

PAYAM DARYA



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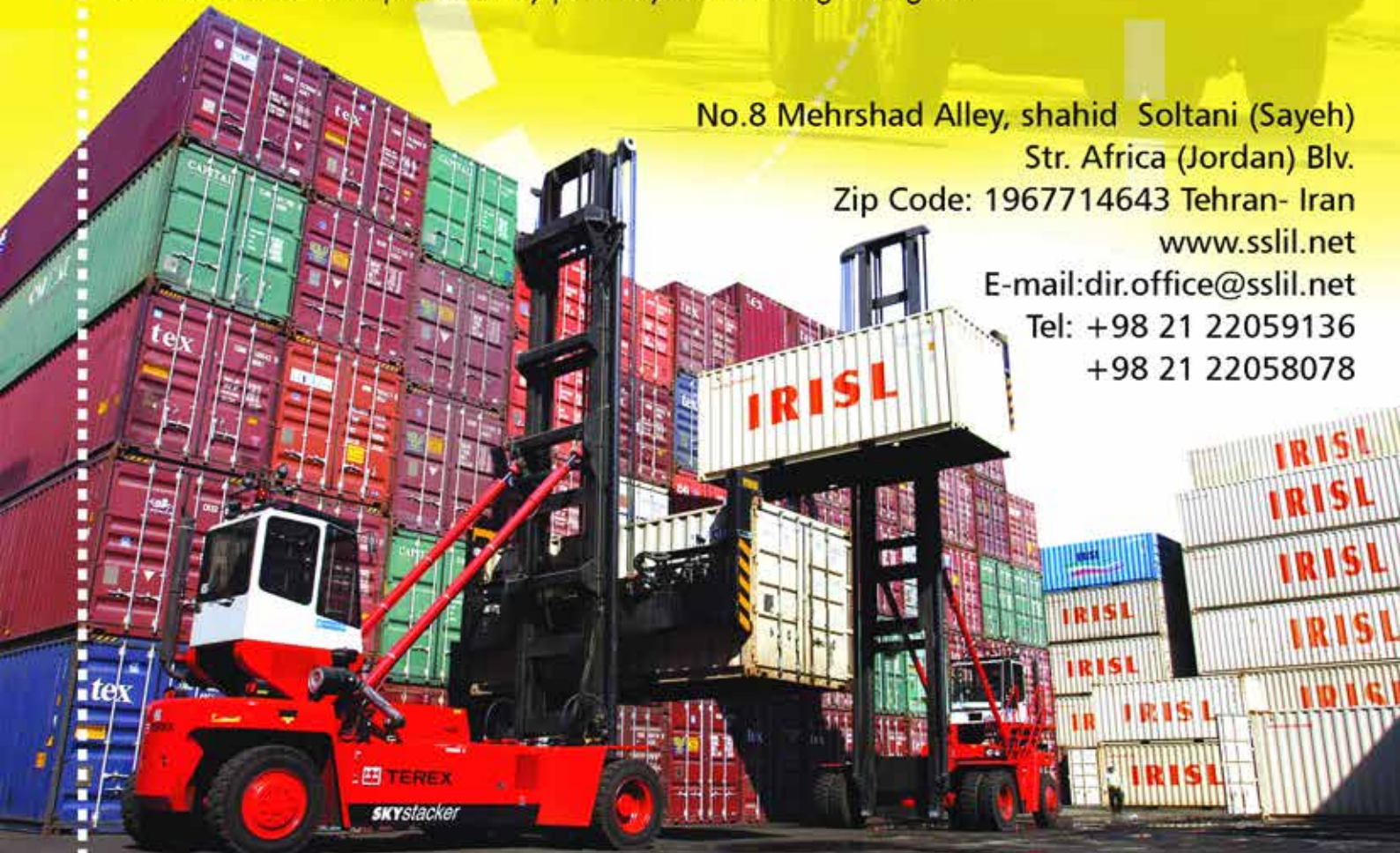
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- 4. SAS Service :** Using 2 vessels of 1000 TEU capacity, making a direct connection between South Iranian ports and Indian Subcontinents to East African ports of Mombasa, Darussalam, and Zanzibar.
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Digitalization; A Phase Shift from Human to Machine

*By: Amir Fallah
Editor in Chief*

It all commenced in 1995, when the IBM-produced supercomputer “Deep Blue” managed to defeat the legendary Russian chess grand master Garry Kasparov: A computer defeating the world’s legend of modern chess analysis in a game known as the “Game of the Century”.

This defeat was not just any other loss in a chess game, but rather, it was the beginning of a computer era; it was the beginning of the age when a man-made product managed to defeat the man itself, and it vividly indicated that computers can do better and more accurately than human mind in the analysis and processing of information.

Traditionally, human being used to operate based on the premise that it is the most superior of the creations, and it is the only creation which is capable of applying logic. It was indeed thanks to this logic that human being managed to expand its abilities and develop superiority over other entities.

However, the “Game of the Century” was the end of another game. It terminated the game where humans were dominated all other creatures proudly and triumphantly. The new age, however, is the account of a new story that has an alternative actor. Even though this new actor has been designed and created by man, but it has managed to supersede its creator, and even though it is merely an instrument, it is more than capable of overcoming mankind. That is why these days, a significant philosophical question which is commonly posed is whether humans are controlling the computers or the other way around.

Although there are still serious questions asked regarding the accuracy of computers’ control and processing in social and cultural relationships, this magical giant has brought about numerous economy and monetary-based benefits. In fact, thanks to the critical, accurate and meticulous performance of smart technologies, today we are enjoying better efficiency and higher added values. Owing to this, industry, production, and each and every factor attached to economy— including transportation – have joined the caravan of smart technologies sooner or later, and are changing day by day in

light of fast-paced development and updates in digitalization.

When cutting-edge smart technologies were applied into the cycle of operational economy, disruptions were reduced, and problems were solved via meticulous control systems. This matter led to the rise of an accurate and efficient structural organization, in such way that once every minor or major mistake happened, the machine itself processed its work procedures and fixed it: This means nothing but acceleration in business.

The privilege of rapid processing, which has reduced the time and enhanced the efficiency at the same time, has made smart technology the most prominent element in today's economy. This prominence has grown to the extent that today, even the most classic economic theories involve zero-one codes in one way or another.

Mankind has been at war, conflicts and contradiction over its interests for centuries, yet when it came to efficient interests, everyone agreed on a general principle: Efficient use of tools and instruments to raise money. Due to this, at the threshold of the new millennium, man redefined its relationships, and established them based on a new construct: To achieve the goals (i.e. profit in the realm of economy), we need to be smart technology-wise.

Meanwhile, the field of transportation, as a crucial medium of economy and an important contributor to it, did not lie in isolation. Despite its delay in joining technological currents, it inevitably underwent this paradigm shift; and applied digitalization within itself in order to enhance the two all-time pillars of economy: speed and accuracy. As a case in point, traditional maritime terminals are being replaced by state-of-the-art smart ports, as a significant measure to establish proper transportation infrastructures for the modern world. In other means of transportation, as well, measures have been taken to move toward digitalization. In railway transportation, electrical locomotives with massive power and needless from coals have been put into work; and in the field of road transportation, attempts are being made at manufacturing self-driving cars. However, in these two areas of transportation, digital technologies had already been established and widely utilized for control and supervision, trouble shooting, conserving energy, saving time and fostering efficiency. However, since the main framework of economy is defined within the boundaries of maritime transportation, both the significance and the complexity of building smart ports is higher.

One of the most significant issues in the digitalization of ports was establishing a relationship between time and place, as if the Newtonian Physics is undergoing another change. In doing so, no longer did time have a direct relationship with place and with speed. A reduction in time and place benefited speed and the entire concept was transformed.

One of the most significant issues regarding the use of ports is whether or not it is possible to host mega-size ships in shores where

the draft is proper but off shore is not vast. In other words, is it possible to turn every spot to a large port? The answer lies in the hand of a 21st-century achievement, which is using smart technologies.

Can computers and artificial intelligence pave the grounds of a change in the structures and accelerate the speed to increase the profit and reduce the costs?

In the light of dynamic and every-day changes in the Information Technology, the answer to this question is not an intricate one. It is easy to imagine how the Internet of Things would make it possible for each cargo to determine its final destination at the source port. This way, immediately after arriving at the destination port, the computers at the port will determine its type, its final destination and will carry it out of the port with no need to time-consuming analyses and no touching of port space.

When Garry Kasparov, as the representative of mankind, left his seat at the table after losing the chess game to the IBM-produced super computer, no one realized that a massive transformation is in place and a new season was approaching. Even Kasparov himself asserted later on that the media made a fuss of this game far more extensively than a simple chase game; but apparently, these simple intermingled wires hammered out the biggest event in man's history: A phase shift from human to machine.



IRISL

Your Global Partner

is celebrating half a century of glorious presence in the Maritime Transportation and related industries.



IRISL will celebrate the prestigious honor of its 50th foundation Anniversary to pinpoint the Indispensable and strategic importance of the Company to the country and international marine transportation industry.

Date: December , 10 ,2017
Place : Tehran



IRISL

IRISL CEO:

**We are
Returning
to Pre-Sanctions Era.**



Dr. Saeedi:

Increasing Growth in the International Shipping Market of IRISL

The Islamic Republic of Iran shipping Lines (IRISL) is perhaps the only economic complex of the country that was directly and completely affected by the cruel sanctions of the West. The difficult conditions that governed the prolongation of activities, disconnection from international insurers, and the withdrawal of large shipbuilders from cooperation with Iran and loss of world markets were the biggest threats to the stockholders of IRISL. The realization of the JCPOA which has been achieved by the wisdom in diplomacy power led to the rebirth of this industry. In line with this, an interview has been conducted with Dr. Mohammad Saeedi, the CEO of this large industrial complex, on the situation of shipping industry in general and IRISL in particular during these present days. The transcript of this interview will be presented in the upcoming section:



Could you please explain a little about the current conditions of IRISL following the lifting of the sanctions and what has been changed since the implementation of JCPOA?

We are surely aware that the sanctions started very seriously since 2008 and continued until January 2016. One of the negative effects of the sanctions on the country's economy was in the field of marine transport (IRISL). Maybe the goal of the comprehensive sanctions against shipping was to affect a significant portion of Iran's exports and imports in order to wear down the economy. On the one hand, there was no possibility of importing raw materials, and on the other hand, no possibility of transferring exported products could be seen.

From the point of view of people who imposed sanctions on the Iranian economy, including IRISL, the Iranian economy would be lost, but this prediction was not realized. During the sanctions era, services provided by IRISL had been limited and cooperation of the international insurance broken off. Meanwhile, international classification societies' cooperation was completely interrupted with Iran, and shipping services were defined in three main directions: from East Asia to the Persian Gulf, Jebel Ali and Bandar Abbas to East Africa, which was the Tanzania and Kenyan region. Iran's shipping was deprived of traveling to European lines and bunkering and it was rarely possible to travel the South American region. Indeed, IRISL was subject to a comprehensive



sanction, causing the Group to benefit from only 20 to 30 percent of its capacity.

Of course, there was such a good condition for IRISL which was not the host of international lines in Iran's ports.

Yes, on the other hand, we lost international markets. Important contracts in the shipbuilding sector have been suspended since 2008, causing IRISL to lose its fleet and renovate it due to the end of life ships annually.

Did the foreign manufacturers cut off their relationship with

Iranian shipping?

Yes, the sanctions in this area were also annoying, even the deals that were concluded with South Korea were virtually suspended and imposed significant losses on shipping.

Until January 2016 that Iran and the P5 +1 agreed and implementation of JCPOA happened.

Of course, the agreement was already in place, and the parties were pledged to lift all the sanctions.

What happened then?



Since the implementation of JCPOA, IRISL has to carry out two important tasks in order to return to its original position; it should immediately establish its relations with the world's insurers in order to be able to use reinsurance and cooperate with top classification societies to receive the necessary certificates. In fact, IRISL needs to collaborate with other reputable lines of the world, which is very important for shipping companies.

And the recapture of international markets ...

Of course, discussion of the retrieval of the lost international

share of IRISL is a very tricky issue that is still ongoing and, fortunately, we were able to approach the conditions before the sanctions and regain a significant part of our lost market.

How about the insurance section?

In this section, we were able to connect with the British insurance group and gradually insured the fleet's ships under international reinsurance. This point is very vital for the country's shipping line and it is very important to inspect the marine transport of the country, so it is important to use the world's top insurance coverage. In the first step, the insurance coverage was \$75 million, which was unprecedented from the time the sanctions began. Three months later, we managed to raise this insurance to \$450 million, and over the past few months, after intensive negotiations, the coverage rose to \$1 billion. Practically all Iranian shipping ships flying in international waters are covered by insurance coverage and we do not have any concerns regarding this. One of the conditions for our insurance clubs was that IRISL CEO, as a legal person, should be a member of the board of directors of London insurance clubs. We are currently collaborating with the Insurance Club of West England and the Steam Ship Insurance Company in London, and in fact this insurance coverage is distributed among insurance institutions. I think this change was made much faster than the imagination that has been

formed. In the 9 months after implementation of the JCPOA, most problems were resolved.

What measures have been taken regarding classification?

Ships of IRISL are like a plane, and if they haven't been, IRISL cannot improve. As a result, we were able to communicate with some of the world's leading institutes, using the combination system and the internal and external classification societies in which some contracts were signed. Signing these contracts provide the possibility of participating in councils and be more effective in the scene. IRISL's ranking reached 23 in 2014 and it now stands at 19th. I also hope that the company's ranking will be enhanced by adding new ships.

And the relationship with the world's leading liners began ...

This discussion, in particular the relationship with the world's most authoritative liners, was vital and important, in a way that about 32 agreements were signed with the ports of the world and various liners, and we are no longer concerned about this. The other point was the discussion of the agreements in which we had paid money to the manufacturing companies for years. We began negotiations, and it took about one year and three months that we could eventually agree on.

We must remember that the sanctions era brought difficult days for IRISL. In addition, we were able to use the most up-to-date ships, and for the first time before and after the revolution, we were able to conclude a



contract to pave the way for the entrance of mega-size ships to IRISL fleet. The last capacity we had on container ships is about 6500 TEU which is one of the largest ships of IRISL. Four ships each with the capacity of 14,500 TEU which is twice as much as half the capacity of the existed ships will be added to the fleet.

How much is the IRISL volume?

In fact, IRISL capacity is 120,000 TEU. I hope the first ship to join IRISL fleet from March 2018 and then other ships will be delivered gradually every 45 days to 2 months in a way that all the ships would be delivered within 10 to 11 months.

Which countries were highly affected by losing markets?

During the sanctions era, we lost all markets. We lost a significant part of East Asia, Korea, Latin America and Japan, most of which was the East Asia, the Persian Gulf region and East Africa. We also managed to revitalize Europe's line. Originally, we were the first company to use the fruit of JCPOA in Iran. In February, the first ship traveled to Europe and was welcomed by the authorities of the port city of Hamburg. It started from one ship in a month and now it's turned into two, and we have also planned that in the future we will enjoy three per month. Fortunately, the exported and imported goods have increased significantly; vehicle equipment and projects have entered the country. In Latin America, imported products are mainly soybean, grains, and so on. Opportunely in the present,



IRANIAN SHIPPING SHIPS FLYING IN INTERNATIONAL WATERS ARE COVERED BY INSURANCE COVERAGE

the ships cross the entire Latin American region without any restrictions except for one or two countries.

Iran's export and petrochemical products which are focused on European and Asian target markets are increasing.

How much difference could be seen in terms of income?

2015 and 2016 were the hardest year of shipping in the world, which is also evident. Commodities decreased and the global economy has sharply declined, but fortunately, since the beginning of 2017, the global economy has been growing rapidly, and in fact, in 2016, global gross domestic product was around 3.2%. Global gross domestic product is projected to reach 3.5 percent by 2017, and by 2018, it will reach 3.6 percent. It should be noted that this trend is slow but it seems to be stable. A number of marine shipping companies have left the market, but the Islamic Republic of Iran Shipping Lines has been growing well every day and I hope that this growth will continue. The forecast is that at least about 22-25% of more income will be

recorded in 2017 in comparison with 2016.

How much is the profit of this income?

Our forecast for this year is about 169 Rials per share.

The biggest problem in shipping companies is related to the profitability. In this regard, make a comparison between shipping companies in the world and

those in Iran.

IRISL is not far from the shipping companies of the world and it is about 8%. Last year, this number ranged from 5% to 6% in the global ranking, but the maximum is between 8% and 10%.

What is the philosophy behind newly built ships? Is there a necessity to scrap a ship for the





other one to be built?

Depending on the loading capacity, the life of each ship is 22 to 25 years. Some ships are 20 years old. Even 11 and 12 years old ships have been scrapped, but the life of the ships is usually between 22 and 25 years old. For each ship that is scrapped, there should be a plan to substitute a new one. Today, the shipbuilding period is between 16 and 20 months, and fortunately global prices are very suitable for the development of the fleet. In addition, the shipbuilding proposal with the financing offer from the manufacturers is presented.

Do you have a development plan for adding ships to the fleet?

Of course, every two years and a half a fleet need to be renovated. For almost ten years, the fleet of IRISL has not been upgraded, and if this fleet is not timely renewed, the international and domestic market share will be lost. We also have a fleet development program that is under investigation.

Do you have an increase in funding for fleet development?

A part of this program is the increase of capital and the other part is the use of foreign resources. Currently, no banks and capital institutions have enough resources to build ships. If they have enough resources, they will be used for the country's essential needs. Definitely the only industry that easily finances the world is the marine transport. Fortunately an agreement was signed with Chinese companies and Korean financial institutions



THE ONLY INDUSTRY THAT EASILY FINANCES THE WORLD IS THE MARINE TRANSPORT

in this regard with the purpose of utilizing foreign funding to develop the fleet.

Fortunately, international transport contracts are a function of the global economic variable, and with the global economic movement and growth of GDP, it is expected to be witness of 3.5% growth this year in marine transport. Yet there is a great hope that would boost international transportation.

Have not foreign countries competed currently in marine transport?

One of the major competitions in marine transport is related to container and bulk freight rates. Many foreign companies have to return with a vacant ship when they unload the cargo in a country. Therefore, they are ready to carry Iran's exports at any cost which is very hard for IRISL. Fortunately, IRISL is available to importers and exporters in a way that they can easily communicate with the company's CEO and various departments. Our policy is to provide the best and the highest

quality service in all sectors for the customers not to have any concerns.

What is IRISL' policy in the capital market?

Our main policy is that the price and value of the share to be firmly stable, growing, and less fluctuating. We are more interested in attracting real shareholders, and they must be sure that if they enjoy the share of IRISL, they will grow in a mild and stable way and will have a valuable share. We are also not looking for a shock to the market. The key point is that the ships have international reinsurance, which has not been the case before. We were able to reinstate all ships on the international route and this issue is very valuable to stockholders, especially the real shareholder, who has a reliable reliance on the use of domestic and foreign resources, which is a huge contribution to IRISL. In other words, IRISL is a significant index in exports and imports development to/from the country and it has considerable

international credit worldwide. In addition, cooperation with the world's leading lines has increased the reputation and value of IRISL.

Have you considered a plan to supply the share of subsidiaries of IRISL?

Yes and a number of companies are preparing to enter the capital market which will soon be informed through the securities and exchange organization.

Final word:

A very clear future for IRISL is expected. We now revived 95% of the conditions before the sanctions, and the remaining 5% are some of the banking problems that I hope will soon be reduced. In the end, it should be noted that IRISL has returned to its original position on the international scene today and is considered as a serious competitor for other international shipping lines which is increasingly developing its market and fleet.

Dr. Javad Ansari, the Iranian Ambassador to Singapore:

The Prominent Position of IRISL in International Transport

By: Alireza Mohammad Sadeghi



Maritime transportation plays a vital role in Singapore's economy and accounts for the main source of income. Given the fact that the country received the title of a country owning a third largest refinery in the world and having access to the busiest ports worldwide, it protects its prominent position globally year after year. Meanwhile, having access to the coastal lines and optimal use of existed facilities took the consideration of the markets' customers toward the country. In other side of the coin, excellent cooperation between Singapore and Iran as well as the significant role of IRISL and positive growth of the trade balance between the two countries in this regard made Payam Darya Magazine to conduct an interview with the ambassador of Iran to Singapore aiming at having a look at present situation of Singapore and bilateral ties between the two countries. The transcription of this interview is given as follows:

Mr. Ambassador, Please explain about the importance of Singapore for the Islamic Republic of Iran and the bilateral relations.

Let me begin with an introduction. Since there is a lack of global thinking in most Iranian organizations and institutions, but it is not luckily the same in IRISL. The management and personnel of IRISL have learned that there must be a global thinking, the key to which is for international relations as the source of international understanding. There are several solutions for the development of international understanding, one of which is the publishing of the magazines such as **Payame Darya** that will change the views of the authorities of shipping industries in other countries by introducing global interest in topics.

I congratulate you and the management of the Islamic Republic of



Iran Shipping Lines (IRISL) for such activities and publishing such magazines, especially in English language.

I appreciate the efforts of the IRISL management team to make our shipping sector up-to-date and in line with other shipping lines.

After the agreement of Joint Comprehensive Plan of Action (JCPOA), there have been important developments in the Iranian shipping industry and it created a space for IRISL management. Since **Dr. Saeedi is an international figure**, the new measures have been taken in this regard, such as the development of shipping lines.

With regard to Singapore, I should say that all countries use maritime potentials based on their access to sea. Some use it effectively and some do not. For example, we ourselves have not managed to use all the coastal potentials. Some problems may be due to the low water depth and the lack of port facilities. However, there is no optimal use even in some coastal areas



EXCELLENT COOPERATION BETWEEN SINGAPORE AND IRAN AS WELL AS THE SIGNIFICANT ROLE OF IRISL AND POSITIVE GROWTH OF THE TRADE BALANCE BETWEEN THE TWO COUNTRIES

such as Jask with the water depth of 18 meters, which may be due to the sanctions and other problems.

In contrast, every centimeter of the inland and coastal areas is utilized in Singapore. Given the small area of Singapore (718 sq km) that is as large as the city of Tehran (not even the province of Tehran) with a population of 5,470,000, they are using all their potentials.

Singapore separated from Malaysia to become an independent and sovereign state in 1965, with the annual per capita income of \$ 500 that reached \$ 6,000 in 2016. In the Singapore governance system, the main focus is on economy not politics. For achieving a dynamic economic system, combating corruption and providing security are the keys to absorb investment in Singapore. That is why Singapore is a major competitor of the Swiss banking system. There are 124 banks in Singapore, out of which 120 banks are foreign and there are only four local ones.

How do you evaluate the transportation system, especially maritime shipping, in Singapore?

In Singapore, maritime transportation plays the major role. Singaporean ports are considered the world's first-class ports, with a total daily capacity of up to 100,000 TEU with modern equipment and facilities. There is no much manpower in the ports, but the limited manpower produces high performance using robotic



EVERY CENTIMETER OF THE INLAND AND COASTAL AREAS IS UTILIZED IN SINGAPORE

equipment, as one person handles 400 containers per day. Singaporean port authorities are constructing a port that will meet their needs for the next 50 years. This port will be inaugurated next year. Singapore's maritime shipping industry is one of the main sources of national income, in which the main factor is the maximum use of coastal areas. The largest oil companies in the world have thus opened branches in Singapore. The branches are based in the special economic and industrial zone of Joroung Island. The area consists of 7 small islands with an area of 9 sq km. It is not easy to get to the island because it is a protected area.

The world's third largest refinery is located in this zone. The refinery supplies about 70% of fuel for South East Asia. Saudi Arabia buys their fuels from this refinery. Singapore's second largest source of income is the oil refinery industry.

How do you evaluate the

position of IRISL in the international transport scene?

Basically, the opportunities for economic prosperity in each country are developed based on the international exchanges. A more effective economic system needs more active communication lines, as the body requires active blood supply to the arteries. The more blood running in the arteries, the healthier the body will be. The economic system is the same. IRISL is one of the most active Iranian communication lines, although the sanctions have caused a lot of losses in the shipping sector and, ultimately, our economy. Nevertheless, the IRISL officials have made significant efforts to deal with the sanctions. In this regard, we may refer to the volume of our trade with the UAE, which was about \$20 billion last year. After JCPOA, this amount is not achievable for the UAE because we can have our transshipment exchanges done in our ports. The IRISL can operate more effectively when

there are modern and equipped ports. Therefore, this requires the attention and determination of the authorities in the Ports & Maritime Organization (PMO). In Singapore, a ship is unloaded or loaded just in 4 hours and then leaves the port. In general, **it can be claimed that the position of the Islamic Republic of Iran Shipping Lines (IRISL) is a prominent position in international transport.**

How do you evaluate the IRISL Regional Office in Singapore as you are familiar with Iranian organizations, offices, and companies there?

IRISL activities in Singapore date back to 30 years ago. There has always been a need for such an office in Singapore. The IRISL regional office is one of the most active offices considering the positive development trade balance between Iran and Singapore, largely due to the IRISL Group activities in the Southeast Asian region.

Singapore

The English name of Singapore is an anglicisation of the native Malay name for the country, *Singapura*, which was in turn derived from Sanskrit^[7] (सिंहपुर, I AST: *Siṃhapura*; *siṃha* is “lion”, *pura* is “town” or “city”), hence the customary reference to the nation as the Lion City, and its inclusion in many of the nation’s symbols (e.g., its coat of arms, Merlion emblem). However, it is unlikely that lions ever lived on the island; Sang Nila Utama, the Srivijayan prince said to have founded and named the island *Singapura*, perhaps saw a Malayan tiger. There are however other suggestions for the origin of the name and scholars do not believe that the origin of the name to be firmly established.[8][9] The central island has also been called Pulau Ujong as far back as the third century CE, literally “island at the end” (of the Malay Peninsula) in Malay



Location of Singapore (red)		Legislature	Parliament
Capital	Singapore (city-state) 1°17'N 103°50'E	Area	
Largest PA	Bedok ^[1] 1°19'24.97"N103°55'38.43"E	• Total	719.1 km ² (277.6 sq mi) ^[3] (176th)
Official languages	<ul style="list-style-type: none"> • English • Malay • Huayu Mandarin • Tamil 	Population	
Official scripts	<ul style="list-style-type: none"> • Roman (Latin) • Simplified Chinese • Tamil 	• 2016 ^[3] estimate	5,607,300 (113th)
Ethnic groups	<ul style="list-style-type: none"> • 74.3% Chinese^[2] • 13.3% Malay • 9.1% Indian • 3.3% others 	• Density	7,797/km ² (20,194.1/sq mi) (3rd)
Religion	<ul style="list-style-type: none"> • 33.2% Buddhism • 18.8% Christianity • 18.5% no religion • 14.0% Islam • 10.0% Taoism and folk religion • 5.0% Hinduism • 0.6% Others 	GDP (PPP)	2017 ^[4] estimate
Demonym	Singaporean	• Total	\$508.449 billion (39th)
Government	Unitary dominant-partyparliamentary republic	• Per capita	\$90,724 (3rd)
• President	Halimah Yacob	GDP (nominal)	2017 ^[4] estimate
• Prime Minister	Lee Hsien Loong	• Total	\$311.282 billion (41st)
		• Per capita	\$55,252 (10th)
		Gini (2014)	46.4 ^[5] high · 30th
		HDI (2015)	0.925 ^[6] very high · 5th
		Currency	Singapore dollar (SGD)
		Time zone	SST (UTC+8)
		Date format	dd-mm-yyyy
		Drives on the	left
		Calling code	+65
		ISO 3166 code	SG
		Internet TLD	• .sg

Chief Executive Officer of Khaybar Company in An Interview with Payam Darya:

Khaybar Has Entered the International Supply Chain of Ship Equipment

Receiving the IMPA¹ Certificate by Khaybar Company and registering this company as the only Iranian company providing standardized and coded requirements for ships in the Middle East region is considered as another success for the Islamic Republic of Iran Shipping group.

Ghasem Nabipour, the CEO of Khaybar, in an interview with the Payam Darya Monthly, in addition to give information about setting up the Marine Online Store, announced the establishment of the first Iranian logistics quay in the near future. The details of this conversation are presented below.

¹ International Marine Purchasing Association

Recently, Khaybar succeeded to receive a membership certificate at the International Marine Purchasing Association (IMPA), what were the achievements of this certificate?

The nature of the activities of Khaybar Company is to equip and supply the consumables items for the fleet of the Islamic Republic of Iran Shipping and other shipping companies that travel to Iranian ports.

A procurement company should consider certain standards. On the other word, there must be a professional language between the buyer and the seller in order to act in accordance with the international standard for the sale of equipment. About 40 years ago, the International

Marine Purchasing Association (IMPA) was established. All companies with a standard for buying and selling marine supplies have the possibility of being a member of this association. By this way, currently there are 2500 companies in the world which are members of IMPA.

The quality of the products, the satisfaction of the shipping companies, the procurement at the scheduled time and having the logistics chain in the region and the world are the specifications of a standardized procurement company. Khaybar has always been seeking membership in this international association since the acceptance of maritime logistics responsibilities. For



this purpose, Khaybar should adapt all its equipment codes to the standard codes of the IMPA standard book. By this way, in the last three years, all of the equipment codes of Khaybar were converted to standardized IMPA codes. In addition, the company's financial and commercial system was coded according to IMPA, too.

Finally, in the Joint Comprehensive Plan of Action (JCPOA) era and after the certainty of IMPA about the standard and high quality of Khaybar's requirements and supplies, this company was awarded the membership certificate at the IMPA, as the first supplying company in Iran. Anyway, now the name of the Islamic Republic of Iran and

Khaybar Company as the only maritime supplier in the Middle East region are among the member countries of the IMPA, which is considered as another success story for the IRISL group.

By joining to IMPA, ships will order their requirements based on the codes indicated in the IMPA book, and according to the relevant code, Khaybar will send the supplies from the central warehouse or its branch offices to the ships. The membership of companies on the IMPA makes them constantly update themselves, and marine producer of consumables and Supplies items will get expert and professional over time.

Do domestic producers fulfill

“

**CURRENTLY
THERE ARE 2500
COMPANIES
IN THE WORLD
WHICH ARE
MEMBERS OF
IMPA**

the requirements of IMPA?

Fortunately, Iranian products have better quality than those of some countries. For example, ropes used to control a ship in the fleet of IRISL are mostly produced in Iran and fulfill international standards, or domestic marine colors are accordance with international certificates and they are produced under the auspices of the ICS¹.

Of course, by considering the fact that the main activity of Khaybar Company is the procurement of the IRISL's fleet, there is a greater sensitivity to the quality of equipment. Meanwhile, at the first all the requirements should be examined by the committee of Ship Management Company before being sent to ships, and then the IMPA code is registered and sent to the ship. As Khaybar Company buys a large amount of supplies, it can play a significant role in producing standard and qualitative domestic products.

How many of the fleet's supplies are provided from inside and outside the country?

Safety equipment should have certain standards. Therefore, it has been tried to gradually increase the quality of these products inside the country, so that the necessary safety equipment for ships is already provided inside the country, which, in terms of quality and price, is more suitable than the external exemplar. Khaybar is currently able to supply 95%

¹ International Chamber of Shipping



ALL OF THE EQUIPMENT CODES OF KHAYBAR WERE CONVERTED TO STANDARDIZED IMPA CODES

of the ships' supplies. We have also been self-sufficient in providing 2,500 items of goods. This company has a very good relationship with knowledge enterprises. Of course, some ships do not come to ports of Iran, so they have to supply their needs from foreign ports.

The list of all needed requirements of the IRISL Fleet has been delivered to ships as a compact disk (CD) which named IRISL IMPA, in order to declare their needs more quickly. In order to increase the standard of the required supplies of the IRISL fleet, we provide the requirements of the ships in a package and in full compliance with the standard of working culture of the ships.

How do domestic companies collaborate to produce components in reverse engineering and in accordance with international standards?

At present, about 6 companies are active in production of components which are currently the basis of some parts on Iranian ship. For example, all pumps and warehouse doors are produced domestically. The production of the parts should be affordable for the buyer and the producer. Of course, if domestic production is up to 10% more expensive than the external one, by considering the Resistive Economy issue and support of domestic production, Khaybar will buy the domestic product.

Khaybar supports the plan of producing Nano-colors for the development of marine knowledge based industries. By achieving the result of this



project, the color production formula will be changed in the world.

Of course, it should be mentioned that IRISL is an economic firm and, by considering the recession, it must control its costs.

Does the Khaybar Company provide supplies of ships out of the fleet of IRISL?

One of the main goals of the Khaybar for becoming a member of IMPA is providing services for ships enter the ports of Iran and being active in the international market. Now, ships which arrive to the ports of Iran for supplying their requirements use IMPA web site, in which the name of Khaybar is indicated as the only supplier of standard marine requirements in the region. One of the most unique features

of Khaybar Company in the whole world is that the ship can provide all its requirements, including color, oil, essential requirements, chemicals and electronic parts during the time of stopping. However, even the largest companies in the world operate in just one sector.

What are the impacts of JCPOA on the activities of Khaybar?

In the post-JCPOA period, our first goal was to comply with international standards that we achieved it by joining IMPA. We hope to expand our activities by re-entering the foreign vessels to the ports of our country. Fortunately, with the arrival of Total Oil Company, the entrance way of other oil companies in the world has been opened to Iran, so the volume of activities and

needs will increase. According to the support of the CEO of IRISL from Khaybar, we hope to become one of the world's leading international companies in order to achieve the goals of the holding company.

In which foreign and domestic ports does Khaybar Company have agency?

Khaybar provides services for ships in the ports of Abbas, Imam Khomeini, Bushehr, Asaluyeh and Chabahar. In the ports of China, the UAE and Singapore, we are negotiating with marine procurement companies which are the members of IMPA, to facilitate fleet logistics in these areas. Negotiations have also been conducted with several shipping companies to enable them to supply their ships by Khaybar.

About 60 shipping companies

which have been traveling to Iranian ports have been identified and, after many negotiations, we have engaged servicing to one through five of them. Sending all required supplies as package has been defended by shipping companies, because this method has decreased the costs. We are seeking to increase our relationship with major marine suppliers in addition to increase international customers.

Khaybar intends to give service to the German and Iranian vessels by acquiring the agency of TTS German company in Bandar Abbas, which supplies parts for warehouses, cranes, winch and etc. It will also do repairs and construction of ship warehouses domestically, in collaboration with the Persia Hormoz Shipyard and ISOICO. In the field of maritime training some correspondences between the German company and the IRISL Maritime Training Institute have also been made. In addition, some negotiations will be done with Chris-Marine in Denmark -producer of the marine precision instruments-, Daihatsu Japan and Hyundai Shipping, to establish these companies' agency in Iran to provide the necessary supplies and ship components. In case of support, Khaybar can become a major company in the procurement sector.

By considering the fact that the speed of giving services to ships is very important, what actions have been taken in this case?

The packages of supplies for

vessels are always ready to be delivered to the ship whenever it arrives. While, fast boats are used to give service to ships at the harbor. Beside this, we are planning to establish the first logistics quay in Iran, which will be established in the Khonsorkh area of Bandar Abbas if we obtain the necessary permissions from the Environmental Protection and Reconnaissance Organization. By establishing this quay as a logistics center, non-standard companies will not be permitted to take action and the requirements will be transferred directly from the warehouse to the ship.

Now the supplies are transported from the warehouse to the port of Shahid Rajaei, from which the crane is sent to the barge and then to the ship, which takes about two hours, but if the procurement quay is established, this time will be reduced to less than 15 minutes. In Asaluyeh and Bushehr regions, there is a huge potential for servicing the ships. In addition to Hoopad Darya Shipping Agency and South Shipping Lines-Iran Line, IRISL can set up a team of agencies of operational companies such as Persia Hormoz Ship Repair Yard, Khaybar Company, and Qeshm Star Ship Bunkering and Shipping Services Company, in this region.

Considering the recently started activities of the “Farhikhtegan Keshtirani Armaghan Sabz Agency”, our goal is to activate this institute as a representative of the operating companies in Asaluyeh and Bushehr.



IN THE FIELD OF MARITIME TRAINING SOME CORRESPONDENCES BETWEEN THE GERMAN COMPANY AND THE IRISL MARITIME TRAINING INSTITUTE HAVE ALSO BEEN MADE



How do you evaluate the last year performance of the company?

The operation of Khaybar Company increased in 1395 by 15%. Despite the recession for all shipping companies in the world, including IRISL, Khaybar has cooperated with the Ship Management Company to provide most of the required supplies of ships from domestic producers according to Resistive Economy. By this way the domestic supply of paint and oil required for vessels has increased. Khaybar has succeeded in preparing the requirements of at least seven foreign agencies in Iran, which certainly increases with more marketing and advertising. Fortunately, the Khaybar online store has been launched in the Marine sector too, so shipping companies can declare their



WE HOPE TO EXPAND OUR ACTIVITIES BY RE-ENTERING THE FOREIGN VESSELS TO THE PORTS OF OUR COUNTRY

requests based on the IMPA code by entering this site.

To what extent has the project of developing marine supermarket been advanced?

Through the Marine Industries Association we also pursue the establishment of a marine supermarket. According to the goal of establishing this supermarket for providing the equipment of coastal vessels, and by considering that these vessels have not been built as a particular standard, and some of them are imported, so founding such a supermarket will take time. Of course, as ordering of equipment and supplies from a marine supermarket will be done by mobile phone, it seems that this supermarket will eventually connect to Khaybar.

Kish Shipping Line Manning C.E.O.

Iranian seafarers are world' most reputed seamen

Reducing the number of foreign seafarers in the IRISL fleet and replacing them with Iranian seafarers is one of the most important goals of Kish Shipping Line Manning Company.

The chief executive officer of Kish Shipping Line, Captain Reza Aghaee, sat down in an interview with Payam Darya Quarterly, and filled us in on the history of this line, saying that it was established in 2009 in the pursuit of maritime human resources management.

However, once the IRISL was transformed into a holding, Kish Shipping Line Manning Company turned into an independent company, and its main mission was set to be recruiting and training seafarers (officers and sailors) and taking care of all their issues up to their retirement.

He asserted that decreasing the number of foreign seafarers in the fleet of IRISL and substituting with Iranian seafarers is one of the most vital goals of Kish Shipping Line, and continued that in the past few years, we had made noticeable progress in this pursuit; yet there is still way to go until desirable results are reached.

Captain Aghaee added that IRISL was established 50 years ago with purchasing two ships only, and



all the crew on its board were foreigners. After 1969, however, IRISL began to gradually admit sailing students and employ seafarers, in such way that after the 1979 Islamic Revolution, with an increase in the number of ships and the enhancement in the quality of sailors' education, more and more seafarers were recruited. It must also be added that before the Islamic Revolution, the students were sent to the Maritime Training Centers abroad.

According to Aghaee, at the point when Kish Shipping Line Manning was established in 2009, 80 % of the crew in IRISL fleet were

Iranian and 20 were foreigners. Now, however, Iranians' share has reached 90 % and mere 10 % of the crew comes from overseas.

Managing 3400 Iranian Seafarers

According to Captain Aghaee, the Kish Shipping Line embarks and disembarks over 12,000 people to the IRISL fleet; and to be able to do so, it manages 3,400 Iranian seafarers. Moreover, it has to take of a variety of services related to this 3400-person figure including the assignment of seafarers to ships, training, insurance, bank loans and welfare privileges for the seafarers and their families.

In the next part of the interview, Aghaee pointed out to the difficult conditions of IRISL in the sanctions era, and the termination of admitting students and training sailor officers. Luckily, after the execution of JCPOA and the lifting of the sanctions, Aghaee continued, the training of sailor officers restarted in 2015 with a new planning. The officer students will go through their basic training in Imam Khomeini Naval University of Noshahr, where they will learn basic lessons and professional discipline. Then, they are sent to IRISL training

center in Boushehr for training on advanced and specialized maritime courses. Ever since 2015, 250 students have been admitted to be trained.

Aghaee stressed that the Kish Shipping Line Manning Co. does not suffice to the admission and training of new sailor officers only, but rather, it enjoys the knowledge and expertise of the officers who are qualified based on the international standards and have the capacity of operating on IRISL ships.

Aghaee also explained that IRISL does not merely supply its human resources from IRISL Maritime Training Institute, but it uses the work force available in the market, as well. In the light of this policy, a large number of electronic expert officers, deck officers and engine engineers have been hired so far.

According to Aghaee, the least number of problems belong to the training of seafarers, since the entire training occurs in a very short term (a maximum of 4 months). Kish Shipping Line, he continued, endeavors to bring up better seafarers for IRISL fleet by relying on promotion of systems, putting in place better management and control. This will reassure better seafarers and hence the better, faster, more accurate and more standard delivery of cargoes.

Iranian Seafarers: World' most Reputed Seamen

The training of the seafarers has to be consistent with the principles and standards set by international conventions such as STCW 2010 Convention, Captain Aghaee stated. He also remarked that not only has Kish Shipping Line measured up to these training standards, but it has also gone

beyond them and held additional and complementary programs for seafarers.

In the light of the controls and supervision extended on maritime education and issuing maritime certificates by the Ports and Maritime Organization as the main ruling maritime authority, Iranian seafarers have come to be known as the most reputed seamen in the world, in such way that currently, many Iranian seafarers are hired in various maritime areas—namely maritime industries, ship management, ship building and even off-shore areas.

Referring to IRISL Maritime Training Institute's membership in world's Maritime Universities Association, Captain Aghaee asserted that this institute is the only Iranian institute which participates in the annual meetings of this global association and gets updated on the most recent developments in training methods, educational approaches and maritime-related issues and affairs. If some problems that are beyond the authority of Kish Shipping Line are solved, Iran can export seafarers to the world. An example of such problems is issues in Iranian seafarers' joining the ships in overseas ports. Seafarers' export will be noticeably facilitated provided Iranian seafarers have their passports and Iranian qualification documents with themselves, and manage to join other ships with no formalities overseas.

Iran Contemplating on Exporting Seafarers

Discussing the impact of maritime transportation recession on maritime work force, Captain Aghaee expressed that a recession in maritime transportation exerts the majority of its impacts on

maritime trade and maritime earnings; yet, even when ships have little activities or they are at the port waiting for the venture order, they still need seafarers. Therefore, the decrease in the number of the ships as well the decrease in the maritime transportation dose not have any impact on seafarers' salary and perks. It dose not lead to downsizing or staff cuts either.

Referring to the severe shortage of seafarers worldwide, Captain Aghaee stated that most transportation companies do not spend money and time to train seafarers, and instead, choose to recruit the seafarers who are already available. Therefore, whenever the world is facing a shortage of seafarers, the hiring of seafarers will be competitive and seafarers' salaries and perk rise. Moreover, the International Transportation Federation (ITF) supervises the minimum salaries paid to seafarers, and the MLC 2006 Convention, ratified by this federation, lays out standards for seafarers' life at sea. Owing to its international nature, IRISL is committed to these international principles, keeps up to the highest standards, and observes the minimum payment levels for all seafarers, regardless of their nationality.

Using as many Iranian seafarers as possible on the fleets of IRISL is a crucial goal for Kish Shipping Line, along with exporting seafarers and assisting maritime training centers, he concluded.

At the moment, Aghaee carried on, India, European countries and the Philippines are among the countries that play a colorful role in the global seafarer export market and hoped that someday in the near future, Iran can achieve its position in this market, as well.



MMDIC Director to Payam Darya Magazine:

A Company to be Established in Collaboration with IRISL

The Mines and Metals Development Investment Company (MMDIC) took measures to reform its structure when the new board of directors started their tenure in September 2016, and ever since then, the company has achieved a series of successes such as completing half-completed projects in investee companies, establishing an exclusive market-making fund for the stocks of investee companies, an 11-percent increase in the holding's capital from collecting the previous debts and the new cash injection, transferring 35 % of the stock of Khorasan Steel Complex (KSC), and the establishment of an integrated transportation company through collaboration with Islamic Republic of Iran Shipping Lines (IRISL).

The managing director of MMDIC, Azizollah Asari, sat down with Payam Darya Magazine to elaborate on the company's performance in the tenure of new management. The transcript of this interview has been laid out in the upcoming lines.

In what grounds do MMDIC and IRISL collaborate?

Despite their high potentials from natural reservoirs, metal and mine industries have not been properly developed due to the underdevelopment of the infrastructures. Therefore, transportation, water and energy, as the keys to the development of this industry, must receive more attention. Under the new management, MMDIC manage to detect this matter, and to put these key issues in the spotlight. It established a strategic decision-making council in 2016 with the presence of large-scale mineral companies (e.g. Omid Investment Co., Golgohar Co., Chadormalou Co., Goharzamin Co., and Mine and Metals Development Co.). Along with consultations with the members of this council, MMDIC commenced collaborating with IRISL, as well, and this collaboration has been successfully and prosperously put in place thanks to the warm welcoming of the IRISL senior management. After holding multiple sessions among the managing directors of the aforementioned companies, agreement was reached on the establishment of an integrated transportation company. The registration processes of this company have been completed, its board of directors has been selected, and 200 billion RLS have been paid as its initial capital. Currently, the company is recruiting its human resources and purchasing its required equipment.

How do you see the prospects



IRISL, IS ABLE TO PLAY A KEY ROLE IN THE DEVELOPMENT OF MINE AND METAL INDUSTRIES

of this collaboration?

There are major deficiencies in Iran's infrastructures, particularly in case of transportation and as a result the development of the ports, which make it hard for the country to reach its 20-year prospects due in 2025. IRISL, however, is able to play a key role in the development of mine and metal industries, by relying on its shining and successful background both in the international and domestic level. On the other hand, mine and metals investment companies have the opportunity to act as leaders of development and pave the way for the enhancement of this industry through absorbing funds and collaborations from prominent corporations and the private sector. Without a shred of doubt, IRISL can act as one of the major members of this international integrated transportation company through the broad and forward-looking views of its management in the development of ports, and hiring proper ships for better efficiency and reducing costs. This way, IRISL, along with other large-scale production and investment companies, can make contributions to the accomplishment of long-held goals in the development of Iran's infrastructures.

What approach has MMDIC taken to implement the objectives of resistance economy?

Even though the very perspectives of many economic experts who believe resistance

economy is a type of economic austerity and it is extremely hard to implement, resistance economy is an instrument for the execution and implementation of development plans in Iran, and for triggering a transformation in the country's economy. Taking a glance at the frameworks directed by the supreme leader and the Resistance Economy Executive

Panel, we can vividly recognize that the main principle around which resistance economy revolves is the full exploitation of the domestic capacities along with the cutting-edge knowledge and technology to reaching the power and competition capability in international arenas. Thus, the main mission of MMDIC is being actively and effectively



present in the chain of mineral and metal industries and assist it in reaching competition capacity. Of course, this act has played a colorful role in the completion of half-completed projects via management-level collaboration in huge industrial and mineral plans in the subsidiary investee companies as well as participation in development plans and capital

increase; therefore, we intend to resume this strategy.

In the light of its high natural reservoir potentials, Iran's mineral industries chain is in dire need of investment and development so that it could produce products with high added values. This way, not only could it prevent the exit of domestic resources, it could also take over a portion of

international markets, and utilize foreign resources to implement domestic development plans. The inside-looking outside-producing economic approach (i.e. the resistance economy in some ways) has been well perceived in the business atmosphere and the operational structure of MMDIC; and many of MMDIC subsidiaries in the mine and metals development group are concentrating on completing the half-complete and developmental projects. To confirm this matter, I must provide you with some figures and statistics regarding the operationalized projects in 2016 and early 2017, as well as the projects that are currently being executed (Table 1).

Could you please brief us on the performance of the company in 2016?

In spite of the recessions in the domestic and international markets, the performance of MMDIC has been acceptable, and it led to a meaningful growth in the net profit and operational incomes. From March 2016 to March 2017, the company managed to yield 400 billion Tomans of net profit which indicates an 11-percent growth compared to the same period in the previous year. Besides, the operational incomes of the company increased as much as 30 % in comparison with the last year and reached 442 billion Tomans. In the course of the past years, the company increased its capital in two stages. In the first stage, the capital was increased from 21,920 billion RLS to 31,000



billion RLS; and the second stage is still in progress.

Moreover, the value of MMDIC investment portfolio was speculated to be over 54,238 billion RLS by June 2017. Considering the noticeable share of non-stock market companies in this basket, the value of MMDIC investment portfolio will increase remarkably once these non-stock market companies are accepted into the market and their market value is added to MMDIC portfolio. As a case in point, the initial investment of Gohar Zamin Company has been speculated to be 12,300 billion RLS based on the final costs; nevertheless, some experts have asserted that the real value of this company is twice as much.

What plans and arrangements have you made for the development of the MMDIC in the current year?

Given the critical conditions that we experienced last year and the completion of many development plans, this year is predicted to be a fruitful and high-achieving year for MMDIC.

Even though a sense of uncertainty is always out there due to various domestic and international risks (e.g. fluctuations in international prices, lack of sufficient variety in the investment portfolios and changes in the upper hand organizations), MMDIC is dedicated to pave the ground for the execution of plans and the accomplishment of the pre-determined goals through the serious determination of the management to accelerate



the development plans as well as through continuous strengthening of supervisory structures on the subsidiary companies. The most prominent MMDIC plans for this year are as follows:

- Revisiting and revising the directing principles
- Reducing the risks of investment portfolios via adding more variety to it as well as entering transportation and energy industries
- Developments in the areas of international affairs and foreign investment for supplying funds, transferring

the technology and technical knowledge, and enhancing efficiency

- Sales of non-productive possessions and freeing up resources and liquidity
- Terminating activities in small-scale companies and businesses
- Creating competitive privileges and reducing the final costs through enhancing infrastructures
- Paying attention to water and access to water resources given the large volume of water consumption in mineral industries



- Promotion of the brand and the position of the company in capital markets through increasing market making activities
- Attempting to foster clarification and reception of the subsidiary companies in the stock market
- Training and improving human resources, and collaboration with prominent international organizations to enhance expertise capabilities
- Performing strategic studies regarding investments in domestic and foreign poly-metal mines in order to complete the chain of mineral materials
- Active presence in domestic and international congregations through establishing ties with ambassadors and economic negotiators. Standardizing tax books and statements based on International Financial Reporting Standards (IFRS)
- Paying special

“

IRAN’S MINERAL INDUSTRIES CHAIN IS IN DIRE NEED OF INVESTMENT AND DEVELOPMENT SO THAT IT COULD PRODUCE PRODUCTS WITH HIGH ADDED VALUES

attention to making on-time cash payments to share holders

- Making purposeful plans to increase the capital of subsidiary companies in the strategic decision-making council, by taking into account the cash profit in each decision.

Table 1

The Operationalized and Under-Execution Projects

Project Groups	Investment Costs (Billion RLS)
Plans and Projects Operationalized from to	71,684
Plans and Projects that will be operationalized up to March 2018	21,260
Plans and Projects that will be operationalized after March 2018	44,876
Total (Billion RLS)	137,820



Director of IRISL's Regional Company in China Said in An Interview with Payam Darya:

Feeder Shipping Joint Venture was Established in China

The president of 12th government of Iran mentioned some important terms including some critical points about foreign investment in his first speeches in Iran national media. What an important issue it is; what does Iranian's authorities attention to foreign investment mean? Does the recent attitude of Iranian authorities lead to eliminating barriers of direct and indirect foreign investments in Iran? We try to reach the answer of such questions by analyzing the recent terms and future prospects in the present article.

According to President Rouhani's 30th, August speech, Iran's market received 13 billion dollar foreign investment after joint comprehensive plan of action; he noted that he was going to organize Iran's financial system to eliminate invalid competitions and monopoly in Iran's economy and attract some foreign investments.

Foreign investment is typically done in two approaches: Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI)

What has changed in the business of the Chinese regional company during the post-JCPOA era?

During the post-JCPOA era, with the impressive actions of the CEO of IRISL group in resuming the project of very large container and tankers vessels construction, which led to return of IRISL's invests and avoid of more losses claimed by contracting parties, has a very important responsibility for the regional company of China. It is an effort to supply the market and provide necessary equipment for the entrance and operation of these new ships. However, success in this way requires the cooperation of all colleagues at all levels of IRISL Group, and fortunately there is such a wide-spread spirit of collaboration among the group's managers. As a result, regional company in China has made all its efforts to investigate and study the feasibility of financing and providing equipment as well as the introduction of credible sources, while it fully

coordinates with the central office. On the other hand, very important actions have been taken to identify and consolidate new markets, and increase the fleet's capability of carrying container, when new ships arrive. We hope that its effects will soon emerge.

What international shipping activities does this company do?

Basically, the shipping industry is an international issue, and China's regional company is not excluded from this principle. As noted above, the company, as a representative of the shipping group in the China region, is ready to enter and take part in all fields related to the activities of the group without any limitation.

Please describe the performance of this company in 2016 and the first quarter of the 2017?

The company's performance over the past six months has included daily operations in the

fields of controlling discharging and loading operations, marketing, customer services, providing technical needs, supplying human resources, repairs, and etc. In addition, the coordination and cooperation to establish a feeder shipping joint venture (JV) with one of the most influential agencies in China has been another step to achieve the goal of controlling container displacement in the internal waterways and ports of China. Some of the economic activities in China are purely monopolistic of Chinese companies, so there is no competitive market in this field and the customers do not have any bargaining power.

As a result, China's regional company, with the cooperation of Rongshang Logistics Co. which has the ability to enter this market, has established the Irong Company which is currently in the launching and equipping step, and it will start its work formally in the next month. The company will gradually be responsible

for carrying out all kinds of feeder operations, including transportation by water, rail and road between Chinese ports, both in rivers and in maritime ports. The goals considered for this company are not merely the transporting of the shipments of IRISL Group and will serve other shipping lines and, of course, by launching it, an independent source of income will be created for the IRISL Group.

Another important work done during this period is taking part in China International Chamber of Commerce for the Private Sector which has 230,000 Chinese companies as members. This was started by introducing and explaining the capabilities of IRISL group. After taking the attention of the Chamber's director, they were invited to visit the central office in Tehran.

By presence of the Chamber's director in Tehran, simultaneously with Eid-e-Fetr, resulted in signing a memorandum of understanding within IRISL and China International Chamber of Commerce for the Private Sector, and by this way, IRISL joined the Economic Cooperation Committee of Iran and China, which is currently regarded as the main arm of China's private sector shipping in expanding its relations with Iran. The goal of this room in the first phase is to increase the level of exchanges between Iran and China to twice of the current level and in the next phase, it will increase to quadruple. This cooperation will make a



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CONTAINER**

very special situation for Iran's shipping.

What problems do you currently have?

With the help of God and the efforts of our colleagues, there is no problem which could not be solved. But there are still some works which have not been finish, such as buying some new containers for new ships that need to earn loans and investment. These things are being pursued in various ways with coordination of the central office. We hope to have good news in this field for our colleagues in the near future.

Do you supervise the construction project?

Supervision of the construction of ships is not included in the list of duties of this company, but in some cases where Rahbaran Omid Darya Ship Management Company needs our technical services; we cooperate with them and do our duties.

What problems do Iranian businessmen face for importing or exporting goods from Iran to China and vice versa?

The most important problem that Iranian businessmen and companies in China encounter with, and we are no exception to this rule, is related to banking services, which unfortunately, in spite of improvements that have taken place, many Chinese banks are worried about their interests in trading with the USA, so they refuse to provide credit and cash services.

Marine

**Digitalization;
Necessity or
Challenge?**



Jebel Ali; Leading Port with the Slogan of Global Ports Connecting Global Markets

The Heart of Dubai Pulsate Here

*Mohammad Ali Hasanzadeh
Director General of the Center for Strategic Studies of PMO*

With a capacity of 19 million TEU, the Jebel Ali Port is equipped with a total of 78 container terminals as one of the most prominent ports in the world. Jebel Ali Free Zone alone contributes 25 percent of Dubai's GDP on a yearly basis. The port's container capacity is expected to reach 55 million TEU in 2030. Given the intention of developing a third generation port, the project of Jebel Ali was launched

in 1976 to become the pioneer shipping hub of the region. "A third generation port is a port that covers all the activities of trading, marketing, insurance, packaging, and so on, with the highest return on investment (ROI) and employment rates." At present, the area of the container terminals in the port of Jebel Ali is about 365 hectares with a capacity of about 19 million TEU. After the completion of Terminal 4, the



port’s capacity will increase to about 22.1 million TEU.

Owning 82 docks with a length of 10,000 meters, a width of 973, and a depth of 18, the port of Jebel Ali is able to host the largest container ships in the world. The annual growth of Jebel Ali as the largest container port in the West Asia is about 5.7 percent.

“Global Ports Connecting Global Markets” is the main slogan of Jebel Ali. Every week, the port provides more than 90 services to the vessels of about 180 international shipping lines. Jebel Ali is the 7th busiest port

and the 9th largest container port in the world, which is able to host vessels with a capacity of 18,000 TEU. It was selected as one of the world’s top transshipment ports in 2015, with 163 containers transferred per hour totaling about 19 million TEU containers.

Although Jebel Ali is known as a container port, it also hosts multifunctional goods.

The Most Important Actions of Jebel Ali

With the Terminal Operating System (TOS) installed in 1992, the exact flow of goods and

containers in the terminal is monitored online.

The Vessel Traffic Service (VTS) was installed in 1995, and Global Positioning System (GPS) was then implemented in 2003 in order to track the containers.

The Port of Jebel Ali’s shares were listed on the Dubai Stock Exchange (NASDAQ) in 2007 and also on the London Stock Exchange in 2011 by the DPW.

Digital Transport Development in Jebel Ali

The port officials have developed a project called



“Commerce Development by Digital Transport” to further strengthen the port’s position as a gateway hub in the region, to enhance the port’s digital rank with regard to their rivals in the region, and to share digital data with the port stakeholders. They aimed to minimize the physical presence of vessels in the port by implementing the project and maximizing the use of information technology. The application of electronic software and the mechanization of the port are the priorities for the officials. In this regard, implementing “E-port and E-System Program” projects with the aim of electronization of 100% of the possible projects were taken into consideration. The simplification of the port’s commercial process, time and cost savings, and the reduction of human error were the results

of digitization.

Development Projects in Jebel Ali

One of the important and supportive development projects aimed at connecting the port to the existing railway line of the countries of the Gulf Cooperation Council (GCC) with a total length of 2117 km. The rail line begins in Muscat, Oman, and ends in Kuwait. One of the goals of creating this railroad was bypassing the Strait of Hormuz.

The construction of the fourth terminal of the port has begun with a \$1.6 billion investment with the aim of increasing the port’s capacity by 3.1 million TEU. The project is being implemented by DPW Company. With this volume of investment, the port’s container shipping capacity will increase

to 22.1 million TEU by 2018.

The officials have recently signed a contract with a Dutch company for the construction of a 1200-meter-long pier, a bridge and a pier for giant container ships. Their inspirational goal is to reach a capacity of 55 million TEU by 2030.

Port Management

Jebel Ali Port is managed by the Dubai Ports World (DPW) company which is operated by an association of international contractors. The board of directors is composed of eight members. In the early years of establishment, no Arabs were found among the members. But today they are in the majority. In other words, they have managed to localize the knowledge.

At present, 28% of the active manpower in the port is from Asia and the Far East, 15% from

Europe and the United States, and 57% from the Middle East and Africa. Asian, European, and American manpower are mostly active in the executive and middle management sectors, and African and Middle Eastern ones in the service sector.

Hyperloop One's Technology

The Company of Dubai Ports World (DPW) has recently signed a contract with Hyperloop One, according to which the containers are transported by a new type of technology (using air pressure in vacuum conditions) from the port to a container warehouse 29 kilometers away, near the new airport Al Maktoum in Dubai.

The Management of 78 Container Terminals

Today, DPW is the world's fourth largest container port operator with 78 container terminals. In 2015, revenue from the DPW Terminal Operator was about \$4 billion.

There is another terminal operator called "Gulftainer" in the UAE, which operates in the regional markets, and currently manages 15 terminal operators in the Persian Gulf region. The goal of Gulftainer is to manage 30 terminals in the region by 2030.

In December 2016, DPW invested \$7.3 billion in the ports in cooperation with the Canadian Pension Fund, and \$2 billion through a joint venture with Russia's state-owned investment fund in 2017. They also signed an investment agreement worth \$442 million with the Somali Republic for the development of the port of Berbera in 30 years.

Jebel Ali Free Zone

The Free Zone was established in 1985 with 19 companies. In this zone, the company taxes and the import/export duties are zero percent for 50 years. There is no limit to the use of foreign labor, and companies can use their contract as an earnest to receive



JEBEL ALI IS THE 7TH BUSIEST PORT AND THE 9TH LARGEST CONTAINER PORT IN THE WORLD, WHICH IS ABLE TO HOST VESSELS WITH A CAPACITY OF 18,000 TEU

loans.

Investments in the free zone have increased by 5.8% in 2015 compared to 2014. 30% of the investments were foreign direct investment (FDI) by more than 7300 companies from 125 countries.

At present, 144,000 people are active in this region, which has increased by 8.5% over a year. In fact, the port of Jebel Ali has effectively operated in the transport of goods and the free zone has also contributed to the production of cargo for the port. Given the officials' focus on providing more coordination and integration between the free zone, customs, and port, as three influential commercial organizations, they have thus established the Ports, Customs and Free Zone Corporation.

The Jebel Ali Free Zone has contributed \$50 billion about 25 percent to the Dubai's annual GDP, using the capacity of the Jebel Ali Port. It accounts for 24 percent of the goods transported at the Dubai airport, due to the activities in the port and the active companies located in the free zone.

Given that the United Arab Emirates has succeeded in maritime economy, maritime security issues have been more considered recently. As in a meeting with the UEA commanders, the Crown Prince recently emphasized the importance of actions within the framework of the strategic plan to enhance the UAE's military rights in the Strait of Hormuz, Yemen Coastal Line, and the Strait of Bab-el-Mandeb to the shores of the Horn of Africa.

Roundtable on Smart Technology in Industry and Marine Transport

All Roads Lead to Automation

Nowadays, smart technology in business and data analysis couldn't be easily passed on because it is existed in everything in the world and is expanding worldwide.

Today, business intelligence and analysis of information is not something that can easily be passed on, because everything in the world is intertwined with that and is being expanded every day in all parts of the world. In such a condition, it seems that the only way left to many countries is to recognize smart technology revolution and prepare for its optimal exploitation. In line with this, transportation and ports of the world have also come to the undeniable fact that they cannot be forged without smart technologies. In this regard, planning for automation of ports, industries and marine transport have been started in a general sense in marine business for many years in most countries in which many of them have reached indescribable results and achievements. Cargo tracking through smart technology, providing intelligent services for shipping lines, advanced navigation system, build smart ships, optimal management of fuel consumption in ships, instant monitoring of cargo shipment and finally automation in port operation shows that "You may know by a handful the whole sack" which is distributed to marine section. Considering the ongoing attitude, Payam Darya conducted a panel discussion on "Smart Technology in Industry and Marine Transport" with the presence of directors, experts and involved ones in marine transport and IT fields in which the transcription is given in the upcoming section.

Members present at the roundtable:

Amir Saman Torabizadeh, deputy director for technical and commercial affairs, Ali Akbar Ghonji, managing director of bulk shipping Co. at IRISL and manger of public relations of IRISL, Dr. Fayyaz Zahed, International Affairs Advisor of IRISL's CEO. Capt. Hamzeh Keshavarz, managing director of container transport Co. at IRISL, Eng. Seyyed Reza Seyyed Alizadeh managing director of ROD Ship Management Co., Eng. Mohammad Reza Damavandi, mangaging director of Marin Information Technology Development Company (MITD) Co., Eng. Seyyed Ali Farkhondeh, fuel and ship expert, Eng. Mehdi Ghadesi, manager of IT affairs at National Iranian Tanker Company (NITC), Mehdi Rastgari, director for research and development at Sina Ports and Marine Services (SPMCO), Dr. Mohammad Asadian Farrokhi, managing director at SSPCO, Dr. Mohammad Esmaili, chairman of the board at SSPCO and a professor at Amirkabir University

PD: today, smart technology with a management approach has been changed to a vital element which affects all the evolution of economic, social and cultural arenas. Definitely, this phenomenon brings about many advantages for the humans live in the present day and those in the future which will be appeared over time. To enter into discussion, we focus on competitive advantages of smart technology in industry.

Ali Akbar Ghonji: Previously, nobody imagined that the transistor and semiconductor revolution would reach the point where a circuit electrical behavior becomes a transmission circuit for humans to transfer their feelings easily. The entrance of smart technology to industry and economy lead to significant effects to such a degree that a threat of removing manpower follows this phenomenon. Given the highest level of success in telecommunication companies and its move to industries, it is necessary to be aware



of recent achievements in digital and Information and Communication Technology (ICT) fields. Smart technology proceeds to take control of knowledge management and avoid additional costs to produce specific knowledge. Automation is not aimed at removing manpower instead it is to create more opportunities in the realm of thinking in new managements for human beings to finally have a better life. The shipping industry in general and Islamic Republic of Iran Shipping Lines (IRISL) in particular experienced the sanctions for eight years. Therefore, it was far from technology world. Meanwhile, the connection of other related industries with IRISL has been disconnected from the outside world. Considering the post sanctions era and the ties with international lines, potential differences are felt. During the sanctions and before the implementation of JCPOA, IRISL used Baharan Software to communicate and transfer marine and land information which made it the best in the Middle East or even in the world. If there were no sanctions, further progresses could be achieved.



It should be noted that IRISL is an enterprise which is connected with stockholders and authoritative organizations and is not an alone decision maker. Definitely, the matters discussed in such meetings could pave the way to conclude a better decision.

Mohammad Asadian Farrokhi: shipbuilding industry's technology is not that much advanced but the manpower level involved in it, is high. Automation in large shipbuilding companies such as Hyundai, Daewoo and Samsung led to



the removal of inexpert manpower which is replaced with expert ones. Human error reduction and the time devoted to build a new ship are some advantages of automation which are important for shipping companies. Moreover, time and cost reduction and repair, increase in the quality of newbuilt ships as well as system productivity are other important points of smart technology in marine industry. Shipping companies need to identify the standards of automation in and their requirements the world.

PD: If we want to discuss in detailed, how can smart technology be used in the shipbuilding project?

Amir Saman Torabizadeh:



everything that is supposed to be digitalized will be soon happen whether we wish or not. Considering automation advantages, this issue demonstrates that the phenomenon will soon siege the world. Smart technology makes it easy to access information while providing them to the user. In fact, knowledge and information are at the disposal of the exploiter and the user could enjoy the power of knowledge. It can be said that this is the biggest advantage of smart technology. In the shipping industry, it is very

easy for the ship-owner to get feedback from the customer and vice versa. The ship-owner can determine and identify the necessary indicators based on the information he/ she receives and get appropriate feedback through the system at the appropriate time. Information accuracy is an important part of the subject. Smart technology leads to identify new opportunities which make the maritime shipping companies to develop and outperform rivals. In addition, smart technology plays major role in prompt decision-making and increases the productivity and efficiency of the

system. It also helps to make sure that resources are used properly and that they can be used to make new decisions using their potential. Smart technology can be used in marine transport, repair and maintenance section, and equipment and safety systems. Using smart systems can increase system security by reducing manpower failures. Considering the competitive advantages of smart technologies, many offshore and non-maritime companies are currently moving toward this direction.

Hyundai shipbuilding is one of the leading companies in the field of smart ships and is deeply involved in the Integrated Smart Ship Solution (ISSS) system. Although the system has not been formally applied to any commercial ships yet, the ground for its deployment is being provided. The transfer of information from sea to shore

has always been one of the problems. Currently, the transfer of information in a very high volume is cost effective. So, the selection of information and how it is transferred from ship to shore with the lowest cost and the highest productivity is very much to be considered. Smart technology has now helped ships to use digital systems to cope with many of the problems before the building process. Smart and simulator systems can be used to transfer knowledge.



AUTOMATION IS NOT AIMED AT REMOVING MANPOWER INSTEAD IT IS TO CREATE MORE OPPORTUNITIES IN THE REALM OF THINKING IN NEW MANagements FOR HUMAN BEINGS TO FINALLY HAVE A BETTER LIFE

In the past, students have to be on board for maritime training, while today part of the trainings are done through the simulators which demonstrates that smart technology is very effective in increasing productivity. Moreover, all welders were made manually for shipbuilding, but now repairs and welds are performed on the ship during 24 hours a day by robots. Robots, in addition to accuracy and speed, do not have troublesome problems, although they create other problems that need to be addressed.

The shipping industry is moving towards electronic navigation and unmanned ships. Even one of the decisions in the past was the use of digital systems for berthing. To achieve this, they waited for the Galileo satellite or Global Navigation Satellite System (GNSS) to activate, so that the ship could accurately navigate the dock. The use of smart technology in reserving staff and seafarers, identifying the right route for traveling ships, recognizing customers and online sell can bring many benefits to an organization or company.



SMART TECHNOLOGY MAKES IT EASY TO ACCESS INFORMATION WHILE PROVIDING THEM TO THE USER

Mohammad Esmaili: The effort



of each group is aimed at increasing profitability and generating value added. Smart technology is a model that can overcome the future. Automation will lead to safe navigation. If IT and smart technologies are used in the construction of ships, maps and vessels' route, the owners will be sure that their goods are safe and will be reached to their desired destination in a shortest amount of time with a high quality. Meanwhile, repairs and inspections of ships can be done in the least time and at the lowest cost. On the other hand, a safe fleet is required for safe navigation. A safe fleet would take advantage of new technologies in a way that a safe ship will not be built unless it is in

the fourth generation of shipbuilders.

Fourth generation vessels are Utah or Altai ships that have a production line, so shipbuilders need to be upgraded for a generation to produce safe and smart ships. With traditional and current shipbuilding systems, we cannot expect to build smart ships. Currently, the supply chain model has affected the world production. Companies' competition has been changed to rival in supply chain. IRISL should be considered as the focal point of the supply chain in which customers and suppliers could be seen at the bottom and upstream of the spectrum. In addition, it should determine its optimal authorities in smart technology of supply chain to achieve the best profitability.

The basis of the supply chain is the use of information. In the supply chain there are two flows of goods and services, and cash flow that move in the opposite direction. The only flow that moves like a piston is information. Transparency of information produces value. Therefore, it is better to have IRISL as the largest fleet of the region at the main point of the supply chain. Moreover, IRISL could actuate its supply chain toward smart technology by defining a downstream and upstream roadmap for supplier and customer, respectively. Of course, new tools will attract more customers.

PD: Although many ports of the world have priority over smart technologies with the purpose of advancement and speed of the operations and made some parts of the ports automated, this event has not been occurred comprehensively in Iran's port. Regarding the mentioned issue, what are the competitive advantages of smart technologies in port?

Mehdi Rastgari: the industry is the witness of some pessimistic views regarding technology revolution. In



“Technological Singularity” theory, it is expected that machine intelligence will outshine human intelligence by 2035 to 2040. Another issue which is discussed in the mentioned field concentrates on the combination of synergy of this singularity and the one resulted from progress in activities and social organizations. So, we pass from our metamorphosis in the individual level to organizational and then to social networks ones. Every one of these singularities illustrates the horizon of an event in the near future which human’s future beyond that is not expected and the merger of these two rapids has led to a vortex that dominates the entire world. One of the clear advantages of such a significant evolution in business is exponential growth based on technologies and modern concepts in contrast to linear growth of usual business. Exponential growth pattern is usually moving with a high level of distance under the linear growth pattern at first and it is not attracted. However, this pattern gradually has been increased and suddenly changed its direction toward an infinite. In this situation, industries and business which experienced linear growth would lose their competitive capability. This event has been occurred in many industries such as hospitality management, publication, photography, and mass media and so on. In line with this, many predictions such as Gerd Leonhard’s presentation in 2015 which is given in this discussion confirms that this event will happen in the shipping industry. It can be said that after the containerization at the end of the 1960s, we did not face the divergent innovation resulted from divergent thinking in the shipping industry. Growth and recovery directions in this industry have been linear and directed toward

cost savings, reduced fuel consumption and improved processes. This industry is thirsty for innovation and evolution and in which one of the transformative factors in the industry is ICT. In this context, the development of Smart Ships based on the increased use of information technology in the structure and operation of the ship, in addition to improving the performance of the ship as a business unit, will also change the business model of the shipping industry. For example, shipping industry grew in the first decade of the third millennium, from 2000 to 2010, but then, with the onset of the financial crisis, we faced a declining shipping boom, which still persists, but due to lack of appropriate analysis,



THE SHIPPING INDUSTRY IS MOVING TOWARDS ELECTRONIC NAVIGATION AND UNMANNED SHIPS

investors in shipping sector paid a loan, shippers bought the ship, and as a result, the ship supply flourished. After that, we tried to restrain these conditions using different methods. If there was a credible and predictable analysis of the market, would the shipping industry enter this phase of destruction? The IT industry can be effective in this regard: the financial and economic information derived from smart ship big data can prevent the industry from falling into such holes of ambiguity. Remember that the power of computing is increasing sharply, for example, in 1999, the human gene decoded \$2.7 billion and seven years have been left behind that. In 2007, this was done at a cost of \$350,000 and over a few months. In 2014, the human gene decoded with thousands of dollars and over

an hour, so computing power creates dramatic effects in design, process improvement and optimization. The question arises from the fact that could this power be operational in the shipping industry?

Anthony Goldberg, in his speech to the TED, said: “The human development process hasn’t had a jump until the Industrial Revolution. When

in the era of the industrial revolution, the level of brawn reached a level of exploitation of fossil fuels, the growth experienced an astronomical trend. In recent years, we have reached a point where human brain constraints are being eroded by ICT. It can now be anticipated that companies and enterprises that do not think about using these technologies will not be available in the next 10 years.

Ali Akbar Ghonji: According to your comments, if the industry was smart, we probably would not be faced with an economic recession, so we need to use the tools that developed countries use in their industry and economy.



Meanwhile we have to establish our economic performance based on analyzes and economic benefits to be finally more effective by producing wealth, reducing costs and more productivity in gross domestic product.

PD: *Considering the advancement of science and technology, optimal consumption of ships' fuel and saving steps in this regard have been taken into consideration by ship-owners and the involved ones. Now and in line with this, what will be the effects of smart technology in ships' fuel section?*

Seyyed Ali Farkhondeh: In 1979, when I entered the maritime profession, our communication with the headquarters, agencies and owners of goods was via telephone and telegraph. For this connection, the ship should be arrived in a region or port, so we would always wait two to three days for communication. But now we can easily communicate with the head office using the email. In fact, smart



THE FINANCIAL AND ECONOMIC INFORMATION DERIVED FROM SMART SHIP BIG DATA CAN PREVENT THE INDUSTRY FROM FALLING INTO SUCH HOLES OF AMBIGUITY

technology means the use of electronics. In this regard, Mersak Shipping Company and Alibaba Corporation are one of the largest online buying and selling companies. The important point in this regard is that until the need for an issue in the industry is felt, a reasonable approach cannot be made. In the shipbuilding industry, due to the volume of investment, the inertia of change is very difficult. The significant fact is that the human mind is still the smartest mind. The human focuses on intelligent acts not to make the mind to reproduce and not to encounter with human error in different mental and physical conditions. What is clear is that dinosaurs are deemed to destruction even if they do not change though having a lot of power, so smart technology is very important.

PD: *Is there any possibility to move toward reducing costs by utilizing smart tools?*

Mehdi Ghadesi: When it comes to smart systems, it can be deployed to the management dashboard. In this way, management of a system can make the decision by using this management dashboard and bring the company to operation. The National Iranian Oil Tank Company has been working on smart technology in fuel consumption. Currently, the communication mode on the ship has changed considerably from the past and now it the data could be easily and quickly transmitted and received information from/by ship. Smart technology will ultimately lead to productivity.



PD: *Considering the digitalization process in industries and the necessity of movement toward this direction, what is the necessity of enjoyment smart technology in marine industries of the country?*

Hamzeh Keshavarz: In the transportation industry, various factors interact with each other, such as exporters, sellers, buyers, importers, shipping lines, rail and land transport, distributing companies, terminal operators, ports, customs, health, standards, inspections, etc. If these factors were caught in a cyberspace as an individual one, they would save time and energy. The arrival of the container was a revolution in the field of transportation. Many do not know the role of container in globalization less than the WTO plan. Container led to ease and speed of transportation. Shippers are now entering the market with a different attitude.

“My competitor is not a parallel company, but my rival is the IT and digital system,” said a senior shipping company manager in an interview. Marketing has moved to a point where shoppers make their product with ease and low price. IRISL has been commenced digitizing for many years. In the container shipping division of IRISL, for many years, a system based on the Web has been written but unfortunately it was closed due to issues arising from the sanctions. After removal of the sanctions, the system has been reopened. At the moment, the owner of the goods can do all the operations of loading, booking, bill of lading and loading digitally. In addition, each of the owners of the goods has their own space and can view the position of the last supplies as well as their previous predictions. There have been many developments in shipping so far, including the introduction of automatic motors (UMS), container, automatic container terminals and smart ships. Another great development that has arisen at shipping meetings is the 3D-printing. Therefore, the smart technology’s platform is ready in IRISL, and now the company provides online services to its customers in 9 areas, which will be developed completely by comprehensive

removing of the sanctions.

PD: *Smart technology will definitely affect loading and unloading traffic. Is it the same in reducing port costs as well?*

Mehdi Rastgari: The maritime transportation industry is based on the interaction of ships and ports. The port firstly seeks to provide services to the ship and, in the next step, to provide services to other means of transportation. In this context, it should be kept in mind that the definition of the concept of a smart ship is somewhat different from a smart port. In fact, the Intelligent Port is used to achieve the goals of the Smart Port. “Increasing operations, environmental management, and energy management” are three existential goal of smart port and intelligent port is used to realize these three existential objectives. Due to the arrival of the megaships in the shipping market and the Cascading effect that occurred in the ports of the world, as well as the pressure imposed upon ports and terminals by the shipping lines, ports will have to upgrade their operations. For example, with the growth of ship size, we are faced with the phenomenon of “Wharf Wastage “, which makes the most costly resource and economic asset untapped. The ups and downs of ship operations and the resource mobilization pattern have undergone major changes.

Today, the volume and sensitivity of the Gentry Crane equipment operations are so high that it is said their maintenance and repair should be upgraded to the level of the F1 formula car repair station; and many other changes which are mentioned in references. If we want to move towards smart ports, we need to make the most of the power created by intelligent concepts and



COMPANIES AND ENTERPRISES THAT DO NOT THINK ABOUT USING THESE TECHNOLOGIES WILL NOT BE AVAILABLE IN THE NEXT 10 YEARS

technologies. Otherwise, all supply chains will be affected by this neglect.

Since the 1980s, ports have always been one step away from shipping, as port development is delayed due to the development of ships owing to time and cost. With the emerging trends mentioned, this gap will be more and more, and exploitation of information technology is one of the main ways to reduce this gap. In this regard, it seems that three trends in the ports and terminals industry are growing.

Big data is one of the processes that can help the evolution in port operations. In the past, there were land, capital, and labor factors in economic production. But in the present day, big data has become an increasingly valuable input of the value-added production in economy. The Internet of Things (IoT) is another trend that is of great interest in increasing the connection of terminal resource components, port unloading and loading operations. Eventually the automation is a process appears to be growing in industry of terminals. Automation works harmoniously and does not necessarily mean expediting work. Automation makes the resource mobilization pattern at the terminals uniform and programmable.

PD: What are the software and technical issues that could be effective in smart technology field in ships and the process of marine business?

Mohammad Reza Damavandi:



Over the past few years, information and management systems have evolved. From TPS to EIS, MIS and the design port system, and today we have moved towards Business intelligence (BI). In fact, science of analysis has been added to information systems of industry. Systems have moved from standard reports to warnings, and then forward-thinking and optimization.

Smart technology means collecting, organizing, managing, and analyzing data that is divided into two parts of management and technology. In the technical sector, we collect and organize information and in the management part, we face with analysis of the business. Good things have happened in the maritime industry in the collection and organization section. The IRISL ships have been online and, considering the installation of new systems on ships, it is possible to gather information. Currently, good software such as ship management software and technical and commercial management software have been designed and produced. What is common in the world is the attention to systems



THE SMART TECHNOLOGY'S PLATFORM IS READY IN IRISL, AND NOW THE COMPANY PROVIDES ONLINE SERVICES TO ITS CUSTOMERS IN 9 AREAS

that make the process smart. In today's world, the analysis of information contributes to prediction, decision making and optimization of processes. International companies are trying to anticipate issues, but a lot of leading companies are building the future. Key indicators of performance in the maritime industry and its analysis are very important.

PD: One of the most important elements of industries to be smart is reduction of the costs. Is it possible to declare that smart technology would lead to costs management?

Amir Saman Torabizadeh:



One of the benefits of smart technology is increasing productivity, improving processes and affecting operations. This will lead to reduction in costs. At present, the highest cost in ships is attributed to repair and maintenance. If smart technology is planned in such a way that the maintenance and repair is done in a timely manner, and since the maximum use is made, the costs in this sector

will certainly decrease and intelligent operation will be done correctly. As mentioned, the use of smart ships reduces the cost of the manpower; on the other hand it creates needs that may not be economically viable at the moment.

In the context of the role of smart technology in reducing fuel consumption on ships, great efforts have been made so far, including the amount of fuel lost and the maximum use of it in guiding ships. Engines are smarter. Today, technological advances in reducing fuel consumption have also been effective. Fuel consumption of the ships that are supposed to join IRISL's fleet equals the existing ships with less capacity despite the fact that their carrying capacities have been doubled. The type of ship design, ship engine, ship's hull or propeller can be effective in reducing fuel consumption. Today the world demands shipping companies and shipbuilders to define indicators for different types of vessels. Due to the gases emitted from fuels, shipping companies are required to determine indicators to reduce greenhouse gas emissions. On the other hand, in the business case, the proper use of fuel can help reduction in costs. Another major cost of ships is the inspection. Definitely, smart technology and smart use of resources can reduce the cost of these inspections.

Seyyed Ali Farkhondeh: In the production three factors are involved: the employee, land and capital. Naturally, the more employees use the machine, the more production is there. On January 16, 2001, the EMD Company of Merchant Hyundai a motor (Rtl-Flex58T-B) was tested which made the engine room of a ship smart. The engine timing was transformed from mechanically to electronically. This has had a great impact in reducing consumption and cost. Also, to reduce greenhouse gases, the combustion temperature must be reduced by automation in engine timing



which makes it much easier to decrease the temperature.

Mehdi Rastgari: considering energy production process in the near future, energy will be free. It is said that by doubling the installation of solar cells, costs will fall by 20%. The question is: "Is there any action to be taken to use the free and clean energy of the sun in the shipping industry?"



Mohammad Asadian Farrokhi: A shipyard in Norway recently won a tender for the construction of large cruise ships using solar energy. So the maritime industry has taken steps to make use of solar energy.



Another argument in the offshore industry is the use of super-magnets in a way that decreases use of fossil fuels using super-magnetic motors.

Seyyed Ali Farkhondeh:



The discussion regarding the use of new fuels is very beautiful and somewhat boutique.

In a report which was attributed to the British Parliament in 2005, the British came to the conclusion that they would use a system called the carbon saving system. They believed that fossil fuels would be usable both practically and in the case of cost for a long time with us. In this regard, we see that the Tramp government has turned to using coal because it is cheaper, but instead of using 38-carbon mazut fuel, it could use carbon-based methane (natural gas) instead of heavy fuel oil.

PD: How to deal with the smart revolution in order to have less hegemony? And how this could come to practice?



BIG DATA HAS BECOME AN INCREASINGLY VALUABLE INPUT OF THE VALUE-ADDED PRODUCTION IN ECONOMY

Fayyaz Zahed: Marx says that set of actions and human relations are based on interests, and nothing is outside the framework of the definition of that. I wrote in an article 20 years ago that if Marx was not Jewish, he could not write materialism. As it was mentioned in the Qur'an, when Moses passed through the Canaanites from the Nile, Moses told them to stay in this place until I returned. The return of Moses lasted 40 days. After returning, he found that they worshiped a Samaritan calamari. When Moses questioned them, the Canaanites said: "introduce us a god that is visible". Therefore, according to Marx, the interests determine the type of relationship.

Our world always faces two phenomena. First, how to get better practices of domination. Everyone who has power has dominance. The second phenomenon is money; how to earn a better income. If smart technology leads to more hegemony and lighter revenue, it also fulfills expectations. What shapes the new world in politics is to find ways of full domination and income growth. What matters to shipping and shipbuilding is how to survive, even as companies are merging, removing, or become bankrupt. Reducing costs and improving the structure will help the system between seven and 10 percent while we are facing a revolution. If we do not understand the main and new routes, cost reduction and structural reform will not help us.

Ali Akbar Ghonji: We need a great deal of adjustment in our activities. Smart devices should be used so that the management dashboard in a summarized way and the symbolic statistics to be presented to the organization's directors in such a way that the manager would be aware of the increase or decrease in production and can



TODAY THE WORLD DEMANDS SHIPPING COMPANIES AND SHIPBUILDERS TO DEFINE INDICATORS FOR DIFFERENT TYPES OF VESSELS

quickly make decisions. For example, in the past, they treated the patient in clinical trials, but the mortality rate was very high. But now, the ICU and CCU chambers constantly display the smallest clinical information of the patient on the paper. So the emergency doctor can prevent death timely. The technological revolution has caused smart emergencies to reduce death rates, which will generate capital. IT platforms in port, fuel, motor and ... should provide a management dashboard to the organization in order for a manager to know how much equity the owner will ultimately have for his shareholders. Our goal must be to create a course for the production of jobs and so that people can make particular productions that are specific to a country.

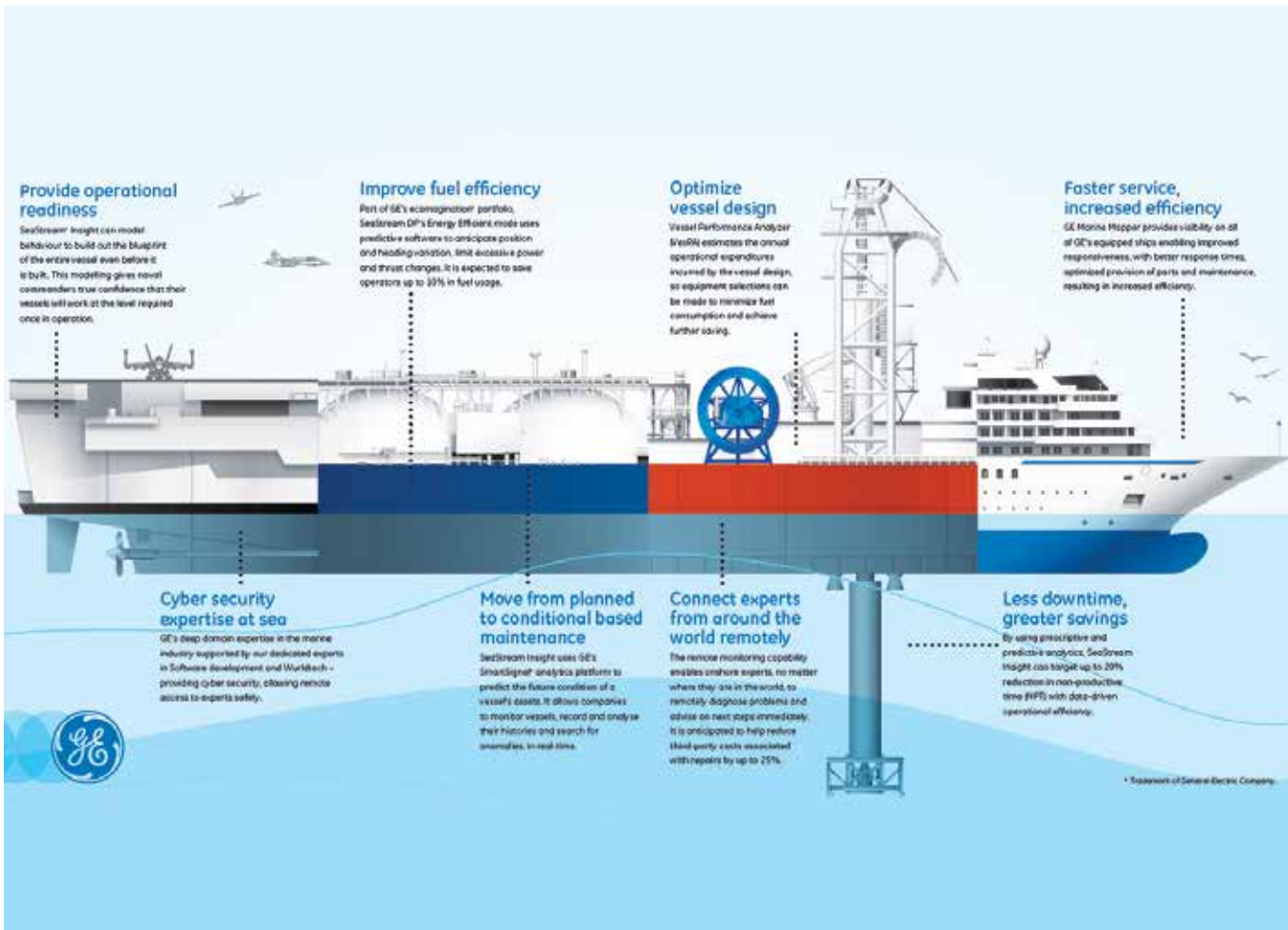
Mehdi Rastgari: smart technology has an Achilles heel, and it's a cyber security issue.



Smart technology can be used for malicious purposes. Its samples could be seen in infecting and stopping the operational systems of the Mersak Shipping Line and some terminals in the monetization, disrupting power systems and navigation of the boats from being infected with malware transferred from the mobile phone of one of the ship's officers, smuggling in ports, etc. Existing examples and implications of the concepts suggest that aggregated and produced information in smart maritime shipping processes can be used for sabotage operations, so rigorous management in the shipping industry should be taken into consideration.

Advantages of Automation in the Shipping Industry

*By: Abdolreza Mohebbi
Director of the Department of Research and Technical
Development of Ship Management Company*



Today, the issue of automation and smart systems is of so great importance in large and small industries that it is regarded as a decisive factor in competitiveness. It needs to be considered simultaneously for structures, methods, and tools. Although automation is an absolute necessity in any industry and organization, it can pose many challenges. Hence, it is imperative to develop accurate and effective implementation plans for the automation of industries to gain the potential strengths and seize the possible opportunities. However, the consequences of the initial weaknesses and the challenges facing the implementation should be carefully considered. The shipping industry is no exception as one of the fundamental industries in the world, due to the wide scope of activities from the viewpoint of geographical dispersion, the volume and complexity of operations, and major stock symbols, to find its survival in this inevitable achievement.

Nowadays, the two main components of the shipping industry, i.e. ports and shipping lines and their affiliated industries are continually being updated and automated with smart systems. The infrastructure of the mentioned industries such as ships and ports are being equipped with new and smart technologies, and correspondingly, there are always skill enhancement and training programs for employees. Undoubtedly, the productivity of every sector of each industry, including the maritime industries, is affected by three main factors, including service quality, service speed, and total costs. The factors play a major role in competitiveness which heavily depends on automation and smart systems in today's highly competitive business world.

Smart Technologies in the Shipping Industry

A comparison between the existing domestic facilities, equipment, and human resources in ships, ports, and shipyards in the past 40 years and modern ships, ports, and industries, indicates huge differences. The differences are clearly evident in the increased scope and speed of activities, improved accuracy and quality of activities, improved safety, reduced manpower requirements, and enhanced employee skills. The use and implementation of new technologies are the cause of such changes and developments. Electronic and information technology has played a major role in such rapid developments. The nature of marine activities, working onboard and in ports, used to be generally based on human intervention (manual), due to which all the ports required considerable human



THE AUTOMATION PROBLEMS CAN BE LARGELY SOLVED TO GAIN THE ADVANTAGES BY TAKING APPROPRIATE AND BALANCED STEPS IN THE IMPLEMENTATION OF AUTOMATION PROCESSES AND THE USE OF AUTOMATION AND SMART SYSTEMS

resources to physically perform the operations. Therefore, most European crew members have left and returned to their advanced countries in recent years due to hard work and poor living standards. They have inevitably been replaced by crews from other countries such as India, Pakistan, Philippines, Ukraine, and Africa countries. On the other hand, the use of new technologies and automation systems have reduced the number of employees and traditional jobs, which has been somehow considered a threat. At the same time, there is a growing shift to jobs in the field of technology, especially IT. In a nutshell, the major advantages of automation and IT systems are:

- Information and Communication Technology (ICT) is becoming a key driver of national competitiveness.

- Information technology and smart technologies play a vital role in stimulating innovation for creating new processes and products, and consequently creating competitive advantages.
- Automation and information technology improve the transparency of administrative processes and decisions.

All of the advantages are possible to achieve by minimizing manpower requirements.

Some Advances Made through Automation and Using Smart Systems in the Shipping Industry

- Port automation using various technologies, including IT, which greatly improved the speed, safety, and accuracy of operations.
- Transforming the conventional engine room controls to Unmanned Machinery Space (UMS) controls, which have reduced the number of engine room staff.
- Digitization of most shipping reports has facilitated the entry of information with higher accuracy and more durability in line with the increased volume, resulting in smaller number of staff in all the related sectors.
- Effective and practical Computer Based Training (CBT) on ships has not only resulted in skill enhancement, but also reduced the current staffing processes in specialist training centers.
- The possibility to effectively

and accurately enforce most of the international laws and regulations, such as reducing environmental pollution caused by greenhouse gases, etc.

- Establishing satellite networks for providing the staff with the internet, satellite TVs, and communication services, has led to greater incentive among them and, consequently, higher productivity and improved living conditions.
- Digital shipping plans that are automatically sent to ships have reduced the staffing requirements and costs, and enhanced the safety of navigation.
- Consumption of components, supplies, oil, fuel, etc. is possible to carefully control, monitor, and optimize with advanced software systems.
- Provision of accurate, timely, and effective instructions for ships, and the development of direct and effective communication with staff, especially in the case of hazardous and accidents, have improved the safety and security of navigation operations.
- New technologies in the field of “condition monitoring” reduce the volume of “planned maintenance” on ships, in addition to reducing the risk of machine failure at lower costs.
- New technologies have provided a lot of information for captains about the optimal route selection and the drainage and trim systems of



ships.

- The applications of IT, as one of the main pillars of automation and smart systems, make it possible for accessing to aggregated and long-term information, as well as sharing experiences and knowledge management. With proper planning, the organizational knowledge can be thus easily collected, extracted, and transferred.

Conclusion

The process of automation requires accurate planning and continuous monitoring. The wide variety of technologies and their overlap and the update of various systems can sometimes be problematic in an industry. The technologies are rapidly becoming outdated one after another, which is a challenge facing the management of modern smart systems. However, the automation problems can be largely solved to gain the advantages by taking appropriate and balanced steps in the implementation of automation processes and the use of automation and smart systems.

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on the occasion of the 51st
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Busan Port Authority(BPA) is ready
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Digitalization Wave in the Shipping Industry

By: *Fatemeh Moonesan*



Digitalization and advanced data analytics are among the top priorities for all industries, including shipping. While shipping has access to a greater volume of data than ever before, it faces challenges assessing its potential. This is mainly due to data arriving from disparate streams, in dissimilar formats and at varying speeds and quality.

In light of these challenges, companies are increasingly building their strategies around digitalization opportunities. They are encouraging operation, fleet management and commercial departments to innovate and explore opportunities for driving cost efficiencies and new revenue streams through digitalization. In order to collect more on this issue, Payam Darya has run an interview with Albrecht Grell, Executive Vice President, Director of Digital Solutions & Innovation at DNV GL – Maritime; the transcript of this interview will be accessed in the following:

At What stage is the digitalization process in the shipping industry? How does DNV GL envisage future developments in this field and what is the next stage in the process?

There are many factors that mean the digital transformation of shipping has not moved at the same pace at other industries – the auto industry for example. We have an industry that is not only dealing with an extremely challenging period commercially, but is structurally split among many different players without the consolidated structure that marks most industries today. On top of which, vessels have a very long life span, are expensive to retrofit and operate remotely with limited connectivity.

But recently, the digital transformation of shipping has begun to gain momentum and this promises great changes for the industry. Automation is taking hold in processes and functions and this is providing a beneficial effect on vessel safety and environmental performance. Ships are becoming sophisticated sensor hubs and data generators, and advances in satellite communications are improving ship connectivity, allowing for a massive increase in the volumes of data transferred at ever-lower cost.

Already, many ships, systems and components are constantly connected to the internet, and in the future, this will be even more common. They will be accessible from almost any location, creating data



BUT RECENTLY, THE DIGITAL TRANSFORMATION OF SHIPPING HAS BEGUN TO GAIN MOMENTUM AND THIS PROMISES GREAT CHANGES FOR THE INDUSTRY

streams that will let us make better decisions more quickly – creating organizations that are more responsive and efficient. It will also provide an important boost to performance management (including fleet utilization, routing, trim, fuel consumption, emission management) and asset integrity management, building on remote condition monitoring as well as allowing for an increased level of automation.

What are the first steps ship owners can take to make use of their data and where do they begin?

It starts with taking the data that owners and operators are already collecting from their vessels. There are already vast amounts of data that can be used to boost fleet performance and efficiency: the noon report, event reports, AIS and weather data, cargo and commercial data, information from competitors– all of this can be combined with sensor data to give a very detailed picture of vessel and fleet performance. This data is already there for the taking, indeed most shipping companies are already collecting





it, and so the transformation starts in the business suite. Owners and operators need to ask themselves: How is the data managed? How do we store it and give access to it, and to whom? How do we generate insights from our information? Do we have the personnel in our organization to undertake advanced data analytics? Once they start this process they will be better positioned to reap the benefits on offer.

Will there be other more widespread effects?

As the shipping industry becomes more connected, we will see positive impacts that spread throughout the whole transport sector. With more timely and detailed information on cargo, routes, and the operation and condition of assets supply chains can be more adaptable and efficient.

For example, if we can create a better picture of vessel arrival times, we could not only cut fuel consumption and lead times, but organize the port and hinterland chain to maximize efficiencies for on-shore workforce, maintenance activities, even in class inspections. The development and spread of cloud based technologies and computer power, will change not only how we manage data but how we design, build and test vessels, their systems and components, and will result in new digital business models. Data platforms and digital twins, with advanced software and simulation capabilities, will give us greater control of systems – including the ability to evaluate, monitor and intervene in the operations of a vessel or fleet in near real time. This level of decision support, from human or machine agents,

along with new digital solutions will give us better control over assets and systems, increase onboard situational awareness, and reduce human factor incidents and operational risk.

What are the challenges associated with the digital transformation of the industry? We hear a lot about cyber threats; will this be a concern going forward and how can the industry deal with this?

From an overall perspective, it is important to say that while there are huge potential benefits from the digital transformation, there will be winners and losers. This will depend on whether we can adapt quickly, our ability to leverage data, and if we see the entry of outside players who may enter the shipping industry to attempt to disrupt current business models.

Increasing connectivity and reliance on software, means of course that we are increasing vulnerable to cyber-attacks and increasingly reliant on cyber security. These systems are also dependent on each other and these interdependencies are an increasing concern to the safety, availability and efficiency of these systems, introducing more and more unknowns into operations. Simulation based test regimes like HIL testing (Hardware in the Loop) are one remedy, but more has to be done in order to create the same levels of assurance and performance as we are used to from analogue systems on board of vessels.

Ensuring the integrity and resilience of these critical cyber-physical systems requires a unified approach to safety and security. This is why owners and operators are now turning to third-party suppliers for the verification of their assets' cyber security, in the planning, construction and operational phases. As awareness of the vital role these dependent and interconnected systems play and their vulnerabilities spreads across the industry, this is an issue which will require greater attention and support.

To help the industry address these potential hazards DNV GL, together with our customers, published a Recommended Practice (RP) on "Cyber Security Resilience Management". It provides guidance on risk assessment, general improvements to cyber security, and the verification of security improvements and management systems. The

RP covers some of the most common threats to maritime assets, such as vulnerabilities in the electronic chart display and information system (ECDIS), the manipulation of AIS tracking data, as well as jamming and spoofing of GPS and other satellite-based tracking systems. It differentiates between unintentional infections and targeted threats. Unintentional infections include incidents such as software infections through malware as well as weaknesses in software, which can be caused by the misconfiguration of equipment and software, or faulty software designs. Targeted threats include external cyber-attacks by hackers, who can infiltrate systems through phishing, social engineering, or by exploiting weaknesses in control systems. This category also looks at the possibility of cyber-attacks by disgruntled employees and their ability to circumvent physical access controls.

You mention that one of the big areas where digitalization is having an impact is fleet



TO HELP THE INDUSTRY ADDRESS THESE POTENTIAL HAZARDS DNV GL, TOGETHER WITH OUR CUSTOMERS, PUBLISHED A RECOMMENDED PRACTICE (RP) ON "CYBER SECURITY RESILIENCE MANAGEMENT"





performance management. What is DNV GL doing in this area?

DNV GL manages a total of around 13,000 ships of all types. More than 1,500 of them use our fleet performance solution ECO Insight. The economic effects of ECO Insight are significant. Digital monitoring of ships brings a significant advantage to the shipping company, by optimizing the operation of the ship; it is possible to save fuel by 5 to 10 percent.

Who is using ECO Insight?

Due to the pressure from the shipping crisis, shipping companies are now more open to innovation than five years ago. Owners and operators in both the lines and tramp are using ECO Insight. We take care of all types of ships, in particular container ships of course, but with a strong focus on tankers and bulk carriers as well.

How does the solution work?

We form clusters for all important types of ships, in order to be able to compare the ships we serve with market values. We analyze about 50 different dimensions

for our ships. And with more data, stronger differentiations and modern methods such as machine learning, we are increasingly expanding our analysis capabilities.

Many shipping lines have now become centers for the global monitoring of their ships. We support them and help them go one step further. Recently, we opened two digital fleet performance centers in Hamburg and Singapore to support ECO Insight customers in monitoring and optimizing their fleets. Expert systems at the fleet performance centers check incoming vessel data from customers using the ECO Insight platform, providing quality control of the data and offering suggestions on potential improvement levers for both individual vessels and fleets, such as identifying speed loitering and over-usage of auxiliary engines or boilers.

Through ECO Insight, our customers can control more than 50 parameters of the ship operation at any time, get alerts when there are deviations from approved baselines and then check them. And at the same time, we compare

performance data against the overall market segments. We help our customers operate their fleets more economically by enhancing their efficiency and making them more environmentally friendly.

What kind of factors are you monitoring for the world fleet and for your customers?

For the world fleet, we monitor speed, speed profiles, consumptions of the main and auxiliary machines, operational profile and bunker quality. For the 1,500 ships of our customers, we also monitor all relevant performance indicators, e.g. draft, growth, use of auxiliary machines and boilers or the state of main machines. We can also calculate the consumption from the speed profile and the master data of the ships. The “state” of one’s own ship can be derived by applying the benchmarks.

In a nutshell, things are moving fast in the digital arena, and we need to accept that today’s perspectives might soon be rendered obsolete. These rapid changes will require the ability to adapt from all involved. And while the changes are driven by technology, people will be key to success. Building a culture that starts to augment “experience” with data-centric perspectives, onboarding, and building and retaining capabilities to handle, analyze and interpret data will all be central building blocks of any organization’s successful digital transformation.



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Why is Using Smart Technologies Significant in the New Era?

Efficiency; Industrialization's 4th Dimension

By: Sarah Zeinalzadeh



**USING THE INTERNET,
WE CAN MAKE THE
CARGO SMART IN
THE SOURCE, AND
LOCATION DATA
BASE**

It is generally agreed that the 20th century is the century of industrialization: the century when each piece of industrial development drove human life toward higher efficiency and the century when the development of industry was synonymous with welfare. Based on this, the 20th century witnessed two devastating wars; but having put it all behind it, mankind commenced to pursue a better life and a more promising future; and to do so, he sought to an element that was a creation of its own: An element that was invented by mankind and it was considered to be the achievement of human life on Earth.

This unlimited use of industrial production power to develop better societies drove mankind to exploit the nature and its resources in a non-regulated manner; however, what satisfied the 20th century man was peace and tranquility, which was created by a non-peak economy. In other words, industry and production were the driving force behind welfare and prosperity; and the outcome of such welfare was boosting the economy, which was man's one and only demand. Accordingly, countries began to move toward industrialization (i.e. development) based on their economic power and their share of the world economy.

With the arrival of the new century, the paradigm of mankind's welfare and prosperity was still defined within the borders of development in its industrial sense; nevertheless, this time, industry was redefined in an innovative framework. While the term

industry was exclusively used to refer to certain fields such as machineries, oil and petroleum and transportation in the olden days, the modern definition of industry was not merely confined to hardware, and tended to encompass software and human soft life, as well. Admittedly, in the light of a shift in man's soft life as well as opting for different approaches, development came to be considered synonymous with industrialization; yet, here, industry was used in a far broader sense than it formerly used to be.

Along with encompassing a wider scope of fields, 21st century industry became widespread. That is to say, science and technology is being shared to facilitate development in every corner of the world. Hence, although industrialization and industrial revolution were totally western concepts, industrial development was spread worldwide in the early years of the new millennium. It could



thus be argued that the entire process of industrialization revolved around the axis of globalization; and if it were not, it had at least been heavily influenced by it.

In the light of digitalization, the concept of speed, which was deemed as the most significant parameter of development in the 21st century, was gradually replaced by a new concept called “efficiency”. Therefore, the industrial insight, which was formerly translated as an insight into mass production

and exploiting resources, was transformed by the paradigm shift that the rise of software brought around. This paradigm shift altered the concept of mass production to efficient production. After three eras of industry based on steam machine, industry based on fossil fuels and industry based on mass production machineries; this time, a new era began; industry based on digitalization. This phenomenon was entitled “The Fourth Industrial Revolution”.

In the view of these changes,

the *Fourth Industrial Revolution* Conference was held in Tehran for the 3rd time in the past 11 months, and it pursued sharing information and knowledge as its main objective. Encompassing on a variety of topics for synergy, this conference was an attempt to discover how smart technologies could be implemented in Iran, and what infrastructures and grounds are required to do so. Meanwhile, educated and knowledgeable human resources were recognized as a noticeable privilege for Iranian community.



THE CONCEPT OF SPEED, WHICH WAS DEEMED AS THE MOST SIGNIFICANT PARAMETER OF DEVELOPMENT IN THE 21ST CENTURY, WAS GRADUALLY REPLACED BY A NEW CONCEPT CALLED “EFFICIENCY”

Delineating different eras of industrialization in different societies, Razavi stated that Iran failed to keep up with the world’s industrialization trend and could not complete the industrialization chain due to diverse political and security conditions; yet, today, Iran can rely on its well-educated human resources and its well-established connections move steadily toward the 4th industrial revolution.

Just at the time when the 1979 Islamic Revolution occurred, Razavi continued, the world was on the threshold of shifting to the 3rd phase of industrialization, whereas Iran was only paving the grounds and infrastructures for beginning the 2nd phase. The resumption of the revolution and the 8-year war imposed on Iran by Iraq were two main reasons why Iran could not keep up with the universal industrialization trend. Another reason for this, Razavi added, was the reconstruction of the country after the war and catering to people’s needs. He expressed that as the war ended, the reconstruction commenced, and people had numerous basic and consumption-oriented needs that had to be met. Therefore, Iranian governments could not rapidly retrieve the conditions of steady industrialization growth. Another paramount deterrent was the imposing of soft and hard sanctions on Iran, which played a crucial part in delaying Iran’s return to normal industrial development.

In the end, he asserted that the lifting of the sanctions and the reestablishment of ties with other nations is an unparalleled



Fourth Industrial Revolution: Injection of Science to Industry

The director of Iran’s Institute for Trade Studies and Research (ITSR) and the executive secretariat of the *Fourth Industrial Revolution* Conference, Mohammadreza Razavi, emphasized the necessity of entering the 4th phase of industrialization in his speech in the aforementioned conference, and asserted that 4th industrial revolution means injecting science to industry, through which both production and services could be optimized.

opportunity for Iran at the moment. Today, in the light of recommunicating and reconnecting ties with foreign nations in terms of science and industry, Iran has a unique chance to use its full domestic potentials and move toward the 4th industrial revolution (i.e. digitalization) at full throttle. This move might be a strong suggestion at the moment, but will definitely be an inevitable step in the upcoming years; and it would be appreciated if governments endeavor to make it happen.

Well-Educated Human Resources: Iran’s Strong Suit

The next speaker in the *Fourth Industrial Revolution* Conference was the director of the European Project Leaders (EPL) non-profit organization, Pedro Alexandre Sousa. He elaborated on a number of points regarding the use of smart technologies in today’s world and regarded Iran a country that enjoys exclusive privileges to walk down this path. Considering young and well-educated human resources to be excellent potential merits for Iran, Sousa added that today, the role of using machineries and natural resources in industry is fading away, and this paradigm shift means that overly exploitation and exhaustion of natural resources is unethical. He emphasized that the importance of establishing international connections for Iran, and continued that Iran can rely on its human and scientific capitals, and rapidly move toward digitalization by preparing

the grounds for scientific and technological synergy.

Resistance Economy: A Basis for Entering 4th Industrial Revolution

In another speech, the chairman of Policy Making Council at the *Fourth Industrial Revolution* Conference, Abdollah Jasbi, classified Iran’s scientific development trend to several eras. Posing the questions “What achievements have been made from 1979 to 2016?”, Jasbi classified the trend of Iran’s scientific and industrial accomplishments to three eras, and asserted that today, Iran has reached self-reliance as a country which possesses science.

The first era, Jasbi continued, was the time when we initiated producing science and educate our human resources; in the second era, we moved toward industrialization and mechanization; and today, we have to rely on our scientific possessions and move toward digitalization.

Jasbi asserted that today, the conditions for Iranian community to flourish and thrive are more prepared than ever, and added that establishing universities in each and every corner of Iran and the establishment of infrastructures were the valuable measures that were taken to promote education ; Currently, Jasbi stated, Iran has a proper rank in the universal science production.

In the end, Jasbi redefined resistance economy, and considered it to be significant grounds for reaching the 4th era of industry. Resistance economy,



IRAN HAS A UNIQUE CHANCE TO USE ITS FULL DOMESTIC POTENTIALS AND MOVE TOWARD THE 4TH INDUSTRIAL REVOLUTION (I.E. DIGITALIZATION) AT FULL THROTTLE



according to Jasbi, is comprised of 4 elements of knowledge base, innovative industrial manufacture, entrepreneurship and network economy. Relying on these 4 principles and its human resources, Iran can adapt itself with the world's current paradigm and move toward the 4th industrial revolution.

Efficient Economy: The Achievement of 4th Industrial Revolution

Later in the aforementioned conference, several entrepreneurs and activists in the field of digital technologies gave speeches, and each speaker defined the concept of digitalization from the angle of

his own field.

The first speaker was Prof. Claudio Cenedese from Electrolux Company, who started his speech by posing the question "How can the 4th industrial revolution help us?", and counted two major challenges the world is currently facing: The rapid growth of population, and the non-sustainable use of economic resources. By the latter, Prof. Cenedese meant that today's economy is linear, in such way that it consumes mineral material and produces garbage. Given the current condition, however, the resumption of this trend is no longer feasible. He continued that today, the economy and

consumption conditions should move toward recycling and efficient use, so that the wastes could be minimized and the environment gets preserved and protected.

Stating that economy is a cycle which is capable of being recreated and is constantly creating added value, Cenedese said that so far, companies' paradigms were the mere attainment of possessions and properties; in today's innovative world however, their priority has shifted to producing trackable products that could be used for a long run. This new trend owes its feasibility to digitalization. According to Cenedese, digitalization is not a matter of difference between zero and 100; but the digital revolution that is currently happening will earn over 1.8 trillion dollars by 2030.

The next speaker was Prof. Carlos Roji from Barcelona School of Economics, who opened his speech with the question what the 4th industrialization is. He stated that using large data, the Internet of things, and 3D printer technology all and all are the fronts of industry's 4th dimension.

Of course, all these instruments and technologies existed in the near past, yet the only difference here is the element of speed. Therefore, I would like to use the term "transformation" instead of "revolution". In his view, the main purpose and outcome of the innovative digitalization approach which is currently happening is boosting efficiency. An increase in efficiency, he added, drives us toward the



USING LARGE DATA, THE INTERNET OF THINGS, AND 3D PRINTER TECHNOLOGY ALL AND ALL ARE THE FRONTS OF INDUSTRY'S 4TH DIMENSION

optimization of chain supply. He continued that the 5th generation of Internet, which is known as the Internet of things, will pave the way for things to be able to talk to each other and enable us to transfer data simultaneously. The speed through which data could be transferred has created a special possibility for mankind today. In the end, Roji asserted that flexibility and tolerance against defeat are two necessary pillars of any transformation in general and the entrance to the 4th industrial revolution in particular.

Nahid Arman, a member of Peugeot-Citroen Research, Development and Future Planning team, was another speaker who discussed the essential requirements for designing automobiles for 2020 market. Announcing that Peugeot corporation is a pioneer in this regard, Nahid asserted that the mind-bending pace of technological changes in today's digital world drives us toward being smart day after day; and considering this, we have designed future Peugeot cars relying on three elements of customer-relatedness, automobile-relatedness and new competitors.

Raising Wealth from the Future

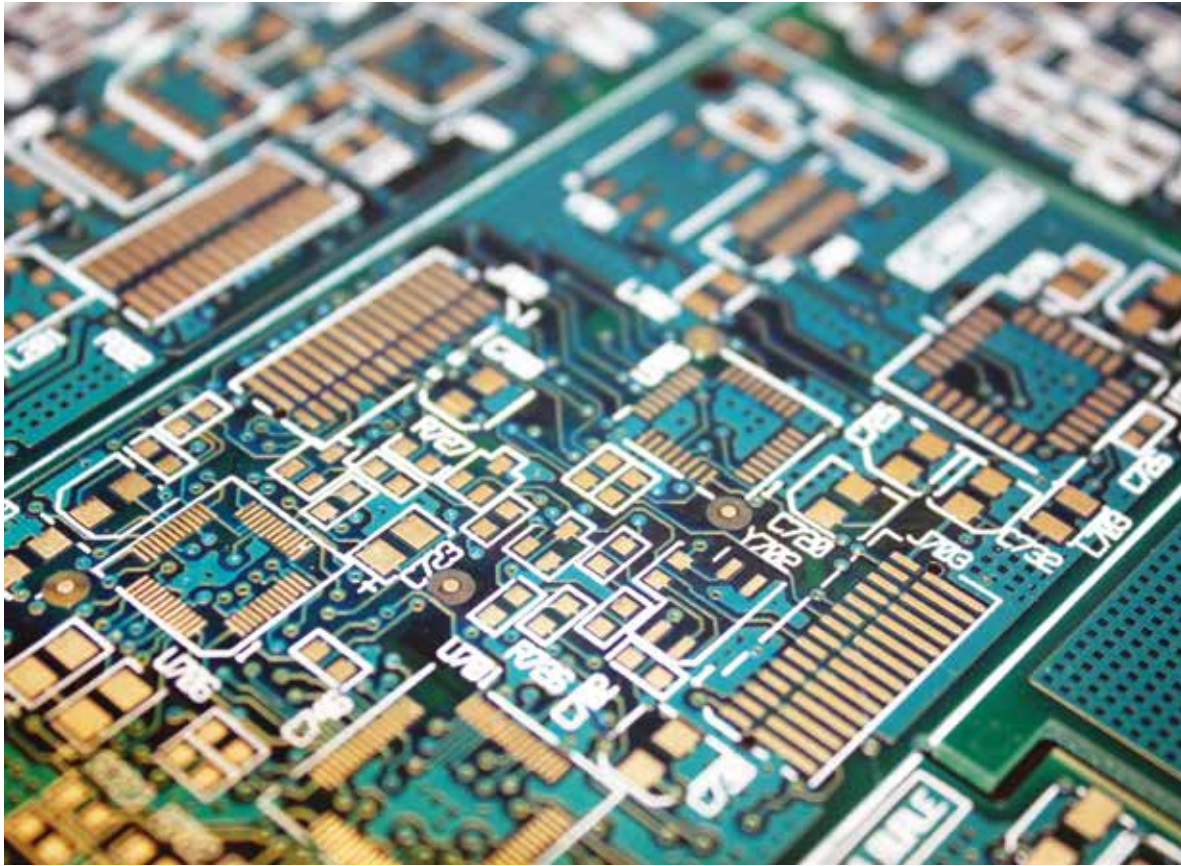
In the closing ceremony of this conference, Iran's former Telecommunications and Information Technology secretary and the current chief of staff to President Rouhani, Mahmoud Vaezi, pointed out the necessity of digitalization

to prevent from economic and scientific losses.

Making a reference to the conditions of digitalization in the past decade, Vaezi expressed that the past 10 years witnessed a rapid growth in technology and this growth exerted extensive impact on everything. If we accept that the world had three industrial revolutions in the past, the gap between the first and the second revolutions was over a hundred years, and the same was the case between the second and the third revolutions. Besides, when industrial revolution occurred in a country or a region, it took a long while for that revolution to make its way to other corners of the world. Today, nonetheless, things are moving forward far more rapidly, and as well, any piece of technological transformation that is ignited somewhere does make it round the world in the blink of an eye. Therefore, if these transformations are not observed, followed and studies by Iran's elites on the horizon of their emergence, we would fall behind.

Vaezi continued that today, of all the technological and scientific fields, Information and Computer Technology (ICT) is altering at a brisk pace; hence, many countries have transformed their macro views in the past decade and have settled on ICT as the propeller of their development. On the other hand, they have empowered ICT so that they could extend rapid changes to the other sectors.

If today, we have the luxury of talking about 4th industrial revolution, Vaezi asserted,



we own it all to the recent developments in ICT sector, which have resulted in the Internet, artificial intelligence, and Internet of things (5G), and could be effective in all sectors, including what is being called industry here today in this gathering. Emphasizing that the Internet, virtual world and ICT have been able to exert practical impacts on people's lives, Vaezi pointed out that ICT has also been effective in economy, culture and industry. He regarded artificial intelligence, the Internet and communication networks as the basic infrastructures for industrial transformation.

Vaezi added that the requirements of expanding business in ICT have to regulate first, and only then, we can enter these new

areas. To do so, collaboration of industries, private and public sectors and all the key players in this field is required. Vaezi also proposed that expanding ICT-based businesses need various requirements, such attention to the market, implementing clarity, absorbing domestic and foreign investors and special attention to human resources and creating job opportunities. This field has the potentials to create less expensive employment. Vaezi considered digital literacy to be a crucial issue and stated that we do need to enhance digital literacy among both the elites and the common public, given that technological transformations are the infrastructures of 4th industrial revolution. Another crucial issue in the field of ICT, according to

Vaezi, is the Internet of Things (IoT). He asserted that IoT has received substantial funding and investment in different countries and currently, approximately 10 billion things and humans are connected to the Internet. It has been prognosticated that this figure will rise to 50 billion by 2025, which suggests that the majority of transformations in work and life will occur within the realm of Internet. This is a dramatic transformation, which alters our view toward the Internet and ICT activities. In the past, people's possessions created wealth for them; but today, it is people's ideas that lead to platforms and hence the wealth. Vaezi also expressed that no longer are insurance and banks regarded as the top 10 world

firms wealth-wise, and their positions have been taken away by firms that deliver platforms, software and ideas – namely Google and Microsoft. All these are signs that remind us if we intend to enter the 4th industrial revolution we need to alter our approach, because our traditional ones do not work.

Vaezi made a reference to large data bases and expressed that companies which are capable of collecting data for organizations are the ones that possess a huge wealth. That is because they are the ones which make the decisions and investments, and it is the data at their possession that creates the wealth and prevents crises. Furthermore, he said that the 4th industrial revolution has both positive and negative outcomes, and that is a natural phenomenon. According to Vaezi, raising the effectiveness of the resources, promoting efficiency, fostering the quality of life, constructive impact of the environment, low cost of offering services, higher safety, better logistics, more demand for memory and bandwidth, changes in the jobs and skills markets, creation of new businesses, designing things that are connectable to IoT, and an increase in digital services are the plus points of 4th industrial revolution. On the minus side, however, Vaezi counted violation of people's privacy and asserted that the issue receives a lot of attention in the conferences and seminars held by international telecommunications union. A lot of talk has been made as to how governments could prevent

the problems that virtual world creates for their people.

Since two years ago, Vaezi announced, a committee has been formed in Iran's Information Technology Research Center, which concentrates on research into G5, IoT, and any infrastructure that 4th industrial revolution needs. We have welcomed this revolution, and even in some cases, we have prepared the grounds for it. Today, country planners must be committed to build up on the created grounds and to develop the 6th five-year development plan based on these grounds. After this conference, Vaezi recommended, all the ICT activists in universities, research centers and the Organization of Budget and Planning should enter this field with this novel view: Either we do really want it and we benefit from the privileges of the 4th industrial revolution, or we delay and just like the other 3 revolutions, this 4th one will be imposed to us as well.

Using Smart Technologies and Shipping Lines

Given the discussions and arguments put forward above, it could be concluded that today's world seeks efficiency and speed; thus, it is further based on digitalization than ties in trade and economy. Hence, it could be perceived that we need to move toward making and using more smart transportation vehicles to accelerate transportation operations. This way, the principal goal of the technology, which is further welfare, could be accomplished. In other words, utilizing smart software



and hardware in transportation operations, particularly in maritime means, can be remarkably effective. As a case in point, using the Internet, we can make the cargo smart in the source, and location data base, we can enable the customers to see the location of their cargo at any time. Besides, the same process can noticeably shorten the ports and customs processes when discharging the cargo, and hence accelerate embarking and disembarking operations. Another common use of smart technologies in shipping, which does not have a complicated



structure, is booking the container ships. The nature of arranging containers on a ship is complicated and demands an advanced engineering process. Nevertheless, electronic systems that are based on trial and error enjoy an accurate controlling structure, and constantly return to their errors and fix them. Using these smart technologies can substantially reduce the risks and losses stemming from poor engineering in container arrangement.

Smart technologies could also solve the issue of space in maritime transportation and

ports.

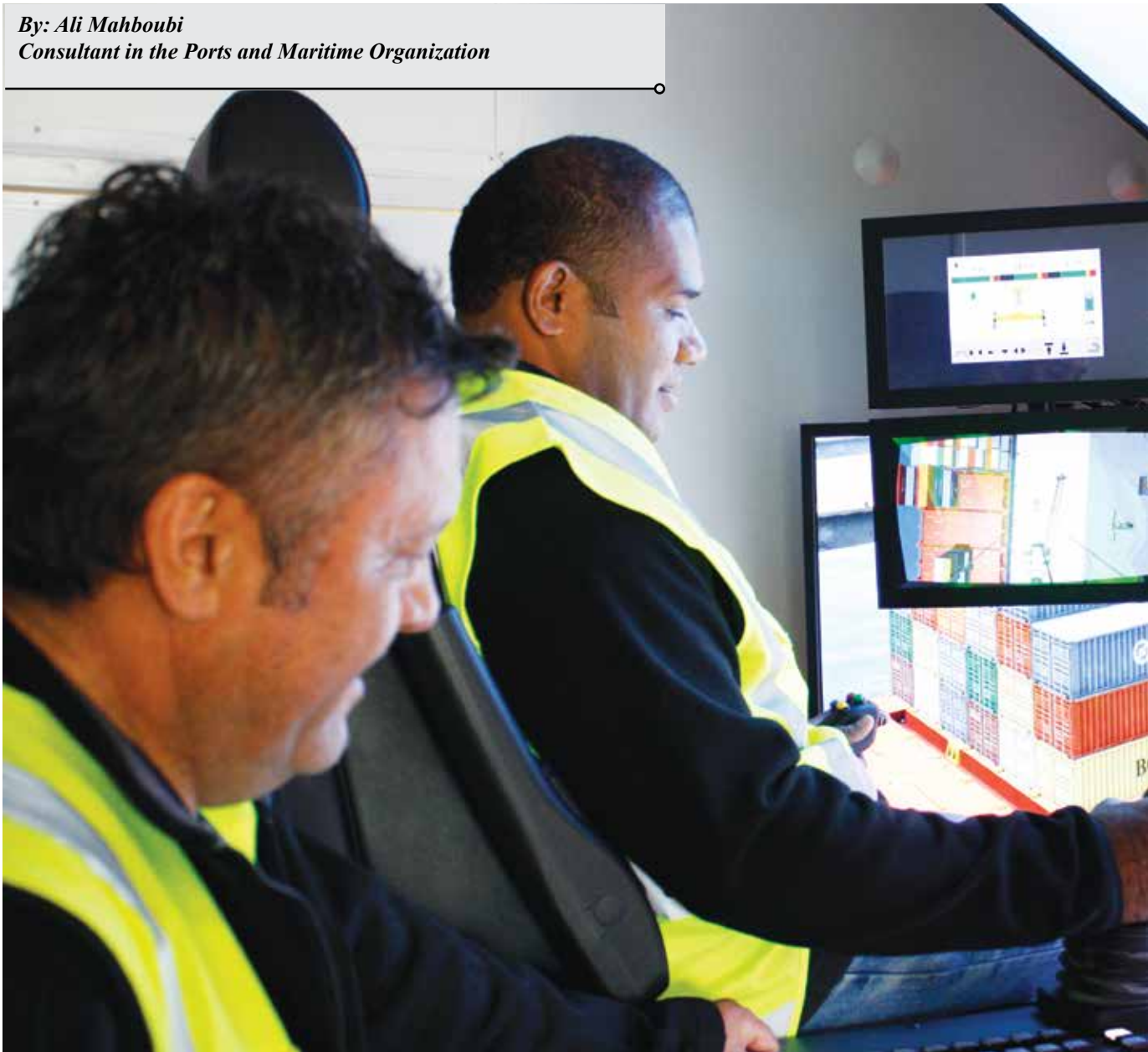
If we consider time to be dependent on place, and revisit Newton's theory of time today, we would perceive that time and place do not have a direct relationship. Rather, using digital instruments, we can define time over place. For instance, one of the most common obsessions of port managers regarding embarking and disembarking is the space. Hence, ports are always pictured as vast places off-shore. But the digitalization and the process of identifying cargos' destination via IoT enable us to join ports to other

means of transportation and carry the disembarked cargos out of the port immediately after they are disembarked. This way in the near future, we can hope to be able to build ports in any part of the shore, without worrying about the size and place.

What was just discussed is only one small part of the powers that the 4th industrial revolution brings about to propel today's economic prospects. In case of gaining more knowledge and paying more attention, the will come that humans live via simple clicks only.

Port Automation Musts

*By: Ali Mahboubi
Consultant in the Ports and Maritime Organization*



In the last few decades, Information Technology (IT) has had significant effects on the position and performance of societies, organizations, and individuals. Meanwhile, their fate has become tied increasingly to technology more than before in parallel with the significant advances in this area. It is evident that in such a situation, the identification of IT's effects on processes is of greater importance.



The shipping and port services industry as the most influential ones in international trade is no exception to such developments and changes. In fact, those involved are always seeking to provide better, faster, and cheaper customer services through technology. The manufacture of larger vessels that can carry more goods per trip and the growing demand in international trade have increased the importance of using new technologies in this area. With the increasing growth of shipping industry, it is necessary to improve the existing practices to provide faster, more accurate, and more secure services in the industry. Therefore, it can be expected to see smart vessels in docks in the near future. Such up-to-date vessels will be equipped with modern smart navigation systems. Consequently, the ports hosting them will need equipment and facilities in order to be connected to such giant robots for receiving information on, for example, docking time, wharf location, and so on. A smart port may be a port without the presence of human factors and operators. In such a situation, all operations

and equipment are managed automatically and without the intervention of human operators. However, what was mentioned is not all the potentials of smart ports, which is basically covers the use and analysis of information to increase the speed and accuracy in port operations. In such a port, the port authorities can accurately plan the docking of vessels with the information recorded, share them with the port operators, or provide the trailer drivers with the information on the location of the cargo and container in the warehouse and premises, or monitor the port and terminals with real-time information on operations, or even track a bill of lading or location of a container from any point. The above mentioned are only the fundamental actions that could be supported in a smart port. One of the most common approaches adopted in the world's largest ports is automated port facilities or port automation, through which all the operations are performed and controlled with the least human intervention in a remote control room. When a vessel enters the port, smart systems start

to operate with the plans using sophisticated mathematical algorithms for carrying out the cargo operations. According to the plan, those involved and responsible take actions, e.g. they go where the vessel is docked at a specified time, receive their cargo, and carry it to a specified place. This planning involves several parameters such as arrival or departure times, unloading place, traffic flow, transport route, weather conditions etc. If one of such factors is not properly determined or there is no correct information on them, the planning becomes problematic. Hence, there are many factors involved in port automation such as information systems, information collection methods, collection level and information flow, related organizations, type of smart equipment, port infrastructures, and so forth.

When there are many software systems in communication with each other for the production of information at different levels, it is necessary to first consider the flow of information, the production amount, and the information accuracy. Accordingly, if it is possible to completely share the port operation information with the various factors involved in the port operations and easily connect different systems without information complexity, it will be a successful step in the automation of the port. Otherwise, it will cause higher complexity and sharper slowdown in port operations.

The automation of Iranian ports has always been among the major goals of the port



WITH THE INCREASING GROWTH OF SHIPPING INDUSTRY, IT IS NECESSARY TO IMPROVE THE EXISTING PRACTICES TO PROVIDE FASTER, MORE ACCURATE, AND MORE SECURE SERVICES IN THE INDUSTRY

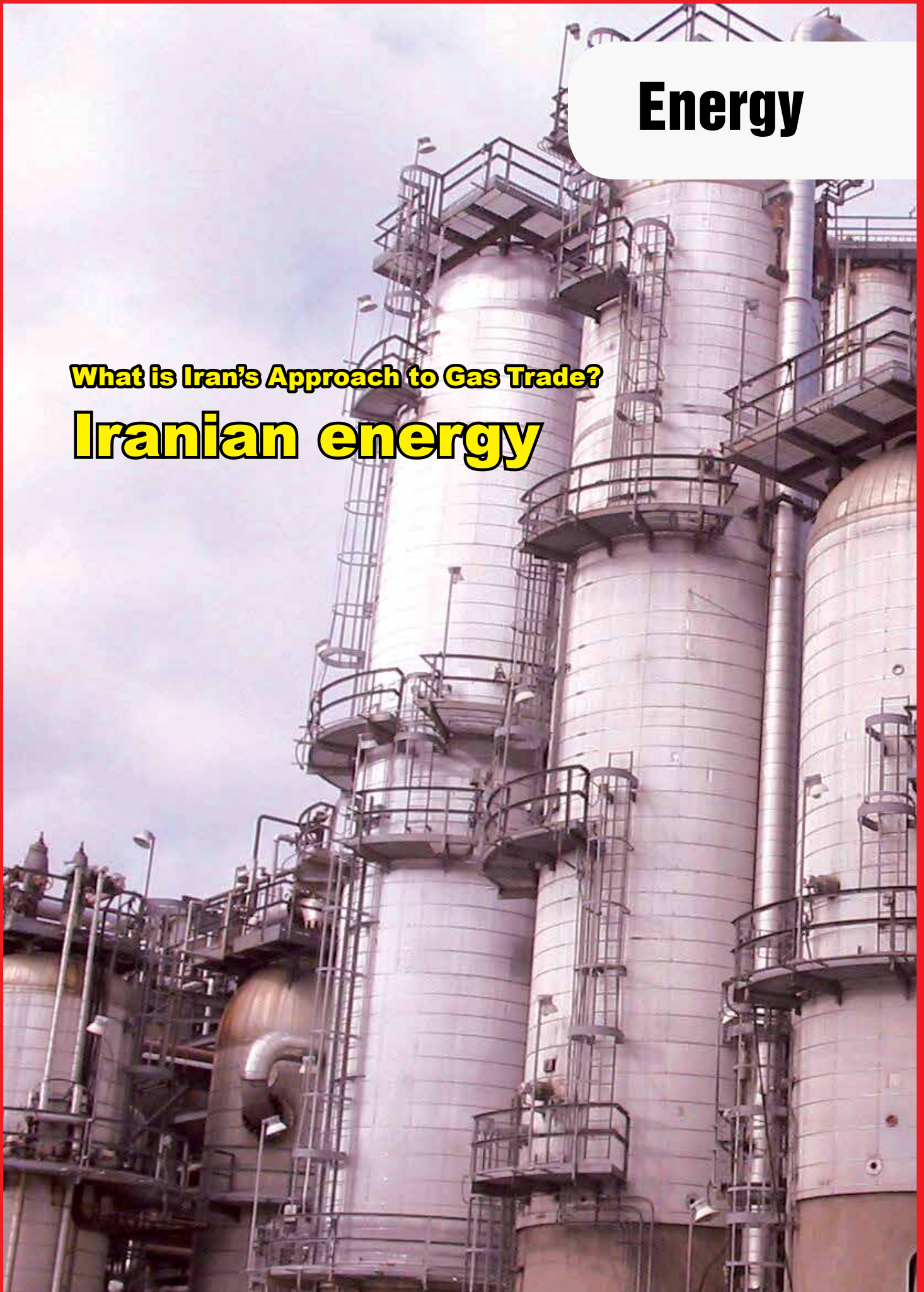
managers. In the past years, they have made great efforts to achieve the goal. Recently, various software systems have been launched by Iranian experts in the ports. With regard to the increasing growth of technologies in the world and the exploitation of such technologies by international trading partners, such considerable efforts make it possible for the Iranian port industry to update itself with global developments in order to provide better services for the global customers.

Given the above and the development of technologies such as the Internet of Things (IoT), big data, blockchain, smart equipment, and suchlike, the Iranian ports need to create the necessary conditions for interacting with such global technologies in the coming years. We need to develop port infrastructures including the hardware and software systems to deal with such great developments and changes in the near future. There will be information integration in maritime trade with the development of blockchain-based databases. Furthermore, there may be none of the existing text-based manifest information management systems in shipping lines. Smart containers, smart vessels, internet-connected equipment, and other elements all will be the technologies used by our global trading partners to improve their businesses. Therefore, we need to be prepared for providing port services for future smart vessels. In other words, we need to be prepared for using newly-distributed databases in maritime transport.

Energy

What is Iran's Approach to Gas Trade?

Iranian energy



Lights and Shadows of Iranian Gas Trade

By: Hoori Ghassemi



Due to her special geographic situation Iran has throughout history played an active role in trade. With 17 land and sea neighbors and with easy connection to Central Asia and Europe as well as access to the Persian Gulf, the Oman Sea and the Caspian, Iran has the potential to have an effective role in energy trade.

However, this is not what occurs in practice. While last year British Petroleum published a report, in which it was stated that Iran has 34,000 billion cubic meters (BCM) of gas reserves or equivalent to 18.2% of the total

gas reserves of the world, and is considered as the owner of the largest reserve, the share of this country from the total gas trade was only 2%.

This is under the condition that the mid and long term plans of Iran greatly stress the need to increase this share. For instance in the year 2025 Iran must attain an 8% share of the global gas trade and must increase her gas exports to 2,000 million cubic meters (MCM) per day within the next 4 years.

The important note in this midst is that Iran has no problems as far as volume of gas production

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IRAN APPEARS TO BE SET TO TAKE BACK HER SHARE OF THE TRADE IN THE GLOBAL GAS MARKET WITH AN ACTIVE DIPLOMACY





is concerned occupying the 4th place in the world in this respect. Nonetheless, although Iran has 1% of the world population, from the point of view of consumption, it occupies the third place after Russia and the United States. This is a major obstacle in the trend of Iranian gas export.

On the other, in addition to depending on the two parameters of amount of production and domestic consumption, the volume of export is also the outcome of level of foreign demands and political and trade relations.

The amount of production is affected by the amount of reserves as well as the amount of investments on development and discovery of new fields. In recent years Iran has been able to increase her gas production by operating new phases of the

south Pars.

As for domestic consumption, with the completion of gas supply to villages, cities and power plants the domestic market seems to be saturated and with the launching of the remaining phases of South Pars the gas need for export will be available.

However, the nuclear sanctions imposed on Iran undermined the possibility to foster effective trade and political relation with the world and this led to a drop in foreign demand for Iranian gas.

Now with the Joint Comprehensive Plan of Action (JCPA) and the lifting of sanctions, Iran appears to be set to take back her share of the trade in the global gas market with an active diplomacy.

It should not be forgotten however that in spite of these

issues, Iran has an active gas trade with her neighboring countries and looks to expand it. We will introduce the Iran's trade partners in the next section.

Turkey the oldest destination for Iranian gas export

With the increase in gas production during the mid nineties, attention was drawn to export markets for gas. The first moves were taken in the year 1996 by Iran and Turkey, whereby according to a 25-year contract, Iran would export 30 MCM/day of gas to turkey.

With the signing of the agreement, the executive works on the gas pipeline began in both countries and finally in the year 2002 the Iranian gas reached Turkey. However, it did not take long for disputes to arise on the price. Despite the two countries' negotiations, the

dispute was taken by Turkey to the International tribunal. In the year 2005, Turkey deposited her first claim against Iran on the price, but this was not the end of the story.

Following the claim, the court finally issued a ruling after 4 years to reduce the price of gas exported to Turkey by 12.5%.

Again in the year 2012, Turkey raised a claim against the price and the quality of the Iranian gas, maintaining that due to the low quality of the product, a 25% fine should be imposed on Iran, while demanding a 37.5% reduction in price as well, because, according to the claimant, the price of Iranian gas was higher than the price of other exporters to Turkey. It should be mentioned that if this claim was successful as the first one, it would have implied a 62.5% decrease in the price of gas exported to Turkey.

Of course in this claim the Iranians had the upper hand, because as far as the quality of gas was concerned, there were no ambiguities whatsoever, and the first claim, which included a 25% fine, was rejected outright. However, as the other exporters had in recent years broken their prices, Iran was mandated to reduce the price of the gas exports to Turkey by 13.3%.

The important point in the gas exchange between Iran and Turkey is that in spite of the two countries' differences on price and quality the gas never stopped flowing in the pipeline and Iran has always been a reliable partner for Turkey and has ensured the latter's energy security.

Gas exports to Europe, maybe another time

In fact the gas export to Turkey was launched with a greater ambition of accessing the larger and the lucrative market of Europe. Nevertheless, in spite of the win-win business prospect with Iran being the best source of gas export to Europe, this business has still not taken off the ground after all these years. As mentioned based on the initial studies to reach Europe the Iranian gas was first exported to Turkey reaching the 10 billion cubic meter per year mark in the year 2010, which was in fact the figure considered for the export of gas to Turkey. Thereafter, the plan consisted of transferring 30 billion cubic meter per year of gas in 2020 to Europe from this pipeline, but due to various events such as the Iranian sanctions of the past few years, the insecurity caused by the presence of ISIL in Iraq and

Syria as a possible route studied for export of gas to Europe, the fluctuations of oil prices, the uneconomic prospect of exporting gas by pipeline as well as the halt in the construction of LNG plants in Iran, this will not be actualized until the year 2020, because to export gas from Iran to Europe the current pipeline must undergo alterations, which are not possible in the short term. The second route considered for the export of gas from Iran to Europe cannot be executed at the present junction. In this course, which was considered in the year 2011, after going through Iraq, Syria and Lebanon, the Iranian gas would reach Europe from the Mediterranean seabed. However, in the light of ISIL presence and the insecurity at some regions of Iraq and Syria, the possibility of implementing the plan was foiled. Of course after the end of conflicts in these countries the relevant studies may be relaunched, but this is also time consuming and will not be realized until 2020. Moreover, in the past few years the political issues and nuclear sanctions eliminated any hope for negotiations with the European states and undermined the marketing activities for gas exports.

On the other hand, although after the Ukrainian crisis, Russia threatened to cut off gas supply to Europe, still 30% of the European gas demands are met by this country. Therefore it would have been simplistic to think that the disputes between Russia and Europe would open up opportunities for Iran in the European gas market. Furthermore, thanks to the





ALTHOUGH THE PRESENCE OF IRAN IN THE EUROPEAN ENERGY MARKET CAN ENHANCE THIS COUNTRY'S NEGOTIATING POWERS AND REDUCE THE PROBABILITY OF RETURN OF SANCTIONS TO A MINIMUM

Shale Revolution and the self-sufficiency in gas production, the United States of America has also started its export to the green continent. These issues have brought the European market, which until a few decades ago was in dire need of gas fuel, to the limits of saturation making the entry of Iran in this arena much more challenging.

Given these factors, the focus on Europe as an important market for Iranian gas is still on the agenda, but it no longer constitutes the priority for gas exports. Furthermore, since the costs of gas transfer and transit from Iran to Europe are at times twice the costs of imports from Algeria and Libya, greater diligence is required in decision making to enter this market. Although the presence of Iran in the European energy market can enhance this country's negotiating powers and reduce the probability of return of sanctions to a minimum.

Iranian gas lights up Baghdad nights

Iraq can be considered as the second true customer for the Iranian gas. Negotiations for gas exports to Iraq began in the year 2009 to reach the gas produced in South Pars via Kermanshah border to the Baghdad's Al Sadr and Al Mansooreh Power plants to produce electricity.

Finally and after many hesitations about exporting gas to Iraq, the delays caused by security problems in this country as well as the initial failure of Iraq in opening L/C, with the removal of these obstacles the gas exports to Iraq began in the evening of June 21, 2017.

Accordingly with a daily export of 7 MCM to Baghdad, Iraq became the second country among the Iranian gas export destinations to succeed in receiving this clean energy. This is at the time when before Iraq, Turkey was the only foreign customer for the Iranian gas.

According to the schedule in the contract for Iranian gas export to Baghdad, until the end of the 1st year of the contract the daily volume of gas exported to Iraq amounts to 7 MCM. In the meantime the Iraqi power plants prepare themselves to receive the Iranian gas, the volume of which will increase to 14 MCM in the second year. The next step involves increasing the level of export to 25 MCM in winter and 35 MCM in the summer of the third year. This volume of export will be maintained during the three remaining years of the contract. Since Iraq has a hot climates, greater energy is required for cooling installations during warm seasons and for this reason the export of gas to this country will increase during summers.

The important point of this contract is its short period. The contract for export of gas to Iraq is for six years, whereas most contracts for export of gas through pipeline have long term basis.

One of the reasons for this short period is Iraq's exploration of the Kurdistan region for gas, which the country hopes to achieve in six years' time and become independent of imports from Iran. Of course there is always the possibility to extend the contract after its completion. The contract to export gas to

Baghdad power plants is not the only one for the export of Iranian gas to Iraq. Another pipeline extends from Ahwaz to Khoramshahr and Shalamcheh to ultimately deliver the gas produced in the South Pars fields to Basra in six months' time.

This contract was signed in November 2015. The Iranian gas export to Basra will begin with a daily volume of 5 MCM and will ultimately reach to 30 MCM per day.

Although Turkey is currently the biggest customer for the Iranian gas, but with the actualization of the 2 contracts for export of gas to Baghdad and Basra, Iraq will gain this position, because with the full operation of the gas pipelines to these cities, the final volume of gas exported to this country will amount to 40 – 70

MCM per day, and in this way Iraq leaves Turkey behind.

Oman's intervention to export the Iranian gas

It was 4 years ago when Iran began negotiations with her strategic partner in the region, i.e. Oman to export gas to this country.

These talks finally led to the signature of a 25-year contract, whereby Iran will export an annual volume of 10 BCM of gas via a seabed pipeline.

Given the objective of using the free LNG capacity in Oman the gas exported from Iran in this contract will be liquefied.

Although the two countries are determined to implement the contract as soon as possible, one of the most important obstacles in the execution of the pipeline

to date is the UAE's opposition to laying pipes in its territorial waters, and for this reason, despite the lengthening of the course, Iran and Oman decided to execute the pipeline in the free waters.

The estimations point out to the start of the gas exportation in the year 2018, with an initial daily export volume of 10 MCM.

Peace, a pipeline to nowhere

Iran has always announced her neighbors as the priority for gas exports. However, most of the southern neighbors of Iran have substantial oil and gas resources. Therefore focus is on neighbors, which depend on imports to ensure their fuel needs. With a population of close to 200 million, and without any access to hydro-carburant resources,





**INIA
ANNOUNCED
HER
REQUIREMENT
FOR THE
IRANIAN GAS
WITHOUT
HOWEVER
ACCEPTING
IT TO PASS
THROUGH
PAKISTAN**

Pakistan could constitute an important market for the Iranian gas exports.

On the other hand Pakistan is also the gateway to the Indian Subcontinent and the south Asia. This led to a plan proposed by Iran in early 2010's which was later dubbed as the Peace Pipelines.

According to this plan a 2700 km pipeline would deliver 150 MCM of gas per day from South Pars to India. The share of each country was also specified. India would receive 90 MCM per day and Pakistan 60 million.

The important point in this agreement was as the Peace Pipeline was connected to the largest gas field in the world, which was at a short distance to India it could ensure a reliable and sustainable gas supply for that country's development and be the most economic means of gas supply required by India. However, due to security reasons and political differences with Pakistan as well as pressures exerted by USA, India withdrew from the pipeline.

Later on, India announced her requirement for the Iranian gas without however accepting it to pass through Pakistan. The proposed solution was to construct a pipeline on the bed of the Oman Sea to the Indian Subcontinent. This plan was welcomed at first, but remained only at the initial studies level.

On the other hand India's withdrawal happened while Iran was considering China as the third beneficiary of the pipeline, targeting the western provinces of China as potential customers for the Iranian gas, because the use of coal is still common in

these regions, a practice, which in addition to higher economic costs entails environmental pollution and therefore the supply of low cost and clean fuel could make China a strategic customer for the Iranian gas.

Of course, after the exit of India the idea of the pipeline was not abandoned entirely. After India's withdrawal another agreement was signed between Iran and Pakistan. The initial contract for export of 21.5 MCM per day of gas to the Gwadar Port in Pakistan was signed in the year 2008. According to this contract Iran was to open up the gas valve to her eastern neighbor in April 2014.

However, this did not realize. Although it is years since the gas export pipeline from Assalouyeh to Iranshahr has reached the border, no action has been taken to date from the Pakistani side, and despite their insistence on implementation of the plan, they do not take any practical steps in this direction.

The unfortunate situation is that the Peace Pipeline, which had begun with accurate studies, is in a three-decade stalemate with India and Pakistan not keeping their end of the bargain and no gas is being exported toward the eastern neighbors.

Turkmenistan, the unfaithful gas partner of Iran

In addition to gas exportation contracts, Iran has other types of contracts in this sector with her neighbors.

The most important agreement was the import of gas from Turkmenistan to ensure the fuel needs of the cold seasons. The contract was signed in

the year 1996 and the imports began in 1997. According to this agreement 40 BCM of gas would flow annually to Iran.

However, contrary to Iran being reliable partner of Turkey, in these years Turkmenistan proved that it could not be trusted and at the coldest days of the year closed up her valves towards Iran with the pretext of price hikes.

The first occasion occurred in the winter of 2008 when in spite of the unprecedented cold in the country, gas importation from Turkmenistan came to a halt, at a time 6 provinces in Iran depended on Turkmenistan for their fuel security.

This action by Turkmenistan has been repeated a number of times over the past few years, which ultimately ended in the gas supply cutoff on the threshold of winter. This time again the Turkmen closed their gas valves on the pretext of the price, but since Iran had got used to their

unreliability, alternative routes for gas supply were foreseen and in fact Iran no longer needed gas from this country.

This unethical behavior of Turkmenistan prompted Iran to consider alternatives routes for the supply of gas from the south of the country to the northern provinces. The latest action taken in this context was the operation of Damghan – Neka pipeline.

Iranian gas for Armenian power

The Iran – Armenia gas barter is another example of such contracts. According to this agreement for each cubic meter of gas Iran received 3KW/h of power from Armenia at the border between the two countries and this amount has now increased to 3.2 KW/h.

The gas – power barter trade between Iran and Armenia was signed in the year 2004 and became effective in the year 2009. The contract period is 20 years.

Currently on average more than 1 MCM of natural gas are exported to this neighboring country via Noordooz border, for the purpose of which a pipeline of 30 inches in diameter and 113 km in length running from Tabriz to Armenia was constructed.

This quadrilateral contract was signed between the National Gas Export Company and Tavanir on the Iranian side and the Erevan TPP and a power Company on Armenia side to facilitate the delivery and receipt of power. To date gas is being exported to Armenia according to this country's needs and cooperation with this country on exportation of gas is ongoing unabated.

Of course the negotiations between the two countries point to the tripling of the amount up to the year 2018 reaching the 3MCM mark.

The important note in the contract with Armenia is that this country can serve as an





IRAN TAKES DELIVERY OF 350 MCM/YEAR OF GAS FROM AZERBAIJAN AND INSTEAD DELIVERS THE SAME AMOUNT OF GAS TO NAKHICHEVAN AT JOLFA BORDER

effective gateway for the export of Iranian gas to other countries such as Georgia. Last year Iran conducted negotiations with Georgia to export gas to this country and in the case of obtaining the relevant agreement this action will take place via Armenia.

SWAP deals in full swing in the north

SWAP deals are among other types of Iranian gas contracts. SWAP means receiving a product at a border point and delivering the same type of product at another. Although in recent years Iran has suspended her oil swap deals, gas SWAPs continue on in the northern borders.

The first gas SWAP contract was signed in the year 2004 with Azerbaijan and became effective in the year 2005. According to this agreement, Iran takes delivery of 350 MCM/year of gas from Azerbaijan and instead delivers the same amount of gas to Nakhichevan at Jolfa border. This agreement is for twenty

years and despite an interruption lasting for few years, it has been relaunched.

The second gas SWAP deal in Iran concerns the SWAP of Turkmenistan gas with Azerbaijan. According to this contract, Iran swaps close to 3MCM of natural gas from Turkmenistan to Azerbaijan.

Neglect of the lucrative LNG market

In addition to the markets in neighboring countries, Iran must seek an entrance in the larger and further countries, where it is not possible to access by pipeline.

It is therefore necessary for Iran to put the development of gas liquefaction plants on her agenda to facilitate gas storage and shipment to distant destinations. Previously through the operation of the First Phase of South Pars in the early decade of the millennium, focus on liquefying gas plants or LNG plants was put on agenda, according to which LNG plans including the Persian LNG, Pars LNG, Iran LNG, North Pars LNG, Golshan





LNG and some other smaller plans with a capacity of about 70 million tons were considered. Nonetheless all the Iranian LNG plans have been suspended. Despite the definition of these plans, Iran does not produce LNG and this has led to the failure in having an effective role in the international market, which would be appropriate to her gas reserves.

The slowness of Iran to interact with the outside world and to invest in the vital national project comes at a time when the present LNG production capacity of Qatar, as the most important gas partner of Iran in South Pars, has increased to such an extent that this country alone accounts for the 30% share of the global LNG export market.

Of course with the return of international corporations and foreign investors, Iran can regain her true position in the

international exchanges quickly and enter the global natural gas and LNG markets as an effective actor.

On the other hand, the level of energy consumption in Iran is very high. For this reason and despite the considerable increase in the production capacity with the recent operations of South Pars' new phases, we have not witnessed a proportionate increase in the Iranian share of the gas export market.

The problem lies in the fact that the growth rate of gas consumption in Iran has always exceeded the speed of production, and no matter how much the gas production has increased the domestic consumption has also grown due to the extension of network at different regions of the country. In fact alongside the foreign political and economic reasons, the high domestic consumption

has slowed down the trend of gas exports.

Currently the share of Iran from the global gas trade, including exports, imports, SWAP, transit and exchange with power is less than 2%, a share that in the light of the 33.3 trillion cubic meters reserve is not befitting for the country.

By optimizing and changing the domestic consumption pattern Iran is quite capable of delivering much larger volumes of gas to the export markets, in which case this country would be able to achieve her targets of reducing vulnerability in the face of economic sanctions, reducing the influence of global pressures and creating opportunities for future demands, through which Iran would be able to generate revenues from gas exports.



CEO of NIGC:

An Increase in Iran's Share of Global Gas Trade

By: Amirhadi Tajbakhsh



A world without gas and oil is a picture that has been imagined by numerous experts and specialists, yet, such a picture seems to be unrealistic in our today world, where these two sources of energy, particularly natural gas, supply a major portion of the consumed energy. Oil and gas currently constitute 54% of the energy consumed worldwide, and as the latest prospects released by International Energy Agency (IEA) highlight, the total portion of oil and gas in the global energy supply will reach 50% in 2035, in the worst case scenario. Thus, dependence on these two energy sources will not be remedied any time soon. Better put, the world will not be rid of gas and oil for at least several decades.

Give the current daily need for and use of Hydrocarbon resources, it seems that Iran's reservoirs and its geographical location are in such way that no country could simply give a pass to Iran's oil and gas resources and its geopolitical position.

The history and experiences of the past 100 years, also, confirm that Iran's oil and its energy geography is the most important aspect of Iran's relationship with trans-regional powers. This is a historical chance that, after JCPOA, should be seized and utilized.

On the other hand, international studies highlight that Iran, currently, has the highest potentials among the Middle East countries to export gas to Europe, considering its large reservoirs and its strategic location. It has been speculated that by 2020, 30 billion cubic meters of Europe's natural gas will be supplied by Iran. Admittedly, this is a valuable potential for Iran to regain its lost share of the global gas market: a potential that National Iranian Gas Company (NIGC) is endeavoring in full throttle to turn into actuality. In order to delve into this further, Payam Darya Magazine set up an interview with the deputy oil secretary and NIGC director, Hamidreza Araghi. The transcript of this interview will be presented in the upcoming section:

As the opening of our talk, could you please brief us on the achievements of the past 4 years in the export section, as it plays a crucial role in Iran's future?

A: Actually, it is somehow impossible to discuss the achievements made in the past 4 years without an overview of the past and a prospect of the future. Considering the nature of NIGC as a company that offers services, work has always been flowing here, and accordingly, I could argue that NIGC is automatically stationed and moving forward on the path toward development.

Nevertheless, gas export is extremely complicated. This complication rises from the fact that each transfer line has its own contracts.

In President Ahmadinejad's administration, the management of gas issues in the international level had been dismantled and weakened; yet, ever since President Rouhani took office, we managed to extend our control and management to the contracts that were out of NIGC's control. As a case in point, along with Turkmenistan's contract that we already managed, the contracts for Armenia and Azerbaijan were also delegated to us. Furthermore, we managed to sign a contract with Iraq. What was even more important was that the new contracts were initiated, negotiated and signed by NIGC itself on all processes.



So you are stating that we were successful in the export of gas. Am I right? How successful have we been in this regard in the course of the past 4 years? What plans do you have for the next and the upcoming years?

In my opinion, yes. We have commenced extraction from the South Pars/North Dome common field. We managed to provide sufficient supply for domestic use, and only then did we think of export. Perhaps,

most encouragingly, Iraq was the most significant project that NIGC scored. Implementing the lines and exporting gas to Iraq consumed a large amount of our time and energy, given the complications in opening credits and technical issues. Nonetheless, it finally yielded good results, and despite all the issues ahead of us – namely pricing, security, the amount of exports, etc- NIGC's gas export to Iraq was commenced.

On the other hand, the best

grounds for Iran and Iraq's collaboration is the export of gas. In this regard, given Iraq's need of natural gas for power plant purposes, the idea of exporting gas to Iraq was proposed in early 2010, and negotiations began. The contract to sell gas to Baghdad was signed in this city on July 21st 2013, and the contract to export gas to Basra was signed in Tehran on November 11th 2015 by Iranian oil secretary and Iraqi deputy energy secretary.



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WE WERE ABLE TO MAKE THE GAS SWAP FROM TURKMENISTAN TO ARMENIA AND AZERBAIJAN VIA OUR CONSUMPTION MANAGEMENT. THIS WAS ONE OF THE PRAISE-WORTHY ACTS OF PRESIDENT ROUHANI'S ADMINISTRATION

I should also point out that the above-mentioned contracts could be deemed as the strategic policies of President Rouhani's administration (first term) in increasing exports. In line with these policies, Iran had already completed its side of the contract, and was waiting for the Iraqi party to get ready to open its valves. They did so a while back.

In fact, it could be argued that developing export infrastructures – such as implementing the sixth

cross-country gas transmission pipeline and installing gas pressure boosters on this line – are being vigorously pursued as part of Iran's comprehensive plans to increase its share in the global gas trade, particularly in export to neighboring nations. The progress of these plans could be seen in the increase of gas export, which has reached over the daily volume of 42 million cubic meters ever since export to Iraq commenced. The gas export plans for the next year,

however, are not independent from the already-devised plans. Accordingly, not only will export to the neighboring countries carry on, but the volume of export, also, will gradually increase, as emphasized in the related contracts.

Furthermore, swapping gas was also proposed by the NIGC for the first time. That is to say, Turkmenistan was interested in delegating the transfer of its gas to Armenia, Azerbaijan, Iraq, or Turkey to the private sector. We were able to make the gas swap from Turkmenistan to Armenia and Azerbaijan via our consumption management. This was one of the praise-worthy acts of President Rouhani's administration.

How do you assess the export of gas to Turkey in the light of the recent events?

The issue with Turkey revolved around a contract that was signed during the tenure of the previous president. Turkey claimed damages and compensation; yet, the solidarity of the staff at NIGC and strengthening NIGC's legal team led us to present an excellent and organized defense, we managed to win the first part of the case, which involved price damages. Turkey claimed 25 billion dollars in this part, and we managed to turn their claim into zero. Nevertheless, it is said that such a crucial act was disregarded and instead, the next part of this case was faced with unfair objections and criticisms. In the second part of the case, Turkey had claimed the damages of approximately 35 billion dollars since 2005. Yet again, we managed to reduce

this claim from 35% to 13%, and this shrank the claim from 35 to 1.9 billion dollars. It is fortunate that some political operatives still insist to display this case in another way.

Considering all the issues we discussed so far and the existing conditions in exports, where do you see the future of gas industry, as it has great potential to create jobs and drive the development? What type of management does the pursuit of the current trends demand?

A: I can paint a future picture of NIGC; yet I do not wish to generalize my views to all sectors of this industry. Obviously, I cannot make any speculations in the fields of oil and petro-chemistry since they each have their own settings and trends, and generalizing my perspectives to these areas would be complicated. But, as far as NIGC is concerned, I can break it to you that, at the moment, the ground is ready; and a sense of solidarity and collaboration rules over the company environment. Given all this, I can reassuringly assert that NIGC is moving forward at a proper and desirable trend, and unless political matters influence that, the current management style can paint a bright and promising picture for the future of NIGC.

As a case in point, with the same management style and the support of Oil Department, NIGC was able to successfully distribute gas to residences in all urban and rural areas using fuel replacement method. In doing so, not only was no



I CAN REASSURINGLY ASSERT THAT NIGC IS MOVING FORWARD AT A PROPER AND DESIRABLE TREND, AND UNLESS POLITICAL MATTERS INFLUENCE THAT, THE CURRENT MANAGEMENT STYLE CAN PAINT A BRIGHT AND PROMISING PICTURE FOR THE FUTURE OF NIGC

government funding used, but billions of dollars were saved by exporting the surplus of gas and its products (e.g. Mazut). These measures took place in President Rouhani's administration (first term), and they were unparalleled.

In your perspective, how could gas industry take over the oil, and turn into the main drive of development?

A: Well, long has passed since the position of energy resources has changed worldwide, and gas has established itself as a comprehensive industry, since it is a clean energy, and better than oil in all aspects. I had already



stated that the main difference between gas and oil is in their nature. By this I mean, we used to sell oil and our economy was dependent on that. Yet, now our economy is dependent on gas; that is to say, gas is actively participating in people's lives, production and economic development. Oil, however, did not do that. It was merely exported and its money was received.

Perhaps, all this oil money, which I would like to call "windfall", made us lazy, and caused that we do not use it efficiently. In the course of the past 5 decades when oil and gas money is injected to Iran's economy, no

matter before or after the 1979 Islamic Revolution, we have failed to save this money in a monetary fund, and utilize it to foster production, industry, technology transfer and other investments. Each government used this money the way it desired. Despite all this, gas is practically mingled with people's economy and welfare. People could simply not do without gas.

In my perspective, if there is no gas, there is no move in the economy. Oil is different. At times, our oil export increased and decreased, and our lives moved on; but we cannot afford to stop delivering gas

to people, factories and power plants. Therefore, gas is an active element in people's daily lives, production, economy and welfare. Distributing gas to urban and rural areas automatically brings economic development to those zones. Factories, small or big, will only be established in those zones when gas is distributed there.

Now, the final and the most important question is what should be done to prevent gas industry from ending up with the same scenario as oil?

In order for gas industry not to have the same story as oil, I believe that we must take up conservation as a serious strategy from today, and use gas efficiently with minimum waste. I believe we need to be committed to four elements of price, culture, technology and law. We should also think and act as though we do not have gas resources; and this will lead us to think of using other energy sources as well. It will drive us to start using sustainable energies. We should not wait for some years for our gas resources to end, and then commence using new energies. It would be too late and too expensive to buy technology for new energies then. Therefore, we need to act in that area now; now that gas brings us a flow of money and assists in people's welfare and economy. Only this way could we reduce our dependency on gas and oil, and answer this question: What do we do if there is gas no more?



An Increase in South Pars Production The Key to Iran's Gas Export

By: *Sahar Saeedian*



A growth in Iran's share of global gas trade is one of the main objective clauses of Iran's oil and gas industry in the 2025 horizon. In this comprehensive 20-year plan, which was launched in 2005 and we are only 8 years away from its ending point; it has been asserted that Iran must hold a 10-percent share in the global gas trade. Iran harbors world's largest gas reservoirs – approximately 34 trillion cubic meters of gas which constitutes 18.2 % of the world's total gas reservoirs – however, it holds only 1 % of the global gas trade.

It has been speculated that the global gas trade, which constituted 1000 billion cubic meters of gas in 2015, will be expanded to 1700 billion cubic meters in 2040, and in case Iran does not launch immediate plans and take immediate actions, other rivals will capture Iran's share of the market.

Indeed, in the growingly expanding global gas market, the first step that Iran must take to increase its share is to increase its gas production capacity. For this purpose, the Department of Oil set operationalizing half-completed phases of South Pars as its top priorities in 2013. Ever since then, the 12th, 15th, 16th, 17th, 18th, and 19th, 20th and 21st phases of South Pars have come on stream, increasing Iran's gas extraction capacity in South Pars/North Dome common field from approximately 280 million cubic meters a day in 2013 to 575 million in 2017.

This approximately 300-million-cubic-meter increase in gas extraction from South Pars/North Dome common field brought about a noticeable capacity for Iran, and enabled the country to devise and develop new gas export projects. This capacity was hence utilized to expand Iran's share of the global gas trade.



Iran's Share of Global Gas Trade Grows by Relying on South Pars Production Boost

The director of the International Affairs Department at National Iranian Gas Company (NIGC), Behzad Babazadeh, provided some explanation regarding the new capacities of gas extraction from South Pars/North Dome common field and its role in boosting Iran's gas export power. He stated that South Pars Gas Complex currently supplies 75 % of Iran's gas production, and increasing extraction capacity from this gas field should be our top priority.

Relaying on fostering gas production in South Pars,



Babazadeh stated, Iran has risen one step in the global gas trade, and it has managed to export gas to Georgia for the first time. To build up on this, we are considering export negotiations with farther neighboring countries. He also added that Iran has a gas surplus of over 60 million cubic meters on a daily basis, and this is an outstanding merit for export.

According to Babazadeh, Iran's surplus gas production could elevate its position in the global gas trade, and as well, establish better security between Iran and its neighbors. It could also be a great source of cash flow for the country.

In order to increase its share of the global gas trade, Babazadeh asserted, Iran must turn into the energy hub in the region. Besides, via domestic investment, gas must be turned into a product and the rate of raw gas sales must be reduced. On the other hand, Iran should export gas to the neighboring nations, to both establish security and maintain its security.

The Well-Managed Increase in South Pars Production in 4

Years

In an interview with our correspondent, the managing director at Pars Oil and Gas Company, Mohammad Meshkinfam, regarded focusing on South Pars Gas Field expansion as a noticeable achievement of Iran's government. He asserted that delays in extraction from any phase of South Pars would cause the loss of approximately 5 million dollars a day. Admittedly, South Pars/North Dome is a common field between Iran and Qatar, the less Iran extracts, the more the Qatari rival does. Considering this, and in order to attain the maximum national interest, the Department of Oil set completing the unfinished South Pars projects as its top priority and concentrated its maximum efforts on them.

According to Meshkinfam, in the light of setting these priorities, which took place in two major parts, Iran managed to increase its production in 4 years under full control, and currently, Iran's production rate has reached that of Qatar.

Emphasizing that enhancing gas extraction from South Pars/ North Dome common field is an



ACCORDING TO BABAZADEH, IRAN'S SURPLUS GAS PRODUCTION COULD ELEVATE ITS POSITION IN THE GLOBAL GAS TRADE, AND AS WELL, ESTABLISH BETTER SECURITY BETWEEN IRAN AND ITS NEIGHBORS



“

THE OPERATIONALIZATION OF THESE NEW PHASES, HE CONTINUED, WILL INCREASE IRAN'S GAS EXTRACTION CAPACITY TO APPROXIMATELY 800 MILLION CUBIC METERS A DAY, AND IT WILL PROMOTE IRAN'S TOTAL GAS PRODUCTION TO 1 BILLION CUBIC METERS A DAY



excellent back-up for supplying domestic needs and export, Meshkinfam asserted that the more gas the Department of Energy has, the more accurately and freely it could plan new gas export projects, and expand Iran's share in global gas trade. The development of South Pars is still in progress by completing and operationalizing the 13th, 14th, 22nd and 24th phases, Meshkinfam added. The operationalization of these new phases, he continued, will increase Iran's gas extraction capacity to approximately 800 million cubic meters a day, and it will promote Iran's total gas production to 1 billion cubic meters a day. Reassuringly, this production capacity will serve as an excellent for the stable export of gas to every customer in the upcoming years.

The Secondary Advantages of Expanding South Pars Gas Production Capacity

The managing director at Pars Special Economic Energy Zone (PSEEZ), Mehdi Yousefi, pointed out that South Pars plays a crucial role in supplying gas in Iran, and asserted that the completion and operationalization of the

prioritized South Pars phases in the past 4 years almost doubled the production capacity of these fields, increasing it from 270 million cubic meters a day to 570 million. This success, Yousefi continued, would not have happened if it had not been for the collaborative attempts and national determination in PSEEZ and the Oil Department.

Announcing that Iran's extraction rate from South Pars/North Dome common field has reached that of Qatar, Yousefi stated that having the same extraction rate as the Qatari rival had been a long-held dream for Iran, and it finally happened in the final days of President Rouhani's first term administration. We do hope that once the new phases of South Pars are operationalized, Iran's extraction rate exceeds that of Qatar.

Other than bring in a stable and abundant flow of cash for the country, the increased South Pars gas production could bring about invaluable economic, political and social advantages for Iran by being consumed domestically in petrochemical industries, or being allocated to expand gas exports, Yousefi remarked.





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Best wishes to IRISL Chairman and Managing Director, Board of Directors and staff members on The Happy Occasion of 51th anniversary of IRISL foundation.

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The Power of the Gas in the World Energy Trades



IMPORTANT IN MANY ASPECTS OF THE ECONOMY AND POLITICS, AND THERE HAVE BEEN MANY AGREEMENTS AND DISAGREEMENTS OVER THE YEARS SINCE IT WAS ANNOUNCED AND BEFORE IT



If the twentieth century is called “the Century of Oil”, surely this century will be “the century of gas”. At present, the share of natural gas from the world’s energy consumption is more than 23%, and projections suggest that by 2025 this figure will reach 28%.

In the coming years by 2035, demand for gas will have the highest growth among fossil fuels, and it will have annual increase of 1.9%. Meanwhile, the fastest growing demand and the most tendencies to it will be in Asia. This makes natural gas to improve its position from the third into the second largest source of energy in the world. Of course, half of this increased demand will be provided by conventional gases in Russia and the Middle East, and the other half will be covered by unconventional gases.

Nowadays, most gas (approximately 70%) is being transported by the pipeline in the world. The continents of Asia, Europe and Africa have the largest amount of gas trade through pipelines, and by this way, there is large expansion of

the gas network in these regions. However, in the gas export sector by pipeline, the Middle East has a very low share of 4.1%, and in this situation the large gas reserves such as South Pars Joint Field are located in this area.

On the other hand, the most important gas pipeline in the world is related to the export of hydrocarbons from Russia to Europe. In the past, Russia was the main supplier of gas to Europe, but in the recent years there have been defined alternative routes and pipelines to diversify Europe’s energy supply.

Even Russia itself has studied other pipelines to increase gas exports to Europe. Russia’s oil and gas pipelines are considered as the world’s largest network of pipelines.

Currently there are 10 strategic pipelines in Russia, out of which 8 are pipelines designed for export. From these pipelines, the five pipelines Yamal, Northern Lights, Soviet, Bratstvo and Nord Stream daily transfer almost 6 billion cubic feet of natural gas produced in Russia



through Ukraine, Belarus and the Baltic Sea to Eastern and Western European markets.

The other three pipelines include the Blue Steam, the North Caucasus, and the Mossad-Gazi-Magomed, transfer Russia's gas fields to Turkish and CIS (the Commonwealth of Independent States) consumers.

In the following paragraphs, there are some explanations of the most important gas pipelines in the world.

Yamal Pipeline

This pipeline starts from the Yamal Peninsula of Russia on the North Pole and through Belarus and Poland it reaches to Frankfurt on the border between Poland and Germany. The

4,000-kilometer pipeline Yamal-Europe (2,448 miles) has an annual capacity of transferring 32 billion and 300 million cubic meters of Russian gas.

Poland imports about 10 billion cubic meters of gas annually from Russia, which accounts for 70 percent of the gas needs of Poland. Furthermore, in recent years, the second phase of the Yamal-Europe pipeline has been considered to create a surplus gas transit capacity to ensure permanent Russia's gas supply to European consumers.

Nord Stream Pipeline

This 1224 kilometer long pipeline, passing through the bed of Baltic Sea and five countries' sea border, connects Vyborg in

Russia to the Greifswald port in Germany.

The project, which consists of two parallel pipelines, will transfer a total of 55 billion cubic meters of gas annually to Germany, which will also be used to supply gas for other Western European countries.

The Nord Stream project is important in many aspects of the economy and politics, and there have been many agreements and disagreements over the years since it was announced and before it.

In some cases, Russia's numerous challenges with gas transit countries (in particular Ukraine) in recent years and sometimes the discontinuation of gas, have led European

countries to consider alternative gas routes.

South Stream Pipeline

The two companies of Gazprom and ANI Italian-Based tried to build a pipeline with a cost of 10 billion euros to compete with the Nabucco pipeline to transfer Russian gas from the Black Sea to the southeastern Europe. This pipeline was an opportunity to eliminate the gas dispute because the South Stream did not cross Ukraine.

The purpose of constructing this pipeline was to transfer 31 billion cubic meters of gas annually from Russia and Central Asian countries without passing through Ukraine, and the predictions indicated that in the next stages the pipeline would have a capacity of 63 billion cubic meters per year.

Following the crisis in the Crimean Island, the EU declared its opposition to the Russian ownership of the South Stream pipeline, which was to transfer gas to southern Europe.

Reduction in crude oil prices and stringent Western sanctions made it more difficult than ever to finance Russian projects and use advanced technologies. These actions stopped the implementation of this project.

Turkish Stream Pipeline

Russia acknowledged in December 2014 that continuance of the South Stream gas pipeline on the other side of the Black Sea is not feasible, and a new project will be launched instead of this pipeline. The new project is known as the Turkish Stream gas pipeline.

After a while, the Russian

authorities began negotiating with their Turkish counterparts and promised them that if Turkey agreed to participate in the Turkish Stream project, the country would receive a 25.10% discount on gas imports from Russia.

The Russian Ministry of Energy has continued its negotiation with Turkey to maintain this project and justify the huge costs. By this way, it has agreed to build at least one pipeline of four planned pipelines with an annual capacity of about 16

billion cubic meters.

Turkish authorities also called for a guarantee from Russia to reduce the price of imported gas from that country. But, after the collapse of the Russian fighter near the Turkish-Syrian border in November 2015, negotiations between the two countries about the project were stopped. The negotiations resumed after the resumption of friendly relations between Russia and Turkey.

In the new agreement between the two countries, both sides received some concessions.





THE EU DECLARED ITS OPPOSITION TO THE RUSSIAN OWNERSHIP OF THE SOUTH STREAM PIPELINE, WHICH WAS TO TRANSFER GAS TO SOUTHERN EUROPE

According to the Russian Ministry of Energy, Moscow has pledged to pay a discount on its export gas prices to Turkey. On the other hand, Turkey has agreed to approve the construction of the second pipeline project of Turkish Stream.

Power of Siberia Pipeline

Russia will start exporting to China from 2019. It is supposed to export 38 billion cubic meters of LNG gas annually to China. Accordingly, the China National Petroleum Corporation (CNPC) agreed to accelerate its construction of the pipeline and the development of the market. In addition, the process of gas supply and its equipment will be handled to enable the project to be finished on appointed deadline.

China National Pipeline

This pipeline connects West China to the eastern regions. The eastern parts of China need more energy sources, and this pipeline is a safe route for gas supply. Besides, with start of gas exports from Russia to China, this pipeline will be a good route for gas distribution across China. It is expected that China's consumption of natural gas reach to 300 billion cubic meters per year over the next three years.

Nabucco Pipeline

In 2002, the construction of a pipeline from the Caspian Sea to Europe was considered in order to convey this region's gas to the green continent. Then, in 2004, its study was finished. The Austrian company O.M.V. is responsible for leading the



consortium of the project with the participation of Hungary's M.O.L. Group, Turkey's Botas, Bulgaria's Bulgargaz, Romania's TransGas and Germany's R.W.E. The main purpose of the construction of this pipeline is to reduce the dependence of European on supply of energy by Russia. Most members of the European Union and the United States support this project.

Bolivia Pipeline

In recent years, South America has emerged as one of the important region where industrialization is accelerating. Countries such as Brazil and Argentina have the largest share in the industrialization of the region, so these countries need more energy. Therefore, Bolivia transfers its gas to these two countries through the pipeline.

Although in recent years, the need of this country to gas make it not be able to provide enough gas for Argentina and Brazil. Therefore, with its growing need for gas this region will be the most important export destination, and since transfers by pipeline to these region cost a lot, it is anticipated that LNG trade will increase in there.

TAPI¹ Pipeline

TAPI pipeline is supposed to deliver Turkmen gas to Pakistan and India after crossing Afghanistan. This pipeline is a serious threat to Iran's gas exports, which will largely fulfil the need of gas from Pakistan and India.

On 13th December 2015, Leaders of these countries

1- Turkmenistan – Afghanistan – Pakistan - India



CHINA NATIONAL PETROLEUM CORPORATION (CNPC) AGREED TO ACCELERATE ITS CONSTRUCTION OF THE PIPELINE AND THE DEVELOPMENT OF THE MARKET





COUNTRIES SUCH AS BRAZIL AND ARGENTINA HAVE THE LARGEST SHARE IN THE INDUSTRIALIZATION OF THE REGION, SO THESE COUNTRIES NEED MORE ENERGY



(Turkmenistan, Afghanistan, Pakistan) officially commence the gas pipeline project between Turkmenistan, Afghanistan, Pakistan and India, called “TAPI”.

The length of the pipeline is said to be 1814 kilometers, including 200 kilometers in Turkmenistan, 735 kilometers in Afghanistan, and 800 kilometers in Pakistan, and from there it will reach to Fazilka district along the border with India.

The pipeline will be completed in December 2019 and the gas transmission capacity of this pipeline will reach up to 33 billion cubic meters.

Furthermore, there are other pipelines around the world that connect two or more countries to each other, such as Canadian gas pipelines to the US, African gas pipelines from the Mediterranean basin to Europe, etc.

The LNG giant wakes up

In the current situation, the

volume of natural gas trade with the pipeline is far more than LNG, and by the development of LNG industry’s technology in the world it is predicted that in the coming years the growth of this section will be far more than pipeline.

So, a large part of the gas trade will be fulfilled by increasing the supply of LNG and LNG production will increase in these years. Projections suggest that the supply of LNG will increase by 8% annually by 2020. As a result, by 2035, LNG trade surpasses the supply of gas through the pipeline.

Now, LNG’s share of the global gas trade is more than 30 percent, and 70 percent out of it relates to Asia. Of course, with US and Australian LNG exports, it is expected that Europe will be its customer in future.

As it was mentioned, Europe had already supplied most of its gas by the pipeline, but in recent months, the United States has shipped some LNG carriers to



A LARGE PART OF THE GAS TRADE WILL BE FULFILLED BY INCREASING THE SUPPLY OF LNG AND LNG PRODUCTION WILL INCREASE IN THESE YEARS

this continent.

The United States, which once was a gas importer itself, increased its production using unconventional resources and slowly emerged as an exporter. The United States Energy Information Administration (EIA) has predicted in its short-term energy forecast that the United States will increase its natural gas exports by the end of 2017 and grow its level to more than its import level. Now, the United States is the largest natural gas producer in the world, however by 2009, Russia was the largest natural gas producer in the world. Meanwhile, with the consideration of five new LNG projects in the United States, it is anticipated that the LNG export capacity of this country will increase significantly, and the country's liquidation capacity will be six times from 2016 to 2019.

By exploiting of LNG export projects which are under construction, the United States will soon become one of the three largest LNG exporters, along with Qatar and Australia, and in the near future U.S. LNG exports will increase and this country will be a threat for Russia in its traditional market. Of course, the effects of this incensement will not be limited to the European market, and in the near future the country will face lasting changes in Asia-Pacific and South American LNG markets. The United States has transported LNG shipments to countries such as the United Arab Emirates, Jordan, Portugal, Spain, Japan, China, South

Korea, Argentina, Mexico, Brazil, Taiwan, India, Egypt and Chile.

Despite the U.S. effort to play a role in the LNG market, these days Qatar with 32% of LNG production capacity is the market leader. In 2016, the country has exported 265 million tons of LNG.

In recent months, Qatar's conflicts with the Arabic countries have raised concerns about the collapse of the LNG market, but by passing time it has shown that Qatar has a strong position in this market.

On the other hand, the Australian government by heavily investment in LNG production and exports plans hope to become the next leader of the LNG market in the near future.

At the beginning of this century, the Australian LNG production capacity was 16.3 million tons per year, but this country is going to increase its LNG production by 2020 to 85 million tons.

Australia's first two LNG projects were launched in 2006 and 2012, and with the completion of seven other projects in 2017, Australia could surpass Qatar and become the leader of this industry.

Because of its high flexibility in comparison with the pipelines and the desire of its buyers and sellers, natural gas will continue to be the fastest growing energy market.

In the coming decades, the market situation will go towards more gas consumption, which of course by increasing production and supply will lead to lower fuel prices.

A Glance to Progress and Development of Iran in the Largest Gas Field in the World;

Increase of Production and Revenue in Both Sides of the Field

By: Abouzar Mansouri



Geographical location of Iran in comprising energy resources is such as that it not only has oil and gas fields within its borders but also possesses 28 oil and gas fields in share with its neighbor countries. The south Pars field which is the biggest gas field in the world has been utilized by both Iran and Qatar. Huge investment of its neighbor countries on these fields and their omission from protect-oriented production for keeping the fields survive; make us to have an effective strategic program in order to rectify backwardness in some of these fields. Planning conducted by Ministry of Petroleum in the middle of 1370s decade indicated that after 90 years Iran Energy Center would be shifted from around “Dare Khersoon” in Masjed Soleyman to a small village near Persian Gulf which had 300 inhabitants. It had been more than twenty years since the discovery of the world’s largest gas field by Shell and Agip in the sea-bed of Qatar, and from the beginning of the seventh government, it was supposed to compensate the two decades of lag in this shared section by planning and determining multiple phases. By this way, like setting up Abadan Refinery which was the biggest global refinery in that time, we could take advantage of launching the world’s largest energy complex in the coastal bar of Asalouyeh, Nakhil Taghi and Kangan.

Double Production of Qatar in Compare with Iran

Oil industry as the stimulus of the economy of Iran has played an important role in

the development, employment and economic growth of the country. In the past years, this importance was doubled because of sanctions against Iran, and after that this role has been obvious in different parts of economy and management of the country. Development of the south Pars field confronted with plenty of plans and unbalanced distribution of resources and management focus (without paying attention to gas production). These days, this field as the country’s energy pole is the largest center of industrial development and the main engine of economic development which could not only end the tragic years of supplying the country’s winter gas demand but also create a way for Iran’s entry into the global gas trade and play more effective role in this section.

These years, development of the South Pars gas field which is one of the most important joint fields, has taken attention from Iranian governors and policymakers more than before. Before the start of the 11th government, development of this field in the case of 10 phases of exploitation and 14 phases of expansion had been following, but intensifying sanctions, slowing down the process of supplying equipment, mismanagements, disturbing in the schedule of expanding sections, negligence of some contractors in the beginning of project, no prioritization, and concentrating equipment and resources for compensating delays of some phases instead of simultaneously allocating facilities to all phases; all were the main reasons for



WE COULD TAKE ADVANTAGE OF LAUNCHING THE WORLD’S LARGEST ENERGY COMPLEX IN THE COASTAL BAR OF ASALOUYEH, NAKHL TAGHI AND KANGAN



postponement in development of this joint field.

These conditions were occurring in Iran as Qatar produced 570 million cubic meters of natural gas daily. In comparison, the share of Iran was only 270 million cubic meters of natural gas daily from this shared resource.

The importance of this issue has led the 11th government to prioritize plans for the development of the joint field of South Pars and despite of exacerbating sanctions – especially in the first 2 years of starting the work of new government - Ministry of Petroleum did its best in order to develop the projects and increase the exploitation of gas from this joint field. The first step was concentration on all available facilities to operate not completed phases as soon as possible. In this way, phase number 12, 15, 16, 17, and 18 were in development priorities.

By concentrating of existing capacities for bring 5 top priority phases into operation as soon as possible, economic recovery has been occurred in related industries from the pipe industry to the supply of large platforms. In any case, various executable activities in the development of south Pars field and performing various projects in the natural gas production chain from the depths of several hundred meters under the sea to the installation and construction of offshore platforms, implementation and installation of submarine pipelines, and construction of huge gas refineries and its subsidiary facilities, have made the huge number of different domestic industries activated in different parts of the country and have created job opportunities for many domestic contractors and skilled human resources. Nevertheless, the prosperity of implementing projects in different phases of the south

Pars field has become the status of economic development of the country.

Equivalence of production on both sides of the field

In practice, the attempts led to the fulfillment of Resilient Economy in the South Pars field. Production of gas which was 270 million cubic meters per day in the beginning of the 11th government (Hassan Rouhani's administration) in the gas field of South Pars, up to one year ago, it reached 430 million cubic meters per day by completing and setting up phases 12, 15 and 16, and part of phases 17 and 18. Furthermore, in the past year, with the completion of phases 19, 17, 18, 20 and 21 which were identified as developmental phases with second priority, this figure reached 570 million cubic meters per day. By this way, after 12 years for the first of share of Iran was equal to Qatar in producing gas from the South



MINISTRY OF PETROLEUM DID ITS BEST IN ORDER TO DEVELOP THE PROJECTS AND INCREASE THE EXPLOITATION OF GAS FROM THIS JOINT FIELD

Pars gas field.

The achievement of the equivalent capacity of the joint field of South Pars in comparison with the neighbor country, by reaching to 570 million cubic meters per day is one of the major achievements of the 11th government. Which itself indicates the increased in production capacity by approximately 300 million cubic meters of the total capacity achieved before August 2013.

In this case, the total gas production from the joint field of South Pars has been 596 billion cubic meters since the start of developmental projects before the 11th government, while only in the 11th state 516 billion cubic meters of gas has been exploited from the field. In the other words, the actual production of the last four years was equal to the total production of twelve years before it. The value of this increase in production over the past four years is over \$50 billion.

155 million and 200 million cubic meters of gas out of 516 billion cubic meters of gas produced from the joint field

of South Pars in the past four years, was produced in the last year. By registering this figure, the records of annual production of gas from South Pars field has been broken.

On 2015, the annual gas production from South Pars was 131 billion and 500 million cubic meters, which reach to 155 million cubic meters in 2016, an increase of 23.7 billion cubic meters, which resulted in the cumulative production of gas by Iran from the joint field reached 516 billion cubic meters in the last four years and reach 112 billion cubic meters over the life of the field on the Iranian side.

Increasing the supply of petrochemicals and removing concerns about domestic gas supply

The development plans of phases 17 and 18 of the South Pars, which started operation by the presence of the president in April this year, the daily production capacity of 56.6 million cubic meters of gas, daily production of 75 thousand barrels of gas condensate, annual production of 1.05 million tons

of LPG (Propane and Butane), annual production of 1 million tons of Ethane for the supply of petrochemical units, and daily production of 400 tons Sulfur; have added to the country's gas production. The production of these two phases has led to around \$ 1.5 billion of revenue for the country up to now.

The development plan of phase 19 is another development project of this joint field which started operation by the presence of the president on April this year. The production capacity of 56.6 million cubic meters of gas per year, 75 thousand barrels of gas condensate, 400 tons of sulfur, as well as annual production of 1.05 tons of liquid gas and one million tons of Ethane were completed in order to supply the petrochemical units during the last year. The products of this phase have about \$ 1.3 billion of revenue and value for the country up to now

The development plans of phases 20 and 21 of the South Pars, which started operation by the presence of the president in April this year, the daily production of 56.56 million cubic meters



THE TOTAL CAPACITY ACHIEVED BEFORE AUGUST 2013. IN THIS CASE, THE TOTAL GAS PRODUCTION FROM THE JOINT FIELD OF SOUTH PARS HAS BEEN 596 BILLION CUBIC METERS

of rich gas, 75 thousand barrels of gas condensate, 400 tons of sulfur, and annual production of one million tons of LPG (Propane and Butane), and one million tons of ethane for the supply of petrochemical units; have added to the country's production capacities and the total number of new operations was increased to 5 phases with a total capacity of about 150 million cubic meters of natural gas. The production of phases 20 and 21 has valued at \$ 1.3 billion up to now.

Another result of the increase in gas production capacities in South Pars could be the removal of concerns about domestic gas supply. In the beginning of the last year's cold season, Turkmenistan in an immoral action which was far from commercial ethics stopped exporting gas to Iran. Although this gas cut off was without any

prior notice to Iran, based on increasing production capacities in the South Pars gas field, we were able to survive the winter of last year without worrying about supplying the domestic gas.

Change the fuel of the power plants

More gas allocation to power plants and industries, which has led to a reduction in the consumption of liquid fuel in these units, has also been among other achievements in the development of the South Pars in recent years, especially in the past year. While in 2013, 45% of liquid fuel and 55% of gas were consumed at power plants, these figures were reached to 88% of gas consumption and 12% of liquid fuel in 2016. The consumption of 45% of liquid fuel at power plants meant to burn about \$18 billion worth



of fuel. It is equivalent to fuel which could make 18 billion dollars annually for the country by export instead of burning in power plant furnaces.

Signed an international agreement after years

The development contract of eleventh phase which is the edgy phase of this joint field and the only phase with no action of development was signed in July 2017 with the consortium of Total Company based in France, CNPCI (China National Petroleum Company International) and Petropars of Iran. Signing of the contract could generate \$80 billion of revenues over the next 20 years for Iran from this edgy phase of the South Pars Field, and it is supposed to produce \$56 million cubic meters of gas per day from this phase, which will generate \$10 million of revenues per day since September of 2020.

Altogether, during the last year, by completing and exploiting of phases 17, 18, 19, 20, and 21 of the South Pars gas field and achieving daily production of about 25,000 barrels of crude oil from the South Pars oil field, has raised the revenue by \$5 billion in addition to other revenues of operational phases of this field. The revenue generated in these phases was more than \$30 million per day during the last year.

Finalize the development of phases and natural discharge stage

Based on the priority of the last phase of the development of the South Pars gas field with natural depletion, phases 13, 14, 22, 23



and 24 are in the final stages of development. Until 2018, one billion cubic feet from each of these phases will be exploited, and in 2019 the development of 27 general phases (except phase 11) will be completed in the natural evacuation stage.

By the rapid development of South Pars, this gas should be utilized for exporting and supplying domestic demand, but transporting it from resources to destination could not be done by current distribution lines. With the completion of the sixth, eleventh and seventh nationwide lines, in the next four years, preparing of necessary infrastructure for transporting gas throughout the country for domestic consumption and export will be completed. Implementation of underground gas storage plans will also be a requirement for perfect network management

Sources: <http://www.pogc.ir>, industry and development magazine, PetroEnergy Information Network (<http://www.shana.ir/>)



THE PRODUCTION OF PHASES 20 AND 21 HAS VALUED AT \$ 1.3 BILLION UP TO NOW



Why was the first Iranian oil contract signed with total?

French Oil Giant at the Frontier Point of Iran

In July 3, a few days prior to the second anniversary of the agreement, the contract for the development of Phase 11 South Pars was signed by a consortium headed by Total in Tehran. Many see it as a symbol of the practice of passing the sanctions. Because not only it showed the immediate presence of one of the largest oil companies in Iran, it also greatly paved the way for banking transactions. In fact, the signing of the South Pars Phase 11 Development Contract with a consortium of over 50% of it is Total shows that the company as one of the most important oil companies in the world, apart from the limitations that remain with large banks, has come as the pioneer to work against the sanctions in Iran. And this could create a ground for the presence of other companies.

A contract that looked political rather than economic and instead of experts commenting on it, it raised the voice of the opposition of the government. The opponents to challenge the contract to make the achievements of the government diminished.

The same kind of political arts led to less attention to technical and economic benefits of the contract and this made the field more political so much that in a very rare case in the Iranian parliament, the three urgent plans for cancellation of contracts became the rumor but it did not come true due to the support and defense of Iran's Oil Minister Bijan Zanganeh. Therefore, in the Iranian oil industry complex, the need for those who are technically and functionally involved in South



Pars development and signing oil contracts was felt.

In this regard, Gholam Reza Manouchehri, the deputy director of the National Iranian Oil Company, discussed the new model of oil contracts and the contract for the development phase of the 11th phase of South Pars and said: In the Phase 11 contract, no particular privilege has been given; because sometimes it is said that we gave them credit to attract a big international company for the first time; but this is by no means the case.

Deputy Director of development and engineering at the National Iranian Oil Company stated that: Sometimes a mistake and issues about this contract occurs and surround but in any case, that foreign company has no control over our tanks and no authority over them and the National Iranian Oil Company will be treated as a regular consortium and future consortia.

Manouchehri, emphasizing that the presence of foreign companies is not a threat to Iranian companies, added: In

general, the arrival of capital and international companies to Iran and It does not mean getting an opportunity from Iranian companies and furthermore, there are many opportunities for Iranian companies and our experts in the oil and gas sector. Upstream development of the oil industry due to the high technology it needs results in the return of part of the distinguished experts of Iran who have migrated from Iran in recent years, in the form of activities and projects that Iranian exploration and production companies or international companies which work in Iran.

Unconditional Loan for Iran's Oil Industry

He said the capability of attracting foreign capital in the oil industry is incomparable with other sectors of the economy and added that: The uptake of capital in upstream projects in the new oil contract model without the guarantee of the government, the central bank and even the National Iranian Oil Company and does not add to the central

bank debt ceiling. The type of loan or financing that is being made in upstream projects is of great utility because there is no obligation to buy from the country providing the facility and in fact the loan is unconditional. Manouchehri pointed out the acceleration of project implementation as one of the strategies of the National Iranian Oil Company and noted: One of the problems we had in the past was slowness of plans and time along with qualitative problems and the great lack of benefits created for the country. Delay in South Pars has hit us tens of billions of dollars and its calculations are available; these are the realities that exist.

He emphasized that, in any case, the discussion of the maximum construction law (51%) was respected and the foreign company is committed and have to accounts for a total of 50 percent of the share of Iranian goods and services and stated: "Our goal is to improve the construction of the building, and so in the contract, in some cases, we announced it explicitly."

Deputy Director of Development and Engineering, National Iranian Oil Company, the investment of South Pars Phase 11 was \$4.8 billion, and explained: This investment will be done in two stages and alongside this investment, about \$ 1 billion is non-capital investment which is paid by consortium of insurance, taxes, government agencies and municipalities in Iran.

He added: So even when it comes to phase one of production of the total of these two parts in the first production phase reaches about

three billion dollars that we will begin to reimburse until then. So, in fact, if we add this to the contractor's revenue, which is a total consortium, we reach about \$12 billion.

Manouchehri continued: So this \$12 billion is not a consortium or total; about \$6 billion is the investment made inside Iran or the money paid to Iranian government institutions and what is considered as an income is \$6 billion and half that amount; and Of course, it is true by the end of the contract period meaning that, it will be true from the beginning to the twentieth year. If that amount is returned to its current value its current value will be much lower than this figure.

Manouchehri also said about the anticipation of a deal on the possibility of returning sanctions: In the 11th phase of the South Pars contract, we did not anticipate the issue of sanctions reversal; but if the working conditions were impossible, the

word "impossibility" was used where forecasts have been made. Deputy Director of Engineering and Development of National Iranian Oil Company continued: Each of the two Total or CNPC companies must submit the documentation to the National Iranian Oil Company and on the basis of that evidence it is clear that they really cannot continue to work in Iran. He said: "First of all, in the very difficult conditions that are anticipated in the contract; Total is set aside and the task of the project is assigned to CCPI and PetroPars and in the second step, if the CNPC Company has given its approval and official government letter and their government officially declares that the company is not capable of doing business in Iran, PetroPars will continue the project.

Manouchehri continued, considering that PetroPars had experience in implementing the project and part of the work has moved forward; meanwhile, all



plans, plans and information are available to the National Iranian Oil Company.

Deputy Director of Engineering and Development of the National Iranian Oil Company expressed his hope that never would have happened like this; So that the stopping factor is negligible and we can continue our work until the end. He stressed that if for any reason the work is stopped; and the contractor leaves the job in any situation, no funds will be paid to it and they have to wait until the project is over and after the completion of the work, it can take the sole of capital and in this stage, which is the second phase, nothing is paid as extra to him.

Regarding the history of bribes paid by Total and the concern about this record in Phase Manouchehri stated that: What is certain is that the National Oil Company is very sensitive about this agreement and future contracts based on the order that the government has approved and there's so much care that calls are official and furthermore, negotiations are recorded and followed by the CEO of the National Oil Company and the Oil Minister. The deputy director of the National Iranian Oil Company added: This partnership is done in the healthiest form and of course, we are not concerned about this, and the necessary security care has been taken in this regard. First of all, the contractor has made the necessary guarantees that nobody else should interfere outside of the scope of the negotiations in this contract. With the disciplines inside the



country and the disciplinary cases that Europe itself applies, evidently this contract is 100% healthy and we hope that this belief is correct too.

Localization of Technical Knowledge in the Shadow of Contract with the Total

In addition to the specialist issues underlined in the 11th phase of the South Pars contract, there are technical issues in the process which shows the importance of this contract and highlights the importance of signing the first oil contract with TOTAL. Construction of pressure boosting platforms is one of the most important of these because in future, the pressure of the South Pars reservoir decreases and that's why it's needed to get the right gas to use more powerful technologies. The transfer of know-how to the construction of these platforms can lead to appropriate perceptions in the South Pars complex.

In line with this, Mohammad Meshkin Fam, managing director of Pars Oil and Gas

Co., referred to the technical development issues of South Pars Phase 11, said: In the recent contract for the development of Phase 11, one of the main objectives is the acquisition of design education and the construction of pressure boosting platforms in the offshore section which currently does not exist in the country, therefore, after implementing it in a plan with the acquisition of technical knowledge and access to relevant technologies, its implementation in other South Pars projects will be based on scientific and technological knowledge and will be based on the ability of the Iranian contractors.

He added: Discontinuance of the long-term relationship between Iranian consultants and contractors with international companies and the day-to-day knowledge and technology of the day led to a decrease in the productivity and prolongation of the projects. Therefore, updating this knowledge and technology in the light of the presence of large companies is one of the

essential requirements for the development of joint fields, including the common area of South Pars.

Managing Director of Pars Oil and Gas, referring to the history of development of Phase 11 of South Pars, continued: The contract for the development of the 11th phase of the South Pars in the form of a mutually exclusive agreement with the Total Company was signed in 2006, but was not implemented. In accordance with the provisions of this Agreement (and other interlocutory agreements), Total had to make a business decision (FID) after conducting engineering studies. So, immediately after the contract was signed, basic and detailed engineering studies began in 2005 and completed by early 2007. Then, during the years 2008-2007 and during the commercial decision-making phase, Due to the sudden increase in oil prices and, consequently, the rise in prices for goods and services, a proposal to increase the amount of Phase 11 development project from the French company to the National Iranian Oil Company was presented and during the negotiations, due to the introduction of new international sanctions against Iran, it was virtually impossible to continue the cooperation of Total with Iran.

He said that after this, the National Iranian Oil Company signed a contract for the development of Phase 11 with the National Petroleum Corporation (CNPC). Therefore, the statement that the 16-year-long suspension of the 11th

phase of the 11th phase of the South Pars was due to the failure of Total Co., is not correct. Despite many criticisms of the new model of oil contracts, one of the benefits of these types of contracts is compared to unconnected contracts is to remove the business decision step. And so after the signing of the contract, the right to withdraw from the contract due to the lack of economic justification of the plan has been denied.

Meshkin Sham referred to the possibility of transferring Iran's information to Qatar by Total, adding: At the moment, Total Co. has no consultancy contract for the South Pars field study with the National Iranian Oil Company and contract negotiations. The Phase 11 development plan has also been implemented using information and studies of the BIP 2006. On the other hand, due to the conclusion of a confidentiality agreement, the necessary legal arrangements are foreseen if any information regarding the Iranian section is shared.

He stressed: "Also, it's due to the number of digs already done in both areas of the field, especially in the border section, as well as significant amount of information is obtained. Both Iranian and Qatari parties have accurate reservoir models with the ability to predict reservoir behavior and, consequently, planning to optimize the development and production of this field which causes the need for the parties to be less sensitive to the availability of rival information. The evidence of this claim is the current reservoir

model of the South Pars gas field built by Iranian experts which is part of the northern dome field (Qatari Square), which can be evaluated as well as the effect of the development and production of Qatar on the performance of South Pars gas field performance.

The managing director of Pars Oil & Gas continued: Consequently, it is reasonable to believe that the Qatari side also possesses a considerable amount of information from the descriptive and production wells of the northern dome field have fully understood the field's performance and its impact on the conditions of development and production of the common



border area of the South Pars field. Therefore, the discussion of issues such as the planning of Total Co. to obtain the Iranian side data and use them to change the balance of production to the benefit of active companies in Qatar, is not acceptable without technical support.

However, the information available to Total Company, even after the development of Phase 11, is limited to Phase 11 information. Given that the production of the opposite diameter block of this phase is carried out by rivals of the Total company at the North Dome Square, at least the concerns related to the possibility of misuse of this information will

also be resolved. He pointed to the lack of \$ 5 million in each phase of South Pars in a day and said: At present, the remaining six phases are currently worth \$ 30 million per day and, in total, about \$ 50 billion is due to delays in exploiting this unpopular joint area.

Meshkin Fam continued: at the moment, the non-prosperous phase of 11 South Pars, which is equivalent to two standard phases, A daily \$10 million was spent on maintaining national interests and preventing the loss of capital and in order to prevent the South Pars field from falling over the next few years, it would be necessary to take advantage of the experience and technical

knowledge of an international company and our suggestion to the National Oil Company was that Iranian contractors should be able to take advantage of the experience and technology of one of the international companies in the development of at least one of the South Pars phases to take steps to produce other phases, in the years to come with the modeling of the company's approach. For this purpose, after all the principle of the agreement between the National Oil Company and foreign companies, Total was the only company that seriously signed the contract. The transfer of technology and capital to Iran and the testing of one of the Iranian companies during the contract is only part of this benefit for Iran.

The contracting party can also benefit from the oil and gas situation in Iran. The foreign side of the contract can also benefit from the oil and gas situation in Iran, and will receive its revenues according to the contract. Since this is a bilateral agreement, the interests of both parties must be taken into account in the implementation of this agreement and, therefore, one can not only emphasize the interests of Iran. An outside party does not cooperate if it feels that it cannot derive its interest from a commercial contract.

Finally, it is necessary to note that the South Pars Phase contract with Total, CNPC and PetroPars, regardless of the political steps taken to eliminate the sanctions imposed, enjoys some positive non-flashing technical issues. Paving the way for other big companies to step in Iran again cannot be overlooked.





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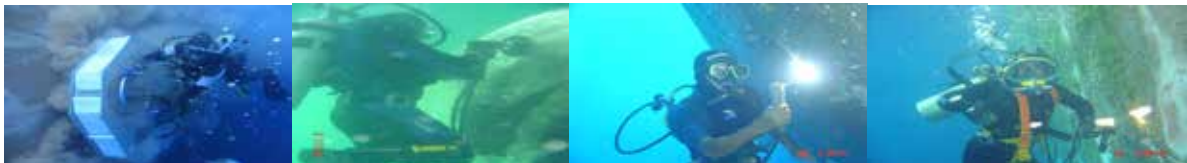
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World

Is Angela Merkel Making a Hegemonic Change in the World?

Economic Policy or Political Economy

A Report on Germany's Distinguished Role in Modern European Politics:

Welcome to the Post-modern Superpower World

By: Siamak Karimi



For those who do not yet believe, in the heart of history, there is a strange, mysterious and contradictory flow, a comparison of the past and present of Germany can be very effective. Who could have believed that the Germans who had returned to the prehistoric world with two world wars, and disrupted the order of the world and of course Europe were now the most serious defender of order and stability. Today, it is not unreasonable that opponents of European Union say that the union has become virtually a foreign branch of Germany and in particular its economic policies.



Halfcentury after the emergence of the European Union, it has now been clear for all that the Germans are the guarantor of the union's life. Their tendency to protect the most important regional constituent of the world is as if they consider themselves morally obliged to compensate their past. While in some of the Europe's most important countries, Political currents opposed to the European Union have been fortunate enough to gain power,

but in Germany, most major political currents consider themselves to be in favor of the union. For this reason, according to some analysts, parliamentary elections in Germany will again result in victory of the parties who are considering extending the credibility of the European Union. Why did the Germans gain such a privileged role in the European Union? What advantages do they have for their policies which encourage them to make it smarter?

Welcome to the postmodern superpower world

Hannah Arendt, the famous German philosopher, wrote in an analysis of the rise of Hitler and his totalitarian movement in Germany, because a significant difference between this country and other superpowers of the world in the emergence is such movement. In her opinion, Germany, unlike the powerful powers of the era, lacked a colony, and the additional



GERMANY DEFINE POWER AND INFLUENCE IN EUROPE BEHIND THE POWER AND INFLUENCE OF ALL THE COUNTRIES OF THE CONTINENT

workforces who had lost their positions by the imperialist mode of production were inevitably left within the country. Those who were ready to say yes to any radical political thought, and they simply got fond of Hitler and created the “totalitarian movement” in Germany.

It may be necessary to remember that the meaning of Arendt’s analysis was not that if Germany, like the colonial governments of that time, had the colony, it would not have been the Second World War, but essentially she wanted to prove that under the political, economic and Social conditions, how “self-neglecting” makes human beings to attract to any “false paradise” promise in the form of political ideologies.

However, half a century ago, the difference between Germany and the superpowers of the world was a catastrophic experience for the world and Europe. But this time, it seems that the difference has been the emergence of a phenomenon different from the bloody past for Europeans. The

fact is that the Germans want to remain influential in the outside world, but in some renovated way. Germany wants to become superpower without the superpower’s shape and image. The Germans want to have the same influence and power as the powerful states of the world, but they want to reach this power in a different way. Germans are renovating the concept of “superpower”. In the new era, they define power and influence in Europe behind the power and influence of all the countries of the continent. Germany believes that in the new world, the main thing of influence in the world is achieved only through the accumulation of power and influence of all countries with a same destiny.

For this reason, it can be clearly seen that attempting to achieve “single hegemony” over specific geographic areas or military and political events, which is one of the traditional features of regional and global powers, has rarely been seen in Berlin’s politics.

Although Germany in dealing with major events and changes in Europe, including events in the East of Ukraine, changes in Middle Eastern, the departure of Britain from Europe, and etc. has the power to react, apart from other European countries, much more than expectations From the Maastricht Treaty provisions, it has tried to make Europeans united on these issues. Germany assumes that in the new world, play a role and hegemony over the world’s regions and developments are not yet a single character, but have essentially become collective and shared character. So it is not unreasonable that in the eyes of the EU’s opponents, Germany takes all the efforts to survive the union and, of course, to align its policy. So Germany wants to act as superpower without being superpower! While in the essence of the superpower concept, the dominance of a power lies over all other powers, but Germany wants such a position as a “network of power” rather than a

“power”; so it’s not unreasonable to write that the Germans’ logic of behavior is the reconstruction of the superpower concept.

Germany in our era, like the Hitler era, is moving away from the Westphalian era. The Westphalian era, which is characterized by the abandonment of the empires and the phenomenon of diverse state-nations, has undergone transformation two times in the last century by Germanys.

The first time was during the Nazi regime that all the borders of the state-nation were overtaken, and the second time,

at the present that they try to reduce the borders of European countries in the framework of Federalism governing in the European Union. As they find the increase in influence and power not in individual hegemony but in the accumulation of power and collective hegemony in Europe, this explains precisely why Germany’s new era cannot match the Trump’s America.

The struggle of two powers: the new era and the old era

Alvin Toffler, a well-known American writer, wrote in the book titled “Power shift”, long

before President Donald Trump reached his current reputation, that in the new era the industry and the means of production in the world are divided into two parts: “chimney-based industry” and “computer-based industry”. Then, Toffler writes that Trump is related to chimney-based industry, an industry that asks for its profits at the expense of others and has not yet discovered that in the new world, the profit of any person depends on “benefiting everybody”. Trump’s world is not the world of interfering circles, but the world of separate circles. Trump’s world is a world





of conflict and contradiction, and for this reason the damage to the neighbor is the profit for own home.

As in the United States in the era of the Trump, power sharing is a strange position; it seeks to return to the acute hegemony of a person which has not been authentic almost decades ago. Simply, the new-age USA cannot find out that the benefits of the world are so much that the United States and the other countries of the world can take advantage of them jointly. Trump's fundamental idea is that the economic slump of Europe and of course the world, can lead to the economic growth of the USA. These different patterns of strategic thinking are the most important difference between Germany and the United States. The difference between America

and Germany is obviously on one concept: the way of governing. While Germany has redefined and rebuilt the concept of superpower in a form of power-sharing within a network that all European countries seem to be contributing to, the United States believes precisely in the classical concept of power. The difference between USA and Germany is on the truth of shared hegemony or individual hegemony. For this reason, Germany is a pioneer of a new order, and on the other hand, the United States is in favor of a completely old and controversial order. The German-USA controversy appears to be a struggle between the new world and the old world; a conflict between computer-based world and chimney-based world



TRUMP'S WORLD IS NOT THE WORLD OF INTERFERING CIRCLES, BUT THE WORLD OF SEPARATE CIRCLES.

TRUMP'S WORLD IS A WORLD OF CONFLICT AND CONTRADICTION, AND FOR THIS REASON THE DAMAGE TO THE NEIGHBOR IS THE PROFIT FOR OWN HOME

Asefi:

Merkel Is Strong in Foreign Policy



By: Samira Amir Chakhmaghi

According to many the Iran – German relations go back to the nineteenth century when Nasseredin Shah visited the country for the first time in 1873. From that year the Teheran – Berlin ties, despite their many ups and downs have retained their traditional form.

In the years following the Islamic Revolution, the relations met with challenges at different junctions and the ten-year sanctions undermined the two countries' relations like most European states. Nevertheless, the Joint Comprehensive Plan of Action (JCPOA) was a milestone of the tow capitals' make up especially in the field of economy. Many German authorities have in the course of the last two years travelled to Iran repeatedly and many economic agreements have been exchanges between the two countries.

In spite all, while the political system of the Federal Republic of Germany is in recent years witnessing the great competition between the two parties of Socialists and the Christian Democrats for power, the Iran – Germany relations and the expectations Iran has of an old European partner in post agreement days are questionable.

What would be Germany's attitude towards Iran after the elections in handling the challenges such as JCPOA and economic relations, is a subject we discussed with Hamid Reza Asefi, Ex- Speaker of the Ministry of Foreign Affairs.



GIVEN THE GREAT PRESENCE OF IRANIANS IN GERMANY, THIS COUNTRY HAS BEEN THE PURCHASER OF TRADITIONAL, INDUSTRIAL GOODS AND SIMILAR ITEMS

Among other European countries and even during the nuclear negotiations Germany tried to have a more balanced attitude towards Iran. On the other hand, after JCPOA this country was among European countries, which tried to repair their relations with Iran quickly and the German Foreign

Minister visited Iran twice in the first post agreement year. How do you evaluate the Iran – Germany relations in the post agreement era?

Germany has been one of the traditional partners of Iran for over 50 years and the Iran-Germany relations have always been the best in Europe, while in case of others, they

have changed proportionally. Among the European countries, Germany has always held the first position, while according to time and at different periods Great Britain, Italy and France have held the second position. Our economic interaction with Germany is due to two major reasons. First of all the Germans have more facilities than others.





After all in comparison with France, UK, Italy and other European countries, Germany is more industrial and has been more successful in meeting the Iranian demands in different fields.

The second reason is that Germany has involved less than other the political issues in its economic endeavors. Of course

one may put Ital alongside Germany in this aspect.

Furthermore, given the great presence of Iranians in Germany, which has the highest number of Iranian population and businessmen in Europe, this country has been the purchaser of traditional, industrial goods and similar items.

These factors have placed

Germany on top of the list of Iran's foreign relations and we have always enjoyed good relations traditionally.

During the 5+1 negotiations, after Russia and China Germany had maintained a closer position towards Iran than UK, France and USA.

However, over the past two years and after the agreement



MRS. MERKEL ALSO IS A VERY STRONG PERSON IN FOREIGN ISSUES AND TAKES A SOLID STANCE ON HER PRINCIPLES AS MUCH AS SHE CAN

the Germans have made good moves. Their ministers of economy and industry as well as trade delegations have visited Iran and some initiatives have taken shape.

The Hermes Insurance, which covers foreign relations, has had a better action. In fact we have witnessed a growth in this field, but it is still very low. It has not

been what Iran expected, but in any case it was better than the past. Furthermore, like in other countries, the German banks are moving cautiously for fear of American fines, sanctions and pressures.

As this dissatisfaction and limited growth is due to the American pressures and in

the recent days we have also witnessed the multiplication of the American pressures with Trump threatening to exit the nuclear agreement, do you think that with the Americans withdrawal from the JCPOA the Iran – Germany relations will continue their growth or the Germans will change their attitude?

The Germans and the French have so far defended JCPOA, because their economic relations with Iran are important. Of course these days Mr. Macron, the French President has raised points about the agreement and proposed a supplementary plan for it, which raises some doubts. Nonetheless, I doubt Trump wanting to leave eh agreement in October, because for all practical purposes even now the USA and Trump are not in the agreement and do not hold their end of the bargain. They only carry their name in JCPOA and do their outmost to weaken it and reduce its benefits for the Islamic Republic of Iran to the minimum.

In fact one may say that he USA is de facto outside JCPOA. Wherever it is to its advantage, it wants to use it like reducing our number of centrifuges or maintaining the ceiling of our enriched Uranium reserve at 300 kg. These were the issues needed by USA and this country is determined to use the advantages of the agreement and to prevent the Islamic Republic of Iran from drawing benefits from it. For this reason I see little probability of Trump leaving the agreement.

At any event the official announcement of exit from JCPOA by the Americans even if as you say they are not practically in it, will change many equations and in this evolution the role of European countries and their stance against the USA are very important. Do you think these countries and especially Germany, in the light of the upcoming elections, will continue to support Iran?

These countries will definitely defend JCPOA in their talks and their stances, because they have been involved in the efforts for two years. Nevertheless, they will act more cautiously and in practice their cooperation will certainly be affected.

So to what extent do you think the German elections could affect these relations and these changes?

We have had good relations with both the Socialists and the Christian Democrats, but our relations have been better with the Christian Democrats. Mrs. Merkel also is a very strong person in foreign issues and takes a solid stance on her principles as much as she can. But it remains to be seen up to what extent these principles will have economic benefits for the German Chancellor.

For instance on the US attack on North Korea, Mrs. Merkel announced that in the event of war will not stand by the Americans. This was a great statement.

On sanctions on Russia, she



said that if America boycotts the Russian companies in a manner that would affect the energy supply for Germany, we will take the appropriate action. However, when sanctions against Iran went at the same time as Russia to the Senate, she did not take any sides.

It remains to be seen how much compliance with principles can ensure Mrs. Merkel's economic interests. Despite the difficulty in prejudgment the victory of the Christian Democrats can increase the German's resistance against the USA in support of Iran. Nevertheless the conditions can become much harder than it is.

In recent years Germany has tried to take a stance on Middle East's regional crises. In the case of Qatar or the tensions between Iran and Saudi Arabia, they proposed to mediate. How much do you think Germany can have an effective role in the light of the elections?

The Germans are not very keen to undermine their economic cooperation with political issues. They therefore pay greater importance to economic issues than any other. Moreover, the political priority of the Germans is more with East Europe rather than our region and the Middle East.



“

THE GERMAN BANKS ARE MOVING CAUTIOUSLY FOR FEAR OF AMERICAN FINES, SANCTIONS AND PRESSURES

If they aim for calm and stability in the Middle East in their mediation, it is for the reason that in the light of such an environment they will have greater economic cooperation. The fact is that in this region the Islamic republic of Iran, the Saudis and other countries are the old partners of Germany, and this country pays a great importance to cooperation with them.

This is not particular to any party. Each power in Germany has this in mind and in fact a change in the German government does not affect its Middle Eastern policies.

But I doubt whether Germany has the capacity needed to resolve the regional crises. Only the people who have serious political and economic ties with all parties and who have been involved in the political issues of the region from long ago can do so. Therefore, it is doubtful whether Germany would have a chance in this.

You said at the beginning that Germany has not met the economic expectations of Iran in the post JCPOA environment. What are the expectations of Iran from the new German government?

It is not only Germany which has been up to the Iranian expectations. None of the European countries have done so.

There are a number of issues in this. Banks are the key to economic cooperation with different countries. Germany must first clarify the banks' situation to enable this country's big bank to cooperate with Iran. The other point is that the condition of insurance coverage must also be strengthened for cooperation. The subject of investment in Iran is also another issue.

Loan, finance or any other action taken right now is good, but their importance is less than an investment, and the expectation from Germany is to have a more effective role in this field.

Germany and “Political and Economic Unity”; A Never-ending Relation

By: Dr. Ali Bigdeli
(University Professor / Analyst of the global historical issues)

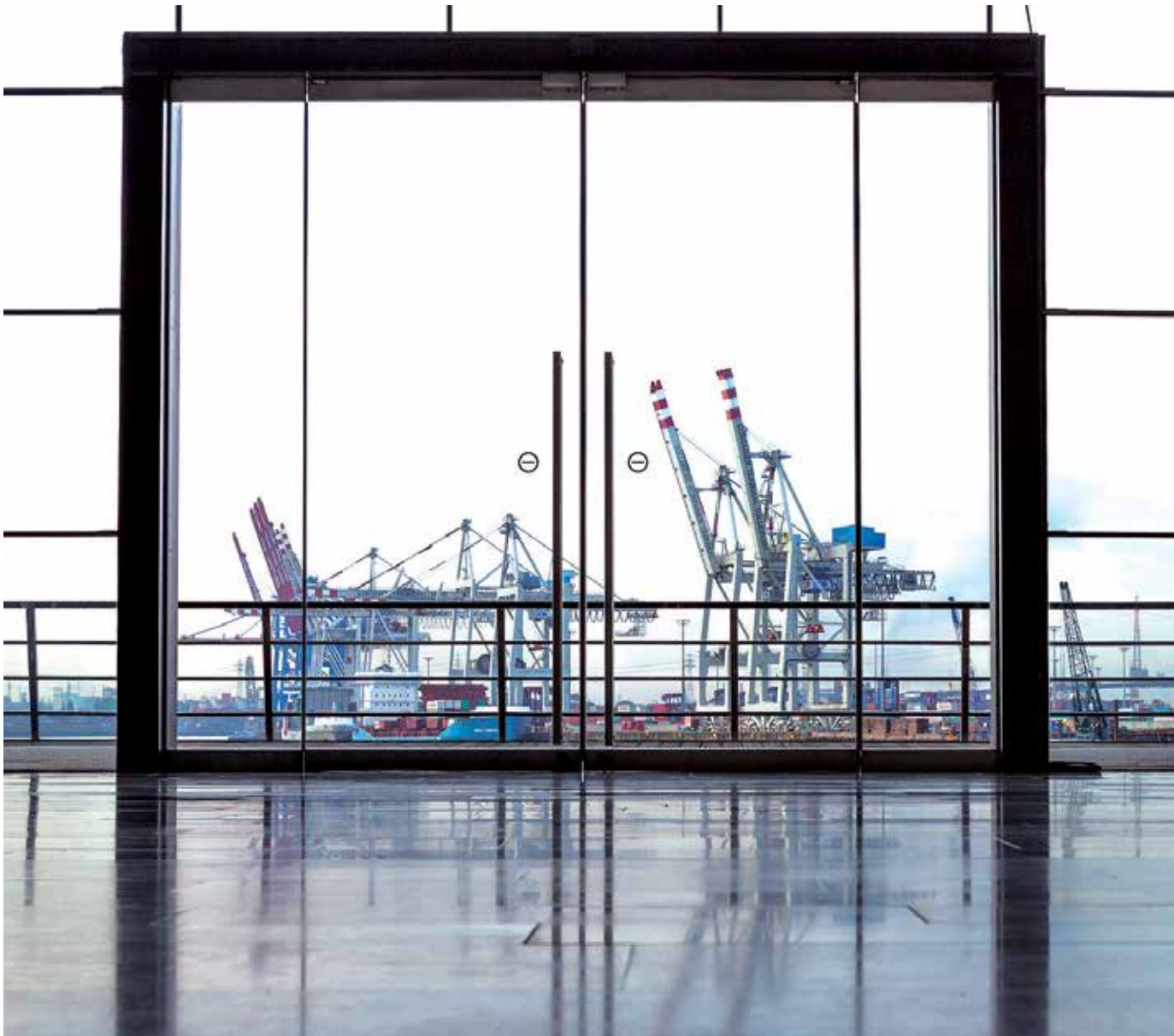
The political, social and economic “unity” is the secret of Germany’s positive impact on the world. Both within the frontiers of this country or abroad, wherever this unity appeared the Germans have been able to overtake others in the road to development and excellence. It was therefore no surprise that after achieving a kind of political, social and economic unity in mid nineteenth century by Leopold Bismarck, the period’s German Chancellor, this country was able to overtake the European superpowers including France’s Napoleon III and experience a rapid economic and military growth. The information available from the time indicates that Germany’s economic growth under Bismarck was quite unprecedented in the world. In nearly twenty years of efficient government of Bismarck, Germany’s growth rate was 200 times the rate of Britannia, France and the Ottomans.



With the end of cold war and the fall of Berlin Wall at the beginning of the nineties as well as the “unity” of East and West Germany in the frame of a single country under the name of Federal Germany, its economic and political growth took off once again in the world. At the beginning of the twenty first century, this country was the largest European economy and the third largest exporter in the world. Attaining such an envious position was only the result of a sort of political and economic unity and leaving

behind the struggles that took the German capitals astray. This was reason enough to the political elite in Germany to exert great efforts after the World War II and its subsequent years to achieve political unity inside and even outside the country. As it happened, the third course of growth and influence of Germany in the world passed through the station of “unity” but this time its foreign one. The political and economic unity accomplished by European countries in the frame of the “European Union” has led to

the growth of the Germans more than anyone else. The interesting note is that the appearance of a model for unity of European countries, which has matured today in the frame of the European Union, is the outcome of the security and military fears of the French about the disasters caused by the Germans during the Second World War. By creating a kind of political unity in Europe, the politicians in Paris were trying not only to consolidate the neighboring European countries against the probable threats of the Germans,



but by engaging the Germans in this union they could keep an eye on this country's evolution and in case of its inclination towards warmongering, they would be in a position to neutralize the threat before the first shot is fired. However the capacities and possibilities of the unity, which was supposed to be created by monitoring and mitigating the eventual risk of Germany has now caused the circle of Germany's influence on

its surrounding world to widen beyond limits. Now, the political pulse of the European Union beats for all practical purposes in Berlin the political capital of Germany, while its economic pulse beats in Frankfurt, the economic capital of the Germans. It was therefore no surprise that after a number of political and economic crises in this European block, including the East Ukraine event and the attack of Russian troops to the

Crimean Peninsula and beyond as well as the exit of Great Britain from the Union (Brexit Referendum), all eyes were on Germany and the stance of this country's politicians.

The increasing impact of internal and external unit "unity" on the growth and development of Germany explains why for more than three decades the politician supporters of domestic and foreign unity are victorious. From the time of Helmut Kohl,



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AT THE BEGINNING OF THE TWENTY FIRST CENTURY, THIS COUNTRY WAS THE LARGEST EUROPEAN ECONOMY AND THE THIRD LARGEST EXPORTER IN THE WORLD

“efforts to maintain unity” in Europe. From the time the calls for separation from the Union arose from some countries such as Great Britain, the Netherlands and Austria, Angela Merkel the current German Chancellor has led great campaigns, which have for objective to preserve the EU structure. For this reason, in parallel to these reactions, the new expression of “Merkelism” has been coined in Europe, which refers to a school of thought and practical efforts to preserve the monetary, economic, social and political unity in Europe, which took shape a few decades ago, and has led to the considerable growth of Germany. It is therefore proper to state that no nation throughout the history of the world has benefitted as much as the Germans from the internal and external political and social unity, and this also explains why currently no nation is as keen as the Germans in defending this type of political and social unity, which has currently manifested itself in the frame of the European Union.

who is basically known as the “Father of German Union” the Germans have elected Chancellors who support the achievement of internal and external unity. After Kohl, Gerhard Schroeder from the Social Democrat Party had at least common stance with Kohl on accomplishing external unity within the European Union. A politician has succeeded Schroeder, who has become to be known as the symbol of





Germany Benefits from the Convergence of EU



GERMANY IS THE LEADING COUNTRY IN EUROPE AND HAS BEEN ABLE TO IMPOSE ITS POLICIES ON THE UNION TO A GREAT DEGREE

Cultural infrastructures and common civilization, politics or national interests! The constant question is that which of the above have for years been the underlying factor for shaping the relations between USA and the European Union. Each factor can by itself be reason enough for convergence or divergence in the two parties' exchanges and the answer to questions about the fluctuation in the union of Europe and USA caused by changes of governments can be found in the statements of each government.

The Donald Trump rise to power in the USA has made the answer to this question much more difficult than before for the European governments. Since his election, the unpredictable businessman has extended his distance with his European allies through his positions, and this may be the reason for some European countries in the Union, which has shrunk from 28 to 27 countries, to seek solutions for stronger unity.

In this midst, as an economic power in Europe, Germany seems determined to play a greater role in the Union and could become the main pole in the exchanges of the European Union in the future.

Pirooz Izadi, Faculty Member of the Strategic Research Center and Analyst of European Affairs has in the following interview addressed the current challenges of EU in its relations with the USA as well as the role of Germany and other European countries.

The European Union and the USA have traditionally had

differences. It appears that the rise in power of Donald Trump has intensified these differences. Do you think the nature of current differences to be equal with what was in the past between EU and USA?

When Mr. Trump took power in USA, he raised a number of questions about cross Atlantic relations. One such issue had a commercial dimension and Trump believed that the trade relations between USA and some European countries, particularly Germany was not equal and that the USA was the loser. Furthermore, the US – German trade balance was leaning towards Germany and the exports of this country were more than USA. On the other hand Europe has to have a greater military expenditure to relieve the US load of its security.

This led to a divergence of EU and USA views. Given in the past USA was one of the countries which greatly welcomed and supported the European solidarity, it seems

now Mr. Trump is supporting those who oppose the European Union and wants the European convergence to weaken rather than strengthen.

At any event, this policy of Mr. Trump seems to continue, unless Europe becomes face to face with a security threat and since the Europeans are still not able to defend themselves single handedly and have not found the degree of independence needed military self defense, the USA will be obliged to interfere and ensure the security of European Union.

Do you think the trend taken by Mr. Trump will lead to EU's disintegration of will have a direct impact on the convergence within the Union?

EU has taken some steps in reaction to Trump. Especially since Emanuel Macron has become France's President, he has tried to strengthen the European convergence through some reforms.

The European countries have also reached to the conclusion that they must strengthen their military power. In recent months we have seen Germany's moves to increase its military budget. Mrs. Merkel, the German Chancellor has had a famous speech in which she stressed the need to ensure the European security and become independent of the USA.

These talks are to this end and underline the Europeans efforts towards strengthening and solidarity in reaction to Trump. Many consider the victory of Mr. Macron in France with



IN THE CONVERGENCE GERMANY HAS BEEN THE MAIN COMMERCIAL BENEFICIARY OF THIS EVENT





What do you think would be the impact of German elections on EU? Could the victory of the Christian Democrat Party strengthen the European Union in this course?

The two main parties in Germany, i.e. the Christian Democrats and the Social Democrats have relatively the same approach to the European Union and both support the European convergence.

For this reason the elections in Germany will not have a major impact on EU. Furthermore, according to many opinion polls Mrs. Merkel is in lead with a great margin, and this indicates that the Germany's policies in the EU will continue their current trend.

So the statement that in the light of Brexit and the efforts in convergence in the Union Germany could play a determining role in the coming years is correct.

From an economic point of view Germany is the leading country in Europe and has been able to impose its policies on the Union to a great degree. However, now France through its internal reforms is trying to boost its economic strength and become on equal standing with Germany. Paris is trying to revive the famed France – Germany axis enabling it to play as much role in Europe as Germany. Especially since France is stronger militarily than Germany and can have a first class role in Europe. Although from an economic point of view, Germany will continue to

an overwhelming difference over his competitor, who was against the European Union as a reaction to Trump's stance. Even Trump's support for Mrs. Le Pen (France's presidential candidate and Emanuel Macron's opponent) was to her loss.

Therefore as you pointed out, Germany seems to make greater efforts than other European countries towards the Union's convergence. Why do you think the Germans are making these efforts?

In the convergence of Europe, particularly since the common

Europe was created Germany has been the main commercial beneficiary of this event. Germany is among countries, whose economy is greatly dependent on exports.

The solidarity of 28 countries – of course now with Brexit 27 – has provided Germany with a great export market. Germany has benefitted intensely from this situation, and even the countries in debt complained that they had to obtain loans to import goods from Germany. This was one of the reasons, which led to the debt crisis in Greece, Spain and Italy.



maintain its top ranking. Anyway if France succeeds in regained its previous position, one can say that in future the European Union will advance on the two axis of France and Germany.

Contrary to expectations EU has not been able to play an effective role in the Ukraine crisis and many attribute it to the military weakness of the Union. As you mentioned Europe needs the American support due to this weakness. The question is would the two mentioned poles, i.e. France and Germany be able to compensate for this weakness through their cooperation?

At any event the European Union is taking the initial steps towards a defensive convergence. The

defense issues are also subjects that have sovereignty aspects and for this reason the topics of defensive convergence have not progressed well in EU.

Under the present conditions, especially after the exit of Great Britain, which always maintained that Europe's security should be ensured in the frame of NATO, the defensive convergence is strengthening in the light of Trump's policies. Nonetheless this subject is still in its early stages, and if these countries (France and Germany) allocate adequate budget and resources for the purpose and pay appropriate political attention to it, it is quite possible that in the future, the European Union would take serious steps in this direction.



AT ANY EVENT THE EUROPEAN UNION IS TAKING THE INITIAL STEPS TOWARDS A DEFENSIVE CONVERGENCE

Close Up

Will OBOR Project Prosper?

A Pathway to the World



World Economy's Dynamism with New Silk Road

By: Narges Ehsandar

The Silk Road was a long route that used to connect the extensive global trade network for 1700 years up until the 15th century, and was left out of the trade cycle ever since. Now, once again, this road is going to be revived by the Chinese. Experts have acknowledged that an act of such immense scale will turn China into a key player in the global economy.

This project was first unveiled by the Chinese President, Xi Jinping, in 2013, and it involves an investment of hundreds of billions of dollars to establish a connection between Asia, Africa, and Europe and even beyond that.

This massive project, which is also known as *One Belt One Road*, is comprised of two commercial routes: Silk Road Economic Belt and Maritime Silk Road. The former encompasses land roads, railroads, oil and gas and other infrastructures, which start from the city of Xi'an in China and ends in Europe. The latter, however, consists of a systematic and predetermined network of ports and coastal and infrastructure projects, which start from South East Asia and end in North Mediterranean.

Based on the assessments of the experts, the new Silk Road will pass through 65 countries of the world; and this gets them to build roads, ports and airports to benefit from this extensive

commercial network. Experts add that the revival Silk Road will exert impacts on the lives of 4.5 billion people (almost 65 % of the entire global population), and it will potentially bring 3 billion people into a new and vast commercial market.

Meanwhile, this project has been warmly welcomed by international organizations, in such way that the financial collaborations of Asian Infrastructure Investment Bank (AIIB) and New Silk Road Fund (NSRF) have experienced a growingly increasing trend. The United Nations has considered the revival of Silk Road as one of the main pillars of its sustainable development plan until 2030. In fact, China has set up the Silk Road Fund, worth 40 billion dollars, in order to help the countries that are located on the route of this road.

Even though this project has been approved by many countries, there is opposition to it too. Some countries have proposed that this project is a colonization plan. They believe that the developing countries that take loans from the Chinese fund to establish and equip their infrastructures will be in the debt of China, and will not have the ability to pay back their debts. In response to these arguments, the president of China stated that the era of countries' dependency on

each other has not ended, and no country is capable of encountering the global issues and threats on its own.

Creating job opportunities, internationalizing the trade, marketing, sustainable development for the involved countries, executing infrastructure plans, constructing ports and roads, building railways, and creating free trade zones have all been deemed as the main objectives of *One Belt One Road* project.

Iran and the New Silk Road

Iran plays a crucial role in establishing connections among the Asian countries, considering its vast area, its geopolitical location, being situated between the Persian Gulf geo-strategic region, Central Asia and Caucuses as well as being located between the East and the West of Asia.

In other words, Iran is the connecting junction of the region. Moreover, Iran and China's relationship dates back to the olden days, and by the establishment of the new Silk Road, Iran can earn a noticeable amount of revenue through exporting oil, gas, minerals, petrochemical material as well as through tourism industry and seeing handy crafts. Therefore, experts assert that as long as Iran can utilize its geographical location and its capacities, it could turn into the vital core



IT IS PROMISING THAT IRANIAN GOVERNMENT AUTHORITIES HAVE EXECUTED EXTENSIVE PLANS TO EXPAND THE COUNTRIES RAILWAY NETWORKS



of the Silk Road. In the light of these opportunities, in the recent years, the presence of Chinese production and service-offering companies in Iran has increased remarkably. One good motivator for the Chinese to choose Iran's route as their main path of transportation is the inexpensive railroad transportation. It is promising that Iranian government authorities have executed extensive plans to expand the countries railway networks. It has been speculated that once the Silk Road is created, over 12 million tons of goods will be transferred through

Iran annually. The Chinese President, Xi Jinping has prognosticated that within one decade after the launching of the Silk Road, it will bring over 2,500 billion dollars of trade value to the countries it passes through, Iran included. In the course of his trip to China, the head of Iran's Strategic Council on Foreign Relations (SCFR), Kamal Kharrazi, referred to the significance of Silk Road project for Iran, and asserted that Iran is going to execute macro-plans to ensure the security of regional connections. One such master plan is the North-

South Corridor, which involves the establishment of railway and thoroughfare between Chabahar Port and Sarakhs on the borders of Turkmenistan. This corridor facilitates the access of Oman Sea and Indian Ocean countries to Afghanistan, Central Asia and Russia. On the other hand, the connection of Iran's North-South railways and thoroughfares to those of Azerbaijan will facilitate connections with Caucuses, Russia and Eastern and Western Europe. In addition, thoroughfares and railways stretched from the East to the West of Iran will facilitate



connections with Turkey and Europe on the one hand and with Iraq and the Mediterranean, on the other hand.

It must be added that that with the development of Gwadar Port in Pakistan, the establishment of Kashgar Corridor by China, and the joining of Gwadar Port to Iran's Chabahar Port will create a land connection between China and Iran's North and West. Therefore, the capacities of these two important corridors could be explored and utilized more than before.

Meanwhile, the strategic value of over 2000 kilometers of coasts in the South of Iran – from

Chabahar Port to Khorramshahr – should not be neglected. These coasts are excellent grounds for the development of railways and thoroughfares to the borders Iraq, and this way, connections can be established between the Middle East and Mediterranean and Europe through Iraq. The Islamic Republic of Iran's strategy in developing its southern coasts will enhance the significance of paying attention to creating such connection routes in this region.

The YISI website, which is among the media that has published a report on the

importance of Iran's role in the new Silk Road plan, has asserted that *One Belt One Road* could promote the quality of interaction between Iran and China as two old civilizations. Stating that one friend is always in need of a good friend, YISI released that the strategic relationships between the two countries will surely increase and will enter a new era once the Silk Road is launched. According to YISI, Iran has been viewed by China as a reliable and trustworthy business partner for years, and it plays a crucial role in China's 21st century

Silk Road plans for reaching Asia, Africa and Europe. Silk Road, most encouragingly, is the connection route of Chinese and Persian civilization, and Iran, as a regional power with a population of 80 million people, has a unique position in China's New Silk Road plan.

In his speech in the 28th Annual Crans Montana Forum, the managing director of Islamic Republic of Iran Shipping Line (IRISL), Dr. Mohammad Saeedi, counted the Silk Road as a supplement to the maritime transportation, and emphasized that Silk Road could act as an excellent complementary contributor to maritime transportation provided that the infrastructures and management systems are developed sufficiently. Silk Road, Dr. Saeedi continued, is a comprehensive and well-

developed project, whose development demands the joint investment of the involved shipping lines in East Asia, Commonwealth of Independent States (CIS), Eastern and Western Europe.

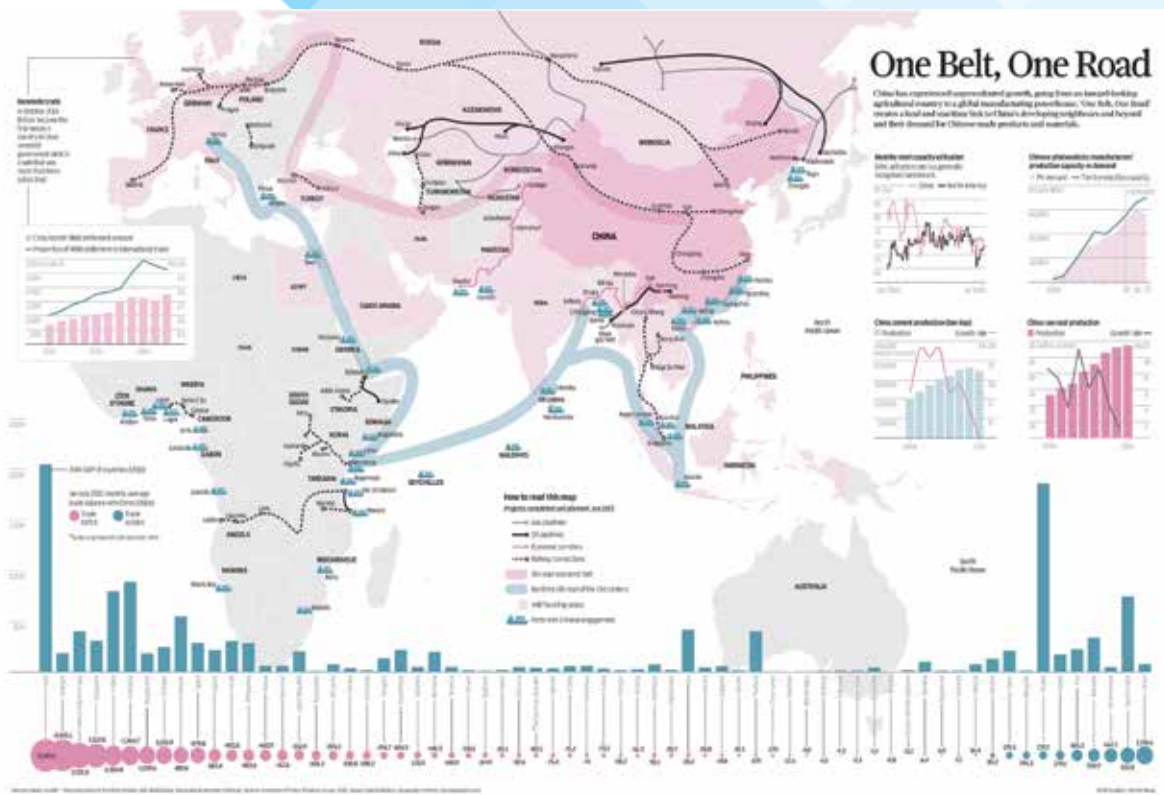
It is needless to say that the Silk Road should meet all the economic considerations, Dr. Saeedi stated. In other words, he added, the Silk Road must act as a multidimensional predetermined and defined path, and deliver a transportation mechanism which is both economical and adaptable with alternative means of transportation. To this end, the necessary technical infrastructures must be supplied in the route jointly by all the involved countries.

Dr. Saeedi also asserted that current challenges could be encountered and

resolved through the smart amalgamation of Silk Road routes and the existing strategic maritime routes. The Silk Road, Dr. Saeedi emphasized, has the potential to turn the world into a safer, more trustworthy and more beneficial place for all countries.

After the execution of JCPOA, Iran is reaching out to other nations to strengthen its international ties, and hence, the Silk Road could act as a proper ground for Iran to develop its commercial and economic relationships, and drives itself out of commercial and economic isolation.

Overall, the evidences vividly highlight that the New Silk Road project will result in the dynamism of the global economy, and create a novel economic current between the East and the West.



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Is “One Belt One Road” Feasible?

Maybe another Time

By: Vahid Basereh

When Xi Jinping the Chinese President in the year 2013 unveiled a plan titled “one belt – one road” or the New Silk Road, many praised the hidden genius in the idea. The fact is that this plan is very brilliant. The idea of extracting a solution from the heart of the history for today and then upgrading it in the best possible form is really praiseworthy. The Chinese plan is this: they will open up a route from Qi region to the southeast of the country toward Kazakhstan and then to Iran, Iraq, Syria and Turkey. But this is not the end of the road, but like its

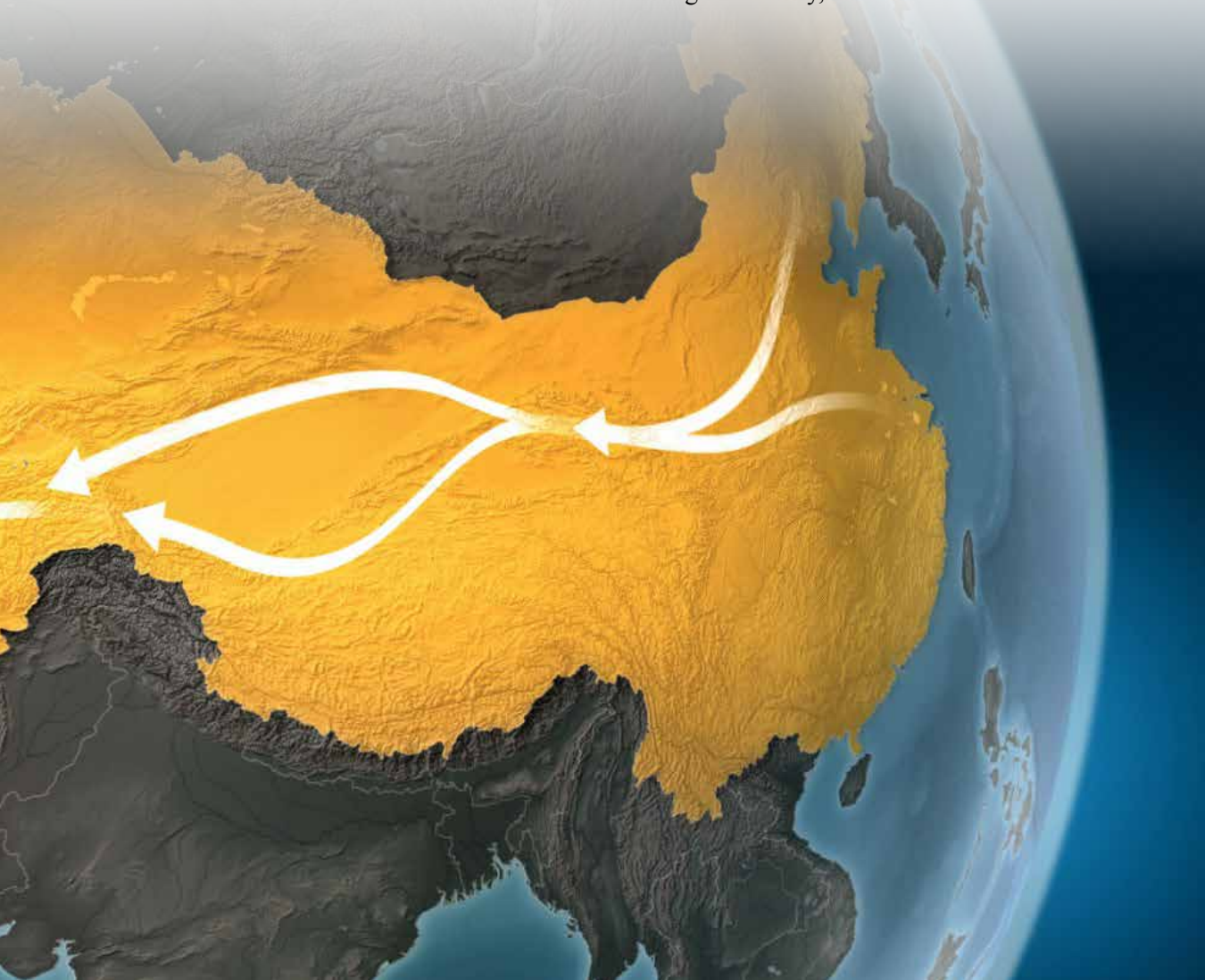


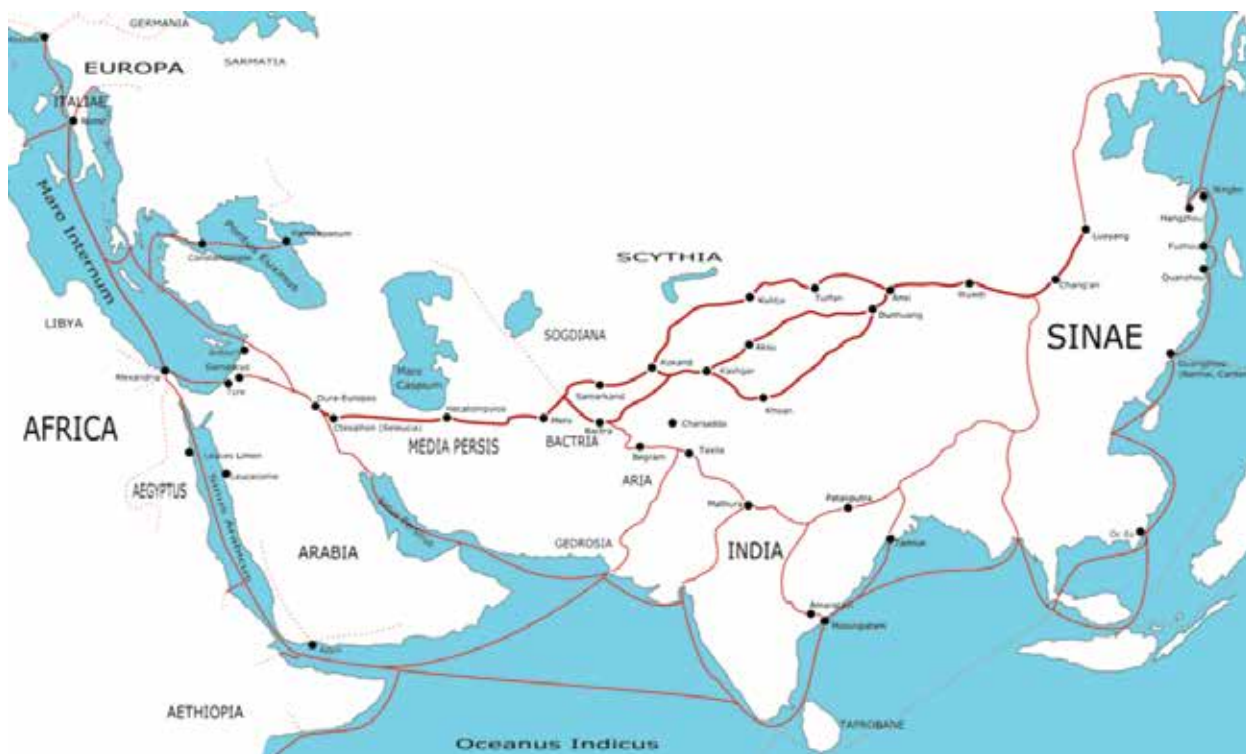
historical predecessor of the Silk Road the target is the European market. Therefore, after Turkey the Road extends to Bulgaria, Romania the Czech Republic and from there on to Germany. The Netherlands and the historical city of Venice, which during the Silk Road era was the connecting point to Europe, will once more play a key role in the new plan. This of course is not the end still and the trail will lead to Africa from across the sea. Other lines extend from this path to Southeast Asia to make the plan more and more ambitious as finally 64 countries in different continents

are included in this plan and are involved in its construction. However, aside the underlying genius, intelligence and ambition, the plan's great scope forces the actors in the domain of business and transportation to ponder on how can such a great work, which will affect the lives of more than 4 billion persons around the corners of the globe, be executed? Have the planners foreseen all the possible difficulties ahead? Are there convincing and practical answers to the difficult questions raised by the cynics? The fact is that in the fluid world, where interests change instantly, it

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**AFTER TURKEY
THE ROAD
EXTENDS TO
BULGARIA,
ROMANIA
THE CZECH
REPUBLIC AND
FROM THERE ON
TO GERMANY**





is hard to believe that such a plan could be implemented. Accordingly Payame Darya decided to interview “Massoud Daneshmand” an experienced Iranian businessman, who is an active member of the Iranian Chamber of Commerce and who has been active for years in the international trade, to understand how much a professional believes the “one belt one road” plan can be executed.

Is the execution of “one belt one road” or the New Silk Road plan feasible?

It is a large plan indeed and will include Russia, Europe, and an important part of Asia and of course Africa. The Chinese want to appropriate a large chunk of world trade. The fact is that a cheap road boosts trade. Based on its function the one belt one road is ultimately a low cost road which can boost the Chinese

trade. However, the Chinese are pursuing another aim apart from the tangible boosting of trade hardware. For years now the information, especially in the field of trade, has gained daily importance. This road will in the mid- term as the long term help China to increase her information on target markets, need assessment and behavior assessment of the customer to a higher level. As information has its own market and can be provided as a commodity by China and other goods and service provides, and it is in this light that the thousand billion Dollars cost of this road can be compensated. However, the construction of the road itself has many difficulties, with the major ones being political. In fact many questions remain to be addressed, for instance when the road reaches the Kazakhstan border, will this country be

able to accept the standards defined by the Chinese? Do the Chinese have to basically pass the connection roads within the borders of host countries? If this is so, then naturally the internal political affairs of those countries will create obstacles for the construction of the New Silk Road. In case a country wants to build the road directly and according to the Chinese plans, then it should be determined who is going to pay the costs and how will they be paid.

Now let us suppose that a country agrees to start the construction process and the financial issues are resolved somehow. The next question is that the Chinese party as the client or the proposer must use this route in a manner that would not undermine the sovereignty of host countries. With this in mind, when we

look as the scope of different countries with different and at times opposing interests, we find that the hardware and engineering sides of the New Silk Road are of secondary priority. In fact the geopolitics has a more determining role. The laws, regulations, the type of governing and security views and many other variables are posing a challenge for the idea of road construction. Therefore, it seems that despite all the benefits stated for it, its construction is still far off. With the historical foresight of the Chinese we know of, why did President Xi proposed this transit and transship road four years ago in a large gathering of countries? Had they not thought about these problems?

Given the advantages that the construction of this road will have for them, they are trying to bring it to a conclusion. Therefore, since the proposal they have been trying to convince the different countries through numerous international meetings, seminars and brainstorming sessions, with the objective of having the plan approved by these countries' parliaments and become an executive law and ultimately through a universal accord have the project on course for execution.

How successful have they been?

One can say: zero! It has also created disputes. In specifying the route within their borders some countries have considerations which are different from the Chinese

demands. Some are complaining about not being in priority, etc. Amid all these, it is said that the Israelis are trying to influence the project and to gain benefit from it, whereas, in its natural form this country has no place in the course. This has caused the stakeholder countries, which are mainly Muslim to react negatively to these interferences thereby adding another turn to the already complex problems of one belt one road.

We can therefore conclude that politics has overshadowed all the economic – business dimensions of the project.

Precisely, Even if we suppose that the road will be constructed, if in the light of the stated problems the Chinese become uncertain about the return of their investment and fail to achieve their predetermined objectives, they would have for all practical purpose thrown away their money.

It seems the historical competition between Russian and China will still prevail here. In any case the Russian are not very willing to assist in the Chinese hegemony. Moreover, the American despite their differences with Russia, have sided with this country at least in this case while they still have their own opinion and pursue the matter of deciding whether the road should pass through a certain country or not. So, what will be left for the Chinese in this project?

It is for this reason that there are doubts about the implementation of this project. The Americans



THE CONSTRUCTION OF THE ROAD ITSELF HAS MANY DIFFICULTIES, WITH THE MAJOR ONES BEING POLITICAL

have influence on different aspects of Turkmenistan, Azerbaijan, Uzbekistan and even Kazakhstan, which are the main countries through which the New Silk Road will pass. On the other hand, countries like Iran as an important component of the project, essentially oppose the ambitions or the hegemony of any country in the region. And as you said the Russians are also not keen on the extension of the Chinese dominion. In fact the construction of New Silk Road will undermine the programs for extending the Russian influence in the region and in East Europe, as in this way the Chinese will have the upper hand in the East Europe and the Russian do not like it.

In the Ukraine crisis we saw how sensitive the Russians were about eyeing their circle



THE IRANIAN ROUTE STILL HAS THE SAME HISTORICAL ADVANTAGES, IF POLITICS ALLOWS

of influence.
Yes quite so.

How do you evaluate the relation of Iran with this road?
They have reduced the share of Iran.

Is it not strange?
Given the geopolitical, historical and the high profile role of Iran in the East – West trade, this is quite a strange event.

Is politics involved here as well?
Unfortunately yes! Maybe some western parties have put pressures on China. It can be concluded that in spite of business ambitions, the designer and the client are in practice following the politics. They have given themselves up to the political games.

So doesn't the notion of the New Silk Road having for priority to revive the historical one seem to be optimistic?
Quite so. That road had taken shape with a natural outlook. For this reason and in a quite natural form Iran became a major part of the Silk Road as the quickest, cheapest, safest and in a word the best route linking the east to the west. The fact is that the Iranian route still has the same historical advantages, if politics allows.

With these issues, the question still remains that given their need for diversifying their export routes, how can the Chinese spend time addressing the challenges of the one belt one road project?
Let me tell you from an

economic angle why this plan is currently ambitious. The economic growth rate of China and consequently the volume of production in this country are on the decline. But why? At the time when globalization became the craze, the countries were in practice divided into three groups: the countries possessing technology and capital, the workshop countries and the consumer countries. During the process, in spite of great profits gained by the first group countries at the beginning, they became weaker and weaker day by day in production due to the migration of industries. With the increase in income tax by the governments, the capitals also gradually sought countries with high levels of tax exemptions. This meant the transformation of once powerful countries to huge debtors. As the largest global debtor, the American government owes a huge amount of debts to her Banks. In another word, the government has expenses but does not have adequate revenues. This happens when for instance the car manufacturers in Detroit Michigan close up after transferring their business to countries such as Mexico and China, thereby making a large number of workers redundant and adding them to the queue of unemployment insurance recipients. This trend increased in the recent years adding up to the US government's expenses. This phenomenon also occurred in some way in UK, France and other mainly western countries. On the other hand China, Vietnam, Taiwan, Thailand and other workshop countries grew



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**IRAN AS AN
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day by day as host countries for technology and capital. The continuation of this trend became very dangerous for western countries. The issue of Donald Trump and his attitude as the President of the United States does not matter, but the political pundits in the USA have reached to the conclusion that the damages of globalization now overweight its advantages, and they must therefore change the course towards localization. This wave has reached UK and other western countries.

In the meantime the American are calmly and quietly are devaluating Dollar to develop their exports. The outcome of these events will push the Chinese economy into a new set of pressures. When the products of other countries, will hit the market at a larger volume and higher quality, the Chinese must endure a heavy competition. Consequently, projects such as the New Silk Road, in spite of their underlying intelligence, may still and currently not be possible.

Iran Views OBOR as An Opportunity

One Belt One Road initiative is a wise and strategic economic strategy proposed by Xi Jinping, president of China, at 2013 to revive the ancient Silk Road. There are some major objectives behind such a decision, including: To facilitate and boost regional and international trade, and flow of capital and services between east and west, and to make a regional and international infrastructure network to foster economic cooperation between countries and enhance global supply chain. As a global manufacturer, China has been trying to revive its ancient silk road to provide links to its suppliers and vast consumption market, to take another step to retain and expand its economic dominance globally. The “Belt” refers to overland road and train infrastructure connecting hinterlands of countries from west of china through Central Asia and Middle East to Western Europe. The “Road” refers to maritime sea route that connects Chinese southern ports through South Asia and South East Asia, West Asia and North Africa to Italy and European Union.

The 65 countries on the land-maritime route of new Silk Road encompass 29% percent of World’s GDP and 63% of World’s population.

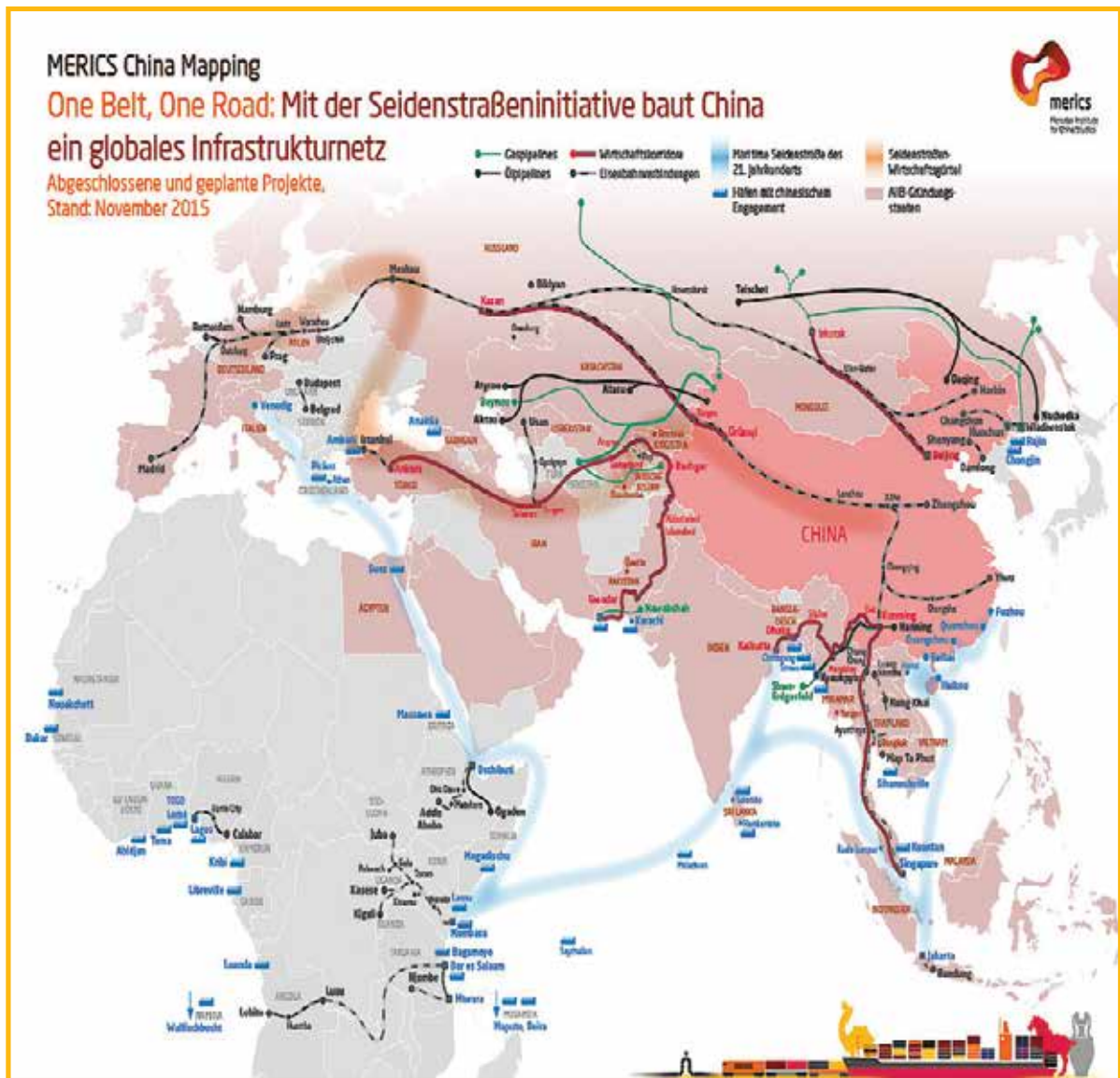
East Asia	West Asia	South Asia	Middle Asia	CIS	Mid-East Europe
Mongolia	Iran	India	Kazakhstan	Russia	Poland
Singapore	Iraq	Pakistan	Uzbekistan	Ukraine	Lithuania
Malaysia	Turkey	Bangladesh	Turkmenistan	Belarus	Estonia
Indonesia	Syria	Afghanistan	Tajikistan	Georgia	Latvia
Myanmar	Jordan	Sri Lanka	Kyrgyzstan	Azerbaijan	Czech Republic
Thailand	Lebanon	Maldives		Armenia	Slovakia
Laos	Israel	Nepal		Moldova	Hungary
Cambodia	Palestine	Bhutan			Slovenia
Vietnam	Saudi Arabia				Croatia
Brunei	Yemen				Bosnia & Herzegovina
Philippines	Oman				Montenegro
	UAE				Serbia
	Qatar				Albania
	Kuwait				Romania
	Bahrain				Bulgaria
	Greece				Macedonia
	Cyprus				
	Egypt				

Source: List of OBOR countries, WALIZAHID 2017



THE NEW SILK ROUTE PROVIDES MANY BUSINESS OPPORTUNITY FOR COUNTRIES INVOLVED

Covering many countries, it is revealed as “Project of the 21th Century”, because at a global scale it involves land/maritime infrastructures and is more complicated and comprehensive than a simple project. It needs global, integrated logistics management to make benefits out of it. Some compare it to US “Marshal Plan” because it aims at strengthening Asian economy and provides new connection routes from east to west and vice versa.



Source: Internet

In order to delve this issue further, Payam Draya magazine conducted an interview with Mohammad Pourhaji, MSc in Maritime Economics and Logistics, Senior Maritime Officer and Analyst and Harbor Master of Guilan Ports and Maritime Administration. The transcript of this interview has been laid out in the upcoming lines:

Given the decrease in China’s growth rate in the recent years, why is it necessary to revive the Silk Road?

China encountered a downturn in its economic growth from 2012 onward as it is shown in the following table:

“

SO FAR 100 COUNTRIES AND INTERNATIONAL ORGANIZATIONS HAVE JOINED THE PROJECT

	2012	2013	2014	2015	2016
Economic growth	7.9	7.8	7.3	6.9	6.7
GDP per capita (USD)	6333	7124	7662	7948	8109
GDP (USD bn)	8575	9694	10480	10925	11212
Investment (annual variation in %)	20.6	19.6	15.7	10.0	8.1

Source: <https://www.focus-economics.com/countries/china>

According to experts, model of growth in China is changing from investment driven growth to consumer demand, and thus investment in infrastructure and manufacturing encounters slowing. This is partly because of increasing revenue per capita in China and the desire for consumption rather than manufacturing. The other reason could be Chinese companies' tendency toward investing on infrastructure of other trading countries.

Although growth rate in China decreased during recent years, but, they started an ambitious plan to revive their ancient Silk Road as One Belt, One Road.

China after a soaring growth rate in last decade has shifted investment outward its borders. Many state owned enterprises and private companies in China invested in other countries such as Malaysia and Singapore to supply them with main components of their products. This is a two way transport and a win-win deal which enables China to retain a sustainable, stable, steady economy despite its descending growth rate. Employment and GDP growth are achieved in China, but environment is under a severe damage, so it is the time for this country to shift some industries beyond its borders and move toward outward economy and follow its ambitious plan to link its manufacturing hubs to their suppliers and consumption market through so called One Belt, One Road and revive ancient economic Silk Road. It has both economic and political importance for Xi Jinping to have a broad road, rail and maritime access to its trade partners across the World.

From economic point of view, the new silk route provides many business opportunity for countries involved including new infrastructures, jobs and employment. Chinese companies have investment on many projects overseas through which they are connected to global economy and facilitate transport to destinations. On the other hand, it is always a necessity for a country to have more market and supplier access alternatives to survive at the increasing competitive market.

From political point of view, china seeks sustainable security by investing on vast global projects. Economic ties with other countries brings more security to Chinese companies as they are spread at many places and own assets out of their country. By Silk Road revival, Chinese companies which transferred their manufacturing infrastructures and investment to the countries along with the Silk Road, will have a secure and viable supply chain and the political importance is that, the entire route will be at control of China, because no cargo flow will be equal to no employment and no income for countries on the route. Thus, in such a way, this project causes dependency. This promises a sustainable economy and security. China has been looking for more effective role on political scenes and OBOR provides a great and new opportunity to increase China's international influence, and this is another reason for reviving the Silk Road.

Taking a brisk glance at the infrastructures of the countries involved in One Way One Belt project, which China has designed to revive the Silk Road, we perceive that a large

budget is needed for the project's prospects to be achieved. So the first question that comes to mind is whether or not this project is executable under current world conditions.

It is a multi-trillion investment plan that so far has received \$1 trillion and will be doubled in next years and if achieved, can benefit the countries on the way of the Belt and Road \$ 2.1 trillion in GDP. So far 100 countries and international organizations have joined the project and Chinese businesses have helped 56 economic and trade cooperation zones in 20 countries along OBOR, with investment exceeding \$18 billion, helping generate more than \$1 billion and more than 160,000 jobs (WALIZAHID 2017). Although President Jinping recently pledged extra \$124 billion to fund OBOR to guarantee financial support to the project, still 5% of the budget is spent on the plan¹ and to fulfill this project, many infrastructures such as bridges, roads, ports, rails, official buildings, customs, energy suppliers to be built by domestic and international companies at countries in Asia, Africa and Europe. They need a large amount of budget/investment and governments along the "Belt" often are not able to fund their own part and leave the ground for international businesses and financial service providers to have partnership in projects.

It is believed that investment in some projects of the OBOR has no short term benefit or at least has long term investment return. But, as the government of China is determined to implement the plan, China financial bodies such as state owned banks, private investors, pension funds, and some financial institutes have started financing projects in other countries to accelerate project completion. In other words, more than 90% of Asian infrastructure is invested by public sector and there is no more room for public sector financing and therefore a new model of investment and financing encompassing a mix of public-private capital is required to fund the projects. Chinese financial firms and banks are pioneer for financing projects relevant to OBOR and the government by establishing summits tries to encourage other countries to do so.

Due to increasing rate of population and trade all over the world and consistency of trade

dominant route from east to west, if adequate funds are matched to investable projects, even under current economic condition of the World, the project is executable.

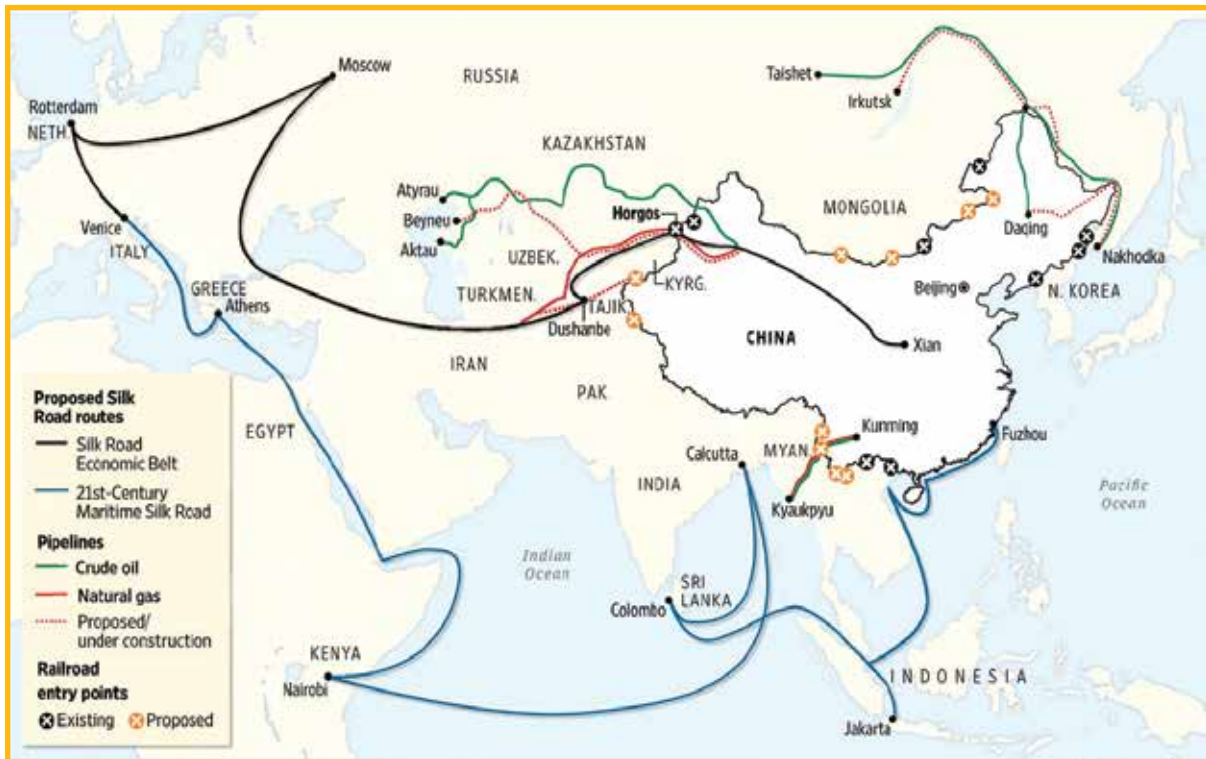
Maritime transportation seems to have been disregarded in the modern Silk Road project, whereas maritime transportation is much faster, safer and cheaper than other means of transportation. Now the question is: Is this project executable without maritime transportation?

The advantage of the project is using diversified ways of transport, which includes road, rail and maritime mode in different corridors. During past years, China has extended its access to the countries along modern Silk Road through its integrated railway system. The trains from origins in China reached different destinations in Europe, England, Middle East within days based on monthly or weekly basis to test access feasibility. A train passed 9 countries within 18 days and 12,000 km journey to reach London. China Railway Company is planning to increase number and frequency of journeys to handle more cargo.



Maritime transportation is not disregarded in the project, as "Road" in One Belt One Road refers to maritime link between the countries of South and south Eastern Asia through Asia and east coast of Africa to Europe. There are many ports that take part at the project; moreover, the round maritime trip covers a dozens of seaports to link manufacturing hubs to their consumption market.

¹Haralambides & Associates (www.maritimeeconomics.eu)



Source: Internet

Although trains carry a limited number of containers, China Railway Company has been trying to increase the frequency and speed of the trains to carry more cargoes through the route. But, by entering 22000 TEU containerships in east-west dominant route, the maritime transport is still the most cheapest, economic way of moving a vast volume of cargo between China and Europe. In other words, road and rail transport are complementary to maritime transport, but they cannot substitute it, and the project without maritime transport will be costly and time consuming.

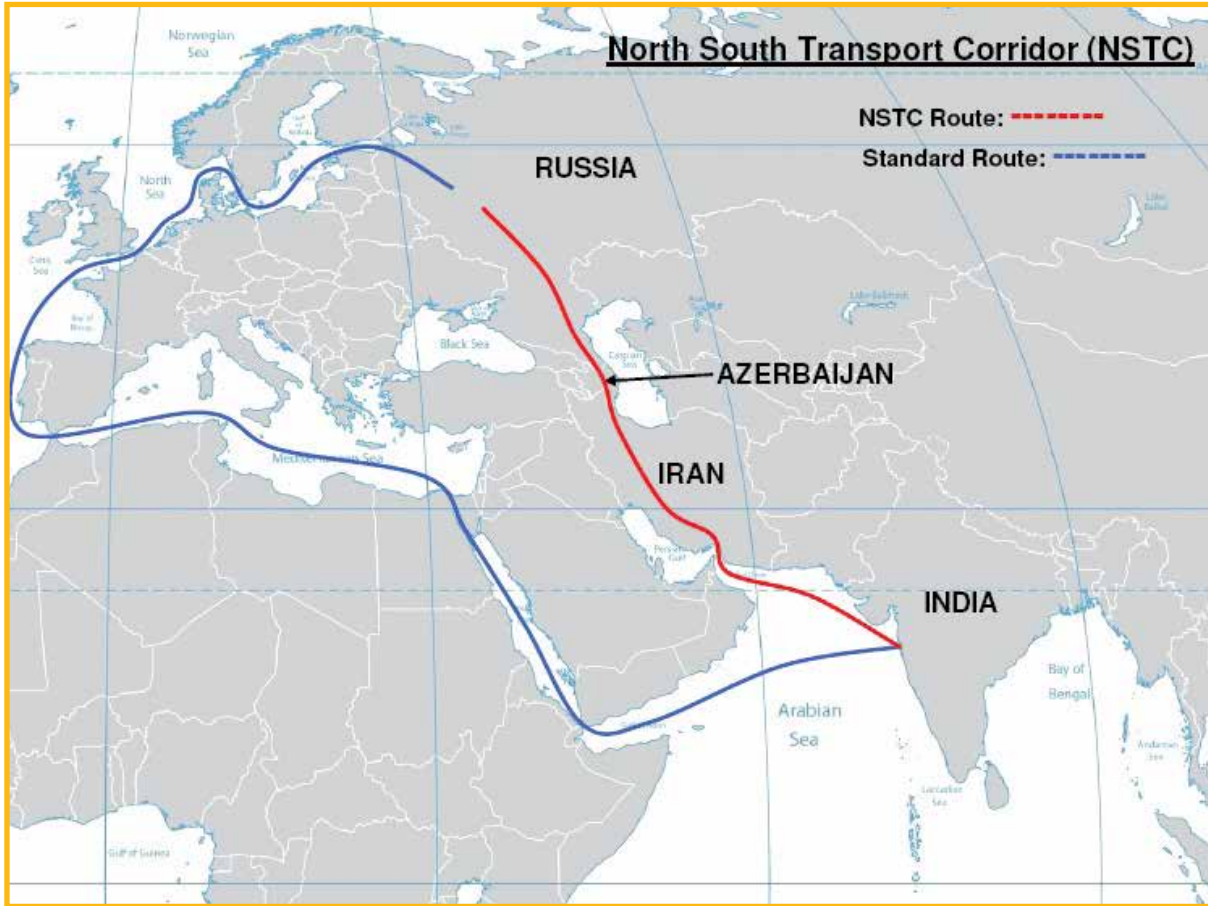
14 days passing 10339 km carrying 32 forty foot container from Zhejiang. The maritime route to Iran takes 45 days. This rail route, both facilitate carrying cargo to market of Iran, and after continuing its way toward Europe, delivers cargoes to European destinations. So, as a regional rail hub, the route will be stretched to Azerbaijan to connect the missing node of North South Transit Corridor through which it can be connected to Anaklia, the Georgian port at Black Sea and an subsidiary route will be created for international trade.

What is the role of Iran in the OBOR initiative?

Iran benefits a strategic location and has been land bridge between east and west for millennium. Iran is on the way of China overland belt route to West and due to its strategic geographical location provides an strategic access to big consumption market around, including CIS countries in North, Afghanistan in east, Persian Gulf states in south, Turkey in west. Railway system connects China to Europe passing through northeastern Iran from Turkmenistan and exits in northwest to Turkey. The first train reached Tehran in 2016 within



THE ROUND MARITIME TRIP COVERS A DOZENS OF SEAPORTS TO LINK MANUFACTURING HUBS TO THEIR CONSUMPTION MARKET



Source: Haralambides & Associate

President Rouhani has declared that Iran is willing to have its role in OBOR and considers it as an opportunity. Therefore, an MOU was settled between Presidents of Russia, Azerbaijan and Iran in Baku to accelerate rail connection construction between Astra of Iran and Astra of Azerbaijan. It is part of a rail way project to connect Bandar Abbas, the major port of South of Iran, to national railways, and then to be extended to Azerbaijan, Russia and Northern Europe. Iran is a major player at the OBOR project and tries to exploit it to reduce rate of unemployment and boost its projected economic growth.



IRAN IS A MAJOR PLAYER AT THE OBOR PROJECT AND TRIES TO EXPLOIT IT

DAIHATSU

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Take A Look again at The New Silk Road Revival Project by China;

IRAN's Role in the Transit of Goods after the Implementation of OBOR

In order to develop the Silk Road project, every day China is making new investments in the construction of city, road and port. Meanwhile, many countries are trying to take a larger share of this project. In addition to revival of the land routes of Silk Road, a sea lane has been planned in the "One Belt-One Road" project too. The sea lane includes a network of routes connecting the east to the west. In this case, China has invested more than \$20 billion in ports of foreign countries and is still looking for buying ports in the countries in the way of Silk Road.

Due to its strategic position and advantages such as having the shortest route towards Europe, Iran can play a valuable role in the transit of goods after the revival and completion of the Silk Road. So we had an interview with Mojtaba Soleimani, the faculty member of the Institute for Trade Studies and Research. You will read this interview in the following paragraphs:

1. What is the necessity of reconstructing of the new Silk Road?

The new Silk Road Project has been propounded by China since 2013 and consists of two land and sea routes. The land route, known as the “One Belt”, extends from China to Europe, passing through the several countries in Asia and Eastern Europe, and eventually reaches the city of Venice in Italy.

Its sea route which is called “One Road” starts from the east of China, passes through the ports of some countries in South Asia, then continues along the coast of the African countries, and eventually reaches the city of Venice in Italy. As a result, both the routes of Silk Road start from two cities in eastern China and eventually reach to each other in Venice.

China is developing a continental and maritime dual strategy. This maritime strategy is not just for business, but for strategic partnership to form a “The String of Pearls” (according to the Chinese) in south and southeast of Asia by establishing a set of permanent military bases to supply energy such as Chittagong in Bangladesh, Coco Islands in Myanmar, Hambantota in Sri Lanka, Marao in Maldives, and Gwadar in Pakistan. By investing a huge portion of its resources (about \$ 900 billion) in One Belt-One Road project, one of the key policies of the President Xi Jinping, China wants to become the world’s first economy. By completing this project, China’s GDP could increase by 25%. While the Chinese economy has been hit by the crisis recently, the plan should be developed once more by facilitating exports and consolidating international relations and global affairs, so China could achieve the predicted growth of 6.8%.

The implementation of this great strategy will help China increase its economic integrity with Western countries. Along the path of One Belt-One Road, there are 65 countries from Central Asia, Southeast Asia, South Asia, Eastern Europe, East Asia, and North Africa; with population of 4.4 billion, and \$ 21 trillion disposable income which has 63% of a belt and 29% of the road in global capacity. Over the past 10 years, China’s trade with these

countries has increased at an annual average rate of 19%, which was 4% higher than the average annual growth rate of Chinese foreign trade over the same period.

China’s main goal of implementing huge infrastructure projects in the form of a new Silk Road is to dominate markets of Western countries, although Chinese companies take benefit of partnership with American and European corporates. The construction of the new Silk Road is one of China’s widespread plans to increase business engagement with other countries in the world, especially countries in the West Asia and Eastern Europe. China has considered this plan under the title of “One Belt-One Road” and the slogans of “joint exploitation”, “joint responsibility”, and “joint destiny”.

2. It seems that the process of renovating the Silk Road by China is more land-based, while it is rational that by considering the volume of goods the sea was considered as the main path. By this way, is the revival of the Silk Road an opportunity or a threat (by considering the sea dimension in it)?

There are other factors that affect the land and sea dimension. The distance is one of them which have been taken into consideration in this project. For example, Gwadar port in Pakistan facilitates access to energy resources in the Central Asian republics, and it will significantly help China in the case of energy crisis in Pakistan. Currently, 60% of China’s energy is supplied from the Persian Gulf. This country pays a great deal for oil imports from the Middle East which is a 16,000 kilometers route while Gwadar port reduces the route to 5,000 kilometers. Gwadar gives China the opportunity to access faster and safer to a region that holds 48% of the world’s oil and 38% of the world’s natural gas reserves. The 15,000 kilometers gas pipeline in Afghanistan should also pass through Gwadar, which will help natural gas of Turkmenistan to reach the world markets. Gwadar will make a huge flow of trade for Pakistan, China, and the entire region. On the other hand, the presence

of pirates in the Strait of Malacca and other maritime routes increases the incentive for countries to use this transit road.

3. What role does Iran play in this project?

Of course, Iran has its role in this plan. For this huge project, six land corridors have been defined, one of which is the China-Central West Asia Economic Corridor (CCWAEC), which passes through Iran. This corridor starts from Urumqi in China, and reaches to Europe through Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Iran and Turkey.

Regardless of the historical and fundamental relations between China and Iran, the policy of balancing power in the international system, with the phrase “east and west competition” on the one hand, and “geostrategic influence on remote areas” which meant the Persian Gulf on the other hand, make Iran the center of concentration for some of China’s strategic and key interests. The geopolitical role of Iran has been unpredictable for a long time, as among the countries that are on the path of new Silk Road, Iran is one of the countries that could play a positive and constructive role in the development of communications and relations among Asian countries. Although the relative decline of the ancient Silk Road has left many of the countries on its path, Iran has continued to play its important geopolitical role.,

In the present situation, with its advantages such as having the shortest route to Europe, Iran can play a significant role in the transit of goods after the revival and completion of the Silk Road, as well as the collapse of the Soviet Union, and consequently, the independence of the Central Asian countries make the role of Iran in the Silk Road revival more important.

The significance of such a position is related to confine of the Central Asia and the Caucasus region on land and to the presence of Iran as the only available option for access to the Persian Gulf and the High Seas for the countries of this region.

China has considered Iran as the central part in the economic belt of Silk Road. The belt that is heavily market-oriented and its goal is expanding China’s cross-border influence

through Central Asia to the Persian Gulf and Europe. The geographic location of Iran has given it a special importance in the field of transporting goods and conveying oil and gas pipelines in the global economy. By taking advantage of this, Iran could gain many benefits and promote its economic status at the regional and global levels. This involves understanding the facts, taking advantage of opportunities and getting prepared to compete with regional and international rivals. North-South corridor plan is an exceptional and unique economic and trade opportunity for Iran; on the other hand, the construction of Chabahar-Sarakhs railway seems necessary in order to strengthen the transportation of transit goods as soon as possible at a lower cost and more safe way. Furthermore, the location of the Chabahar port in the path of the North-South transit corridors so that establishing a transit relationship between Russia, Eastern Europe, Central Europe, North Europe, Central Asia and the Caucasus, on the one hand, and South-East Asia, the Far East, the Pacific and the Persian Gulf States, on the other hand, is a prominent advantage for Iran. Due to the short path in the North-South corridor and equipping facilities and infrastructure in a wide range of transportation sectors, Iran’s route has many attractions for the transit of goods.

The new Silk Road is a desirable situation for Iran, in which the North-South corridor has a particular importance. Iran has plans to complete and expand its relation with the countries of the region. On the other hand, there is a plan for reconstructing of Taftan-Quetta Railway in Pakistan to connect the national railway of Iran, Pakistan, Europe and Asia.

Chabahar-Sarakhs railway connects southeast of Iran, from the Chabahar Port (Iran’s only oceanic port), to the Sarakhs in the northeast of Iran on the border of Turkmenistan, and connects central Asia into the Indian Ocean. In the middle of this route, the Khaf-Herat railway connects Afghanistan from the nearest rail way to the Indian Ocean. Afghanistan and India as the strategic partner of Afghanistan

are active on this project and are interested in building this corridor, which can be the southern route of the Silk Road to the sea.

China's growing cooperation with Iran, especially after the nuclear sanctions and expansion of the Chinese companies in various fields in the manufacturing and commercial markets, has so far advanced that China has now become the largest business partner of Iran. In this way, Iran is the third largest supplier of crude oil in China which provides part of its energy needs. The trade between Iran and China has been increasing since 2000, and trade volume between the two countries reached to \$52 billion in 2014, which represents an increase of \$12 billion compared to the previous year.

4. What are the benefits of renovation of the Silk Road through the sea?

The whole effort of China is to bypass the Malacca Straits. Therefore, one of China's main plans is to create parallel routes with the Malacca Strait. Roads such as the railways of Pakistan, Malaysian, and Myanmar are among the ways in which China wants to bypass the Straits of Malacca and reduce the dependence on this strait.

Sri Lanka also signed a \$1 billion contract with China to lease the Hambantota port in the southern province of it to China. The Sri Lankan government is confident that China will use this port for only commercial purposes. The Hambantota port is one of the most important shipping routes between Asia and Europe. According to this contract, a state-owned corporation of China will employ the port and its land (150,000 square meters) for 99 years. The port of Hambantota is expected to play an important role in the plan of the new Silk Road in China on the sideline of Indian Ocean. The plan connects China's ports and roads to Europe. Recently, the Financial Times reported about China's large-scale investments in maritime routes and ports around the world. The report said China's investment in foreign ports has exceeded \$20 billion, and its companies are seeking to buy or participate in managing ports and berths from the shores of

Russia in the northeast of China to northern Europe. It has been said that large Chinese companies have been purchasing ports in foreign countries from July 2016 to June 2017.

5. What is your suggestion to executive officials for the presence of Iran on the Silk Road?

Iran has a special position in this project, because it is an energy passage in the Middle East, and also it has maritime or terrestrial border with 15 countries. Maritime is also an important way to reach the northern and southwest areas of the world. Iran has a distributor role in shipping goods from China to the Caucasus and Central Asia. It is important issue that for something through this road, Iran should try to compete with China on one hand and should participate with it on the other hand. Independent former Soviet states have a lot of cultural, historical, and other trends to Iran. Iran must recognize the tastes, promote its products, and learn the languages of these countries in order to improve the communication with the people of this region. In this way, many things can be learned from China that has been able to find many export markets in a relatively short time.

Iran should create a special place in this road by focusing on it's the best products such as carpets, handicrafts and traditional ones, as well as market research. Silk Road along with economic prosperity should be a way of cultural dialogue for Iran. Based on studies and calculations of the International Monetary Fund, Iran can increase its production and non-oil exports into twice. Iran should not be ignorant of the independent states from the former Soviet Union. In this case and regard to the common borders of Iran with them, there is not any competition with the Arab world. Common history, cultural roots, etc. will increase the possibility of Iran's communication with them. We have made a lot of efforts in the past decades to have economic relations with the Arabic and Near East countries, but the fact is that the countries that are located in north of Iran have made many paths for economic progress.

Iran's Position in the New Silk Road

China has taken the control of the New Silk Road Initiative as a new way of development growth aiming at progression of road links between Asia, Africa and Europe and it decided to support the infrastructures by multi-billion dollar investment.

The project of the New Silk Road will be applied by two lines. The first line will connect China, Middle Asia and Europe under the name of "Silk Road Economic Belt". The second line being "Maritime Silk road" connects china to Indian Ocean and then to the Mediterranean Sea.

To perceive the importance of the New Silk Road, marine routes in the project and Iran's role in this regard, Payam Darya conducted an interview with Dr. Bahram Amir Ahmadian, University Professor and consultant of Department of Transportation Ministry of Roads and Urban Development's deputy. The

transcription of this interview is reviewed in the following section:

What was the significant of the ancient Silk Road?

The Silk Road was initially a location for people to have transactions. However, this led to an increase in people's communications and cultural exchanges in a way that Iran's symbols could be illustrated through the road and in the authority of Muslims. This represents those traders who chose this route enjoyed morality that caused the transfer of notion and belief along with commercial goods. In this regard, religious, cultural, technological and art exchanges have been formed in the ancient Silk Road. In that time, the morality, behavior and conduct of Iranian was professed. Iranian Carpet and Porcelain were known under the brand of Iran and

China, respectively. In fact, communicative roads created economic blossoming through nations' ties with one another. Considering lack of residential areas along the roads, oases which were a fertile tract in a desert have been formed. These oases were far from each other and were considered a center for trade, notion, goods, and technology, industry and art transactions. For example, Chinese passed a land called "Sogdia" -which is a part of Tajikistan now- to arrive the Europe. The people of this land were very intelligent and were aware of Chinese language. During the Mongolian era and by the rise of Safavid in Iran as well as the disconnection of countries with each other, Silk Road lost its efficiency and trade transactions were recorded in a limited form.

What is the role of maritime passages in forming the Silk Road?

Considering the maritime detections, international maritime passages have changed to the main direction of human and land transport (road, rail) developed only in limited areas. However, no kinds of transports could be substituted by marine transport as maritime detections emerged. Oceangoing vessels gradually with high capacities find their way in marine transport to feed the

economic life. Thousands of years ago, Iranian navigators traveled toward East Africa and Zanzibar from Bushehr Port in a way that positive moralities have been remained in this land. So, significance of maritime passages led to the forming of Maritime Silk Road.

What is the purpose followed by China behind the revival of the Silk Road?

In the early nineteenth century, the Caucasus was occupied by Russia, and Iran was forced to hand over its territory to the Russians. Britain attempted to establish peace between Russia and Iran in 1813 by concluding the Golestan Compassion in 1813 and Turkmenchay in 1828, and thus England remained in its colonies until 1947 which forced the British Empire to accept India's independence.

On the one hand and in the second half of the nineteenth century, Russia moved towards Samarkand, Bukhara and Central Asia, and on the other hand China was restricted in a closed environment, so the Silk Road no longer had any meaning.

But now, the free environment caused mass production, market days in abundance, population growth and creating networks of roads. Therefore, in this situation where the Soviet communism is destroyed

and China is no longer the Chinese Communist Party of Mao, the country needs to market for the sale of goods and, at the same time, needs communication networks because its limited communication networks suffocate population and production.

So, due to the fact that the United States takes over the Spratly Islands in West Pacific Ocean and East of China, and in contrast China tries to build artificial islands, the seas have become dominant territories. In line with this, international shipping which plays a vital role in people's life encounters difficulty. Russia has also been sanctioned by the United States because of the occupation of the Crimean peninsula and restrictions on the movement of ships. The authority of this peninsula is dependent on Ukraine by means of maritime law but practically it is occupied by Russia. Then for china not to encounter problems in its production and international trade, it is to move from the South to the destination and not to pass the Malacca Strait. Because every ship that aims at traveling the South Pacific Ocean toward the North have to pass Malacca Strait and West of Pacific Ocean due to oceanic currents to employ shipping services in the case of danger.

Malacca Strait caused Singapore to be a city state

owing to receiving shipping services in a way that income resulted from exported shipping services of the country is more than that of the gained income of Iran's oil GDP. So, China has to create a route called "string of pearls" not to encounter difficulty. This means that a connecting line from the South of India to South Asia and then to a port such as Gwadar port in Pakistan is created.

What's the role of seas in remaking process of the Silk Road by China?

China's decision to revive the Silk Road is a departure from the maritime bottleneck monopoly. This means that access to markets will be achieved by reaching widespread markets if there is a problem in the maritime sector. For example, in 2000, an agreement was signed between Iran, India and Russia, called the North-South Corridor. At that time Putin had just arrived in the Russian presidency, and the United States intended to curb it. During the Cold War, the Soviet Union prevented the growth of the communist, its limitations, and eventually its collapse. So, Russia decided to define an intra-boundary corridor that crossed Asia. Now Russia is again looking for inland territorial corridors. China compares itself with Russia on a larger scale. China is connected to the United States by ocean and from the

East and to the Asia from the West. So it tries to use the Pacific less. China has made its own navy very strong and moves toward militarism. It shows that the territory of waters and maritime commerce is valuable enough to be used for that war scenario. China, on the other hand, has seized Pakistan's port of Gwadar for 40 years to take advantage of the economic and strategic corridor of China and Pakistan. In fact, China has taken the control of the Gwadar Port in the Oman Sea (Arab) for economic purposes, to connect the city of Kashgar to the Xinjiang area of China and continue to travel there through the railways. China is thinking of the revival of the Silk Road in such a condition. Because the country has an annual GDP of \$12 trillion, so it will face difficulties if there is a limit. On the other hand, China's population is recorded about one billion and 300 million. In other words, if GDP is to be divided among each Chinese, each would get approximately \$700.

America is also the world's first economy, with \$8 trillion in GDP and divides it between 350 million people. With these interpretations, America's supremacy will always be maintained. That's why China has to define the Silk Road to maintain its economy.

If China uses the Iran Road Network on its Silk Road, it will pay a transit fee for transit goods, but this may be so small

that it will not be enough to rebuild our roads. Of course, we can demand more money from them by expressing the importance and necessity of Iran's roads and ask them to process a part of their goods in our country due to using Iran's route or to develop rail and road infrastructure and invest. So crossing the Silk Road to Iran is an opportunity.

What's Iran's role in Maritime Silk Road?

Iran can expand its shipping through a long coastline in the Persian Gulf and Oman Sea. We can interact with the world by attending seas and transportation. Over the course of a specified period, 1.5 million people must settle in the Makran coast of Chabahar. We can accommodate people by developing ports in these areas. Future world will be a troubled world. America will create problems for countries. In the meantime, how to exploit the Strait of Hormuz can be effective in the interest or disadvantage of Iran. In addition, establishing oil terminals and bunkering hubs as well as scattering population in these areas could be effective. In the future, Iran has to implement policies for population dispersal. One of the ways is the development of the southern coast of the country. The Shanghai Alliance and the Eurasian Economic Union are planning to push us into land transport, while our concentration

should be on the ocean. That's why we have to accelerate the development of Chabahar. In 2004, an Asian pass way was to be established between Iran and Afghanistan, and three republics of Turkmenistan, Uzbekistan and Tajikistan. But, unfortunately, this issue was not tracked.

Iran has many capacities in its ports, which unfortunately does not employ them all. Iran can communicate with Afghanistan, Turkmenistan, Uzbekistan and Tajikistan to devote some of its piers to them and make the economies of these countries to be dependent on the country's port.

Is the new Silk Road an opportunity or a threat for Iran? What are the benefits of choosing Iran for China?

The ancient Silk Road route crossed China, Central Asia, Turkmenistan and Iran, and then was divided into two branches, one from the northern east of Turkey to Europe, and another from Iran to Baghdad, Mesopotamia and Syria (Shamet) and the Mediterranean coast. Iran is currently facing difficulties due to restrictions imposed by Turkey on its relations with Europe. Another way of connecting Iran to Europe is the Caucasus, Georgia, the Black Sea and the linkage to Eastern Europe. But in fact, the corridor of Iran, Iraq and Syria, which ultimately connects to the Mediterranean

coast, is preferable

Russia, Turkey and Iran do not have money to rebuild Syria, the Arabs are enemies of Syria, and America and Europe do not intend to help, so the only remaining country is China. Therefore, if China intends to cooperate with Iran, it will benefit a lot by having access to the Middle East and energy sources, while it can also invest in these areas and employ its manpower for these investments. Moreover, through this corridor, Iran can trade with the East of the Mediterranean.

West China's trade with Iran can be formed through the port of Gwadar and Chabahar. Currently, the Chabahar port is developing through the Indians and the Iranian people can invest in the port instead of other parts of the port. The government can provide the platform of investment in Chabahar by selling bonds. The Egyptian people did the same and, despite the financial difficulties, managed to create a wide channel alongside the old Suez Canal last year.

To select the transit route, the shortest one is not necessarily the best one; it is a convenient route for the traders to operate easily. If the rules and regulations for the transfer of goods are to be difficult and complex, no one will choose that route.

When the Azerbaijani's oil was to cross Iran, we believed that it was the best, cheapest, shortest and safest route. But

Europeans, by investing in the Caspian region, tried to bring oil to the European countries. At present, Europeans have transferred oil from Azerbaijan, Georgia and Turkey to their homeland by creating a 1,760-kilometer pipeline.

Export of goods needs stability. If an interruption occurs in the delivery of the goods, the exporter will choose another route to achieve his goal. In order to persuade China to use the Iranian route, a necessary structure such as insurance, bank, customs, fuel, inspection, roads, road services, etc. should be created. Iran has good conditions in terms of having suitable roads. But management needs to be met. It is very important to create an appropriate economic atmosphere. Considering the document of 20 years Vision of the Islamic Republic of Iran, this country will recorded the most interactions with the region countries in 1404. To interact with countries, the communication and legal infrastructures must be provided. Facilitating economic relations, creating proper customs on the borders, and coordinating institutions as well as reducing the institutions involved in exporting and importing are very influential.



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A large industrial steel mill. In the center, a glowing furnace emits a bright yellow-orange light. A large, spherical ladle is suspended by a crane, pouring molten metal into the furnace. A massive spray of bright orange sparks falls from the ladle and the furnace area. The background shows the complex structure of the mill with various pipes, walkways, and structural beams. The overall scene is one of intense industrial activity and high temperatures.

Iran

**Iran to Promote
Steel Production**



Steel; Gate to Development

By: *Hanieh Eftekhari*

The steel industry can be considered one of the most important foundations of the economy in any country, as even the consumption of steel per capita is an indicator for evaluating the industrialization of a country, and this industry moves alongside with economic development in any country.

Steel, in addition to its key role in developing some countries like the United States, is also considered as a factor of economic growth of Eastern Asian countries, such as Japan and China.



**IN IRAN, THE
CONCEPT OF
DEVELOPMENT
HAS BEEN TIED
TO THE STEEL
INDUSTRY**

In addition to the steel industry's leading role in developing of countries, the impact of this industry in creating job opportunities is indisputable.

Steel Industry is ranked among the world's leading industries, which has more than 2 million people worldwide directly involved in it, with more than 2 million contractors and 4 million in the back-up industries of it.

Regarding the status of steel in supplying key products such as cars, construction, transportation and electricity, the steel industry is also considered as the source of employment of more than 50 million people in the world.

In Iran, the concept of development has been tied to the steel industry. In fact, every time it was spoken about the development of the country, the creation of job opportunities, or the move towards industrialization, the first object as the driving force for other industries is the steel industry.

On the other hand, over the past few years, the mines as high-value industry and key to exiting the recession is considered in the agenda of the government. So, it has contributed to strengthening the Ideology of steel development. But the current situation in Iran, and on the other hand, the situation in the world economy, raises this question: whether steel should still be the first option of investment and development?

Proponents of Iran's quantitative development of steel production believe that in comparison with others, Iran

has many advantages, including iron ore, and affordable and cheap energy.

So, in the government's Steel Development Plan achieving the goal of producing 55 million tons per year of crude steel in 1404 was mentioned. But it was already impossible even on paper, and the amount of development in previous years also showed that calculating this number was absolutely non-expert. But on the other hand, the initiate results of the study on Iran's Steel Comprehensive Plan, commissioned by the National Iranian Steel Company, showed that the logical amount of steel development was 40 million tons per year; this is the number that most experts in the industry agree on it. But the main question, which remains in any case, is that to what extent do we have a comparative advantage in steel production?

According to many experts and players of this industry, Iran can have a different story in the field of steel industry investment from other countries in the world. The first reason is its positive outlook for the competitiveness of steel production in Iran because of the availability of natural resources in the country.

Iran is a rich country in iron ore, and iron alloys are available in the region. Furthermore, Natural gas, an essential factor for the recovery of iron ore, is abundantly accessible at a very low price.

Iranian engineers all have the necessary skills to set up the plant efficiently, and geographically, Iran has the

privilege of location to export steel to the Middle East, Africa, Europe and Asia. All of the above advantages lead to competitive production cost, which will reduce costs by 15% compared to China and 25.3% lower costs compared to Europe and the US.

Investing in steel industry is part of Iran's strategy to increase industrial output to balance with the current superiority in the oil industry.

Some other projects in this area are the construction of ports, roads, railways and power plants, and in order to improve the conditions the government seeks to create incentives, find ways for attracting foreign investments, and provide security.

It should be noted that Iran has the necessary capital (including natural resources, culture and executive skills) for the extremely competitive presence in the these days' steel market and to play an effective role in the steel production market.

These are assumptions that combined with the growth of the country and the Middle East region can make Iran as a reference point in the engineering and construction of steel projects and fully capitalize the plans of steel industries development.

Challenges of Iran's Steel

Despite all these privileges, the steel industry faces some challenges, which solving them will not only make it easier to compete with global competitors, but also help a lot to Iran economy.

Experts believe that one of the



IRAN HAS THE NECESSARY CAPITAL FOR THE EXTREMELY COMPETITIVE PRESENCE IN THE THESE DAYS' STEEL MARKET AND TO PLAY AN EFFECTIVE ROLE IN THE STEEL PRODUCTION MARKET



key challenges in this industry is the high cost of production in the country. According to them, on the one hand, the technology and the old methods of production, and on the other hand, high losses in the industry, along with overhead costs in fields such as manpower, transportation and low productivity, have caused the price of the product to be high.

This challenge, in addition to make imports justify, will make our export markets face some challenges in the future. Of course, one of the issues is the low price of some raw materials such as iron ore in the domestic



market, which is somehow a chance for the steel industry. However, there are still many concerns.

Another challenge is the lack of diversification in the steel products. The main attention of Iranian manufacturers is on the production of various types of constructional steels, while currently special products of steel have high profitability, and they can provide more favorable conditions for activists in this field.

One of the issues that can be mentioned about cost of finished steel products which is the challenge that other industries are engaging in somewhat, is the



IRAN'S STEEL INDUSTRY IS EXITING FROM RECESSION, SO IT IS HOPED THAT IN THE NEAR FUTURE BOTH THE IRANIAN ECONOMY AND THE STEEL INDUSTRY WILL COMPLETELY EXIT FROM THE RECESSION

high cost of financing in Iran. In the opinion of the activists of this industry, in Iran financing for steel is mostly done from banking system, while the interest rate in the Iranian banking system, along with the price of the product, as well as the 4 years recession in the industry, has made this method ambiguous. Simultaneously capital market does not have favorable conditions for financing the steel industry, and these factors have caused state-owned steel projects to face challenges in financing. Of course, the financial aspect of these projects as a way has already been able to solve some of the challenges.

The other challenge of the steel industry in the country should be sought in export areas. Previously, we also looked at reports that the most important export markets for our steel products are related to some of the neighbor countries as well as Europe as the most important steel partner in Iran. According to statistics, Iran has exported 4 million tons of steel last year. About 500,000 tons of those have been exported to Europe, which according to the EU Steel Council is subject to dumping, because it is sold under European prices to producer prices. Although Eurofar did not make a restrictive decision for our country, this issue has created signals for controlling and monitoring steel markets. Industry activists, of course, do not accept the steel dumping, and believe that the low prices of iron ore have caused the low prices of steel and this is not intentional. In this case, the



boom in Iran's steel industry has increased demand for this product from other countries, for example exports of steel from Iran to Europe have increased by 8 times in the last three years. The 8-fold increase in exports of Iranian steel to Europe over the past three years has raised concern for European steel producers and rivals. After China and India, the increase in steel exports of Iran has threatened steel producers in Europe. Meanwhile, the recent announcement by the government of Iran about tariff increases for iron ore exports like India, have raised concerns for the Eurofar group. This act allows local producers to access raw materials at lower prices and make their steel industry more competitive.

Another challenge facing Iran's steel industry is the global

demand for steel. Unfortunately, predictions indicate a declining trend in steel demand in the future, one of the reasons relates to drop in demand for the world's industrial giant, China. In addition, reduction in oil prices in recent years has led to a sharp drop in steel prices in the global markets. Of course, this process is expected to be somewhat improved, but according to experts, this reforming is possible with limited growth and low speed, and we cannot expect prices to return rapidly to their past figures.

The Outlook of presence the 6th Step of the World

According to mentioned points, Iran intends to increase its production capacity by 2025 to 55 million tons and export to 20-25 million tons, and to

achieve the position of sixth largest producer in the world. However, currently it is the world's 14th largest producer. Iran's steel industry has utilized 60% of its production capacity up to now, and by considering the condition of steel industry, it is not expected that Iran could use more than 67% of its industrial capacity. Of course, if Iran reaches this level, it will achieve great success and get to the global standard, because the average of 72% of the world's steel production capacity has been used yet, and the rest of it is useless. Therefore, Iran's steel industry is exiting from recession, so it is hoped that in the near future both the Iranian economy and the steel industry will completely exit from the recession.



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ESC Managing Director, Ahmad Sadeghi:

Iran's Steel Production Capacity to Reach One Third of Europe's by 2025

Possessing main production material such as iron ore, gas (reducing agent), and energy along with sophisticated human resources has turned Iran into a country with a comparative advantage to develop and expand its steel industry. Nevertheless, by no means does this comparative advantage, by itself, guarantee a sustainable and steady growth in Iran's steel industry. In other words, it is one of the required conditions for Iran's steel industry to flourish and thrive, but not the sufficient condition. This is true while countries such as Japan, South Korea and even Turkey have managed to become key players in this industry without possessing some of the aforementioned resources. Hence, it is necessary that the current players of Iran's steel industry as well as the firms and industrial complexes that intend to join this industry in the future should take a glimpse of the past, analyze the drawbacks and pitfalls and lay out the detailed and meticulous road map for the future of this industry. Esfahan Steel Company (ESC) is one of the current key players in Iran's steel industry, which not only contributes to the domestic production, but also has an international reputation in the field. To further familiarize ourselves with this company and its activities, we sat down with its managing director, Ahmad Sadeghi. The transcript of this interview has been laid out in the upcoming lines:



Iran is in possession of massive volumes of mineral reservoirs, which contain a wide variety of minerals, including abundant sources of iron ore. Considering this, has ESC adopted the approach of selling raw material? Or does it have macro-plans to complete the production chain to reach final products? In the science of economy, there is no denying that creating higher added value and exploiting the resources to their fullest capacities is a crucial value for every country. Even so, logic has it that entering areas of production where the country does not own noticeable privileges and wastes the resources is as reprehensible as selling raw materials. As case in point, Australia and Brazil possess world's richest iron ore

resources; yet, their iron ore export is not considered to be selling raw material, since their export advantage lies in the sales of iron ore granules. At the time being, Iran enjoys comparative advantages in steel production up to middle-level products and several flat products; therefore, we have turned into a reliable and authentic brand for bullions and plates worldwide; nonetheless, in producing some products such as long construction material or Pipes, we have not been able to make a name for ourselves as an exporter because we have concentrated on the domestic market and have not promoted our production capabilities to measure up to international standards. At times, the price that international buyers pay for our final products equal is less



ESC HAS PLANNED TO ESTABLISH A NEW PELLET PRODUCTION UNIT, TO BOTH REFORM THE TECHNICAL STRUCTURE OF THE FACTORY AND REDUCE THE FINAL PRICE



than that of our middle-level products.

Considering this, we do need to reconstruct and develop our lower-hand industries based on international standards. For this purpose, producing SAE-brand coils, H iron girders of different sizes and subway and train railroads have been among the most paramount plans of ESC.

Pellet is one of the most significant materials for steel production. Given that Iran has large pellet production plants (e.g. Chadormalou and Yazdabad Complex), have we become self-sufficient in this regard?

Iran is currently capable of producing over 37 million tons of pellets, and there are projects

in progress at the moment that will add 38 million tons to the current figure once they are completed. This will increase Iran's pellet production power to 75 million tons, and seeing that the country will be in need of 80 million tons of it by 2025, we will be in need of 5 million tons of pellet. To tackle this need, ESC has planned to establish a new pellet production unit, to both reform the technical structure of the factory and reduce the final price. Moreover, another way to meet this need is to replace pellet with iron ore in tall furnaces. This measure will enhance the efficiency of tall furnaces as well

Last year, the implementation

of the Joint Comprehensive Plan of Action (JCPOA) provided Iran with an unparalleled opportunity to expand its collaboration with foreign countries and international investors. What measures has ESC taken to absorb foreign investment after the launch of JCPOA and what has the company accomplished so far?

The most noticeable accomplishment of the ESC after the execution of JCPOA has been solving the problem of steady and on-time supply of some raw materials as well as some specific equipment related to production process. Other accomplishments have been supplying some equipment at lower prices and the facilitation



SOPHISTICATED MARKETING TEAMS IN IRANIAN STEEL COMPANIES HAVE BEEN ABLE TO ADD NEW EXPORT DESTINATIONS FOR IRANIAN STEEL IN SOUTH-EAST ASIA AND NORTHERN AFRICA

of money transfer. Moreover, we have had negotiations and established interactions with some prominent international corporations for the supply of spare parts and optimizing production lines.

As far as sales is concerned, I must emphasize that the quality of ESC export products was so high that some customers, particularly European customers, insisted on purchasing from us even in the peak of the sanctions' era. Nonetheless, the common payment procedures in Europe (documentary credits) and the challenges imposed by banking sanctions were huge deterrents for us. Once JCPOA was executed, however, our collaborations entered a new level, in such way that at the moment, in the section of financial supply with export guarantee only, 5 companies from Austria, Italy, India and Germany are highly interested to collaborate with ESC. They have placed orders for purchasing cast iron, bullion and other ESC products in this

manner.

I must add that the availability of steel-production raw materials mines, energy, sophisticated human resources and access to free waters are some of the major advantages of investment in Iran's mineral and steel industry. In order to absorb investment for supplying raw material and executing developmental plans, ESC is currently negotiating with some investors from China and Germany.

Iran experienced mind-bending progress in the steel industry last year, in a way that it was regarded as one of the top 15 steel producers worldwide. Is this increase merely for meeting the domestic demands or have any markets been targeted for export?

The production of steel in the current year as well as in the previous year increased while the domestic consumption of steel underwent and is still undergoing a descending trend. Recessions in the construction

and civil project in the recent years have practically diminished the volume of steel used in the domestic market, and this decrease is certainly one of the crucial challenges for the prospect of 55 million tons' steel production by 2025. Even though the merits of steel production in Iran have been taken into account in the country's industrial development plans and a vivid future prospect has been illustrated for this industry, planning for and encouraging extensive export of steel is inevitable. Despite the growth of production and export of steel and its products, statistics released by steel producers' association highlights a 9-percent decrease in the consumption of steel wire and iron girders in the domestic market from March to July 2017 in comparison with the same period in 2016. In fact, the recession in the use of steel in the domestic market has been worse than the past; and the growth in steel production has been owing to an increase



in export. The growth of steel production in Iran has been based on the country's industrial development plans, and aims at reaching 55 million tons of production and 20 million tons of export by 2025.

Although the majority of the produced steel must be consumed in the domestic market, some export markets have been targeted. Sadly, the current domestic market does not have the capacity to consume the amount of steel produced in Iran, and only way to pass by for the current conditions is effective and extensive export. Sophisticated marketing teams in Iranian steel companies have been able to add new export destinations for Iranian steel in South-East Asia and Northern Africa. The distinctive features of Iranian steel have advanced up to the point that Iran is currently playing a key role both in the regional and off-regional markets; and the competitors use prices offered by Iranian companies as a touch stone to set their competitive prices.

From March 2016 to March 2017, ESC alone managed to

export 647 tons of steel. From March 2017 to August 2017, as well, ESC managed to export 585 tons of long steel and bullion. This figure highlights a 127-percent increase compared to the figures of the same period in the previous year among the large steel manufacturers in the country.

What are the most crucial deterrents that the steel production process is facing at the moment?

Even though unwritten banking sanctions still exist in the post-JCPOA era, and this makes it difficult for us to transfer money in the country, there are other issues that deter and at times threaten steel export from Iran – namely unreal and highly fluctuating exchange rates, deficiencies in the development of road and port infrastructures, negative competition among domestic manufacturers, logistics, poor utilization of railroad transportation, lack of supervision on production and export, and the threats posed to the steel brands by producers that manufacture poor-quality products.

One of the accusations made to Iran's mine and steel industry, specifically from European countries, was the issue of dumping. Is there any truth to this accusation? How could this accusation be dealt with?

Dumping is a very complicated issue. By and large, dumping means the export of a product at a price which is lower than its final cost. Of course, given the comparative advantages of steel production in Iran – particularly the energy and raw material – it is not easy to prove that Iran's steel industry has committed dumping. Nevertheless, the mere fact that Iran intends to increase its steel production to 55 million tons (which equals One Third of Europe's total production) along with the comparative advantages of steel production in Iran can lead a remarkable increase of Iran's





IRAN HAS SET A NUMBER OF PROCEDURES FOR IMPORTING SCRAP IRON FROM THESE TWO COUNTRIES

steel export to European Union. No doubt, this situation would create numerous problems for European steel manufacturers, and this dumping accusation was some sort of response to this trend. Overall, proving Iran's economic advantages in steel production was the most prominent response to the dumping accusation.

In addition, word was circulating that European Union has ratified an anti-dumping resolution against the imported hot plates from Iran and three other countries. This rumor, as well, was rejected and discarded by the European Commission. I must add that ESC products do not fall within this matter.

Was any growth reported in Iran's steel production last year, given the sanctions removal?

Implementing some localization, ESC managed to meet the majority of its needs at the time of the sanctions, and kept its production cycle just as it was preplanned in spite of all the limitations and restrictions. However, the increase of production was not merely the result of sanctions' being lifted. Moreover, the sanctions related to Iran's nuclear program have not revealed their full impact on commercial interactions yet. With the execution of JCPOA, it is expected that some progress, even marginal, is observed in the economic atmosphere. Despite the growth in the steel production capacity of Iran, the grounds for steel consumption per capita are poor and underdeveloped.

In the near past, ESC had the

conditions and capacities to produce in larger volumes; yet, the decrease in the domestic use of steel has naturally reduced the production capacity of this company, and has led to the export of the majority of this company's production. Certainly, with the attempts that ESC is making to absorb proper finances and credits from foreign sources, the tall furnace number 1 of this company will be restarted and the company will operate under more smooth conditions.

By and large, progresses made in Iran's relationship with other countries and the supply of equipment and spare parts that Iran's steel plants needed were the two main factors that contributed to the 11-percent rise in Iran's steel production from March 2016 to March 2017.

In the past few months, prohibition of scrap iron import from Afghanistan and Iraq was a heated news topic in the mainstream media/ what was the main reason for this prohibition? And right now, which country is importing scrap iron?

The prohibition of importing scrap iron from these two countries was interim, and it was lifted shortly. Scrap iron has certain standards and features, and unless these standards are met, scrap iron is not imported to Iran. Taking into account the special situation of these two countries, we can always suspect the scrap irons coming from them might be polluted with radioactive or





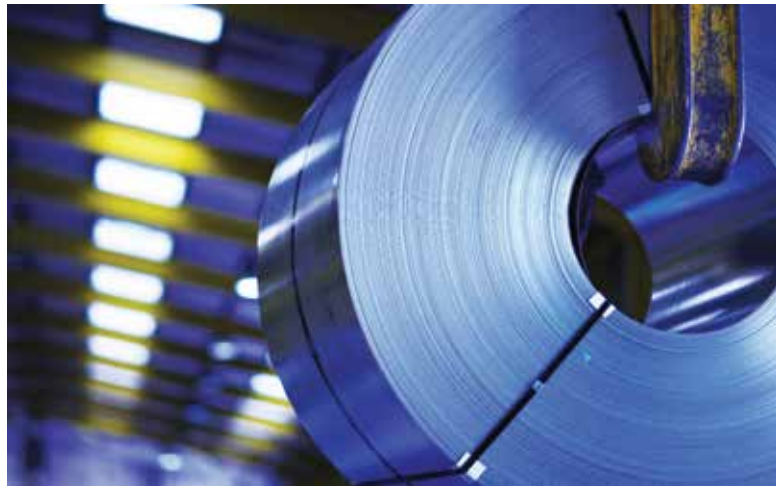
they are war scrap metals. Due to this reason and also in order to avoid any other feasible issue, Iran has set a number of procedures for importing scrap iron from these two countries. This import has to go through its own channels under open convention. Right now, Iran needs approximately 5 million tons of scrap iron,

which is being imported from Armenia and other Eurasian countries.

Now that ship building industry has been activated in Iran, is the steel production sector equipped with adequate technology to build the plates needed by shipyards?

At present, the production of the slabs and plates needed in shipyards cannot be done from

A to Z in one single steel unit; however, slabs are produced in one unit and the complementary processes are conducted on them in another unit. The same is true of the plates. Likewise, the rolling workshop 650 has been reconstructed, and hence, ESC is now capable of producing rails and heavy iron girders. Based on the conducted study for the development of the company, ESC also plans to



produce slabs, flat products and pipes in the upcoming month.

AS the last question, what plans do you have to expand and develop ESC?

In the first phase, we intend to revise and reform the technical structure of the company via making plans to reduce the final prices in convertors, enhancing efficiency in the company through reforming the pellet-iron transformation coefficient in tall furnaces (which makes it possible to charge tall furnaces with coarse iron ore), executing the injection project based on maximized use of units' capacities, and implementing equilibrium in pulverized coal injection in tall furnaces of different production lines. Executing these plans will raise 12,000 billion dollars of added value for the company.

In the second phase, based on the conducted studies within the company's roadmap, ESC will be enabled to manufacture products that are economical, enjoys a great variety and possess high added value.

At the moment, one of the major goals of ESC is

planning, optimizing, making preparations and paving the grounds for the production of 3.6 million tons of steels. To this end, plans for the completion and extensive repairs of tall furnace number 1 are being pursued and executed. Other measures, moreover, are being taken, the most significant of which are as follows:

- a. Increasing the volume and the variety of products and reducing their final prices
- b. Establishing pellet production united in the ESC
- c. Developing and operationalizing the sponge iron production unit
- d. Reducing HMR to at least 82
- e. Adding an electric arc or convertor to the steel production sector
- f. Developing the domestic and foreign commercial companies
- g. Paying serious attention to efficiency
- h. Collaborating with technology-oriented companies for the purpose of controlling the wastes and increasing efficiency
- i. Paying serious attention to side products

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of Directors and staff members
on The Happy Occasion of 51th
anniversary of IRISL foundation.*



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Glance

**An Insight into
Setting Compensation
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Impact of determine cap for compensate damages in maritime law

Comparison of maritime convention issued by IMO

By: Shiva.Teimouri



Background

Due to the limits of the maritime fund for compensate the damages, as well as the unlimited costs of this maritime transport, We are witnessing the adoption of several conventions on the liability of the ship owners in various aspects of maritime transport. The purpose of the ratification of these conventions is to provide a certain amount of compensable damages and determine the share of owners in the payment of damages also The basic idea of this comprehensive convention is to provide a platform to locate all limitation issues in regard to all limitable maritime claims within a unified legal framework.

Considering that the ship owners liability have a long history in maritime transportation.

In this article, we will highlight some of liabilities, such as ship owner liability about carriage goods by sea and liability for personal injury and property losses. The central part of maritime law is rules governing on liability, that's make balance between rights and responsibilities of the carrier and the cargo interest. Carrier is liable for any loss of damage except of Immunities declare by the general or particular rules like conventions.

The rationale for allowing ship owners to limit their liability in respect of ship-sourced damage is to encourage shipping and trade. This involves balancing the competing objectives of compensating anybody who suffers loss or damage caused by ship owners or their representatives, while ensuring that shipping remains a profitable venture. There have been laws limiting liability of ship owners since at least the early 18th century, with the first such English laws being introduced in 1733. Traditionally these laws have favoured the ship owner, to the detriment of claimants.

Liability:

most of the time in maritime transportation because of the circumstances, carrier was liable for loss and damage based on strict liability, that's why the fault or negligence of the carrier was not the source of liability.

Strict liability means the causal link between the liability and the person liable will not be based on the fault of that person but only on the fact that damages or losses are caused due to the act or omission committed by that person.

Even if that person had no fault, he would still be liable if strict liability is imposed on him.¹

Shipowners are generally entitled to limit their liability in respect of claims arising from damage caused by their ships. This means that if a ship is involved in an incident which causes damage to persons, property or the environment, there is a limit on the maximum amount of compensation that a court can order the shipowners to pay. The maximum liability of a shipowner is usually calculated based on the size of the ship involved in the incident and has no relationship to the amount of damage caused by the incident.²

Here before mention relevant conventions and their limit of liability of ship owner/ carrier, we would like to provide a definition of limit of liability measurement unit.

Unit Of Measurement:

SDR (Special Drawing Right)

The SDR was created by the IMF in 1969 as a supplementary international reserve asset, in the context of the Bretton Woods fixed exchange rate system. A country participating in this system needed official reserves—government or central bank holdings of gold and widely accepted foreign currencies—that could be used to purchase its domestic currency in foreign exchange markets, as required to maintain its exchange rate. But the international supply of two key reserve assets—gold and the US dollar—proved inadequate for supporting the expansion of world trade and financial flows that was taking place. Therefore, the international community decided to create a new international reserve asset under the auspices of the IMF.

Only a few years after the creation of the SDR, the Bretton Woods system collapsed and the major currencies shifted to floating exchange rate regimes. Subsequently, the growth in international capital markets facilitated borrowing by creditworthy governments and many countries accumulated significant amounts of international reserves. These developments lessened the reliance on the SDR as a global reserve asset. However, more recently, the 2009 SDR allocations totaling SDR 182.6 billion played a critical role in providing liquidity to the global economic system and supplementing member countries' official reserves amid the global financial crisis.³

Basket of currencies determines the value of the SDR

The value of the SDR was initially defined as equivalent to 0.888671 grams of fine gold—which, at the time, was also equivalent to one US dollar. After the collapse of the Bretton Woods system in 1973, the SDR was redefined as a basket of currencies. Effective October 1, 2016 the SDR basket consists of the US dollar, euro, the Chinese

1 <http://legal-dictionary.thefreedictionary.com/negligence>

2 https://infrastructure.gov.au/maritime/business/liability/pollution_damage.aspx

3 <https://quizlet.com/31387396/ib-350-ch-11-flash-cards/>

renminbi, Japanese yen, and British pound sterling.

Friday, September 01, 2017 ¹

Currency	Currency amount under Rule O-1		U.S. dollar	Percent change in exchange rate against U.S. dollar from previous calculation
Chinese Yuan	1.0174	6.56835	0.154894	0.542
Euro	0.38671	1.19145	0.460746	0.481
Japanese Yen	11.900		0.108059	0.422
U.K. Pound Sterling	0.085946	1.29330	0.111154	0.443
U.S. Dollar	0.58252	1.00000	<u>0.582520</u>	
			1.417373	
	U.S.\$1.00 = SDR		0.705531 ₂	-0.281 ³
	SDR1 = US\$		1.417370 ₄	

Development of conventions carriage goods by sea :

Functions for ship owners or operators in different conventions are referred to:

➤ **Huge-Visby rules 1968**

The carrier main duties under the Huge –Visby rules are to issue a bill of lading, to exercise due diligence to keep the ship seaworthy, not to deviate from the agreed route and care for the goods,

1.The carrier shall be bound before and at beginning of the voyage to exercise due diligence to :



- Make the ship seaworthy
- Properly man, equip and supply the ship
- Make the holds, refrigerating and cool chambers and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage

2. subject to the provisions of article four (Immunities) the carrier shall properly and carefully load, handle, stow, carry, keep, care, for and discharge the goods carried.

- international convention on the carriage of good by sea (Hamburg rules 1978)

The probe into Hamburg rules about the basis of the carrier liability and its concomitant burden of proof begins with article 5(1) which states :

1. The carrier is liable for loss resulting from loss or damage to the goods, as well as from delay in delivery, if the occurrence which caused the loss, damage or delay took place while the goods were in his charge as defined in article 4, unless the carrier proves that he, his servants or agents took all measures that could reasonably be required to avoid the occurrence and consequences.

2. Delay in delivery occurs when the goods have not been delivered at the port of discharge provided for in the contract of carriage by sea within the time expressly agreed upon or, in the absence of such agreement, within the time which it would be reasonable to require of a diligent carrier, having regard to the circumstances of the case.

3. The person entitled to make a claim for the loss of goods may treat the goods as lost if they have not been delivered as required by article 4 within 60 consecutive days following the expiry of the time for delivery according to paragraph 2 of this article.

4. (a) The carrier is liable :

(i) for loss of or damage to the goods or delay in delivery caused by fire, if the claimant proves that the fire arose from fault or neglect on the part of the carrier, his servants or agents;

(ii) for such loss, damage or delay in delivery which is proved by the claimant to have resulted from the fault or neglect of the carrier, his servants or agents in taking all measures that could reasonably be required to put out the fire and avoid or mitigate its consequences.

(b) In case of fire on board the ship affecting the goods, if the claimant or the carrier so desires, a survey in accordance with shipping practices must be held into the cause and circumstances of the fire, and a copy of the surveyors report shall be made available on demand to the carrier and the claimant.

5. With respect to live animals, the carrier is not liable for loss, damage or delay in delivery resulting from any special risks inherent in that kind of carriage. If the carrier proves that he has complied with any special instructions given to him by the shipper respecting the animals and that, in the circumstances of the case, the loss, damage or delay in delivery could be attributed to such risks, it is presumed that the loss, damage or delay in delivery was so caused, unless there is proof that all or a part of the loss, damage or delay in delivery resulted from fault or neglect on the part of the carrier, his servants or agents.

6. The carrier is not liable, except in general average, where loss, damage or delay in delivery resulted from measures to save life or from reasonable measures to save property at sea.

7. Where fault or neglect on the part of the carrier, his servants or agents combines



with another cause to produce loss, damage or delay in delivery, the carrier is liable only to the extent that the loss, damage or delay in delivery is attributable to such fault or neglect, provided that the carrier proves the amount of the loss, damage or delay in delivery not attributable thereto.

Article 6. Limits of liability

1. (a) The liability of the carrier for loss resulting from loss of or damage to goods according to the provisions of article 5 is limited to an amount equivalent to 835 units of account per package or other shipping unit or 2.5 units of account per kilogram of gross weight of the goods lost or damaged, whichever is the higher.

(b) The liability of the carrier for delay in delivery according to the provisions of article 5 is limited to an amount equivalent to two and a half times the freight payable for the goods delayed, but not exceeding the total freight payable under the contract of carriage of goods by sea.

(c) In no case shall the aggregate liability of the carrier, under both subparagraphs (a) and (b) of this paragraph, exceed the limitation which would be established under subparagraph (a) of this paragraph for total loss of the goods with respect to which such liability was incurred.

2. For the purpose of calculating which amount is the higher in accordance with paragraph 1 (a) of this article, the following rules apply:

(a) Where a container, pallet or similar article of transport is used to consolidate goods, the package or other shipping units enumerated in the bill of lading, if issued, or otherwise in any other document evidencing the contract of carriage by sea, as packed in such article of transport are deemed packages or shipping units. Except as aforesaid the goods in such article of transport are deemed one shipping unit.

(b) In cases where the article of transport itself has been lost or damaged, that article of transport, if not owned or otherwise supplied by the carrier, is considered one separate shipping unit.

3. Unit of account means the unit of account mentioned in article 26.

4. By agreement between the carrier and the shipper, limits of liability exceeding those provided for in paragraph 1 may be fixed.

-The **Hamburg Convention** attempts to avoid the uncertainty of this situation, which is even more uncertain in some jurisdictions than it is in England and thus, Article 7 states,

1. "The defences and limits of liability provided for in this Convention apply in any action against the carrier in respect of loss or damage to the goods covered by the contract of carriage by sea, as well as of delay in delivery, whether the action is founded in contract, in tort or otherwise.

2. If such an action is brought against a servant or agent of the carrier, such servant or agent, if he proves that he acted within the scope of his employment, is entitled to avail himself of the defences and limits of liability which the carrier is entitled to invoke under this Convention.

3. Except as provided in Article 8, the aggregate of the amounts recoverable from the carrier and any persons referred to in paragraph 2 of this article, shall not exceed the limits of liability provided for in this Convention."

This is an example of one place where the Hamburg Convention seeks not only to protect the interests of Shippers but to clarify and improve the law also. This provision is clearly to the benefit of the carrier and specifically his servants and agents. However, in so clarifying the rules, and in a fair manner, it should reduce the need for lengthy and complex provisions in bills of lading. It is such complex legal arrangements that generally act to the detriment of developing nation shippers as the lack the advice and expertise to interpret and negotiate the documents and in this case often lose out. Clearer, simpler rules, that lead to more straightforward contracts will always benefit the weaker party in a any negotiation and therefore, such provisions should be supported by both carriers and shippers as reducing transaction costs and complexity, reducing the scope for potential disputes and for making the trading situation more fair.

Loss of Right to Limit Liability:

1.4.5 Article 8 of Hamburg Rules, We have already seen that the carrier's right to limit liability has been drastically reduced in Article 6 of the Convention. However, the Hamburg Convention sought to go farther than this and exclude the ability to rely on these limitations completely in situations of serious fault or intentional misconduct. The negotiation of such a provision did lead to some dispute between various delegations but the result was the insertion of a clause similar to that found in Article 25.

➤ **The New Structure of carrier's liability under Rotterdam Rules**

At present, the transport legislation prevailing in the various countries is not harmonized, and in part even outdated. The existing conventions are not always complete, and the interpretation of rules varies from country to country. That is detrimental to the development of trade and the carriage of goods by sea. International trade benefits from legal certainty and from modern rules that are in line with day-to-day practice.

The Rotterdam rules¹³³ constitute the latest attempt to update the international carriage of goods by sea regime to accommodate developments in the maritime trade. The legislative developments of cargo liability regime in general and those regulating

the basis of carrier's liability and its concomitant burden of proof in particular have common goals. First, they strive to catch up with the developments in transportation technology by having up to date rules of law.

Secondly, they attempt to achieve the fair balances of risks between the cargo interests and the carrier. The technological development of the container revolution has demanded the application of the rules in the Rotterdam rules to carriage by other modes of transportation.

Consequently, the convention is applicable to the transportation leg outside the sea as per art-26 of the code if the preconditions for extension of the Rotterdam rules to the other leg/s of transportation are satisfied. The carrier duties have shown readjustment to meet the multimodal aspect scope of the instrument and the period of responsibility of the carrier (door-to-door).

The Rotterdam Rules will offer that certainty for the international transport law. They apply from 'door to door', as a result of which the same rules apply for carriage by road, by rail and by sea. That is more economical for the modern way of transport by container. Container transport often involves a combination of transport by sea vessel, river vessel, HGV and/or train. The existing sea carriage conventions do not take this kind of transport into account. The Hamburg Rules (1978), for example, only apply to port-to-port transport. The Hague Visby Rules (1968) – to which the Netherlands is a party – apply as soon as the goods are attached to the hoist to load the goods until the moment that the hoist is detached, when the goods are unloaded. The Rotterdam Rules will increase the liability of the carrier. The carrier's obligation to provide a sea-worthy vessel will apply for the entire journey rather than just at the start of the journey. Moreover, the amount to which the carrier will be allowed to limit its liability will be increased.

E-mail is used very little, in practice, in the international carriage of goods by sea. The reason for this is the lack of a legal framework defining the extent to which such means of communication can be used. The Rotterdam Rules make it clear that the use of digital transport documentation is permitted, resulting in a quicker transfer of the goods carried, and lower transaction costs.

Another advantage of the Rotterdam Rules is that there are fewer defence options as a result of which the number of lawsuits is expected to decrease. Under the new Rotterdam Rules, the carrier is, for example, also liable for damage caused by a navigation error. Under the Hague Visby Rules the carrier was not held responsible for loss or damage as a result of a navigation error. With the current, modern navigation equipment, that defence is no longer considered justified. The defence that relied on the argument that the loss or damage arose or resulted from an error in the management of the ship, which defence had been included in the Hague Visby Rules, has likewise been eliminated under the Rotterdam Rules.

Moreover, the new UN Convention offers the defence options that the carrier does have to all employees, representatives and freelancers deployed by the carrier insofar as they can be held liable under the Rotterdam Rules. This will bring an end to the everlasting legal disputes on third-party liability with respect to the shipping of goods by sea, and will prevent time and money from having to be spent on lawsuits.

The chart of below convention shows carrier's liability arises from low to high;

per package or unit

Convention	Units of account	Limit per package or unit
Hague Rules	100 pounds sterling	US\$29,307 approx
Visby Rules	10,000 francs	US\$23,600 approx
Protocol 1979	666.67 SDRs	US\$1,000 approx
Hamburg Rules	835 SDRs	US\$1,252.50 approx
Rotterdam Rules	875 SDRs	US\$1,312.50 approx

Per kilogram

Convention	Units of account	Limit per kilogram
Visby Rules	30 francs	US\$70,80 approx
Protocol 1979	2 SDRs	US\$3 approx
Hamburg Rules	2.50 SDRs	US\$3.75 approx
Rotterdam Rules	3 SDRs	US\$4.5 approx

In order for a package or unit to be valued at 100 gold pounds sterling under the different conventions, it must weight:

Convention	Limit per kilogram
Visby Rules	423.73 kilograms
Protocol 1979	10,000 kilograms
Hamburg Rules	8,000 kilograms
Rotterdam Rules	6,666 kilograms

As we mentioned in chart, the ship owner’s limitation process has fallen in recent conventions.

Rotterdam convention prevent countries to insert the convention, which are the carrier positions in the world wide transportation.

Limitation related to the ship’s tonnage

- The Convention replaced the International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships, which was signed in Brussels in 1957, and came into force in 1968.
- Under the 1976 Convention, the limit of liability for claims covered is raised considerably, in some cases up to 250-300 per cent. Limits are specified for two types of claims - claims for loss of life or personal injury, and property claims (such as damage to other ships, property or harbour works).

The limits under the 1976 Convention were set at 333,000 SDR for personal claims for ships not exceeding 500 tons plus an additional amount based on tonnage. For other claims, the limit of liability was fixed under the 1976 Convention at 167,000 SDR plus additional amounts based on tonnage on ships exceeding 500 tons.

1976 convention(personal claims)

claim	Tonnage	Measurement
Personal claims	500 tons	333.000 SDR
Property claims	More than 500 tons = 167.000 SDR plus additional amount based on tonnage on ships exceeding 500 tons.	

The Convention provides for a virtually unbreakable system of limiting liability. Shipowners and salvors may limit their liability, except if “it is proved that the loss resulted from his personal act or omission, committed with the intent to cause such a loss, or recklessly and with knowledge that such loss would probably result”.

- Protocol of 1996, Adoption: 2 May 1996, Entry into force: 13 May 2004

Under the Protocol the amount of compensation payable in the event of an incident being substantially increased and also introduces a “tacit acceptance” procedure for updating these amounts.

For larger ships, the following additional amounts are used in calculating the limitation amount:

- **Injuri claim**

Tonnage	Measurement
2000	2 Million SDR
For Each ton from 2001-30000	800 SDR
For Each ton from 30001-70000	600 SDR
Each ton excess of 70000	400 SDR

For larger ships, the following additional amounts are used in calculating the limitation amount:

- **Property claim**

Tonnage	Measurement
2000	1 Million SDR
For Each ton from 2001-30000	400 SDR
For Each ton from 30001-70000	300 SDR
Each ton excess of 70000	200 SDR

- Amendments to 1996 Protocol, Adoption: 19 April 2012, Entry into force: 8 June 2015

Under the amendments to the 1996 Protocol, the limits are raised as follows:
 For larger ships, the following additional amounts are used in calculating the limitation amount:

claims for **loss of life or personal injury**

Tonnage	Measurement
2000	2 Milion SDR
For Each ton from 2001-30000	1.208 SDR
For Each ton from 30001-70000	906 SDR
Each ton excess of 70000	604 SDR

For larger ships, the following additional amounts are used in calculating the limitation amount:

Property claim

Tonnage	Measurement
2000	1 Milion SDR
For Each ton from 2001-30000	604 SDR
For Each ton from 30001-70000	453 SDR
Each ton excess of 70000	302 SDR

Liability systems in maritime law are so complicated
 These kind of conventions attempts to determining certain amount for compensation in order to possibile the compensation for unlimited losses or the moral losses creating cap or ceilling for compensation comes from supporting approach of the maritime transportation industry.

Conclusion :

According the above statement, maritime transportation is one of the highest risky and dangerous way for transportation; however it has been a lots of features and benefits that makes maritime transportations incompatible that it impossible to replace another method of transportation.

these days the countries have different function in maritime transportation, they are divided in two part; one of them held the carrier/ship owners position this category they are Seeking to impose restrictions on their liabilities because as we mention maritime transportation has many risks, and the other party which is the public transportation users, they want to remove all the restrictions to have the right for claim for their loss and damages compensation.

In maritime transportation we have huge vacuum between the right of ship owners or carrier and customers (who have benefits in shipping like shippers).

In other hand in this transportation The high risk would jeopardize the interests of the ship owner and the customer (parties of the contract). This risk will disturbs the balance of rights between the parties to the maritime transport contract.

That's why IMO attempts to determine the exact amount of the compensation for limited the damages or in other way the cut off unlimited damages and Convert

irreparable losses to compensable damages.

After the damages converting to compensable damages, insurance such as strong instrument compensate the damages and also fill the gap in other hand insurance cover the risk and make balanced the parties rights in carriage contract.

A simple definition of the word insurance would be “Protection against future loss.” Marine insurance is another variant of the general term ‘insurance’ and as the name suggests is provided to ships, boats and most importantly, the cargo that is carried in them. Marine insurance is very important because through marine insurance, ship owners and transporters can be sure of claiming damages especially considering the mode of transportation used. Of the four modes of transport – road, rail, air and water – it is the latter most which causes a lot of worry to the transporters not only because there are natural occurrences which have the potential to harm the cargo and the vessel but also other incidents and attributes which could cause a huge loss in the financial casket of the transporter and the shipping corporation.¹

Due to the inherent characteristics of maritime shipping, marine insurance plays a very important role.

At the end determine cap for unlimited damages by the discretion of relevant authorities make the damages compensable afterwards with bring in the insurance system to cover this huge amount of damages in maritime industry.

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1 <http://www.marineinsight.com/know-more/what-is-marine-insurance/>

IRC; Cooperation on Oil and Gas to be Expanded



At this special and wonderful moment of the 50th Anniversary of the Establishment of IRISL Iran, I am Eric Chen, Chairman and President of Reach Group, would like to express my great congratulations and thanks for the opportunity of cooperation for the past years.

Reach Holding Group (Shanghai) Co., Ltd. (Abbreviated as “Reach Group”), with headquarters located in Shanghai, China, is composed of three main business segments, that is, international logistics, international trading and hotel management. It is an outstanding comprehensive enterprise group which is cross-industry and cross-regional, with the main business in shipping services.

Shanghai Tenreach International Logistics Stock Co., Ltd. (Abbreviated as “Tenreach International”; Stock Code: 838343) under Reach Group, is a professional forwarder that has obtained NVOCC (non-vessel operating common carrier) qualification approved by MOT (Ministry of Transport).

Reach Group has been working with IRISL for

over 17 years in International Logistics.

In July this year a Joint Venture, known as IRC (Commercial JV Co. of IRISL and Reach Group) was established between IRISL Iran and Reach Group China to deal with the trading and services and business cooperation between Iran and China. To the best of my knowledge as Managing Director of Commercial JV Company of IRISL & Reach Holding (IRC), joint ventures can help companies grow and expand into new markets, but they can be highly complex and require excellent communication between each partner. This alliance might lead IRISL (The Islamic Republic of Iran Shipping Lines) to the global markets. Since different countries have different laws and regulations, it might prove more cost-effective to Reach Group that is already recognized in Iran to sell and distribute our products.

The main businesses of IRC are described as below:

1. Participation in the production, construction, processing, transformation, distribution, export, purchasing and sales of all types of oil and gas derivatives, and petrochemical products and bi-



products, except for crude oil and gas;

2. Import and export of machinery and equipment, spare parts, the raw materials of additives, backing products and other auxiliary goods that are necessary for the above mentioned business activities;

3. Import & export of petrochemical, chemical, oil products, sales of the knowledge of technical and engineering services and technology for domestic companies and outside;

4. Purchasing, producing, distributing, exporting and importing all medical equipment, building construction, providing services, implementation and new production plans for the company, with the development and completion of production plants related to oil, gas and petrochemical projects;

5. Purchase, sales and construction of reservoirs for the storage of crude oil and other petroleum products at home and abroad;

6. Storage and transportation of oil and gas products;

7. Activity in the purchase of gas and extraction of petroleum products from natural gas;

8. Sales of oil and petrochemical products, import and export of equipment related to preparation of products;

9. Import and export of all legal general merchandise;

10. Activities in the field of minerals after obtaining the necessary permits.

Taking everything into consideration, Reach Group is an ideal choice of partnership to serve to IRISL fund growth and new technologies. The success of this joint venture seems to be easily achievable as there is a common goal, clear communication between both parties, shared/reduced costs, and an obvious upside to the partners involved.

Malaysia to Develop Domestic Ports

Westports is one of the world's leading ports in Malaysia. In line with this PD managed an interview with Mr. Eddie Lee, Westport's General Manager. The transcription is given in the following:

Please inform us regarding your Company's activities and its background.

Westports as one of the world's outstanding ports in Malaysia is supported by superior productivity and a water depth up to 17.5 metre, and we are one of the hub ports for transshipment in South East Asia. Our container volume has grown exponentially over the years and we are the leading terminal operator in Port Klang. In 2016,

we controlled 76% of the market share in container volume throughput as we handled a container throughput of 9.95 million twenty-foot equivalent units ("TEUs"). Westports also handled 11.8 million metric tonnes of conventional cargo in 2016.

Productivity, as expressed by container moves per hour ("mph"), in Westports is among the highest in the world, averaging between 30 to 35 mph per crane.

This results in a faster turnaround for vessels that make our port of call. Despite our success, we continue to challenge ourselves to raise our performance bar as we are committed to delivering our best to all our valued clients and partners. We are capable of handling more than 12 million TEUs with the current quay length of 4,900 metres and 61 ship-to-shore cranes.

Westports is a truly Malaysian Port with a workforce of more





than 4,600. Virtually all of them are Malaysian citizens and some were born on Pulau Indah where the port is situated. The island's hard-core poverty has reduced drastically, which makes us an award-winning Corporate Social Responsibility Malaysian Port.

How do you evaluate Westports mutual cooperation with IRISL?

Westports has been an active supporter of IRISL and in recent past years, total volume handled for IRISL peaked at almost 17k TEUs per annum. We have active dialogue and engagement with local IRISL representative officers to ensure that we can continue to provide excellent service to this line on a consistent basis. Furthermore, Westports believe there is ample

opportunities for significant growth with IRISL.

What are your prospects about the ports and port facilities in Malaysia in the years to come?

Westports is extending its container-handling capacity with the current CT9 and CT10 terminal expansion project. The expansion is expected to be completed by early-2018 and will increase our handling capacity to almost 14 million TEUs.

Additionally, Westports has received an approval-in-principle from the Government to expand its container terminal facilities from CT10 – CT19, which is an extension from the current CT1 to CT9 development. The expansion could potentially increase Westports' total

handling capacity by up to 30 million TEUs annually.

On the other hand, there are also some talks on the development of a new container terminal on Carey Island in Selangor but there are no approvals yet for this project and local newspapers have raised queries on the viability of the proposal.

What would be the role of private sector in Port activities in Malaysia?

The Malaysian government has long recognized the need to articulate a long-term plan to manage and develop its ports in a systematic and efficient manner. Towards meeting this objective, the Economic Planning Unit (EPU) in the Prime Minister's Department commissioned a study in 1987 to draw up a blueprint for a national port policy.

The study, outlining policy recommendations and action plans to enhance the growth and development of Malaysian ports, set the pace for rapid port development in the country. Central to the policy was port privatization and the establishment of a national load centre featuring modern terminal facilities to attract container shipping lines.

Central to this objective is the promotion of port privatization to improve the management, performance and efficiency of the ports, to instil best practices and to measure them against the world's best ports. The first privatization involved Westports (formerly known as Klang Container Terminal) at Port



Klang in 1986, marking the first public entity to be privatized in Malaysia. The introduction of Port Privatization Act 1990 acted as a catalyst to the privatization of more ports : after the successful privatization of Klang Container Terminal, the ports of Penang, Johor, Kuantan and Bintulu followed suit in the 1990s.

Comparing the world container movements, how do you evaluate yours?

Westports is strategically located in an ideal location to connect the East and the West. The nascent affluent level of populous India and China provides a virtual guarantee of strong long-term throughput for Westports.

Furthermore, being located among ASEAN countries and along the Straits of Malacca,

Westports is well placed to capitalise on the fast-growing regional ASEAN countries as well.

At Westports, we can provide an excellent level of services for all our clients with minimal berthing delay and high level of productivity. Westports capacity expansion from CT10-CT19 is also to cater for the long-term growth and to continue to support growth of clients such as IRISL.

What would be your idea about the sea transportation development in the future, any growth in Bulk, Container and so on?

Most of Westports' growth come from the container segment. Despite the unprecedented recalibration and realignment process with the formation and

transition towards new global alliances, we expect continuous growth in this segment.

Sea transportation is also going through a massive overhaul as more large vessels are being built to cater the demands around the globe. Likewise, Big Data Analytics are also being experimented. In short, the data gathered will be used to analyse and improve ship operations.

Westports is well prepared to accommodate a future dominated by larger container vessels such as those 20,000-TEUs that are being put into service. Our deep draft, linear wharfs and 52-metre high ship-to-shore cranes would allow Westports to be a terminal of choice for gateway cargoes and also being one of the key transshipment hubs in the region.

An aerial photograph of a container ship's deck, showing numerous stacks of colorful shipping containers in shades of green, blue, red, and orange. The ship is sailing on a deep blue ocean under a cloudy sky. In the distance, other ships are visible on the horizon. The image is framed by a red border.

Bulletin

Top Global Carriers to Postprofit

IRISL CEO: Sea-based Economy Guarantees National Development

IRISL CEO remarked: Thanks to the guidelines of supreme leader and the strategic management of president as well as professional measures taken by Ministry of Foreign Affairs, our national fleet is currently making the best of the potentials which have been created by JCPOA.

In a ceremony which was held to honor World Maritime Day, Chief Executive Officer and head of the board at IRISL, Dr. Mohammad Saeedi extended his congratulations to the new manager of Ports and Maritime Organization, MANA correspondent reported.

Dr. Mohammad Saeedi referred to the “Connecting Ships, Ports and People” which has been selected as the World Maritime Day theme for 2017 and emphasized: maritime transportation is one of the significant indicators of countries’ economic development. IRISL CEO remarked: utilizing of coasts capacity in south and north of country is in need of sea-based development and homogeneous growth, he also added, sea-based economy will result in increasing security, boosting economic situation, establishing new markets and creating new jobs opportunities. This official figure counted growing concerns over environment by IMO for optimization of maritime fleets as a paramount matter and stated: reviewing and implementing new regulations has always been one of the main concerns of ships owners. In his remarks, IRISL managing director and head of the board pointed out to the



implementation of JCPOA and the achievements it has brought about for the national fleet, and reminded: Thanks to the guidelines of supreme leader and the strategic management of president as well as professional measures taken by Ministry of Foreign Affairs, our national fleet is currently making the best of the potentials which have been created by JCPOA. Referring to that JCPOA has removed one of the main obstacles ahead of our national fleet, he added, IRISL has managed to regain its lost share from the international maritime transportation. He referred to resuming collaboration with authentic and world-class Classification Societies as well as receiving 10-figure reinsurance coverage as other achievements which have been accomplished in post-JCPOA era and continued: in the light of these measures, IRISL could managed to revive its commercial position in the World.

203% Rise in IRISL's Transporting Container Cargoes

In the first five months of the current year, IRISL container division has managed to transport over 450,000 TEU in Shahid Rajaei port.

General Director of IRISL container division, Cap. Hamzeh Keshavarz stated to MANA correspondent that at the time being, despite that 17 international large container lines travel to Shahid Rajaei port on a regular and weekly basis, but it is promising to assert that our division transports around 50 percent of the country's total container cargoes.

Cap. Keshavarz further added, we have witnessed a growth of 203 percent in transporting container cargoes, in addition, our income has risen by 53.8 percent.

Announcing that in the first five months of the current year, IRISL container division exported 70,000 TEU, he remarked: in more than one year ago, we experienced no problem in the exporting to Europe.

Referring to the joint collaboration with international large companies, Cap. Keshavarz proposed, these collaborations are still in progressing.

Emphasizing the necessity of an increase in the country's transit, IRISL container division general manager stated that given a considerable improvement in the country's political and economic conditions as well as the new approach which has been taken by The Ministry of Roads and Urban Development, the transit from Iran should be promoted.

In the end, Cap. Hamzeh Keshavarz stressed that strategically, Iran enjoys an exclusive and unique position in the global shipping industry, and considering the high population in the region, our country can offer the best route for exports and imports to the landlocked countries.

Largest Deal in Korean Shipbuilding

SOUTH Korea's Hyundai Heavy Industries has received orders totaling Won910.2bn (\$801.5m) from Polaris Shipping to build ten 325,000 dtw very large ore carriers.

According to MANA, The VLOCs will be built based on 'LNG-ready' design, with eco-friendly equipment such as ballast water treatment system and scrubber, and the vessels are expected to be delivered by April 30, 2021, said HHI.

It is the largest deal HHI has clinched in five years since 2012.

At that time, the spokesperson said that the company would still order from South Korean

yards in an effort to better observe safety management. The market had perceived that South Korean builders appeared somewhat reluctant to accept low prices offered by shipowners despite a price war among rival Chinese yards.

News reports emerged last week that Vale was in talks with several South Korean and Chinese shipowners about long-term COAs for a string of new VLOCs, and 10 of those were said to be going to Polaris.

Top Global Carriers to Post Profit

Analyzing the latest financials from the dozen leading container lines, SeaIntel said the results revealed a considerably “more positive picture than the horrendous second quarter of 2016”.

According to MANA, Ten carriers posted profits in the April-June quarter, with only two – Hyundai Merchant Marine and MOL – recording losses. HMM made a loss of \$81.8m in the quarter, having posted losses in six of the previous eight second quarters, while MOL reported a loss of \$55.1m in the period and has now recorded losses in the past seven second quarters.

“On the other hand, despite the revenue and volume loss from the cyber-security incident, we see an outstanding financial result from Maersk Line in 2017 second quarter, recording earnings before interest and tax of \$376m, more than three times the segment profit of second-best-performing Cosco at \$122m,” said a note from SeaIntel shipping analyst Imaad Asad. “The remaining eight carriers all had 2017-Q2 operating profits of less than \$100m.”

Cosco showed the strongest revenue growth, with a 47.3% year-on-year increase in the latest three months.”

Evergreen and HMM followed Cosco, reporting the second and third-largest year-on-year revenue increases, of 30.3% and 30.1%, respectively.

“Maersk Line, Hapag-Lloyd, OOCL, Yang Ming, and Zim all saw their revenues grow 20%-25% year-on-year in the second quarter, and much of this revenue growth is likely to be a consequence of the Hanjin bankruptcy, because the Korean carrier was still in operation in the 2016 second quarter,” said the note. “The remaining four carriers, Wan Hai and the three Japanese carriers, all saw much lower revenue growth of around 10% year-on-year.”

SeaIntel said all 12 carriers had improved their second quarter profits/loss situation in 2017 over 2016, with Maersk Line reporting the greatest net recovery, turning a \$123m loss into a \$376m ebit profit.



“Cosco has seen the second-best profit improvement over 2016-Q2, at \$381m,” said the note. “The remaining carriers have all seen an improvement of less than \$200m.”

Wan Hai, the only carrier to have consistently made a profit in every second quarter for the past six years, is the line that has seen the smallest improvement, of just \$18mj, in in the 2017 second quarter.

In a separate note from Drewry Maritime Financial Research, the analyst said that Hapag Lloyd’s revenue increase of 28% year-on-year in the latest quarter included €199m of revenue contributions from UASC, which completed its merger with the German line in May.

Drewry also noted that Hapag Lloyd’s volume in the quarter was reported at 2.3m teu, and its revenue per teu came in at \$1,064 per teu – up 21% and 4% year-on-year, respectively. “On a standalone basis, Hapag-Lloyd’s volume growth of 8% was the highest among major operators,” said Drewry.

Drewry said Hapag-Lloyd’s bargaining power had improved significantly owing to its membership of The Alliance, which started operations in April, and this would help its financial performance over the rest of the year.

“This new alliance, along with the increased level of consolidation more generally seen in the industry, has returned the bargaining power to the liner operators,” said Drewry.

Japanese Shipping to Use Blockchain Technology

JAPANESE shipping giants Mitsui OSK Lines, NYK Line and Kawasaki Kisen Kaisha have formed a 14-member consortium which includes other trade partners to develop a trade data sharing platform to streamline procedures and reduce costs.

According to MANA, Current trading practices rely heavily on bills of lading and other documents. This creates burdens such as additional time to complete procedures and requires additional labour and costs,” MOL said in a statement.

It added that the use of blockchain technology will make trade-related office procedures swifter and more efficient by facilitating smoother information flow through corporations and across business categories.

NTT Data will be serving as the administrative

office for the joint study, which runs until March 2018. The other participants in the joint effort are trade-related companies in the banking, insurance, logistics and export/import sectors.

They include Marubeni, Mitsui Sumitomo Insurance, Mizuho Financial/Mizuho Bank, Nippon Express, Sojitz, Sompo Japan Nipponkoa Insurance, Sumitomo Mitsui Banking, Bank of Tokyo-Mitsubishi UFJ, Tokio Marine & Nichido Fire Insurance, and Toyota Tsusho.

The potential for blockchain technology appears to be increasing in the maritime sector.

PIL’s move followed Maersk, which partnered IBM in March this year to use block chain technology to digitise paperwork related to the global supply chain process to improve efficiency and optimize costs.

Alphaliner: Container Line Rate Discipline Coming to an End

The period of rate stability in container shipping that followed the bankruptcy of Hanjin Shipping is coming to an end according to analyst Alphaliner.

According to MANA, Hanjin Shipping went bankrupt on 31 August 2016 sending shockwaves through the container shipping and logistics market, which heralded a period of rate stability among lines. As a result of pricing discipline the 16 largest container shipping companies enjoyed their most profitable quarter in two years in Q2 2017 with a margin of 4% according a Drewry report released on Monday.

However in its weekly report fellow analyst Alphaliner warned that rate stability was being

eroded with the fight for market share returning.

“The rate truce that carriers have largely abided by since Hanjin’s sudden exit one year ago, now appears to be crumbling. Rate slashing just ahead of the October holidays in China points to further rate instability as carriers continue to jostle for market share,” Alphaliner said.

It noted that the Shanghai Containerized Freight Index (SCFI) had recorded six weeks of consecutive declines and that lines had failed to push through rate increases in August and early September. The index stood at 774.27 points at the end of last week having peaked at close to 1,000 points earlier this year.

Global Shipbuilding Capacity Set for 20% Decline

With a “perfect storm” in the newbuilding market global shipbuilding capacity is set to decline by 20 – 30% by the end of the decade according to Clarksons Platou.

According to MANA, David Jordan, general manager Clarksons Research, for Clarkson Platou Asia told a UK Defence Club seminar in Singapore on Tuesday that shipyards were facing declining global order coverage.

“What we’re dealing with the newbuilding market at the moment is this perfect storm. We’ve got the freight market being weak, we’ve had this over ordering in 2013 driven by the involvement of private equity and this move towards eco-tonnage, and then at the end of 2015 we have NOx Tier III obligations and financing conditions,” Jordan said.

“We’re really starting to see levels of contracting and deliveries that we last saw in the late 1990’s/early 2000’s.”

Last year was described as one of the worst years for global contracting levels on record and while 2017 was 20 – 30% higher it was still very low with just 575 vessels order as of Monday this week.

On the deliveries front numbers have declined deeply from 4,300 in 2010 to 2,200 last year and around 1,200 to 1,300 this year.

As a result the global orderbook for shipyards is in sharp decline. “The orderbook has shrunk dramatically in the last couple of years. It currently stands at about 3,500 vessels, which



equates to about 10% of the fleet. It’s shrunk about 20% since the start of the year and only about one third of the size it was at the height of the boom in December 2008,” Jordan said.

The number of yards taking at least one order in 2017 stands at 108, this compares to 700 in 2007, and around 300 in 2012/2013.

With sharply declining orderbook global yard coverage has continued to decline to around 2.5 years across all yards. Most buoyant are European yards with 4.5 years coverage, primarily from cruise ship newbuild orders, Chinese and Japanese yards with around 2.3 years coverage, and worst hit Korean shipbuilders with just 1.2 – 1.3 years coverage.

The difficult situation for yards means that global shipbuilding capacity has declined by 30% since the peak to 46m gt.

“Looking ahead towards the end of the decade we are looking at declines of around 20% and the majority of this decline will be at Korean yards. In China capacity is expected to fall as well,” Jordan concluded.

Looking Ahead: The Bunkering Market after 2020

Alok Sharma, head of commercial at Glencore subsidiary Inatech, recently spoke with MarEx about the outlook for bunkering.

Inatech provides software solutions to both bunker suppliers and bunker buyers, giving it a unique perspective on both sides of the market, MANA correspondent reported.



MarEx: How do you expect that the 2020 sulfur regulations will affect shipping?

The sulfur regulations will create a significant, disruptive change in the demand pattern almost overnight. You can expect shortages, and you can expect that the right type of fuel product is not always going to be available at the right place and the right time.

The shipping industry consumes about 2.5 million barrels per day of fuel oil, and that will have to shift to either MGO or ultra-low-sulfur fuel oil. Today there's a \$200 gap between heavy fuel oil and gas oil. If I'm a shipowner and I don't make any changes, I'm going to pay \$200 per ton more. That's a material cost to my operation. Fuel represents half the cost of vessel operations, and at current prices, a \$200 per ton increase means an increase in total operating costs of at least 20 percent. If I'm just barely surviving in a sluggish market and I have an additional 20-25 percent cost, that's scary stuff – and I can't expect to pass this expense on to the shipper.

MarEx: How much of a role will scrubbers have in this market?

The vessel operators face a high cost no matter what they do. If you put scrubbers on board, you pay a capital expense of \$2-3 million. And it may not even be an option, depending on the type of ship you have and the availability of the equipment. There are about 1,000 ships

with scrubbers fitted today, and the scrubber manufacturers could probably fit another 200-300 per year if they had full orderbooks. We have about 2.5 years left to get ready, and there are about 50,000 deep sea vessels. This means that scrubbers are just not a mainstream option – they are a niche option to use if you're in a particular trade area or a particular business.

MarEx: Can we expect to see attempts at non-compliance?

Non-compliance is not realistic. This regulation will be easy to enforce, because the evidence is right there in the fuel tanks. There will be some cowboy operators, but the large corporate shippers will not accept that kind of attitude. Mainstream shipping won't risk losing the business of big, reputable clients.

MarEx: What does the industry need to do to get ready?

I don't see bunker suppliers and bunker consumers talking about this problem in a meaningful way – and if there is a conversation going on, it's only happening behind closed doors. It's time to sit down and talk about these challenges openly.

A Review over the Top 100 Container Ports



THE top 100 container ports handled 555.6m teu in 2016, up 2.2%, or slightly over 12m teu, year on year as the trend of subdued volume growth carried over from the previous year.

According to MANA, total volumes may have risen moderately but this was not to say that there were not any success stories over the course of the 12 months. This helped to mask some dire performances elsewhere.

Volume growth was typically fragmented. Fortunes fluctuated between regions and countries, but one common theme remained — China as the main growth engine.

All 20 Chinese ports maintained their top 100 status based on 2016 throughput numbers. With combined volumes totalling 206.8m teu, a rise of 2.7% on 2015 levels.

There were some notable standout performers

from within China. Tangshan, small size compared with other ports in the country — the smallest in our rankings — saw volumes increase at breakneck speed by 27.2%. Meanwhile, medium-sized ports Taicang and Dongguan/Humen reported growth above 8%, as did Fuzhou, recording the second-highest growth level by a Chinese port of 9.1%.

Out of the 20 ports represented by the economic powerhouse that is China, seven remain in the top 10.

The largest total from an individual port unsurprisingly came from Shanghai, holding on to its crown as the world's largest box facility and by some distance. China's colossal port complex handled a phenomenal 37.1m teu in 2016, an annual increase of 1.6%.

Shanghai's eight-year reign as the premier

container port came amid another disappointing year for second-placed Singapore. Throughput levels here continue to be held back by an increasingly competitive environment within the Malacca Strait, as the battle for transshipment trade in the region intensifies.

China's Shenzhen too, despite retaining its third-placed ranking, also saw volumes fall back in 2016.

Among the top Chinese ports, it was Guangzhou that came out as the winner. Although it was unable to improve on its seventh-placed status, the port reported record throughput levels of 18.9m teu. Box business grew 7% on the back of healthy domestic cargo volumes and free trade agreements signed between South Korea and China.

The other Chinese port majors Qingdao and Tianjin also reported growth last year, yet the exception along with Shenzhen was Hong Kong. Hong Kong's annual volumes slipped below 20m teu for the first time since 2003.

Busan's move up the rankings was the only positional change in this year's top 10, which combined reported growth of 1.3% year on year in 2016 with total volumes of 219.4m teu.

Aside from China, the biggest representation in our rankings came once more from Asian ports outside the country, where the region's 10 largest box facilities managed a 2.4% increase in traffic. Singapore and Busan naturally were big contributors, yet the title of the fastest growing port in Asia outside China went to Chittagong, Bangladesh.

The port, handling more than 90% of the country's containerised movements, which are dominated by the ready-made garment trade, moved up five places in the rankings to 71st driven by double-digit volume growth at 15.9%.

On the Asian continent there were also double-digit surges in box volumes in both Port Klang, Malaysia, and South Korea's Incheon, reporting increases of 10.8% and 12.7% respectively. There was also a return to the top 100 rankings for the Malaysian port of Penang on the back of a 9.1% increase in volumes last year.

In the Middle East and South Asia, the region's

far and away largest port, Dubai's Jebel Ali, saw volumes fall back. However, it did manage to hold on to its ninth-placed ranking.

Volumes in Dubai slipped 5.3% in 2016 to 14.8m teu, but the indications so far this year are that DP World's flagship facility is likely to claw back volume losses.

California's container port majors Los Angeles and Long Beach remained the big two in North America, but there were contrasting fortunes for the US pair.

Los Angeles reported an 8.5% rise in volume to reach all-time throughput highs, climbing one ranking place in the process to 18th, while neighbouring Long Beach dropped out of the top 20 altogether, having witnessed a 5.8% fall in container liftings.

The result came largely as a consequence of Hanjin. Whereas Los Angeles gained from diverted cargo to its docks following the Korean line's demise, Long Beach lost a key carrier customer.

The major box ports in Latin and Central America were once again exposed to the economic frailties of the region, resulting in a disappointing 12-month period overall.

The Continent's largest port, Rotterdam, returned to the growth trail on the back of a slight traffic dip in 2015, as volumes climbed 1.2%. But the big winner once again proved to be Antwerp. Belgium's box hub continued where it left off the previous year with a further 4% uptick in traffic. Russian trade restrictions made a further dent in box traffic moved through St Petersburg. The Baltic facility saw volumes sink 15% in 2016, the highest fall in percentage terms of any top 100 port, and is now in danger of falling out of the rankings altogether come this time next year.

Algeciras was reinstated as the Mediterranean's largest container port in 2016.

The major success story in the Mediterranean, however, was Piraeus, as it looks to return to its former glories.

A 50% Rise in IRISL Bulk Division Performance

The managing director of Bulk Carrier Division of Islamic Republic of Iran Shipping Lines (IRISL) stated that in the first six months of this year, his company has experienced a growth of 34 percent in tone-miles.

In an interview with MANA reporter, Ali Akbar Ghonji remarked: in average, his company has had 53 vessels with a capacity of 2.5 Million DWT in the first half of the current year, based on the aforementioned number of vessels and capacity, a growth of 34- percent in ton-miles was observed, which means a 50- percent improvement in the performance.

He added: before the implementation of JCOPA, foreign vessels were not allowed to travel to the Iranian ports, naturally, the demand for transporting cargoes from domestic corporations was higher, and IRISL Bulk Division supplied a large portion of local companies' needs.

Referring to that the execution of JCPOA was a marvelous milestone and a happy event,

particularly in maritime transportation, Ali Akbar Ghonji added: the execution of JCPOA has paved the ground for the access of international companies to the domestic market, and on the other hand, Iranian shipping companies also do their business in the international markets more easily.

In the light of this historical event, even the largest chartering companies who refused to collaborate with IRISL due to the unfair international sanctions, now, have expressed more interest in resuming collaborations with our company.

Pointing out to the necessity of costs management in the shipping companies, Ghonji stressed: given the current situation in maritime transportation and considering this important matter that there is no change in cargoes status, we should move forward to costs reduction for earning more incomes and expanding activities.

Khazar Sea Shipping Co. Hits New Record

The managing director of Khazar Sea Shipping Company stated: in August, the total cargoes which transported by Khazar Sea Shipping fleet was increased to 217,988 tons.

In an interview with MANA, Cap. Mehrdad Bagheri Nejad remarked: by the end of August, Khazar Sea Shipping Company experienced a growth of 34.4 percent in cargo transportation compared to the same period in the last year, which is a record-breaking achievement in the history of this company.

He added: moreover, our company has experienced a 3-percent rise in the first six months of the current year compared to the same period in the last year.

Bagheri Nejad also stressed that this achievement was accomplished, despite two vessels with the

capacity of carrying 9000 tons were left out of the cycle of commercial operations due to the periodical repairs in August.

According to Bagheri Nejad, in the first six months of the current year, in the containership sector, the delivery of owned –containerships to other lines, has increased as much as three times of that in the same period in 2016, this growth highlights the ability of Khazar Sea Shipping Company in marketing and developing container transportation in the region.

In the end, Cap. Mehrdad Bagheri Nejad emphasized: with renovation and restoration of Khazar Sea Shipping fleet, we will witness a remarkable promotion in our tonnage capacity, this matter, he added, has been put into our agenda.

Asia- Europe Container Line to be Launched

Deputy Director for technical and commercial affairs at IRISL announced that 49 ships will be replaced in response to fleet development exploiting the capacity of domestic and foreign shipbuilders by 2022.

Referring to intricate situation of maritime transportation, Capt. Amir Saman Torabizadeh in an interview with PD said: during the first half of the current year, signs of recovery in the most important poles of global economy have been appeared due to an acceptable growth in GDP and trade development. Meanwhile, maritime transportation has experienced a better condition and the reflection of these signs has been clearly seen in indexes. Considering IRISL performance in 2016, he added that a comparison among other activists of this field makes us declare that IRISL recorded a significant achievement in its performance.

Following the loss in most container shipping companies last year, He further added that IRISL could record an acceptable profit during the same period particularly in bulk and general cargo transportation section. Meanwhile, it should be noted that a comparison between IRISL and international circumstances reveals that IRISL prevented loss and at the same time it gained a worthy profit. Referring to no intervene in appointing rates in international markets by IRISL and competitive circumstances, Deputy Director for technical and commercial affairs said: to achieve profit and prevent loss, we have had an optimum management in costs. In this regard and with the purpose of decreasing costs more than ever and optimum management of transportation, we are installing innovative smart technologies onboard. Iran's crisis exist of maritime transportation was another positive points in IRISL's work process. In this line, Capt. Torabizadeh further added said: thanks to the achievements of JCPOA, IRISL entered international markets and could travel to locations which were inhibited during the sanctions era. This fact was very impressive in gaining profit. During the sanctions era IRISL made use of its owned ships as an important specialty of the company. Meanwhile, IRISL hadn't have any charter ships and this paved the way for the company not to encounter with the difficulties that other shipping companies could face in the same situation. In addition, extension

of international cooperation and establishing regional companies in different locations could assist IRISL to achieve desirable conditions.

He pointed out the arrival of new ships in IRISL's fleet in the first quarter of 2018 and said: Considering the new technologies used in these ships, especially in the fuel sector, there will be good conditions regarding the capacity of these ships. He continued: At the present time and with the current conditions, we are rapidly recapturing our international market, and by creating various lines, we were able to close ourselves to the conditions governed before the sanctions.

Considering the development-oriented projects of IRISL, he continued: in the near future Asia-Europe and Europe-Asia Container Line will be launched. The Deputy Director for technical and commercial affairs at IRISL pointed to a five-year plan of developing the fleet including the mobilizing of the fleet and said: 49 ships will be replaced in response to fleet development exploiting the capacity of domestic and foreign shipbuilders by 2022. At the same time and with getting permission from the board of directors as well as the approval of the General Meeting of Shareholders, credit lines have been opened in countries such as China and South Korea which would assist us to utilize the created capacities.

According to him, a part of activities' expansion in the development plan of the company focused on the development of the offshore section. For the implementation of these programs, we need to increase the capital, which must be approved by General Meeting of Shareholders.

Capt. Torabizadeh referred to the construction of 200 wagons and said that the arrival of these wagons in the multimodal transportation sector will also create a significant development.

At the end, the Deputy Director for technical and commercial affairs at IRISL referred to an optimistic future in maritime transportation and said: "In the logistics services sector, we will have 100% increases in activities."

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Reach Holding Group (Shanghai) Co., Ltd. (Abbreviated as "Reach Group"), with headquarters located in Shanghai, China, is composed of three main business segments, that is, international logistics, international trading and hotel management. It is an outstanding comprehensive enterprise group which is cross-industry and cross-regional, with the main business in shipping services.

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IRC

IRC (Commercial Joint Venture Company between IRISL and Reach Group) was established in 2017. It is headquartered in Tehran, Iran, with offices in Free Zone in Kish Island and in downtown area in the City of Tehran. It is a company that deals with the trading and services and business cooperation between Iran and China.



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