered by NIOC. Those projects are appealing for any domestic and international oil companies to invest in. The oil price reduction had decreased the cost drilling related services and this is one of the motivations for the oil companies to invest in the Iran oil and gas market. The majority of the opportunities lies around the border which most of them are shared fields. There are a number of giant fields in West Karoun which are offered under the new IPC. West Karoun is one of the interesting and remarkable areas of Iran and we are very confident that there will be fierce competition among oil companies - whether domestic or international - to invest in the said area. All of the foregoing are prospective key opportunities for us to perform our wide range of high technology services to fully support Iran in obtaining its goal to deliver oil and gas to the international market post sanctions epoch. We believe that Iran's oil and gas exploration and production activities in post sanctions epoch will be one of the major contributors in the oil and gas market.

## -How have you defined the structure of project management in your company?

Our company is one of the few; if not, the only services company that can provide a

complete line of services to cover all of the phases of upstream oil field business. By adhering to proper project management protocols and internationally recognized project management standards, we manage all of our customers concerns and challenges during all phases of a project; in addition, we provide providing technical consultation from our group of experts to our valuable customers in order to reach the best solutions and to achieve our customers' main goals from each project. We set project structure based on world-wide acceptable standards and practices in order to be fully compliant with project objectives and requirements.

In certain circumstances and based on the needs of our customers, we can assign all of our services under the Integrated Project Management concept. This concept is well designed and developed to meet our customers' expectations of a complete services by delivering complex oil and gas project solutions to oilfield operators by utilizing local knowledge combined with global expertise and industry-leading standards, technologies, and processes, enables our highly skilled and trained personnel to deliver integrated, on budget, on time, and to the highest safety standards. We offer unique and tailored to the needs of each project and acts as enabler for the wider organization to get involved, as contractor, in our clients' and partners' projects.

One of the projects which we are proud of its application of integrated project management concept, is the project where our company, Well Services of Iran (Schlumberger Methods), known as "WSI", has been engaged by as Research Institute of Petroleum Industry (RIPI) since 2011. This project is one of the largest basin modelling projects in the world. RPI and WSI delivers the basin modelling project in the Persian

Gulf for the Iranian Offshore Oil Company (IOOC). Many disciplines are involved in this very complex project and without proper integrated project management, the stiff challenges and complex goals would not have been overcome and achieved.

In addition, our company shall soon proceed with the very first Acid Fracturing project in a very complex reservoir in Iran, whereby strict project management standards have been adopted and will be executed based on project time-lines.

## -Please elaborate on your company and its activity scope. What are your current instrumental projects in our company or the region?

WSI has been providing services utilizing high technology equipment and well trained personnel in Iran for over 39 years. WSI was the only company that maintained its presence in Iran and continued to provide oilfield services during the very difficult times of the Iran-Iraq war and we even continued providing our services to our customers during the sanctions. I can assure you that WSI will continue to have our presence in Iran as we believe that Iran's oil and gas market provides the best opportunities for oil and gas service providers to supply their products and services.

WSI is well established for servicing both land and offshore operations. Our headquarters is in Tehran, with two main operating facilities in Ahwaz and Kish providing a full range of oilfield services for expedient Reservoir Evaluation, Reservoir Development and Reservoir Management. Services

provided, range from conventional data acquisition to advanced well engineering design, placement and construction.

Our mission is to achieve our vision by providing solutions not just services. Our vision is to continue as the leading supplier of technology, integrated project management and information solutions to our customers working in the oil and gas industry in Iran. WSI provides the industry's widest range of products and services in the form of solutions from exploration through production.

WSI's Ahwaz Operational Facility is a complete Wireline operations base. The facility consists of workshops and maintenance facilities which adjoins offices where our field managers reside along with the necessary support staff. The yard storage area allows adequate spaces for servicing all land operations. In the current status, we have major market share of advanced data acquisition services in land. We are shall soon commence the first Acid Fracturing project in Iran. This project requires sophisticated equipment, specific materials along with well trained and specialized personnel which WSI possesses all the capabilities, resources and capacity to perform and deliver within the expectation and beyond.

Our Kish Island Facility is WSI's largest oilfield services facility. Kish Island Facility specifications include a fully integrated oilfield services facility with representation of all WSI's business products and services. This facility is fully compliant with WSI's facility standards and include industry leading Quality, Health, Safety and Environmental Standards and Policies. Our wireline, drilling and measurements, well services and testing business segments own the world leading equipment and enjoys highly developed and trained personnel.

In offshore, we own one of the advanced stimulation vessels in the world and supply world class chemical materials and such are highly acknowledged by our customers. So far, we have successfully performed numerous stimulation work in South Pars.

WSI's drilling consultancy services business segment is using the latest technology in data gathering, data processing and interpretation of borehole data and acting as the market leader in this domain. WSI's drilling consultancy services business has

dominated the petroleum system, reservoir and basin modelling market in Iran. Petroleum System Modelling is a critical key in exploration success and risk reduction efforts and for this reason, we are using the most advanced technology for Petroleum System Modelling.

## -What are the challenges of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?

The first drilling challenge in Iran mostly is related to financial support and lack of enough financial resources for continuation of the projects. This issue has caused major delays in project progression, sometimes lack of resources leads into bankruptcy of some small third parties.

The second challenge is the imposition of sanctions on Iran hampering companies from receiving advanced material and equipment. The embargoed technologies and equipment are essential components of carrying on the projects. Fortunately, Iran has managed to produce most of the high demand material using its own resources. There are various knowledge based domestic companies in Iran which are focusing on developing sophisticated drilling equipment. These companies have proven that trusting in internal resources shall certainly pay back. We have obtained numerous sophisticated material and equipment through domestic companies whereby quality are at an acceptable level; but relying on domestic resources and waiting for development of such equipment creates delay in drilling projects.

The third and very recent challenge in drilling projects is vast reduction in oil price which is currently a global issue and as long as low price persists, we predict that most of the massive projects will remain on hold.

## -Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?

Iran holds an important position in the area commonly referred to as the Middle East. It forms a bridgehead on the way to Central Asia, bars the way to India and points the way to Africa and Europe. Iran's location as well as her oil, marks her as an important element in the strategic and commercial considerations of the world. Iran owns one of the biggest gas reserves in the world and having tumbled relation between Russia and Western countries, forces European countries to look for an

alternative resource for gas supply. Iran enjoys prominent strategic geographic position and at the same time equipped with acceptable infrastructure to supply the gas resource to Europe. I believe that this is the right time to invest in gas reservoirs and all the analysis indicates that gas demand will be in the positive curve in coming years. This is a feasible alternative to compensate oil budget deficit.

The highest priority of Iran drilling industry is to move ahead with modernization programs and introducing advanced technologies in order to save time and operational costs.

## -What are your aims of attending this conference and what technologies are you featuring this year?

On the one hand, sharing knowledge and focusing on the area of developments in Iran oil and gas drilling industry are our main goals from this year onwards. On the other hand, we believe that this conference will be an important milestone in the development of the drilling industry in Iran for the coming years.

We have a wide range of technologies that we are eager to feature one of them this year however at this stage we observing the most appropriate technology to be featured post sanctions.

## -As one of the main oil and gas procedures, Iran is responsible for environment. Given the importance of environment in drilling industry, -What environmental initiatives seem appealing to you?

WSI conducts its operations in a manner that assures optimum protection of the Environment. Each WSI facility maintains a common, rigorous approach to environmental management and protection of the environment that goes beyond compliance with regulations.

WSI has its own Spill prevention and Waste Management system. Advanced discharge water treatment plants in Kish & Ahwaz are our notable competitive advantages. Furthermore, a part of energy demands in our Kish based is supplied by solar system. Energy management projects & minimization of papers in regular activities have been implemented fully in our facilities. These facilities assist the company to preserve the highest level of environmental protection in Iran's market. It is our mission to identify and promote projects that serve as an inspiration for others to examine their own environmental footprint and to appreciate the positive effect we can all have in Iran.

## » Overview

### » Background

Well Services of Iran (Schlumberger Methods) ("WSI") has been providing services utilizing Schlumberger equipment and trained personnel for over 38 years. Well Services of Iran (Schlumberger Methods) is well established for servicing both land and marine operations. Our headquarters is based in Tehran, with two main operating facilities providing a full range of Oilfield Services (OFS) for expedient Reservoir Evaluation, Reservoir Development and Reservoir Management. Services provided, range from conventional data acquisition to advanced well engineering design, placement and construction.

### » Mission and Vision

To achieve our vision by providing solutions not just services is our mission. Our vision is to continue as the leading supplier of technology, integrated project management and information solutions to our customers working in the oil and gas industry in Iran. Well Services of Iran (Schlumberger Methods) provides the industry's widest range of products and services in the form of solutions from exploration through production.

### » Our Values

- Efficiency
- Commitment
- Reliability

### » Solutions

Well Services of Iran (Schlumberger Methods) service capabilities include:

Integrated Project Management

WireLine Logging Services

Drilling & Measurement

(WSV) Cementing, Stimulation & Coiled Tubing

Data Consulting Services

Well Completions and Productivity

# Well Services of Iran Solutions Not Just Services

## Gulf Pearl



### » Overview:

Gulf Pearl Stimulation Vessel is the product of years of WSI experience in marine, mechanical, and electronic engineering. The vessel has a proven record of efficient treatment execution, regardless of the size or complexity of the operation. The vessel has been performing Stimulation Operations in Middle East for more than 9 years now in offshore environment of UAE, Qatar, Iran and deep water wells of India.

### » Stimulation Capability:

The vessel is one of the only two vessels equipped to pump MaxCO<sub>3</sub>\* treatments in Middle East along with Big Orange XXV. The unique YOKOGAWA system adds to the efficiency of the operation by allowing the operator to switch between various Stimulation Fluids during the job remotely with the click of a mouse on the Main Screen in the Control Cabin. Offering the full Stimulation package, this vessel is the leader in offshore Stimulation Operations. The blending and pumping system can prepare various Acid Systems being used in Stimulation Treatments in Middle East. All the above mentioned systems with the exception of POD Blender are remotely controlled from the Central

Control Cabin. Continuous monitoring and control of Mixing Systems ensure the highest degree of quality control and assurance. Treatments are performed with flexible treating lines with a quick-disconnect coupling for expedient withdrawal of the vessel in an emergency.

### » Operating Capability:

Gulf Pearl vessel can stay on station even in adverse weather conditions. vessel can operate in weather conditions with average wind speed 20 knots and wave heights up to 2 Meters. The vessel has operated in the Danish Sector of the North Sea and is reported to have successfully operated with winds ranging from 25 to 32 knots and average wave height over 10ft due to its hull design and thrusters type.

### » Dynamic Positioning System:

The vessel is equipped with dynamic positioning (DP) system. Key DP components are the reference systems, the computer, and the propulsion system. There is a choice of reference systems for positioning information; Fanbeam (ideal for flaters and TLPs) and Differential global positioning system.

# THE EMERGING OFFSHORE DRILLERS

Petro Gohar Fara sahel Kish: Responsible for the Greatest Active Offshore Projects of Iran



Masoud Ziari, CEO, Petro Gohar Farasahel Kish

## -Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?

To begin with, PGFK is currently regarded as one of the greatest and most advanced drilling companies within Iran's Oil & Gas industry in terms of delivering offshore services, due to having the super rigs of SeaBoss, Paradise 400 and Sina1 under ownership from one side, and utilizing 3 rented rigs and enjoying other sea & air logistics facilities, operation and staff bases deployed in Tehran, Kish and Assaluyeh Islands, also due to being favored with the personnel of high potentials, higher education and valuable experiences.

Relying on the capabilities of its highly specialized personnel and in order of deriving satisfaction of the clients and stakeholders, Petro Gohar Farasahel Kish Co. is active as a main contractor in the fields of managing and carrying out EPD projects including project management, drilling offshore Oil & Gas wells, pipe laying, delivering specialized design & engineering

services as well as supplying and providing offshore drilling rigs and equipment in domestic and international markets.

Also, through designing and establishing the Integrated Management System (IMS) of organizational processes for mechanizing its activities in a relatively short time, Petro Gohar Farasahel Kish Co. has taken a decisive step for the organizational development and excellence.

In terms of projects, Petro Gohar Farasahel Kish Co. is currently responsible for the drilling operations of the South Pars development project, phases 24)24-22A 24B 23) and 13) 13A,13B,13C,13D) as the greatest active offshore project of Iran including 76 appraisal and development wells (totally amounting to 316669 m) in the framework of EPD projects.

## -Are you planning to expend your company? What novel services do you offer? What will be your next innovation?

In a -5year plan, Petro Gohar Farasahel Kish Co. also intends to raise its status up

to the level of the world's major drilling organizations through utilizing modern and unique hardware equipment and facilities in the fields of engineering, drilling, pipe laying and supplying drilling equipment from one hand, and by relying on the high potentials of its committed and skillful personnel, on the other. In the meantime, this company commits itself to the professional ethics and creation of value for the current and potential stakeholders and customers so as to raise its status among the world's leading drilling companies through the continual improvement of its activities based on QHSE standards.

The company's future strategy is based on developing hardware facilities including 3 other rigs, developing air and vessel services as well as continually enhancing its operations in operation and staff fields, in order of entering international markets, aside from meeting domestic requirements in the fields of drilling, rigging and engineering.

## -Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?

Iran is accounted among the countries with excellent oil and gas reserves. However, a number of gas and oil fields are still under drilling operation and a lot of wells have not been operated for production. Therefore, with regard to our region, the development and progress of drilling projects of our country are of strategic importance compared to the Persian Gulf and Caspian Sea countries. In fact, considering the fact that our neighboring countries have developed their fields and have benefited from maximum production potential, indicates the significance of field developments in the future more than before. Additionally, since private companies active in exploration and production are generally newly-established, and they are developing and have the potential of significant growth, this issue is

considerable and suggestive of difference with other companies.

The highest possibility of Iran's drilling is defined in the domain of common fields. As the pace and rate of production from these fields is faster in neighboring countries, we need resilience to accomplish these projects. For this reason, the increase of financial and technical abilities in production, exploration and drilling companies has the greatest impact on accelerating these projects' completion.

## -What are the keys to success in Iran's drilling industry?

Probably, we can divide the main problem of Iran's drilling industry into two parts: lack of capital and lack of up-to-date technology. Therefore, tackling these obstacles leads to the success of drilling services companies. On the first move, foreign investment is required and at the next stage, the application of up-to-date equipment is needed.

## -How do you see the role of Iran

## Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?

Iran Drilling Services Conference can be defined as an amplifying convention for private companies of this field. Due to the fact that the realization of Petroleum Ministry development objectives relies on the collaboration of governmental and public sectors, this conference can put a step forward in forming suitable cooperation process among these two parts and delving into the existing problems.

On the other hand, this conference can pave the way for implementing and enhancing technical ability of drilling companies through the introduction of advanced technologies. It is worthy to mention that operational role and making levers for the modification of problems are among the major requirements of these influences.



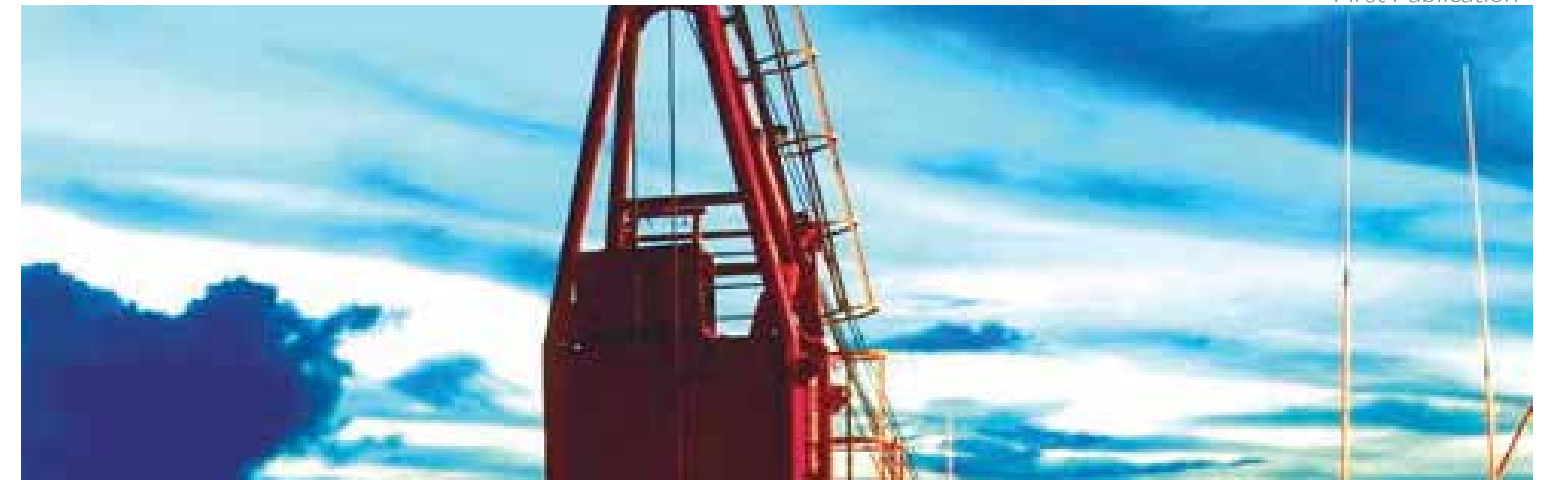
- P.G.F.K is one of the leading offshore drilling, pipe laying, heavy installation companies in upstream oil and gas industry which owns two super rigs Sea-Boss, Paradise400 and also Sina1 and Larisa rigs and four rental rigs.  
- Active on Two Mega Project, drilling of 76 offshore wells in south pars field including Phases 13 and 22-24.

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# LOOKING FORWAED TO INTEGRATED DRILLING SERVICES



Samsam Sokheiravi, Deputy CEO, China Oilfield Services Limited



**-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? What innovations and technologies do you anticipate within the next 5-10 years?**

We have worked internationally for many known companies which gave us oppotnities to improve in the last 50 years of experience. Our Research and Development Division has a very tight link to our daily operation and it receives data from all over the world. This gives us a unique opportunity to improve our technology and come up with solutions for the drilling industry.

**-Please briefly describe the key opportunities of your attendance in drilling industry.**

Vast range of our fleet as well as being

involved in drilling services are our keys to be involved in drilling industry. We are an integrated oil field service solution provider. COSL is competing with Transocean and Ensco in rig owner side as well as competing with Schlumberger and Halliburton in drilling services.

**-Are you planning to expand your company? What novel services do you offer? What will be your next innovation?**

Based on some market situation, we are getting more involved in Turnkey project and offering the client the whole package of engineering,procurements, drilling which include rigs and related integrated service.

**-What is the proportion of your share of on-shore and off-shore activities ?**

We are mostly focusing on off-shore. In numbers, may we can say %95 off-shore and %5 on-shore activities.

**-What are the challenges of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?**

If we consider Iran ranking in Oil and Gas Reserves and the limitations that Iran had for investment and development in the past years, then you can feel the unique opportunity for Iran drilling industry market.

**-Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?**

Iran has a good range of local and iational knowledge and assets. The missing link is "Management".

**-What are the keys to success in Iran's drilling industry?**

Being strong on finance and having good performance are keys to success in Iran drilling industry. Any project needs enough cash flow to run. The lack of money will impose more cost on project as some material and service cannot be bypassed during operation.

**-As one of the main oil and gas producers, Iran is responsible for environment. Given the importance of environment in drilling industry, what environmental initiatives seem appealing to you?**

Iranian need to change their view in terms of importance of environment.

Not as a good thing to speech but in daily activity, no matter in what age and which industry. Make it as a culture all over the country.

**-With regard to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.**

The lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training center are the things that hurt industry so much. COSL can share its real experience which we call Science Park.

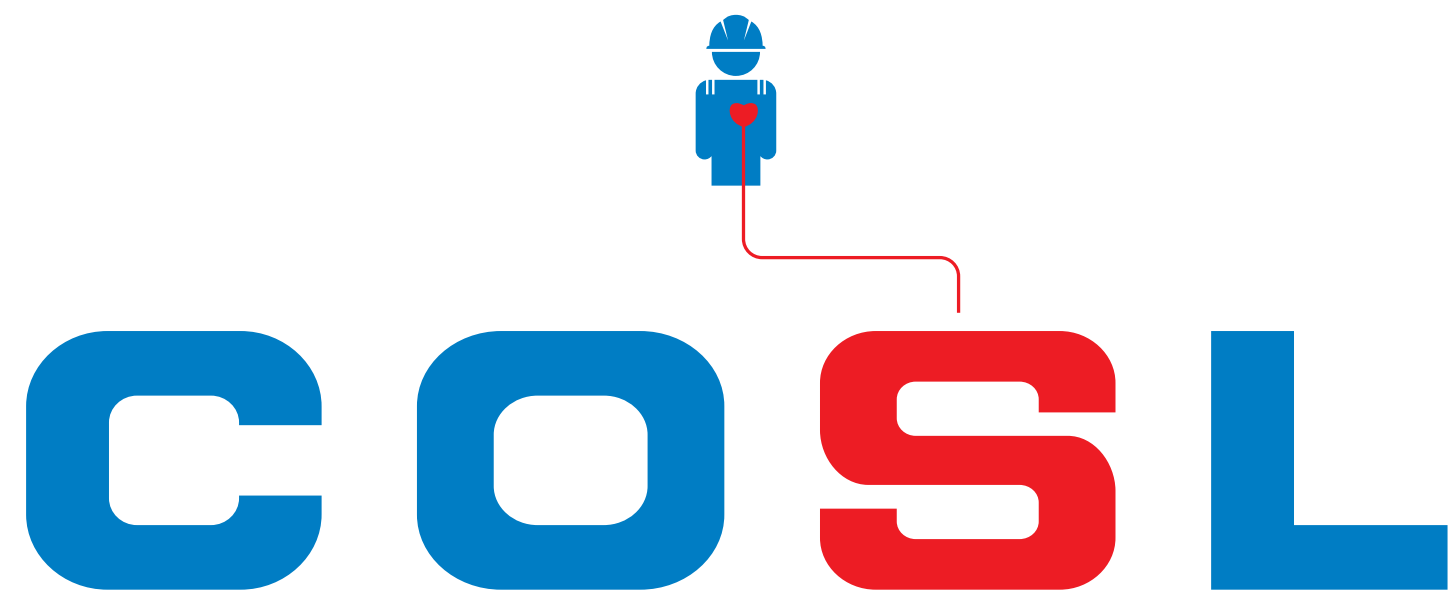
**-How do you see the role of Iran Drilling Services Conference in**

**advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

For sure, Drilling Service Conference gives the expert the chance to share their ideas and exchange their real experience with each other.

**-What are your aims of attending this conference and what technologies are you featuring this year?**

The Drilling Service Conference gives COSL the opportunity to introduce our service and capabilities. On the other hand, it gives us a better idea about Iran market as well.



Business Scope



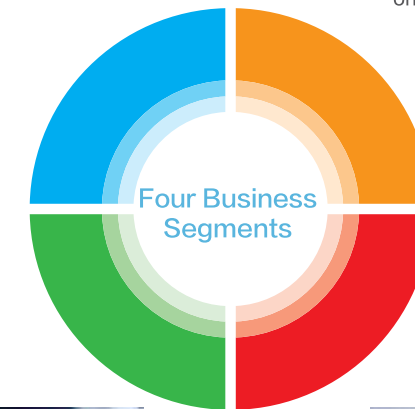
Geophysical and Surveying Services

- Offshore seismic acquisition, Seismic data processing and interpretation, offshore surveying, subsea engineering services
- Seven seismic vessels, two Ocean Bottom Cable (OBC) teams and eight offshore engineering survey vessels



Drilling Services

- Providing the operation of offshore drilling, land drilling, module drilling rig and the management for drilling rigs
- Owning forty-three drilling rigs, including thirty-two jack-up rigs, eleven semi-submersible rigs two accommodation rigs and five modular rigs. Two 400 ft jack-up rigs and one 5000 ft semi-submersible rig are under construction



Well Services

- An integrated suite of well services, comprised of reservoir engineering, program designing, product manufacturing and onsite operations services
- Providing related technology services, such as Logging, drilling and completion fluids, directional drilling, mud logging, well testing, cementing, well completion, workover and oilfield production optimization etc



Marine Support and Transportation Services

- Owns more than 130 professional offshore working and support vessels, including anchor-handling tug/supply vessels (AHTS), platform supply vessels (PSV), multi-purpose vessels, barges, and shuttle-tankers
- Providing anchor-handling, towing, supplying, oil lifting, transportation, stand-by vessel or called on the guard-ship, firefighting, rescue, oil-spill assistance and workover support



# FROM CEMENTING TO INTEGRATED DRILLING SERVICES

Tech Talk

Alireza Zangeneh, Engineering Manager  
Mehran Engineering and Well Services



**-Please elaborate on your company and its activity scope. What are your instrumental projects in the country or in the region?**

We're an entirely private company delivering well service solutions to off-shore drilling operators and E&P operators. We've been operating since 2000, commencing from cementing services and expanding in this scope continually. Currently, after 15 years of uninterrupted hand-on-practice in both on-shore and off-shore, we've grown into a +500-personnel-family delivering 9 different in-house engineered well service categories, including cementing, coiled tubing, wellhead, directional drilling, HP pumping and nitrogen services, well testing, slick line, H2S safety as well as stimulation services which we run utilizing our marine stimulation vessels over the extension of the Persian Gulf and Oman Sea. We have developed a dynamic society of young, talented and energetic Iranian professionals in our engineering, operation, HSEQ, project control, ICT, financial and training teams. MEHRAN benefits from the advantage of investment in domestic content of its human resources throughout the course of its growth beside the value we benefited from our overseas counterparts and partners in terms of experience and know-how. We've accomplished two IDS projects (17 in-house and out-source drilling services) in IOOC oil and gas fields, along with the acquisition of an extensive experience in drilling and production services in phases 4 through 24 of South Pars Gas Field Development to domestic and international operators, amongst which have been TOTAL, ENI, PTTEP, AGIP, POGC, IOOC, NIDC, PETROPARS, PETROIRAN, DANA, OIEC, DCI, PGFK, NIOCEXP. We're looking forward to maintaining our track of quality and improving our records in operations and solutions.

Currently, we're operating in IOOC fields

as well as in phases 10, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23 and 24 of South Pars

**Are you planning to expand your company? What novel services do you offer? What will be your next innovation?**

Yes, in one single word, of course. We have plans to expand in scope and size for new services, new solutions in our currently active services and entering new categories. We're investing and we have plans ahead, we're prepared to develop joint ventures with western companies for new services and new categories and new projects. The time and the extent to which we release the conclusion of our plans depend, in practice, on how the market capacity welcomes them, we have to be considerate about the proportionality of our plans with the market trends and behavior in the perspective. Parallel to our business development plans, we're focused on engineering approach in our services and expanding their scope, optimization and applying new solutions in our current services the results of which have been progressively exercised. The expansion of our coiled tubing services scope has been a continued practice in MEHRAN, research and development in our stimulation services, optimization of our diversion techniques, diversification of the functionality cementing slurries, ...

**With regard to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, please describe the necessity of existence of such centers, the success of their graduates and their benefit for business.**

I would like to rephrase "lack of efficient specialized workforce" to "the need for

recharging professional expertise resources" or "the need to keep the balance between pace of success, growth in scope and operating context with human resource development". Indeed, there is not almost anybody who does not know or underemphasizes the necessity and the benefits of training and training centers. The key, we believe, is how we set the order of priority of professional training in the interaction of the expenses and how we deal with it in practice. We have felt shortages in many cases; however, we have been continuously building up at an acceptable rate. Actually, a more focused organization of such affairs is a pushing demand needed to maintain our achievements and our lessons learnt by means of adequate training.

The word "graduates" applies more to universities, this is an area we are quite rich in, the problem you are pointing calls after these graduates step into the industry. More organized training and evaluation programs are indeed required to utilize these talents and to prevent the losses originating from inefficient training.

Training is, in a common sense, a very pre-requisite of success, and more importantly, essential to maintaining the level of success achieved. In that sense, companies feel the need to evaluate and promote their training programs as they prosper, quality of training will play a role in competitive market context. The better the training, the more clearly it features as a competitive advantage. Besides, how the concept of training is dealt with is directly bound to the level and trend of quality demand on customer side. From this view point, it is realistic to say we need to re-evaluate our training programs and to strengthen our domestic training centers.



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# KEYS TO INNOVATION

Petro Danial Kish Finds New Solutions for Offshore Well Services

TechTalk

Hashem Sabbaghan, CEO, Petro Danial Kish



**-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? what innovations and technologies do you anticipate within the next 5-10 years?**

With regards to the future of oil and gas market and the trends of oil price, oil companies will be looking more and more for cost saving methods and new technologies to increase efficiency of their operation.

Providing services will have to be much more effectual and all the parties involved have to provide the best of quality and efficiency and that will rely heavily on new technologies.

PDK as a leading well service company in Iran market has invested in R&D activities in order to respond to client's demands for more fit to purpose services.

By the time that the sanctions are being lifted, we would have much better access to newer and better technologies and that is where we are heading.

Technologies that provide better, cleaner and more access to the oil and Gas in place of the reservoirs, provide more recovery, technologies that make simops possible and reduce the amount of interruptions to rigs or if possible eliminate the necessity of rig presence...this is what I am anticipating.

**-Please briefly describe the key opportunities of your attendance in drilling industry.**

I'd like to answer this question from an Iranian Service company's point of view. when the sanctions had become more and more restrict and the last international companies fled Iran, some in the middle of operations in a way that rigs went on stand by literally, oil companies had no choice but to trust the local Service companies to supply the required services.

despite all the difficulties that was encountered, gradually these service hands

have I would say evolved, they geared up in terms of equipment and personnel, logistics and managements, and that's what I call the key opportunity, developing a population of local service companies that are capable. PDK was one of the first Iranian service companies who has successfully performed some of the techniques that had never been handed over to Iranians before.

**-Are you planning to expand your company? what novel services do you offer? What will be your next innovation?**

In the past we have successfully delivered the entire logging and well testing as well as perforation portfolio to many clients in Iran both in offshore and land market, however what we are interested in, more than providing just services is to provide integrated solutions with innovative Ideas some of which saved millions of dollars for our clients.

To achieve that goal and to become the company of our client's choice when they are looking for integrated solutions we are adding up to our service portfolio, some of these services will be provided by PDK and some by our sister companies like Ostovan Kish and Petro Kariz all of which are working with the same Holding(PEDC)

**-Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?**

We are providing services to a wide range of Iranian clients. We have been one of the main contractors for well testing and logging services in Iran offshore fields. PDK is the first Iranian service company who has successfully performed a High rate well testing operation in South Pars. Also we are the first service company who has performed a full package well testing operation including Surface well testing, Drill Stem testing, Perforation, Fluid Sampling and Well logging simultaneously. South Pars longest well has been perforated

by PDK.

We have invested in and developed new pathways to more accurate perforations that now have become standard operation procedure in South Pars. In a different project called PerfoExact we are now offering perforations with much better results in terms of Skin and clean perforation Tunnels. We invested in some advance burning systems which is offering some of the most reliable and uninterrupted flaring systems offshore.

PDK's innovation in introducing and implementing of Rig-Less Stimulation and High rate Clean operation in South Pars phase 15 and 16 platforms has saved several million dollars for its esteemed client (DANA).

Also we have performed a wide range of wireline logging for almost every major client in IRAN including a longest TLC operation in a horizontal well in Land. And these are some examples of what we have accomplished in the last few years.

**-What is the proportion of your share of onshore and offshore activities?**

The answer to this question can not be accurate as some of the data is not available to us but we estimate to have more than half of the well testing and one third of perforation market in Iran off shore market and for logging we are between the three biggest service providers in Iran

**-How have you defined the structure of project management in your company?**

The structure of a service company is some how special in a way that we are working with different clients in various projects and the organization should be strong enough to handle these various projects and their some times different requirements at a time, so rather

than orienting the company around a specific project its being structured to have best of the equipment along with trained personnel and strong support from the line management to be able to support all the mentioned projects all together.

**-What are the challenge of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?**

I think the biggest challenge of the drilling industry not only here in the region but globally is not coming from within but from outside and that is the oil and gas price which are nose diving and this for sure effected all the industry collectively.

The way to cope with this situation which is vital to survive is to provide the services as smart as possible, employ technologies that are not costly and go for the most cost effective operations possible, use simops, rigless and uninterrupted techniques etc.

**-Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?**

Iran has over a century of experience and history in Oil and Gas industry and as such, huge capabilities in that arena, specially the capabilities that have been acquired in the past few years where the local resources were the only resources available, on top of that has some of the biggest natural Oil and Gas reserves not only in the region but globally, moreover due to the attractive geographical locations can provide so much services to everybody in the area, so it is only rightful to play a major role in the region. Therefore I believe that a high priority (not the highest) for Iranian oil companies and service companies is to aim wider and try to tackle the opportunities outside the country this will widen the horizon and would compensate for some of the internal volumes that will be gone to the international companies that will be coming to Iran market after the sanction are being lifted inevitably.

**-What are the keys to success in Iran's drilling industry?**

Two key element are the most important from now onward. Adaptability and supporting the local capabilities. Adaptability is to cope with the requirements of global market where we are behind in some areas and supporting the local capabilities that we have acquired at the expense of our national reserves in the past few years, that shall be kept otherwise would be lost easily if ignored

**-As one of the main oil and gas procedures, Iran is responsible for environment. Given the importance of environment in drilling industry, -What environmental initiatives seem appealing to you?**

Working on environmental friendly techniques have been one of the main objectives of PDK so far for example cold well testing techniques can help us to save our environment and create less pollution during well testing.

We are dedicated to these kind of services and will not lose any opportunity to offer them to our clients.

**-With regard to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.**

First, let me say that I do not consider that statement to be true very much, We have some of the finest specialized workforce of the region here in the country and we have even so much more of these people working abroad. Now the problem that I consider to be real and true is the huge disconnection that we have between our universities and the industry. This is some thing to be looked at, to increase the level of practical courses and internships in our universities and let our fresh graduates to be much more familiar with the real work rather than filling their heads with so much theories.

The second issue is coming from within the industry, having professional schools for specific courses is something to be carried out by the companies and some of the biggest companies in the world put up with huge expenses to do this, and this is where we are not only behind, but I regret to say we are almost at the very point zero!

I hope we in PDK be the first one to do this, also we are providing all sort of training to our people but having a separate professional school for our people is

something I envy.

**-The vision of this conference is to increase the productivity and efficiency of oil and gas well drilling influenced by technical services with emphasis on the national companies strengths. In your opinion how can this objective be realized?**

It is worthy to mention two points here. Emphasis on the necessity of modernized management systems in Iran which we lack so much, for Iranian companies to comprehend that fact, Illustrate the absence of supportive legislations to make sure that by the time the sanctions are being lifted the local capabilities would not be crushed by the multinational corporations that would be coming to Iran.

**-How do you see the role of Iran's Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

Its a complicated question, and I don't think we can answer properly in few lines but I will try to address some of the more important ones in my opinion:

First of all this year a huge load of work has been done so far and I had not seen something like this before, so many people eagerly participated in numerous committees and I hope some good results to be presented in those two days the most important of which would be the weak points that have been outlined in each committee about that specific subject, I think when you know the problem properly, the solutions are not far off. the main aim of a conference like this to me is to be the mean of liaison between the parties involved in the industry, to have the voices of different parties to be heard by other parties and that goal will be achieved to some extend. to improve for the coming years, its better to to restructure some of the technical committees to address the real structure of the industry.

**-What are your aims of attending this conference and what technologies are you featuring this year?**

To introduce PDK services and more and more to our current and potential clients. And we will have a lot of introductory and promotional presentations and training about the new technologies that we are offering now or will be offering in future.



## Petro Danial Kish Co. (PDK)

A subsidiary of Pasargad Energy Development Company (PEDC) has been established in 2010 as a Drilling Technical Services Company for Oil & Gas industries mainly but not limited to Well Testing, Perforation (TCP, CTP, WL), Well Logging, Slickline and Data Interpretation Services.

PDK has purchased all machineries and equipment from reputable American, Canadian and European manufacturers and is able to provide high quality services such as:

### Well Testing Services

- Surface Well Testing (SWT)
  - Drill Stem Test (DST)
- Data Acquisition (TDA)
  - Sampling
- Perforation (TCP, CTP)
  - Slickline

### Conventional & Advanced Logging Services

- Open Hole
- Cased Hole
- Cement Evaluation
- Production Logging
  - Pipe Recovery
- Perforation (Wireline & E-Coil)
- Logging Conveyance (Wireline, TLC and E-Coil)

### Data Interpretation Services

- Petrophysics
  - Geology
  - Reservoir
  - Production
  - Geophysics



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# DARE TO DISCOVER

**-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? What innovations and technologies do you anticipate within the next 10-5 years?**

We are planning to invest in directional / horizontal drilling technologies, and logging in order to speed up drilling activities. We are also anticipating Lazar drilling and advanced motors as well as integrated drilling services, targeting %30 of domestic market and penetrating neighboring countries

**-Are you planning to expand your company? What novel services do you offer? What will be your next innovation?**

We have the intention to expand our company's new drilling services along with the startup of directional / horizontal systems.

**-Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?**

In terms of technical services, we are the only Iranian company in the position of open hole drill stem test.

**-What is the proportion of your share of offshore and onshore activities?**

We handle both onshore and offshore services, but we are focused on onshore services currently, and we are planning and targeting offshore services .

**-What are the challenges of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?**

The main challenges drilling industry is facing are lowering oil prices and reduction

of all costs on job so that the company can survive.

**-Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?**

The highest strategic priority of drilling industry embraces the improvement of productivity in all processes.

**-What are the keys to success in Iran's drilling industry?**

Drilling equipment and tools together with good manpower experienced in drilling and hole-problems solutions are major elements of success in Iran drilling industry.

**-As one of the main oil and gas producers, Iran is responsible for environment. Given the importance of environment in drilling industry, what**

**environmental initiatives seem appealing to you?**

We are believe that it is necessary to develop policies and define roles for the preservation of environment. These measures can help to prevent the destruction of environment in oil and gas fields.

**-With regard to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.**

There are many training center in Iran, but we need training on new technology according to international standards with certifications.

**-The vision of this conference is to increase the productivity and efficiency of oil and gas well drilling influenced by technical services with emphasis on the**

**national companies' strengths. In your opinion, how can this objective be realized?**

The vision of the conference is to increase cooperation between domestic drilling companies and to establish relationship with famous international companies.

**-How do you see the role of Iran Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

It is clear that holding these conferences will be useful for the clients and contractors because they can negotiate with each other and discuss industry related problems and find solutions. Furthermore, new technologies and contractors' recent achievements can be announced.

**-Given the holding of Iran Drilling Industry Congress in the previous years and organizing Iran Drilling Services Conference on Day 30th**

**this year, how do you evaluate the progress of the conference during these years? What do you think of the significant features of Iran Drilling Services Conference?**

As it is the first conference about drilling services, all professional people in this area should help to significantly promote it in future; however, the definition of main targets based on the clients & contractors' requirements and design an execution plan for each, can lead to efficient results of the conference.

**-What are your aims of attending this conference and what technologies are you featuring this year?**

We are planning to use new applications for coiled tubing services and also we are discussing production optimization with a European partner. Another important plan for this year is effective equipment maintenance program through a modern and comprehensive system in order to reduce costs and preventing operation failures.



Hamid Bovard, CEO, Oil Exploation Operations Co.



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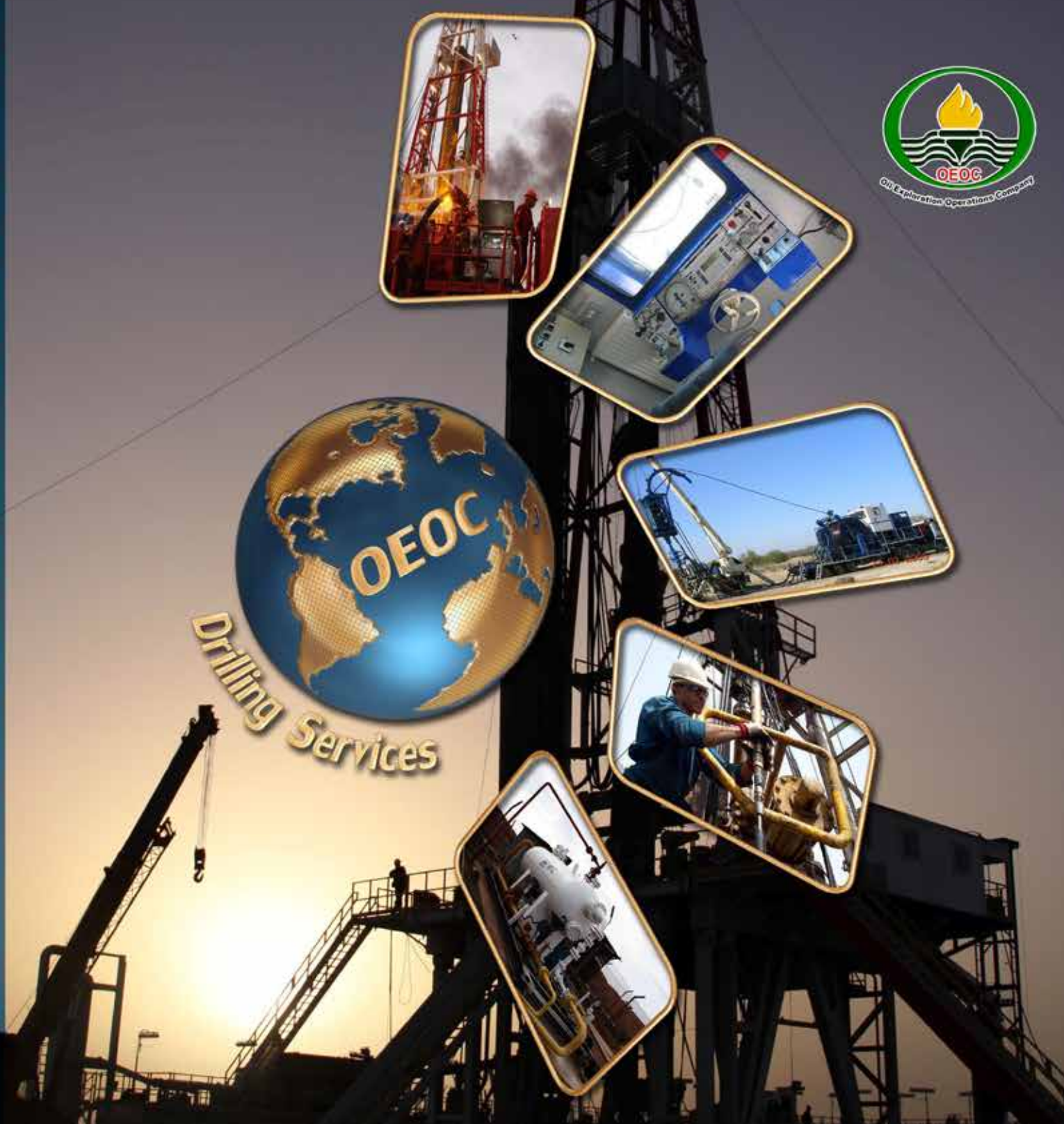
**Oil Exploration Operations Company**

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**Oil Exploration Operations Company**

# DOMINATING OFFSHORE

Petro Pars Focuses on Offshore Projects Through New Joint Ventures

Tech Talk



Mahmood Javadian, CEO, Petropars Oilfield Services Co.

**-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? what innovations and technologies do you anticipate within the next 5-10 years?**

We are eager to invest in completion technology and localized innovations.

**-Are you planning to expand your company? what novel services do you offer? What will be your next innovation?**

We will plan to expand our company in post-sanction period; consequently, new joint ventures including with expert companies will be created.

**-Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?**

We are involved in the development of gas fields in our region and current operations on South Pars gas field phase developments.

**-What is the proportion of your share of offshore and onshore activities?**

We are dominating 100 percent of offshore operation.

**-How have you defined the**

**structure of project management in your company?**

Our project management structure is based on the concentration of top management team for all projects as well as separate individual project management teams.

**-What are the challenges of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?**

Our major challenges consist of training courses for new technologies accompanied with management knowledge.

**-Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?**

Iran is second oil producer and first gas producer in the Middle East. From oil reserve point of view, it is the second largest in region; it is also the country with the second biggest gas reserve in the world.

**-What are the keys to success in Iran's drilling industry?**

To name a few, we can mention technology transfer, investment and finance of drilling projects as the key factors of our drilling industry enhancement.

**-With regard to the lack of efficient specialized workforce**

**in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.**

Benefiting from Iranian service contractors is a must to bring and use variety of expertise in our drilling industry.

**-How do you see the role of Iran Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

This conference can achieve some goals like approaches of technology transfer. It can also contribute to sharing expertise and historical cases in drilling industry. Moreover, it can support the culture of communication with worldwide technology.

**-What are your aims of attending this conference and what technologies are you featuring this year?**

We intend to become familiar with other drilling service contractors and their experiences including their ways for success. Additionally, we will be able to create or modify our different service contractor and operators rules and regulations for future contracts and activities.

## Petropars Oilfield Services Company (POSCO)



Petropars Oilfield Services Company (POSCO) was established in Kish Island in June 2003, as a company owned by Petropars Limited. The major goal of POSCO is to promote the value chain of Petropars and to manage drilling of appraisal and development wells, utilizing the most expert and optimally specialized human workforce,



# WAYS TO REGIONALIZATION

Pars Drilling Fluids Intends to Enter Nearby Markets by Offering Cost-Effective and Environment-Friendly Drilling Fluids

Tech Talk

Koorosh Tahamsbi, CEO, Pars Drilling Fluids



-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? what innovations and technologies do you anticipate within the next 5-10 years?

We have already been heavily involved in Drilling Fluids Engineering and Services. Our research and development team has for the last twelve years extensively concentrated on various challenging subjects in this field and achieved significant results both from industrial and economical points of view.

-The key opportunities comprises local content, access to high caliber top university graduates, a long term established market and availability of high standard raw materials.

-Please briefly describe the key opportunities of your attendance in drilling industry.

The key opportunities comprises local content, access to high caliber top university graduates, a long term established market and availability of high standard raw materials.

-Are you planning to expand your company ? what novel services do you offer? What will be your next

innovation?

Plan of expansion is one of our major strategic decision and has been followed intensively for the last two years. We intent to expand in the nearby market by offering cost effective and environmentally friendly drilling fluids formulations.

-What are the challenges of drilling industry in our contry and the Middle East?In case of suggesting solution, what are the key measures to cope with these challenges?

It is wise to differentiate the challenges between our country and the Middle East. We believe the most important challenge of our drilling industry is the fact that most of the market is being handled by the state owned organizations. It is clear that the existence of high qualified private sectors will help to bring about management and technological skills along with healthy competitions as a result of which benchmarking and optimization would be accomplished.

-Can you explain the strategic importance of iran in the regoin drilling industry? What is the highest priority of irans drilling industry?

Iran is number one Oil and Gas proven reservoir

holder in the world. Therefore, its role in the region for drilling must be vitally important. The highest priority should be drilling efficiency and optimization.

-With regard to the lack of efficient specialized workforce in irans drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.

Drilling Engineering must be considered as a proper and specified university course in our academic system and should be included into Petroleum Engineering courses. On the other hand, professional training organizations should be formed in order to perform on-the-job training and convey the new advancements into the drilling industry.

-What are your aims of attending this conference and what technologies are you featuring this year?

Our major aim for participating in this conference is to highlight the role of drilling fluid service companies in drilling operations and offer more understanding in how to recognize, evaluate and support such companies.



## Pars Drilling Fluids Overview and Services

Pars Drilling Fluids (PDF), a private service company established in 2002, provides onshore and offshore Drilling Fluids Services, Waste Management and Supply Services. The company has been recognized as the first and the only knowledge-based company by the government due to the practical research activities in drilling industries to overcome drilling problems during the past 12 years.

Our Laboratory Center has been certified based on ISO/IEC 17025:2005 by Iranian Standard Organization as the only certified laboratory to provide quality control services as a third party inspection for monitoring and controlling the quality of drilling fluids materials of local manufactures and import/export materials from customs.

Currently, we are providing different services for 12 rigs in onshore and offshore projects. Our clients are both local and international oil and gas companies such as NIOC, NIDC, PETROPARS Ltd., CNPCI, and SINOPEC. We have also provided engineering services and material supply to; Halliburton, Baker Hughes Drilling Fluids and ENI between 2002 and 2006 whilst they were actively operating in Iran.

- Drilling Fluids Material Supply based on API, ASTM & other International Standards
- Drilling Fluids Engineering & Operational Services
- Solids Control Equipment Supply & Services
- Drilling Waste Management Equipment Supply & Operational Services
- Laboratory Quality Control Services
- Training & Mud School Services
- Research & Development in New Technology and Knowledge Transfer

Our research teams have developed several Speciality Chemicals and Fluent Fluid Systems to remedy drilling problems. Improving operations to increase ROP, decrease torque and drag, obtain stability in HPHT environment, inhibit reactive shales, reduce formation damage and in-turn improve production.

Drilling creates waste, which is harms our environment. PDF has paid special attention to this issue and so Drilling Waste Management Services have been developed to provide Total Fluid Solutions (TFS) for our clients. This ensures our clients to reduce their foot prints of the drilling activities and meet environmental legislations. TFS solutions reduce the associated costs by recovering the required water, in particularly in sensitive environments.



ISO/IEC 17025  
2005 CERTIFIED

# TRAINING COURSES

importance and Necessity

Tech Talk



Mohammad Fazaeli zadeh,  
Chairman of the board  
TAHAMTAN Drilling School

**-Please briefly describe the key opportunities of your attendance in drilling industry.**

Invite the available professionals from abroad (Iranian or foreigner) to offer solutions for our challenges

Educate and train the new hire engineers

Offer different type of training course such as basic, software, new technology, challenges optimization etc...

Provide customized training courses base on the industry request

Providing the courses in the center, in house and abroad

Educate and train the professionals to act as instructor to share their experience for others

**-What are the challenges of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?**

As drilling industry is high tech and we are under tight sanctions, the available solutions are limited for us and this effect on our decision making, programming and management.

We do not have enough drilling instructors to educate our people, it is required to educate and train new instructors which are familiar with the drilling industry

Also our universities are totally far from drilling industry needs, it is required to

have better collaboration. There is mistrust between them

**-Can you explain the strategic importance of Iran in the region drilling industry? What is the highest priority of Iran's drilling industry?**

Access to new technology and localized them. We need to orient the universities toward the actual industry's needs. Our potential are people, people who are talented and educated and eager to meet better opportunities.

Drilling industry should be PROACTIVE and look for the opportunities in other countries like Iraq, yaman and...

**-With regard to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.**

The necessity of training course are obvious but the point is the quality of them and the way they will train the people.

The traing ceneters and should be completely aware of the drilling industry challenges. The university can prepare people for the industry but to be completed it is required to train in the industry and

receive the necessary training course. The instructors should be from operations, office, universities and research centers inside and outside of the Iran

**-How do you see the role of Iran Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

It provides the opportunities to people gather and share their knowledge and experience. It should be regular, e.g. monthly, and more specific, to get narrowdown, decrease the quantity and increase quality.

You know we have everything but low quality one, our concerns should be based on quality.

**-What are your aims of attending this conference and what technologies are you featuring this year?**

We will offer high quality traing course which were designed based on industry needs

# TAHAMTAN Drilling School

A Partner Of Excellence For  
Oil And Gas Professional Of All Development



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# SHIELD AGAINST DRILLING RISKS

Parsian Insurance Suggest Coverage  
Against Drilling Risks



Hadi Oyarhossein, CEO, Parsian Insurance

**-Please briefly describe the key opportunities of your attendance in drilling industry.**

First of all, Understanding the market, underlying values, beliefs & needs of consumers, and develop a marketing plan that aligns well with these values and beliefs is the main aim of Parsian Insurance company's reason to attending in this conference. Furthermore, having extensive interaction with active companies in drilling industry some educational and training opportunities will be available for our company. Attending to this conference the main activities of drilling service companies are identified comprehensively and probable questions and ambiguities such as contracts limits are clarified and appropriate terms and conditions will be offered. Also, having more interaction with these companies many ambiguities of insured in insurance contracts such as exclusions and limits will be clarified. Besides using risk management principles by insurance companies insurance information of drilling service companies will be increased and preventing and controlling losses will be occurred consequently.

**-Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?**

Parsian Insurance Co. has been established on Mar 2003, 29. It has a network of 59 branches with about 850 skilled, experienced, professional and technical staff and Over 2000 agencies located in various parts of the country. Carrying out direct insurance operations in all life and non-life insurance fields; acquisition of reinsurance coverage with respect to the policies issued based on Central Insurance of IR Iran's regulations; making investments out of the capital, and also technical and legal reserves; and accepting reinsurances in compliance with the measures set by Central Insurance of IR Iran from other domestic insurance institutes Over time, In addition to the existing Department of the company and to enhance capabilities in field of oil and energy, Parsian Insurance Co. on September 2014 decided to establish a new department in which

Oil and gas specialized insurances are issued by our staffs who are fully trained and skillful in this regard. Although Parsian insurance Co. was issuing policies in field of Oil and gas, by oil and energy department establishment, Significant activities in the above field began and we succeeded to have more effective cooperation with major insurers this led to issuance of policies such as: Abadan petrochemical company property all risk insurance, South Pars phase 15 platform construction, commissioning, pre-commissioning, Testing and also operation., South Pars phase 16 platform operation, Pars Oil and Gas Co., National Iranian Drilling Co., Tadbir Drilling Development Co., Ghaed Basir petrochemical company, Sarvak Azar Engineering & Development Company, Sepahan Oil Co., Iranol Oil Co., Pasargad Oil Co., Jey Oil Co.,... And also Parsian Insurance Co. is a main member of oil and gas Consortium. It should be mentioned that the company is proud to pay \$ 55 million in phases 8 and 7, 6 South Pars contractors Statoil (Statoil) and Sadra, as the biggest losses in the history of the insurance industry in the country. The Main Shareholders of Parsian Insurance company are: Parsian Bank Financial Group (%20.3), Iran Khodro Investment Development Company (%13.9), Mehr Ayandegan Financial Development Group (%13.6), Parsian Investment Company (%11.4), Sarmaye Bank (%9.5), Sina Bank (%8), Oil Pension Fund Investment Company (%3.8), Pars Tousheh Investment Company (%3.6).

**-As one of the main oil and gas producers, Iran is responsible for environment. Given the importance of environment in drilling industry, what environmental initiatives seem appealing to you?**

Responsible behavior toward environment is an essential part of well-known companies' strategic plans and they continually recognize that this contributes strongly to their long-term company success", stated in the introduction of their environmental vision. Oil spills can have disastrous consequences for society; which can be economically, environmentally, and socially. Drilling activities also is one of those

areas which may threat environment by oil pollution. One of the solutions to decrease its destroyer results is having an appropriate insurance covers. Pollution liability insurance will be provided for oil companies in one of three ways. First, in respect of pollution from wells caused by blowout, the OEE policy will cover liabilities in respect of seepage, pollution and contamination, and clean-up and containment expense, including situations where the oil company has adopted a voluntary code of practice such as OPOL. Second, in respect of oil spills from sea-going vessels, owners and charterers of tankers will have the benefit of a Protection and Indemnity Entry.

**-With regard to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for business.**

Nowadays, there is an extraordinary level of policy attention being given to education. The reason is so clear; with the rise of knowledge economies and science-based high tech industries, professional education is considered key to economic development. To having many oil sources in Iran, complexity & diversity of different activities in oil and gas areas especially in drilling section, being high risky operation and meanwhile allocation of high volume of Iran economic income, there is high necessity to standard and professional training in this section. With existence of such training, productivity and efficiency will be increased certainly and all specific needs will be identified carefully. Identifying risk professionally and sharply leads to offering the best terms and conditions to insured. It will also result in using the best reinsurance services and indemnifying losses in order to protect investments consequently.

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## Upstream Energy industries

1. Mobile drilling units and onshore drilling operations
- Control of Well (COW)
3. Construction, Installation and commissioning of platforms (WelCar)
4. Subsea installations and pipeline transmission systems

## Downstream Energy industries

1. Design, Construction and Installation refining industries
2. Refineries, petrochemical plants and refining and chemical plants.
3. Tank farms and Terminals of crude and petroleum products



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# AMBITIOUS TARGETS FOR MUDLOGGING MARKET

Tech Talk



Mostafa Zahedi Azad, CEO, Pars Geo Data

-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest? What innovations and technologies do you anticipate within the next 5-10 years?

Following the previous activities of Pars GEO-data Company regarding the latest technologies transfer, a project is defined for producing the positive pressurized cabin by:

Idea, plan, design, finance, control and managing by Pars GEO-data Benefiting from Iranian manufacturers and engineering consultants under stringent quality control Approved by esteemed Certificate Body (Germanish Loyd)

Operate in Iranian Oil/ Gas upstream industry to clients' satisfaction.

Improving the quality and performance based on continuous R & D projects track of quality and improving our records in operations and solutions.

Currently, we're operating in IOOC fields as well as in phases 10, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23 and 24 of South Par

-Please briefly describe the key opportunities of your attendance in drilling industry.

The success foundation of Pars GEO-data Company is based on honesty, reliability, usage of customized made-in Germany technology, continuous improvements and developments. In this regard, we are currently expanding our activities by adding geochemical analysis (source rock and reservoir rock analysis) for the oil & gas industry and environmental services (consulting, remediation concepts and more) for public and private sectors .

One of the most important opportunities in order to cover all necessities of geological-technical service demands in mud logging is the advancement and improvement of the mud loggers' ability to perform well site geologist responsibilities (e.g. in-depth derstanding of fo mation pressure understanding of formation pressure evaluation).

-What is the proportion of your share of off-shore and on-shore activities ?

About %20 of Company's facilities is running in the off shore service industry. But activities are intensifying to reach at least %50 market penetration.

-What are your aims of attending this conference and what technologies are you this year?

In order to support domestic production and local economy, we are expecting to highlight and demonstrate the ability to execute high-level projects with modern standards regarding HSE and technological performance of Iranian companies through this conference. It is worthy to emphasize that by adopting and adhering to Rules & Regulations, it is possible to remove most of the problems, increase the safety and efficiency of clients' projects. We hope to define, approve and notify the growth mechanism and supporting procedure for internal capabilities during the conference.

-How do you see the role of Iran Drilling Services Conference in advancing drilling objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?

Identify successful contractors, Conduct an annual assessment of contractors and refreshing the Approved Vendor List, Necessary incentives to successful contractors



Dadehay-e Zamini Pars Comapny (Pars GEO-data co.) was established in order to transfer world technology of Mud Logging Services and making itself sufficiency.

Since date of establishment, the company by using of internal specialists and experts and cooperation of its German partner (Geo-data Company) has begun different steps of designing, construction and implementation of Mud Logging services units.

The company received a patent certificate for production the Mud Logging Units in Iran.

Trough this period, the company could be response to many of the upstream projects (off shore and on shore) inside of Iran by using more than 35 units of Mud Logging services.

Major activities of the company can be mentioned as below:

- Mud Logging Unit Manufacturing/Production
- Supplying the necessity spare parts and devices
- Repair, Overhaul and Support Service
- Operation/Steering Service
- Training



One of the most highlighted services of the company is equipping the Amir Kabir Semi-submersible Drilling unit by A60 Fire rated Mud Logging Unit And the provision the related services in drilling of the first exploration well In more than seven hundred meters deep Caspian Sea.

Dadehay-e Zamini Pars Company (Pars GEO-data) has proud for cooperation in many of the Oil and Gas well drilling projects, and provides the qualified related service to his esteemed clients such as:

- NISOC
- NIOC- exp.
- PEDEC
- POGC
- KEPCO
- ICOFC
- NIDC
- NDCC
- OIEC



# THE BEGINING OF TOOLS MANUFACTURE



Morteza Asgari, CEO, Asmary Field Services

**-Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? What innovations and technologies do you anticipate within the next 5-10 years?**

In drilling services, as Iran needs to develop its fields, drilling equipment is required in a large volume. Asmary Complex has started to manufacture the PDC Bits, ESS, completion string, and it is ready to invest on it more.

In Well logging services, according to industry requirement this company offers the total package of well logging, Imaging Logs, LWD and also well integrity services ; moreover, it continuously make investment to develop his services.

As most of oil fields in Iran are in the second half of their life, so in future, services in artificial lifting will be required, and Asmary is ready for this field.

**-Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?**

Asmary Field Services Company, incorporated in 2005, honorably, is known as the first wholly Iranian private well logging service company in the territory of IR Iran. As the first and pioneer company in its course of activity; and based on its be-

lief in local potentials and abilities, has the proven track records of doing excellent performances in a variety of engineering and technical fields in our country ( Iran). Having direct contract for well logging services in National Iranian South Oil fields Company (NISOC) and Iranian Central Oil Fields Company (ICOFC), this company is working as a complex. Asmary Field Services Company offers professionally the following Complete Package of:

- Cased-Hole Well Logging Services
- Open-Hole, Well inspection and LWD Services
- PDC Bit Manufacturing and Repair Services
- ESS and Sand Control Services
- Completion String Manufacturing and services
- ESP and SRP Down hole Pumps
- Rock and Reservoir Laboratory Services
- Engineering and R&D

Asmary Field Services Company has the biggest volume of the contract for on-shore well services.

**-What are the keys to success in Iran's drilling industry?**

One of the most important reasons of a company or industry success is its relationship and cooperation with research and knowledge centers; unfortunately, in our country, there are not any proper relations; the universities are far from applied issues and young graduates enter the industry without a proper view; it should be consider in universities program and plans, the indus-

try should also support it; finally, the key to success is developing this relationship with R&D centers and training students at universities.

**-As one of the main oil and gas producers, Iran is responsible for environment. Given the importance of environment in drilling industry, what environmental initiatives seem appealing to you?**

Regarding each person's responsibility to environment; HSE regulations should be followed strictly and clients have already considered this fact in their contracts.

**-How do you see the role of Iran Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

Conferences and technical meetings are useful to transfer opinions between both sides of the industry: clients and contractors, but it is not enough. In addition, workshops should be arranged to improve the skills. During the conference, service companies can offer their innovations and abilities, and client companies can transfer their expectations to everyone, in a short time, face to face and effective manner.

Asmary Field Services Co.

- Considering the innovations and technologies of drilling industry together with the necessity of research and development, what field would you like to invest in? What innovations and technologies do you anticipate within the next 5-10 years?

In drilling services, as Iran need to develop his fields, so drilling equipment required in high volume, Asmary Complex has start to manufacturing the PDC Bits, ESS, Completion string, and ready to invest more on it.

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\*\*\*\*\*

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- Completion String Manufacturing and services
- ESP and SRP Down hole Pumps
- Rock and Reservoir Laboratory Services
- Engineering and R&D

Asmary Field Services Company has the biggest volume of the contract for well services in Land.

# SHARING KNOWLEDGE

Drilling Company International Brings Expertise to Oil and Gas Industry

Tech Talk

Fazel Jamalzadeh, CEO, Drilling Company International



**-Are you planning to expand your company? What novel services do you offer? What will be your next innovation?**

To begin with, we can mention launching H2S and Casing Running services as the plans of technical services deputy of DCI international drilling company. Regarding DCI1 and DCI2 which are two possessive off-shore rigs belonging to this company, providing required drilling services for these two rigs are amongst the general plans of this deputy.

**-How have you defined the structure project management in your company?**

In our company, the projects are defined on the basis of three principles including cost, time and quality. The project progress reports are delivered to top managers weekly and monthly. The obstacles hindering the project are tackled by the investigation of project team and other staff teams. As a result, the project will return to its initial normal path according to the developed plans.

**-Can you explain the strategic importance of Iran in the region's drilling industry? What is the highest priority of Iran drilling industry?**

One of the most important issues in oil industry is codification of country's development plan related to oil and petro chemistry. According to this, one of the main objectives of oil industry is to increase Iran's market share and promote Iran's oil industry position in the region and world. The most significant Iran's strategy of drilling industry is to drill for the excavation of oil and gas with the priority of the fields shared with neighboring countries in post-sanction period. In addition, achieving advanced technology in oil industry specially in drilling industry in order to gain the second

scientific and technological position in the region are among the considerable issues.

**-As one of the main oil and gas producers, Iran is responsible for environment. Given the importance of environment in drilling industry, what environmental initiatives seem appealing to you?**

Drilling waste is the major pollution produced during well drilling, and it will certainly have negative influences on the environment (water, soil, air resources). The suggested initiatives in order to decrease the environmental effects of oil and gas drilling rigs include the implementation of new systems, application of modern equipment used by well-known international companies, budget allocation to research, theatrical and practical studies in drilling liquids and waste, selection of liquids compatible with the environment and observing the notifies standards of Environment Preservation Organization.

**-With regard to the lack of efficient specialized workforce in Iran drilling industry and deprivation of standard professional training centers, describe the existence of such, the success of their graduates, and their benefits businesses.**

It is essential to establish professional training centers in order to train and educate specialized workforce. Given the fact that only the training center of National Drilling Company offers such courses professionally, it is necessary to create other training centers for qualitative and quantitative promotion.

**-How do you see the role of Iran Drilling Services Conference in advancing Iran Drilling Industry objectives? From your viewpoint, what benefits can this Conference**

**bring about for our country Drilling Industry?**

Generally, it is the unification of knowledge and experience that can result in growth of its own field and development in the society by means of mutual influence. Passing industrial development era and entering knowledge-based development and wisdom era, the relationship between scientific studies and industry has become indispensable. By publishing the latest scientific achievements in this conference, the opportunity for information transfer among university and industry professionals is provided. On the other hand, this conference can introduce different drilling services, their strengths and weaknesses, and provide information on self-sufficiency and localization of these services.

**-Given the holding of Iran Drilling Industry Congress in the previous years and organizing Iran Drilling Services Conference on Day 30th this year, how do you evaluate the progress of the conference during these years? What do you think of the significant features of Iran Drilling Services Conference?**

Compared to similar conferences, more accurate planning, better notification, and development in different fields and majors for sending specialized papers are among the remarkable features of this conference. It is suggested that committee members are selected with more precision on the basis of scientific research qualifications. In addition, selected papers must be technically acceptable for lecture and poster, and papers with scientific backgrounds together with work experience can indicate higher effectiveness.



## DRILLING COMPANY INTERNATIONAL

Drilling Company International (DCI) was established on January 22th 2009 as executive subsidiary of Petroiran Development Company to provide offshore/ onshore drilling rigs and drilling services.

DCI intends to increase its capacities for offshore drilling operations by recruiting state-of-the-art drilling equipment and technology.

We manage and provide different technical services in house or through local & international reputable service companies for all drilling projects.

DCI owns two cyber SUPER M2 Jack-up Drilling Units: DCI-1 and DCI-2.

### DCI-1 and DCI-2 major specifications:

- » DCI rigs are capable of drilling in 7000 meter deep wells in 300 feet deep sea and can handle up to 15 wells without changing their position.
- » These two rigs are equipped with Simultaneous Pipe Handling System (SPHS).
- » These rigs are self-elevated mobile offshore drilling units accommodations for 114 people.
- » The rigs have their own facilities for generation of 8 Mega Watts of electrical power and potable water.
- » These two rigs are equipped with three sets of 2000 HP mud pumps
- » These two rigs have been designed according to requirements of American Bureau of Shipping (ABS) and are new certified by NKK class requirements.

### DCI projects:

- » Integrated Drilling Services (IDS-1 and IDS-2)
- » South Pars Oil Layer (SPOL&SPOL-A2)
- » Jofeyr Oil Field Development
- » South Pars Development - Phase 20 (SPD20)

# LOOKING FOR LATEST INNOVATIONS

Taha Pooyesh Co. Introduces Downhole Video Logging for Iranian Projects

TechTalk



Seyed Mohammad Tabatabai, CEO, Taha Engineering and Well Services

**-Please briefly describe the key opportunities of your attendance in drilling industry.**

From the beginning, our strategy has been to look for the latest advancements in drilling industry in the world to provide our domestic producers with the services that our own service providers are not able to provide. On one hand this strategy will make producers benefit from the service they were looking for. On the other hand it will help our own company with facing less competition.

**-Please elaborate on your company and its activity scope. What are your current instrumental projects in our country or the region?**

The scope of our activities is mostly directed towards cased hole well interventions. As part of our well intervention services the most recent service provided by Taha is downhole video logging. We have successfully finished a job at South Pars gas field diagnosing problems in a well. With the diagnosed problem being simpler than what the client anticipated, they were able to save a huge amount of money and time on bringing the well back to service.

**-What are the challenges of drilling industry in our country and the Middle East? In case of suggesting solutions, what are the key measures to cope with these challenges?**

The most important element in drilling industry is having experience in various

drilling situations. Fortunately, recently jobs are getting delegated to Iranian well service providers which will help them build precious experience in drilling industry. Experience comes with failure. We should remember making mistakes which %90 of the time are solvable is worth getting domestic service providers trained. The experience gained from these mistakes can be used as the foundation to create international service providers. In the long run our country will benefit more from having international service providers rather than eliminating such companies in the fear of mistakes. Besides, even the most experienced service providers face failures in their jobs every day. The art of drilling is to be always prepared for the unexpected and be ready to present solutions for them.

**-With regards to the lack of efficient specialized workforce in Iran's drilling industry and the deprivation of standard professional training centers, describe the necessity of the existence of such centers, the success of their graduates, and their benefits for businesses.**

With recent involvements of domestic companies in drilling projects, we were in need of trained staff from engineers to operators. This made the active companies in this sector to start having training sessions internally to be able to provide the required services. These trained staff will eventually grow to be the specialized work force we need in our drilling industry. This process has not only helped Iran with the increased

number of experts in this field but has also reduced unemployment for our graduates in drilling industry.

**-How do you see the role of Iran's Drilling Services Conference in advancing Iran's drilling industry objectives? From your viewpoint, what benefits can this conference bring about for our country's drilling industry?**

We believe the rate of advancement in drilling in Iran is very fast. Every 6 months totally new services are presented by domestic service providers that producer may not know about but can enormously benefit from. Such conferences as Iran's Drilling Services can create the platform for the service providers to present their latest advancement to producers for them to benefit from.

**-What are your aims of attending this conference and what technologies are you featuring this year?**

One of our aims to attend this year's conference is to present our latest advanced solutions in drilling. Besides, this conference creates a perfect environment for companies to get to know each other and share their experiences in the past year. This will help our drilling industry grow even faster than its current pace.

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**About Us:**

AAAC has been registered in Tehran-Iran in the year 2010. The company has employed the mastery of the most experienced ex-NIOC engineers, and started to acquire the top quality equipment and tools to become the leading Oil and gas field in Iran and render cost effective solutions to the engineering requirements of drilling industry. We have established integrated management system (IMS) according to ISO9001, ISO14001, OHSAS18001 and ISO/TS29001



**Our business:**

Some of our services are stated as below:

- Drilling Services (Drilling Fluid, Waste Management, Coiled Tubing, Directional Drilling, H2S, Slick Line, &...)
- Management & General Contract



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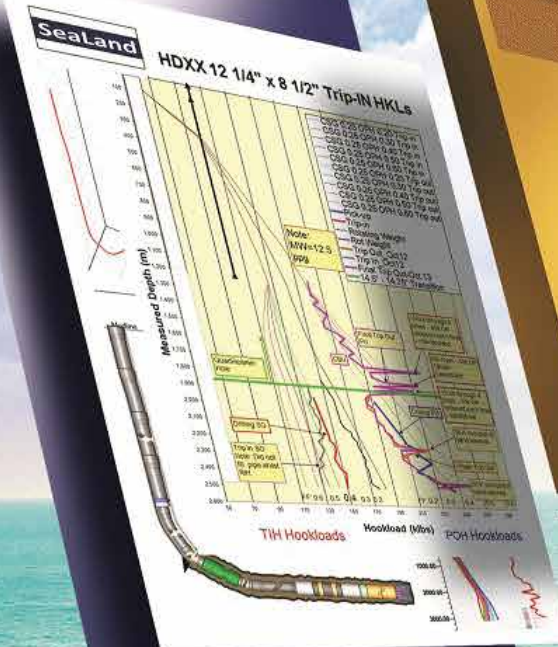
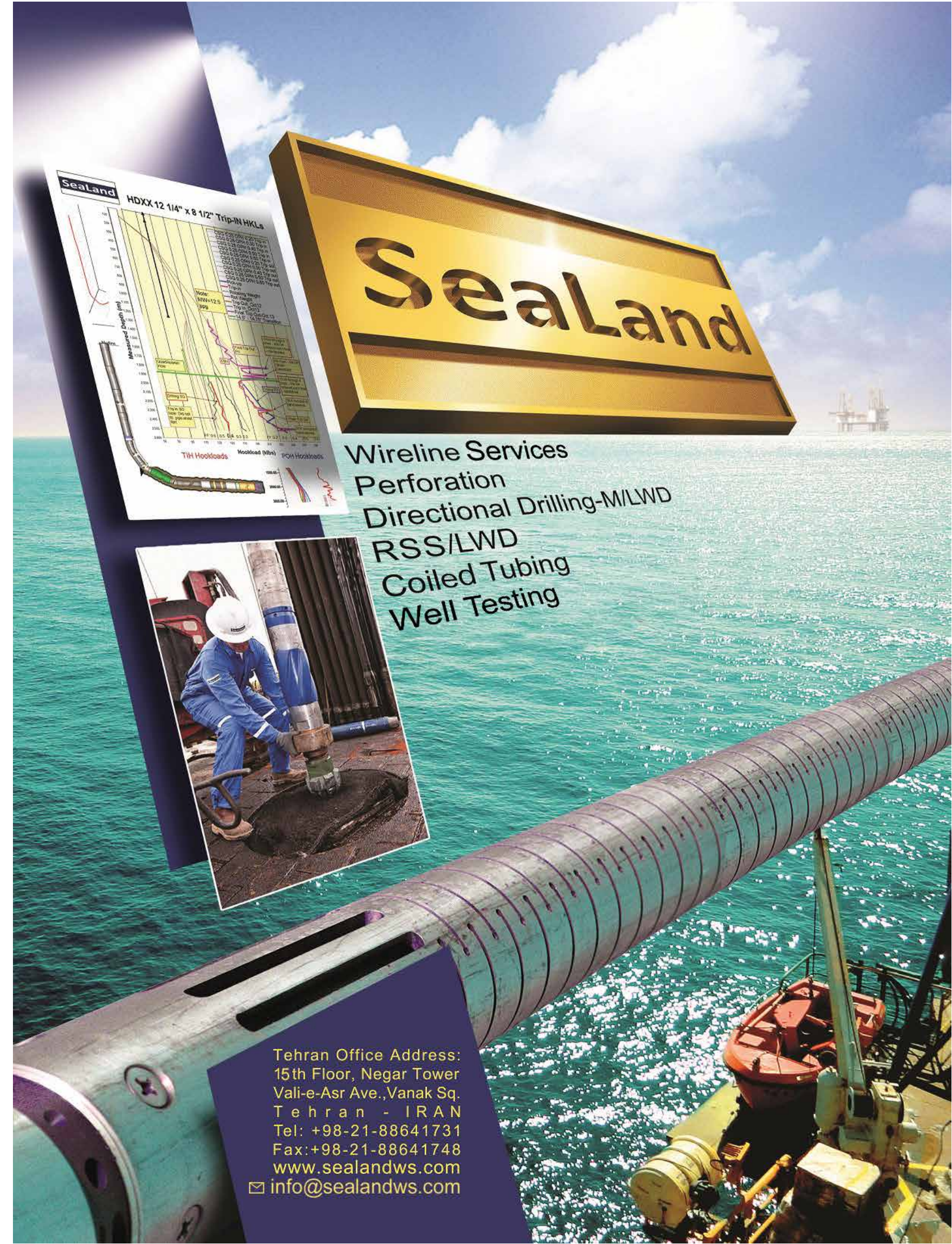
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  - Diphenyl octyl phosphite (DPOP)
  - Diphenyl isooctyl phosphite (DPIOP)
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## PVC ADDITIVES



- Liquid PVC Mix Metal Stabilizers:**
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- Oily Water Separation  
Design and manufacturing of Oily Water Separators for maritime (bilge water), onshore and offshore applications.



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# DVZ-SERVICES GmbH

Specialist for Water Purification & Waste Water Treatment



The DVZ-SERVICES GmbH is a member of the DVZ-GROUP, which unites the three companies DVZ-SERVICES GmbH, DVZ-PRODUCTION GmbH and DVZ-BALLAST-SYSTEMS GmbH.

With over 9000 delivered units and years of experience of over 35 in business.

DVZ-GROUP is a reliable partner for:

- Water Purification
- Waste Water Treatment
- Ballast Water Treatment

All products of the DVZ-SERVICES GmbH are 100% Made in Germany and a global network of representatives and service stations provides a comprehensive and flawless After-Sales Service

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# PIPES AND FITTINGS MADE FROM CuNi10Fe1,6Mn AND CuNi90/10



  
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COPPER NICKEL

EUCARO BUNTMETALL GMBH was founded at 1. January 1993 as a sales subsidiary of buntmetall amstetten GmbH, Austria.

Since then we have grown to become one of the leading manufactures and stockists of Copper Nickel 90/10 - CuNi10Fe1,6Mn Pipes & Fittings for shipbuilding and offshore applications.

Since we are part of the Wieland Group, Germany and now with the backing of nearly 6.000 employees we are striving for above average growth in our core business.

Copper Nickel 90/10 is „seawater resistant“ and therefore the main alloy for all kind of „seawater lining systems and applications“ to avoid any kind of Corrosion.

Our success is a combination of high quality, own production in short term, big stock, technical support together with the expertise of our staff and the wide network of our international agencies.

In 2015 our facts & figures were turnover of 44 Mill. with 75 employees and a stockholding of abt. 8 Mill. divided in nearly 800 to of Pipes & Fittings.

For any kind of further request please don't hesitate to contact us and have a look in our webpage

[www.eucaro.de](http://www.eucaro.de)

Thanks in advance for your interest.

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[www.payandehsalt.com](http://www.payandehsalt.com)



### History

In 2009, in order to increase the production capacity and quality and diversity of products of salt (including table salt, graded salt, excavated salt, industrial salt, etc.) in Iran, Payandeh Salt Company was founded in the region. (Engineer) by integration of production and sales management of 6 salt pounding units and salt mines.

#### Capacities

Since this company produces products using more than 9 salt complexes (including 5 salt pounding plants, 2 recrystallization plants, and 2 regional salt mines), it is one of the greatest and most powerful complexes producing different products of salt in Iran.

Since Payandeh Salt Company owns the products and capacities of more than 9 complexes, it is capable of supplying different salt products with different types of packaging and grading. This company has a daily supply capacity of more than 1000 tons of salt with different grading and 500 tons of different types of salt lumps.



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