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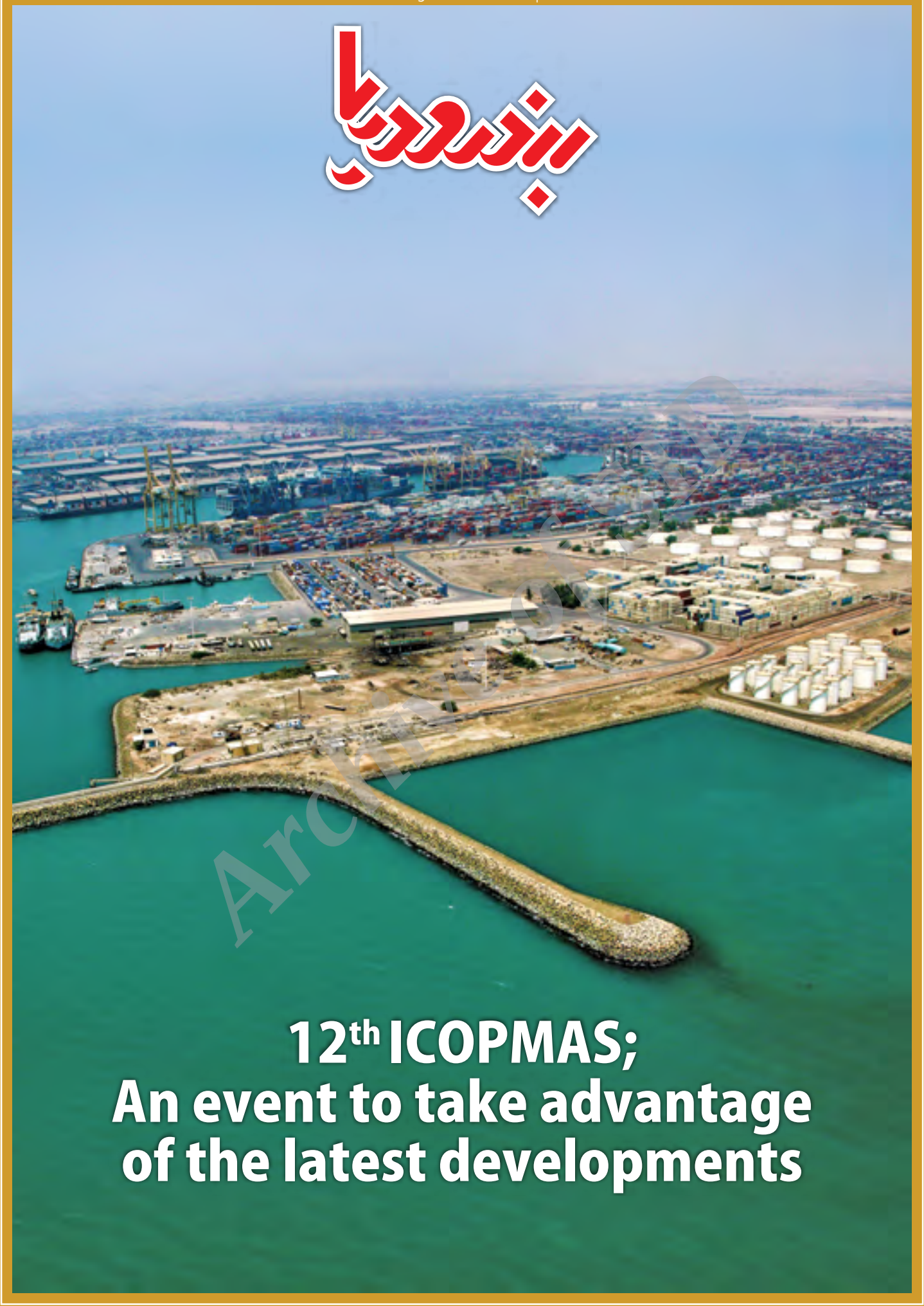

12th ICOPMAS; An event to take advantage of the latest developments

شرکت خدمات دریایی

هدایت کشتی خلیج فارس

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این شرکت به پشتوانه سال‌ها تجربه مدیران ارشد خود و همکاری با مراکز آموزشی و پژوهشی معتبر داخلی و خارجی هم‌اکنون به عنوان مرجعی قابل اعتماد و حرفه ای در این صنعت مبدل شده است.
برخورداری از فضاهای استاندارد آموزشی، تیم های چند تخصصی، اساتید دانشگاهی و مدرسان بین‌المللی در کنار تجارب مشاوره سیستم‌های مدیریتی از جمله مزایای این شرکت می‌باشد.
استفاده از فن‌آوری‌های جدید و به روز در ارایه خدمات آموزشی و پژوهشی باعث شده است که بخش عظیمی از مخاطبین و دانش پژوهان بتوانند از خدمات این شرکت بهره‌مند گردند.
همکاری نزدیک با مراکز دانشگاهی و آموزشی معتبر داخلی و خارجی توان پاسخگویی و رفع نیاز همه جانبه دانش پژوهان را به دنبال داشته باشد.

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ICOPMAS 2016

ICOPMAS

An opportunity to introduce the Capabilities

The international conferences take place with looking at two main points:
1)The scientific and technical capacities of the county to be explain to the specialist and industries owners
2) The country's strategy for the international guests and others who are active in that field
These conferences give a chance to owners of industries involve to get to know the abilities of each others which ends up with trade contract between them.
While conferences is going on,it gives them a chance for longtime contracts, which could be one of main goal in every conferences.
Nowadays, after a sanction lifted up marine director and managers got a chance to introduce the importance of geographical situation of the country to convince them the relationship with Iran can provide new chances for world trade.
As an example the Iran sky is the safest airway for the world air traffic which could be used by international airline.
To reach such a goal, first of all technical and economical packages which ends up to improve trade and transit using passages from Iranian land this is a need for todays international trade.
The lack of knowledge and laws about this abilities in the past caused that the country misses that golden opportunities.
Now the 12th ICOPMAS conferences is on the way to look at the point which ends up improving trade and can provide better opportunities.
The elementary negotiations with international companies to start their activities in safest country of the Middle East.
As the security as highest great need for trade. We have to believe that Iran can provide these needs for them.
In the develop countres such a policy has been served to improved economical activities, the expenditures for security also has been paid by them.
These expenditures been paid by Iran by the security, which stable situation in the area is a result of that.
Therefore the gathering of international guest in this conferences (12th ICOPMAS) Is a great opportunity to introduce technical and capacity of the country.
The action which was taken against Iran in the last decade was only a political iranophobia but was a barrier to capacities of the country to be known by others.
Using in the costal areas Caspian seas, Persian gulf and Oman sea is not profitable for Iran, as it is the same for whole the countries.
As an example, developing Mokran coast could be used as a transfer hub from Persian gulf area to oman coasts.
This stops the need for hormaz strait for ocean going vessels and causes to improve marine transportation opportunities of the country.
Such an action, could remember the flourishing Iranian old days. Difinetly the mokran coast got the ability of transshipping of more than 30 million TEU of goods by incoming liners to non-regional contries via the Persian gulf.
I trust 12th ICOPMAS will introduce the real capacities of Iran better than the past. To our welcomed guest particularly international professionals.

Hadi Haghshenas
Legal Representative

ICOPMAS; An event to take advantage of the latest developments

Holding successful and continuous conferences on International Conference on Coasts, Ports and Marine Structures in Islamic republic of Iran connects domestic port and coastal engineering knowledge to the global frontiers. This fact reflects the firm and clear decision of Port and Maritime Organization (PMO) for promoting ports and constructions engineering science and techniques as well as playing its national and professional role for developing ports and coastal areas.

ICOPMAS; a channel to present latest scientific, experimental and technical findings and achievements of international maritime engineering society; mirrors the vigorous efforts of PMO to play its sovereign role amongst other related organizations to find solutions and answers for maritime development's problems, requirements and necessities as well as its social responsibility for all citizens including residents of coastal areas.

Fortunately, after more than two decades, the conference has been able to prove itself as a sustainable and undeniable event for establishing strong international connections and exchanging knowledge and experience among scientists and researchers from different nations in the field of ports, coastal and maritime constructions. The conference kept playing its role even during the difficult time of unfair sanctions against our country.

Undoubtedly, the development oriented approach of ICOPMAS during the past 24 years has provided a valuable opportunity for the Iranian maritime society. Today, all Iranian specialists and researchers from different organizations are able to discuss and communicate professional subjects with their international counterparts during the conference and chart useful and effective solutions for promoting the findings of scientific efforts to answer current and future requirements as well sustainable national and regional development.

The last but not the least, it is expected that the 12th conference channels the knowledge, implicitly or explicitly, to port and maritime value-creating businesses; and turn the existing science and experience to a center for technical and engineering innovation and creativity which contrives ways to establish national and international knowledge-based maritime corporations.

Pertaining to these subjects, there has been proper legal capacities. In addition, there are significant supports provided by governmental institutions and organizations to make sure that innovations and scientific findings transfer to production and executive units swiftly which streamlines competitiveness a durability of the industry.

Whishing all everyday success.

Mohammad Saeid Nejad
Deputy Minister of Roads and Urban Development
and Managing Director of Ports and Maritime Organization

ICOPMAS; A Connection between university and industry

Presently we are in a situation that need to connect university industry and 12th ICOPMAS. Could be used as a position to improve scientific level of marine subjects. And could connect the industry with advanced of Iran to level of advanced countries.

ICOPMAS is the most important marine scientific symposium in the area. Those who take part in the gathering could reach the latest data about ports constructions as jetty, breakwater, and also the plans for improving marine and logistics transportations. And also to get familiar with universal data of this field.

Students also can show their abilities in the symposium and also the advantage of modern data which are the main aim of the gathering.

The 12th conference of ports, coasts and marine constructions could be useful to improve scientific level of knowledge of the port organizations employee.

Because the sea is a source of power, economy, science and industry is so important in this field. It is necessary for all students and scholars to take a deep look at the field.

The presence and interaction of world maritime powers is one of the privileges of the International Conference on Coasts, Ports, and Marine Structures. Well-known representatives from some key marine countries, including the United States of America, England and the Netherlands have attended the conference which means we are facing a great scientific and economic opportunity in the country. I think If we can establish a venue for Iranian attendees to take advantage of the latest global scientific developments; for example in the field of port construction and subsidence; that would be one of the achievements of the conference.

Port and Maritime Organization acts as a hub to connect Iranian transportation sector to the global network. Road and rail transportation, mostly cover domestic needs, are just forming a small part of the international transportation. That is why the Port and Maritime Organization acts as the "golden gate" for International transportation to Islamic Republic of Iran.

The unfair sanctions against Iran provided a golden time for our regional competitors in the Persian Gulf to invest a huge amount of money in their billion dollars port projects. Such conferences open up the access to the global resources and markets and help to keep competing. ICOPMAS is a bridge to exchange knowledge and enter the global economy.

Noureddin Aliabadi

Deputy Managing Director for Ports Equipment and Development

ICOPMAS, A center for exchanging maritime knowledge and experience

Transferring and localizing technology is a complicated issue that developed and developing nations have been dealing with from different point of views, including scientific, cultural, political and economic aspects. There is a clear technological gap between developed and developing countries. Transferring technology is a key to fill this gap. Transferring and localizing technology is possible through several means.

Looking at the development background of developing countries, especially the East Asian countries, shows that these countries strengthened their technological base via transferring from developed countries to solve their industrial problems more rapidly. While enhancing their economic foundations, established and promoted academic and research centers.

One of the most effective methods for transferring executive and scientific experience is holding international conferences. Port and Maritime Organization, the maritime scientific focal point in the country, has held eleven conferences on Coasts, Ports and Marine Structures. The impact of holding such conferences is clearly obvious when we look at the enhanced scientific knowledge of PMO staff reflected in the submitted articles. Furthermore, we can observe the outcomes of attendance of PMO's specialists and managers at the international events in the existing projects.

Considering the past eleven biannual conferences on Coasts, Ports and Marine Structures, the 12th conference is important from two aspects, nationally and internationally. First, it is essential that Iranian scholars and researchers to exchange their findings with their international counterparts.

On the other hand, the international level of this conference provides an opportunity to discuss the main issues of coastal, ports and engineering management, offshore and pipeline engineering, maritime safety and security, coastal and marine residential areas and land-population preparation.

As a final point, in order to pave the way for transferring knowledge and experience and enhance the scientific understanding of managers and staff, it is expected that Iranian maritime experts and engineering society participate effectively in the conference. It is obvious that presence of international scholars and corporations plays a key role in transferring knowledge and technology and increasing international co-operations with the Islamic Republic of Iran.

Mansour Arami

Deputy directorate for planning and resources development

Port and Maritime Organization

ICOPMAS, Helping to promote port management systems

Exchanging experience and updating knowledge has significantly developed during the past 24 years of holding ICOPMAS. Different investment methods, in view of their advantages and disadvantages, in the special port zones has affected the system of calculating tariffs in an optimum way according to the needs of applicants. In addition, the conference has increased the attractiveness of Iranian ports. Furthermore, it has considerably promoted port management systems by applying news solutions and approaches.

The conference has motivated fundamental actions in the field of port operations and has played an undeniable role for creating a dynamic commercial current. The conference has also been successful in the field of port related technological developments point of view that focuses on promotion of scientific and research standards. In addition, the conference has played and effective position for stimulating investment in the ports during the past decades.

The conference is able to act clearly for highlighting ports in the new are after lifting unfair sanctions.

It also helps to identify new port indexes, updating and presenting them in the international events.

It is expected that the secretariat of the conference, engineering society and other specialists introduce and promote models and processes for enhancing international port indexes. And in order to increase the advantages of ports takes considerable steps for applying modern technological in the ports such as E-ports as well as proposing clustering map of port activities.

Jalil Eslami
Deputy directorate for port and economic affairs

ICOPMAS, a venue to realize creative ideas

Islamic republic of Iran benefits from extended coastal areas, more than 5 thousands and 700 kilometers, with different and diverse usages. According to coastal usage, marine constructions are or will be built based on varied specifications. Integrated coastal zone management (ICZM), as a comprehensive coastal plan in the country focusing on the coastal usage has been approved and ratified by the high council of architecture and urban development of I.R. of Iran. Port and Maritime Organization as the leading organizations amongst other related organizations and research institutions provided all necessary information and documents.

This plan reflects the significance of coastal constructions management and focusing on different approaches on main issues such as subsidence and environmental situations. Thus, scientific consideration toward coastal constructions and promoting and exchanging international knowledge is so important in this field.

To aim these goals, International Conference on Coasts, Ports and Marine Structures has been able to achieve great successes during the past eleven conferences. The conference has presented the scientific capabilities of Iranian experts in the field of coastal engineering to the international society. At the same time, the conference has greeted international scholars to present the findings and results of their researches. Among all those innovative and creative ideas, the proposal for enhancing subsidence management and supplying proper and safe ports depth was significant. These methods have been introduced in the past conferences and there are some grounds to implement those ideas in the Iranian ports. By following these methods, it is possible to decrease the costs of waterways and ducks subsidence and maintenance in the Iranian ports.

To conclude, the International Conference on Coasts, Ports and Marine Structures has perfectly been able to fulfill its mission in the professional field of ports and coastal engineering which has stabilized countries position in the international level. The conference can be a good model for promoting domestic professional port and maritime activities in the world. I seize the opportunity to appreciate all distinguished colleagues and staff who were involved in holding the conference during the past years as well as the current one

Mohammad Rastad
Deputy Managing Director for Maritime Affairs

12th ICOPMAS; New era, New approaches

Benefiting from oceans and seas is one of the endowments that has granted to humankind. As the Holly Quran says mankind can use the sources of waters (alive or mineral), travel to farthest places on the globe and trade goods. Islamic republic of Iran is connected to international waters from Northern and Southern areas, Caspian Sea, Persian Gulf and sea of Oman. Furthermore, benefiting from 5800 coastal lines and several islands has established a perfect situation for the country in the region and the world. Unfortunately, during the past centuries, the country has been deprived of this gigantic God-given endowment and mostly has turned to a land-locked territory.

Port and Maritime Organization as the focal point in this field in the country figured out that paving the way for specialists and researchers and persuading them to work on this subject is one of the solutions to fill the gap. In addition, the organization convinced executive agencies to have a more focused attention to the development of the coastal areas. As a result, we created a base for exchanging ideas among Iranian and foreigners. As the "Construction era" started, after the imposed war in 1990, the pace for utilizing coastal, ports and marine structure's knowledge was set.

There have been valuable achievements, internally and internationally. In addition to having a base for exchanging experience and successes among attendees and presenting domestic technical capabilities which are the most obvious results of such conferences, one of the most important achievements is enhancing technical and professional knowledge of Iranian specialists, researchers, consultants and contractors. Consequently, I.R. of Iran is in a noteworthy situation in the field of coastal management and engineering in the region and is capable to present its technical and engineering knowledge in international levels. Some of these achievements are as follows:

- Displaying several national project,
- Supporting academic agencies through industry sector to advance country aims,
- Preparing coastal constructions guideline as the first obligatory comprehensive guideline for domestic designers and consultants,
- Developing a math based Iranian simulator software for marine parameters and presenting it to the international market,
- Establishing a scientific NGO on coastal and marine constructions,
- Being Supported by all related internal and international coastal and marine constructions organizations, unions and associations,
- Getting membership of I.R. of Iran, the only member from the Middle East region, in the oldest and most effective international association in the field, the World Association for Waterborne Transport Infrastructure (PIANC).

The most important programs for this conference are as follows:

- Updating Conference website by increasing the number of languages to four,
- Holding Board of Directors and Scientific Committee Meetings,
- Scheduling a plan to receive articles, evaluating them by Iranian and International scholars via the conference website,
- Coordinating with international lecturers to present their findings as key speakers,
- Choosing an appropriate place to hold the conference and equipping the sideline exhibition,
- online and simultaneous broadcasting of all lectures through the conference website,
- Planning to invite civilian and military officials in the opening and closing ceremonies of the conference.

Having a different international environment after the Joint Comprehensive Plan of Action (JCPOA) between Iran and 5+1 countries is the most clearly distinguishable fact from previous conferences that has gathered more than 30 countries in this event. Furthermore, the number of articles we have received from researchers has significantly increased.

Mohammadreza Allahyar
Director General of Coasts and Ports Engineering
and Secretary of the Conference

Ports and Maritime Directorate General of Khuzestan Province

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Background of Port:
Special economic zone of Imam Khomeini port with 11044 Hectares in extent is placed in North-west of Persian gulf and at the end of khoor Mousa waterway. This waterway has provided, with depth of 20 m, width of 250m and 42nautical miles, a peaceful and safe way for the traffic of different types of trade ocean going vessels and tankers through Persian gulf, Hormuz strait, Oman sea, Indian ocean all over the word.
Unique benefits of this port like proximity to 70 percent of main industrial and population centers of the country and free trade zone of Arvand, neighborhood with economical zone of Imam Khomeini petrochemical, locating in International North-South Transportation Corridor (INSTC) and shortest and safest overland path for carrying goods from Iraq, Turkey, Caucasus, and middle Asia to the south-east of Asia have made this port as one of the main trade centers of Iran and region.

Main Services:
1) Maritime services
- Pilotage of vessels
- Berthing and unberthing of vessels
- Water supply and bunkering to vessels
- Maritime radio and navigation aid services
- Maritime search and rescue
- Emergency (medical services)

2) Port services
- loading and discharge of cargoes
- cargo handling and storage
- confirmation of seafarers' competency (training, testing, and certification for seafarers)
- issuing license services of marine and port transportation (licenses for loading and discharge of cargoes, cargo counting, diving, shipping)
- registrating services of vessels

Technical and engineering achievements in last two years
1) construction of oil wharf
By the construction of two oil Dolphin wharfs with the capacity of 42 million tons and implementation of transporting pipelines toward supporting lands have provided the possibility of 3 million m2 oil derivation in Imam Khomeini port
2) Construction of warehouse of dangerous goods and flammable material
Loading and unloading, transportation and inventory of dangerous goods including flammable, chemical and toxic materials need special safety arrangements and equipment. Accordingly, warehouses of dangerous goods and related materials have been constructed in the port with a foundation of 6000 square meters and outdoor area of 13000 square meter, compliance with recently available standards and utilizing necessary facilities
3) Starting of advanced telecommunication system of ICS
ICS or Integrated communication system is a new telecommunication technology with change in structure and communication platform of equipments and telecommunication systems(marine and land) from analog to IP will present a collection of integrated telecommunication services in different using conditions like managing, leading and critical. With this new method all of marine telecommunication systems, mobile and immobile telecommunication system of the city, maritime warning system can be used in a network format.

Technical requirements to port and maritime activities and promoting
- multidimensional transportation engineering
- designing ports and marine structures
- extraction and stabilization of tidal lands
- truck digital technology
- FTTX technology in telecommunication, electronically, and IT platforms

Ports and Maritime Directorate General of Guilan Province

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Background of Port:

- Anzali Port is one of the busiest ports among the southern Caspian Sea littoral states, and its importance is further highlighted due to its location in the International North-South Transit Corridor (INSTC).
- This port provides various services to customers, taking advantage of suitable infrastructures, multi-purpose warehouses and terminals, and applying modern cargo handling equipment. Moreover, the Vessel Traffic System (VTS) is an advantage for guaranteeing safety, which distinguishes Anzali Port from other ports in the Caspian Sea. After being linked to the national railway and highway network, which extend inside the port area as well, this port will perform a key role in national maritime transport industry

Main Services:

- Efficient Cargo handling Services to different type of Cargoes
- Warehousing and Storing services
- Transit
- Reception facilities
- Shore Based Maintenance and Life Saving Appliances services

Main technical and engineering achievements in 2 last years:

- Designing and manufacturing main spare parts of strategic Service Boats such as dredgers: Due to frequent operational utilization of dredgers, they need to be overhauled, and since accessibility to main spare parts at market is time consuming and costly, thus Engineering Department designed and manufactured necessary parts by close partnership of private sector. Example: Cooling Box of Dredger Engines And Cutter Head of Cutter Suction Dredger

- Innovation of "Composite Sorbent to Remove Oil Spill in Caspian Sea: Prepared from different Regions of Guilan Province": To prevent marine pollution, It is necessary to use materials which are environment friendly and are accessible and inexpensive. Using materials extracted from natural resources and agricultural sources will facilitate making such a composition.

Technical requirements to port and maritime activities and promoting (Max 5 items):

- Ship yard facilities to repair ships incompatible to maritime safety.
- New generation of ship to shore cranes and yard equipment to enhance move per hour and productivity of cargo handling
- Search and Rescue Helicopters to cover more nautical areas and monitoring coastal areas against oil pollution under any meteorological condition
- Accessibility to last nautical charts
- New technological softwares and hardwares for establishing port community system and linking all units of port and maritime industry

Ports and Maritime Directorate General of Bushehr Province

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Background of port:

- The Port of Bushehr, with a radiant history of around five thousand years, is considered to be one of the ancient ports of Iran. The commercial fame and glory of this port reached its peak as the only reliable port of the country during the Qajar Dynasty, leading to a vast immigration of people from nearby locations thereto and the growth of its population. During this area, Bushehr Port was chosen as the center for customs activities in the south of the country, and an office called Southern Customs Branch was established therein, which further confirmed the port as a major focus of trade in the Persian Gulf. Today, enforcing the sovereignty of the government in the coasts and ports, with the aim of providing necessary facilities for expansion of maritime trade and coastal relations, as well as reception of the applicable dues and charges, which had been in place since November 1814, form one of the duties of the Ports and Maritime Organization (PMO).
- The potentials and capacities of the country in all transport sectors encourage multimodal transport as a vital tool for increasing the participation of Iran in regional and international transport markets, and thus realizing the mass objectives of economic development of the country, including those stipulated in the 2020 Perspective Document. Adopting long-term strategies in line with the mentioned objectives, therefore, the Iranian Maritime Administration would be able to channel its capabilities and innovations towards promoting transit of cargos through Iran.

Main services:

The main ports and maritime services of Bushehr Port

Special Economic Zone (SEZ)

- Legal facilities and advantages of ports Special Economic Zone
- 20 percent discount in the commercial profit
- 50 percent discount in handling charges of imported commodities and containers transited directly into the Special Economic Zone number 2 of Bushehr Port
- Existence of regular shipping line in the area for transfer of cargos, passengers and containers
- Licensing stevedoring companies, shipping agent and other port and maritime transport services in shortest time possible

Main technical and engineering achievements in 2 last years

The Design and Implementation Of Buoy Monitoring System

Maritime crisis management includes assessment of risk, determination of the way to achieve the lowest possible (or acceptable) level of risk, the establishment of systems and procedures to maintain the system at an acceptable level, the preparation (contingency planning) required to deal with events which could take place, and the management of response organizations and actions resulting from this preparation when an incident occurs. Each of these elements has an economic cost and a key element in maritime crisis management is the rational allocation of these costs. The objective of this project is to present a method for Forecasting and warning marine hazards and helping the response organizations for best Crisis Management of Marine Hazards. Hence, Automatic Identification System (AIS) which is an autonomous monitoring system, operating in the VHF maritime mobile band has been done for the first time in Iran, Bushehr Port Maritime Organization.

Use of Self-Compacting- Concrete for The Repair of Quays No. 4 & 5 & 6 at Bushehr Port

A project is done to provide basic repairs for quays No. 4, 5 & 6 in Bushehr Port. The damaged sections of the quays (about 500 meter long) were in need of repair to boost their service quality, the worst parts of which

could be found in quays No. 4 & 5 with a total length of 350 meters (concrete piles and concrete decks). The project scope consisted of the followings:

- Repairing the concrete piles with self-compacting concrete
- Repairing the slabs below the decks with self-compacting concrete
- Repairing the deck forehead and surface with conventional concrete
- Repairing and fixing the fender system (including the support fenders, frontal fenders, frame and chains)
- Construction and installation of pre-cast car-stoppers with conventional concrete

Development Plan for Bushehr Port-Negin Port Complex

Negin Island has a surface area of around 70 hectares, which could be expanded to around 400 hectares in the future. The plans for expanding and improving the infrastructures of this island port have aimed at creation of investment opportunities for interested Private Sector entities and promotion of the port's capacity, and were realized through establishing the required facilities, such as maritime access to the island, which was achieved by means of dredging the access channel to Bushehr Port. Moreover, land access to Negin Island has been concentrated upon by the construction of roads to this port from Almoharragh Island and its connection to the Bushehr-Borazjan Highway.

The uniquely attractive features of lands on Negin Island for port activities are:

- Proximity to the main land and low depth of water in areas intended for establishing connection to the land;
- Adjacency to the access channel between the port and the sea;
- Seperatability from urban areas by land and sea; and
- Relatively vast areas and possibility for expansion.

The Port of Negin Island has also provided attractive investment prospects for interested parties in the following respects:

- Terminal for liquid bulk materials including oil products and chemicals;
- Terminal for refrigerated cargos; and
- Terminal for semi-bilk and general cargos

Then, Investments' opportunities are described as below map. Now, some agreements on fields of investment in construction of container terminal, multipurpose terminal and green exports between the Ports and Maritime Organization and investors were signed which worth were about 150 million dollars. It should be noted that the construction of container terminal and green export terminal has been started.

Technical requirements to port and maritime activities and promoting

- Dredging (Maintenance Capital)
- Quay Crane & Yard Crane (Gantry Crane – RTG – RMG, ⋯)
- Container Terminal handling & operating
- Study of access channel Sediment control
- Vacuum – based automated mooring system
- Safety Features for Cargo / Container handling equipment
- VTS (Vessel Traffic Service)
- Marine Firefighting
- Setting up MRSC in the Aamari port
- Purchase and addition a vessel of search and rescue (NAJI 18) to SAR fleet
- Towage
- Pilotage
- Search and Rescue (SAR)
- Container handling
- Refrigerated cargo handling
- General cargo handling
- Liquid bulk cargo handling
- Reception facility (Anex 1, 5)

Ports and Maritime Directorate General of Amirabad Port

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Background of port :
Amirabad Port S.E.Z is the largest port in Caspian sea and located 51 km East of Mazandaran province center.
Amirabad port is one of the most successful to attract private sector investment.
Vast logistic land (1060 Hectares) , infrastructure facilities, added value tax exemption and economical advantages of special economic zone resulted to safe and sufficient port to invest by internal and FDI investments.

Advantages of Amirabad Port S.E.Z :
- Third generation Port
- Only northern port of Iran connected to rail network
- Rail RO – RO jetty
- 15 Jetties with 7.5 million ton capacity
- 1060 Hectares of logistic lands
- Modern port & marine equipment
- Grain pilot port in north of country
- Strategic position in international North – South transport corridor

Main Services (max 5 items)
1.Grain unloading & storage.
2.Veg. oil discharging & Warehousing
3.Container operation
4.Oil Product operation
5.Lease logistic Lands for investment.

Main technical and engineering achievements in 2 last Years items: One paragraph and one image for each item
- Construction & operation of 6 multi – Purpose jetties
- Construction of rail RO- RO jetty .
- Construction of 1260 m East Coastal Protection stone wall.
- Building & operation of M.R.C.C .

Technical requirements to port and maritime activities and promoting Infrastructure & Landscaping of East Land Zone .
1.Providing of Strategic Port equipment
2.Development of break water and enlargen of Port entrance.
3.Preparation of Port hinterland in Special Economic Zone area.

Ports and Maritime Directorate General of Sistan and Baloochestan Province

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Background of Port:
The port of Chabahar is located in southeastern Iran, north of Oman Sea. One of the features that distinguishes it from other Iranian ports and ports in southern coast of Persian Gulf is its access to international open seas. The port benefits from geopolitical, geoeconomic and geostrategic potentials. It is located in both South-North and East- West transit corridors and can play as a transport gateway, as well as a central commercial node between CIS countries, India, Pakistan, Afghanistan, Russia and Europe.
Currently, Chabahar port consists of two port complexes, named shahid kalantari port and shahid beheshti port. Shahid kalantari port is a traffic port and the division of shahid beheshti port development is to transform it into a multimodal and forth generation port, hence it can play as the regional Hub port.

Main Services:
- Providing service for Bulk Carriers/ Break-bulk
- Providing service for Container Vessels
- Providing service for Oil/Chemical Tankers
- Providing service for General Cargo
- Providing Reception Facility/ Water/Catering

Main technical and engineering achievements in last 2 years:
1.Sea wall for Shahid Beheshti Port:
The Protective Sea wall has constructed on the southern side coastline of the Shahid Beheshti port with a length of 2 kilometers and a cost of 240 billion rials for the purpose of passive defense, prevention of erosion of coastline and protection of the infrastructure construction in the coastal strip adjacent to the Oman Sea.
2.Shahid Kalantari Container Terminal:
Shahid Kalantari Container Terminal has been constructed in 2015. This project includes Shahid Kalantari Port's container terminal in an area of 4 hectares with the capacity of 150,000 TEUs. This container port was built within 8 month period with the budget of 7 billion Rials. Shahid kalantari Terminal will be utilized for the purpose of transferring regular import and export containers as well as refrigerated containers.
3.Completion of First Phase of Shahid Beheshti port Development:
Phase 1 of Shahid Beheshti port has been completed in the current year which increases port loading/ unloading capacity from 2 to 8.6 million tons. The objective of this project is Construction of port facilities for import-export of goods through Oman Sea with the purpose of creating a shorter import/export route and encouragement of CIS countries to access the open sea.
4.Concession of Desalination plant to the private sector:
The private sector invested 50 Billion Rials on the project. Port freshwater in previous years produced by MSF method (desalination of fresh water by evaporation method and using gas and oil as fuel) has changed to RO which complies with environmental requirements and leads to cost savings regarding electricity and fossil fuel use. In the new plant, desalination capacity is 2 thousand cubic meters per day.

Technical requirements for promoting port and maritime affairs:
- advanced and powerful Service Vessels such as Tugboat, SAR Vessel, SAR Helicopter, OPRC-OPRC/HNS vessels and equipments, Bunker and Water supplying Barge
- Light Houses
- IT Infrastructures
- Gantry Cranes
- Mechanized and Automated Container Tracking System at container yards
- Repair Facilities and hinterland

Port Control Tower and Coastal VTS

Ports and Maritime Directorate General of Mazandaran Province

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Background of Port:

Nowshahr port was established during the years 1930-1939 by the Netherland and Belgium companies and started with the arrival of the first commercial ship carrying parts and machinery of Karaj Steel plant in 1940.

This port currently has a good condition among the northern port because it has an area of 40 hectares , 11 commercial jetties and services with proper equipment and 5 meter draught that allow the commercial ships enter and mooring with a capacity of 6 thousand tons .

By the approval of the Islamic Consultative Assembly (May 2011), the Nowshahr port became a Special Economic Zone that provide the legislation for special economic zones for traders and private investors.

Main Services:

- Storage and movement of commercial goods, oil and dry bulk and dedicated facilities to export and transit of goods
- Representative of Ports and Maritime Organization in charge of protection of maritime safety, search and rescue, marine communications, marine environmental protection and Pollution at Sea.
- Compliance and enforcement of international conventions on the management of coastal and marine
- provide marine and shore services.
- inspect all vessels including safety and technical and also issue relevant certificate.

Main technical and engineering achievements:

1-Construction of office buildings and control tower

Constructed Office building with an area about 7400 square meters and control tower that height about 40 meters .

2-constructed warehouse by investors

An area about 42,000 square meters of general cargo warehouses was built by private sector investors.

3. The construction of grain silos by investors

Grain silos was constructed with a capacity of 15,000 tons by the private investor; Zarmakaron Company.

Technical requirements to port and maritime activities and promoting (Max 5 items):

1. DREDGER
2.TUG BOAT
3.PILOT BOAT
4.Offshore and yard cranes
5.Forklifts

Port and Maritime Directorate General of Khoramshahr Province

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Background of Port:
The port has a long history in seaborne trade and the construction as well as operation of special quays for ocean-going vessels launched in the early of 1300(1922) and during the outbreak of the second world war became more and more so that the years before the Islamic Revolution, Khorramshahr port had 20 quays and was one of the largest port of the country with 4 million tons general cargo importation in 1356(1978). Now, the whole pre-war infrastructures of the port including: Quays, Warehouses, and yards are reconstructed.The Trans-Iranian railway is connected to khorramshahr port via Ahvaz .The railway connection is as a cheap way of transporting goods to the whole domestic destinations as well as neighboring countries like :Iraq ,Turkey ,and Georgia . Benefits & characteristics of khorramshahr port:
1-Enjoying % 25 discount on commercial profit.
2-Enjoying benefits & facilities of Arvand free trade-industrial zone.
3-Regular feeder lines between (UAE) and Iran (Khorramshahr port) have provided the possibility of forwarding cargoes from all over the world to Khorramshahr port.
4-The closest free trade-industrial zone to Iraq.
5-Enjoying modern stevedoring equipment of container

Main services:
1-The most economical transit route to: Iraq, Kuwait and Georgia countries
2- Container terminal with 100000 TEU/Year capacity.
3- Special quay for berthing Ro-Ro ships with more than 15,000 vehicles/year.
4- Oil terminal
5- General Cargo (more than 1,500,000 Ton /year capacity).
6- Marine Passenger terminal with more than 70,000 ind/year capacity.

Available Port Facilities:
Covered Storage 137600 m2 , Open Storage 341827 m2, Area of available lands for investment 400000 m2 and 2700000 m2 (New Container Terminal) , Port areas 2,300,000 m2 .

Number of Quays:
Container 6Ps. General Cargo 8Ps. Passenger 2Ps, Ro - Ro 2Ps, Oil 1Ps, Oil Platform 1Ps, and Marine Services 1Ps. TOTAL: 21 Ps.

Main Technical and Engineering Achievements in 2 last years:
AMC Project (Arvand Maritime City):

- Construction of Quay Wall with 20,000 Ton capacity.
- Construction of two Skid Way with 5m width & 5000 Ton capacity.
- Construction of two Skid Way with 9m width & 9000 Ton capacity.
- Construction of mechanized Dry duck with 11*40*150 m & 13000 Ton capacity.
- Construction of Quay with 620 m length & equipped with power stations, fire-fighting, fresh water, compressed air, drain the bilge, the ability to deploy heavy cranes.
- Construction and repairs of Quays:
- Construction of MSQ (Marine Services Quay): The area of exploitable 1632 m2, & pre-built stanchion with 30m length.

Repairs of Quays to increase the capacity of Loading & Unloading:
A) Repairs of 2-3-4-5-6-7 quays: Retrofitting deck, Construction & Installation Pre-built forehead, Strengthening using FRP, The area of exploitable 14968 m2.
B) Repairs of 8 and 9 quays: The area of exploitable 60400 m2. Yearly capacity 100,000 TEU/year, the thickness and volume of CBM4, 30 cm, 21200m3. Concrete blocks with high compressive strength.

Supply of channel safety :
- Total Remove 160 wrecks since 24 years ago (1993- 2016) in the Arvand & Karoon Rivers.

Total Flouting, removal and bring out of 44 wreck of Arvand River. (Water under the supervision and operation), and Current projects are 36 wrecks in Arvand River. , right channel (Iran Coast).
- Maritime Buoyage System: Launching of 21 buoys with solar system in 62 miles of Arvand River (Right channel and in the Risk Limited Areas). Continuously Repair and maintenance: washing, coloring, scrubbing, and changing of solar batteries and lights.
- Dredging over than 1000,000 m3 in port quays.

Technical requirements to port and maritime activates and promoting:
- Necessity of Flouting and Removal 3 Grand wreck in the Risk Limited Areas of Arvand River.
- Necessity of Flouting and Removal 15 wreck in the Left Channel of Arvand River. (Iraq beach)
- Necessity of Dredging of Arvand River: (Estimating to dredge over than 56,000,000 m3 to reach to safe navigational depth of 9 m, Talweg Line).
- Necessity of conducting hydrographic operations before and after each dredging.
- Necessity of equip the advanced Marine Services Vessels such as Tug, pilot vessel, marine pollution vessel, search and rescue vessel.

Sazeh Pardazi Iran Consulting Engineers Company (SPI Co.)

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Background of Company:

Valuable experiences of long-run undertakings in Jihad Agriculture, reliance on our beliefs, as well as proficiency and expertise have led us to establishment of Sazeh Pardazi Iran Consulting Engineers Co. getting benefit from the latest scientific and engineering findings, the company offers services in line with improvement and prosperity of Iran, while taking into consideration independence, self-reliance and superior services.

SPI Co. spares no effort in planning its development strategies and taking further steps to expand its engineering activities by means of modern management system.

The company offers services such as conducting feasibility studies, preliminary studies and detailed designs, consultation and supervision of the projects, project management, and implementation of EPC projects in the engineering fields.

Main Services:

- Coasts, Ports and Marine Structures
- Structure and Architecture
- Energy and Industrial Utilities
- Environmental and Water Engineering
- Geotechnic and Geophysics
- Surveying, Photogrammetry and Hydrography

Main Technical and Engineering achievements in recent years:

- Anzali Port Development (Studies, Design and Supervision)
- Shahid Beheshti (Chabahar) Port Development (Studies, Basic Design and Supervision)
- Supreme Supervision and Design Control
- of Investing Projects in Negin Island (Bushehr Port Development)
- Supervision on Repair and Maintenance of buildings and utilities of Bushehr port
- Integrated Coastal Zone Management of Hormozgan Province
- Iranian Concrete Armour Development (DEZHPOD)

Pars Geometry Consultants

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Background of Company:
Pars Geometry Consultants (PGC) specializes in diverse areas of civil engineering and provides full range of services based upon expertise and lifelong experience of its founders as well as professional and broad abilities of its management and expert team and is able to deliver study and integrated engineering services for projects demanding multi-discipline specialties. Our areas of expertise encompass the following:

- Ports and Marine Engineering
- Oil and Gas Refineries as well as Petrochemical Plants
- Infrastructure Engineering

Main Services:

- Conceptual Design, Feasibility Studies, Basic and Detailed Design
- Site and Overall Supervision
- Purchase and Procurement Engineering
- Value Engineering and Assessment of Plans

Competitive advantages:

- Design of Seawater Intakes and Wastewater Discharge Systems
- Design, Procurement and Site Supervision of Oil Terminals in Ports
- Strategic planning and Preparation of Master Plan for Ports Developments
- Design and Site Supervision of Deep and Undersea Excavations

Main technical and engineering experiences:

- Detail design and Site and Overall Supervision for Bandar Abbas Desalination Project (SAGHI KOWSAR Project)
- Basic and Detailed Engineering of MAHSHAR Oil Terminal- Onshore Section
- Basic and Detailed Engineering Services for TOMBAK Service Port
- Monitoring and Modelling Studies of MAKRAN Coasts
- Studies and Review of Master Plan and Detailed Design of Kish Commercial Port
- Second Phase Design and Supervision for Construction of Persian Gulf Infrastructural Facilities
- Basic and Detail design of SHAYA Desalination Project
- Providing Consultancy Services for Investment Projects of SHAHID RAJAEE Port Complex
- Detail Design of Marine Pipelines for Water Intake and Wastewater Disposal - Phases 12 and 19 of South PARS Gas Field Development Project

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Pars Techno Company

Background of Company

Pars Techno is a well-known name in the construction business in Iran. The company has a more than 30 years' history. Established in 1982, the company has been engaged in many successful projects, actually more than 30, in a wide variety, including coastal structures, large building projects, utilities, roads and Airport. High client satisfaction in these projects contributed to the fact that Pars Techno stands as a big player in high-value projects. Enterprises in the private sector, and large organizations in the public sector find Pars Techno a reliable partner.

Pars Techno by employing the latest technology and advanced methodology provides high-quality results. A mixture of Resource and Cost Management, QC, QA, when performed by our professional experts in the field makes raises us above our competitors.

Pars Technòs operations in coastal structures include quays, breakwaters, groins, and shore protections and in the field of buildings and plants is mainly taking action in steel and concrete structures (pre-cast and in-situ), air terminals. About the road field, it is expert in executing any types of road and its related facilities also airstrips and finally about utilities, Pars techno is active in construction sewage treatment facilities and high voltage posts.

Main services:

- Design and construction of coastal marine structures
- Construction of ports, breakwaters, and onshore facilities
- Execution of roads, power plants, heavy structures, and coastal utilities.

Main projects within last 2 years

Zarabad Port
Client: Iran Fisheries Org.
Location: Sistan and Baluchestan Province-Konarak County -Zarabad

Main parts

- Construction of main and lee breakwaters to the type of rubble mound breakwater
- Construction of dhow quay and boat quay
- Construction of groin
- Construction of dhow basin and boats basin
- Dredging of main basin and approach channel
- Site development and landscaping and construction of buildings
- Construction of access road

Sourgalm Port

Client: Rahsazi & Omran Iran Construction company
Location: Sourgalm, Jask, Hormozgan Province

Need to find your own niche

Rob Kirby
12th ICOPMAS key Speaker

This is a difficult situation for Iran arising from its prolonged isolation. Many coastal states hold national or international conferences which are well established over a prolonged period of time & the participants even keep contact between meetings, exchanging research findings as well as meeting face to face at such seminars & conferences. It would be difficult to shift their behavior to new venues. Similarly, money is tight in the academic world & a scientist needs to be selective in what he/she attends. Furthermore, these days academics are flooded with a veritable avalanche of invitations to meetings, especially from countries such as China, Malaysia & India. Most days I get anywhere between one & four such invitations. It is often said that one could become a "professional conference attendee" these days, never going to work but just moving around the world from conference to conference. ICOPMAS needs to identify & fill its own "niche", perhaps one closely associated with its local area (Persian Gulf).

Therefore it is good to see a rising level of interest in ICOPMAS with academics from more countries involved & a rising standard of presentations. Unfortunately, but realistically, something like 85% of all science & engineering is published in the English language resulting in proficiency in this language being imperative for any academic.

Iran might raise the profile of ICOPMAS if in the future it were to attract other specialist "touring" types of conferences such as INTERCOH Which would cross fertilize with ICOPMAS & raise the international profile of the country in a scientific sense. They could possibly be run concurrently. Similarly such specialist meetings would be a great way to bring these specializations right to the doorstep of well-educated & enthusiastic young people, who are the future of the country. ICOPMAS organizers need to appreciate that they will need to maintain a high level of organization and that good quality research presentations are essential. For example, not all INTERCOH meetings have been equally successful & for more than one reason. One needs to learn from both the highs & the lows.

It is pointed out that ICOPMAS & Iran enjoys a high level of support from PIANC & that via ICOPMAS picking up the themes of certain PIANC initiatives such as Smart Rivers & "Working with Nature" might assist in raising the profile of ICOPMAS in future.

Being "off the radar" of international science implies difficulties once a country tries to re-enter. However, I note the rise in the number of countries in the Persian Gulf & beyond (Mediterranean, Black Sea etc) joining ICOPMAS but would encourage development of links to say India which is beginning to emerge as a trading partner for Iran. The two countries have comparable port problems

This link could be forged in a tighter way by having sessions at the conference dedicated to specific challenges facing the Iranian coast, by linking ICOPMAS to Port visits, etc. To raise the profile of the Iranian port industry, special sessions on items such as developing trends in ship design or in container terminal design & handling, for ore & for oil terminals. Many ports have difficulty matching rate of cargo discharge with its dispersal into the hinterland of a country. This might be a focus. Ditto modern generations of ships are emerging with tiny holes along the lower hull to discharge air & thus reduce skin friction & fuel costs whilst steaming. Is this a trend expected to continue? What other consequences might it have? There may be many more issues. Could be a "brain storming session" to home in on optimal solutions & could involve a committee appointed to carry forward a problem & report back on progress at the next ICOPMAS.

Need to use more media coverage

Micheal Risk
12th ICOPMAS key Speaker

I am happy to respond, as I have now been coming to ICOPMAS for many years.

The quality of the presentations has improved greatly, and now is at an appropriate international level. Not the very top level, such as AGU or AAAS, but pretty good.

Now that sanctions have been lifted, I can predict good news and bad news. The good news is, there will be more exchange/intercourse with scientists and engineers of other countries, which can only help. Iran has serious issues with water and food, and long coastlines…The bad news is, I expect to see a flood of vultures, selling all sorts of keen new technology. May I suggest you heed the advice I saw on the wall of a temple in Thailand, which I attach below.

Communicating the results of meetings to the general populace has always been a problem. The usual suggestion is to produce a series of short TV spots, covering important or interesting papers. Another idea is, get some school kids in, have them write for the papers.

I am always ready to provide advice. I find that Iran listens to me more than my own country does!

BHIC, Sealink Settle Shipbuilding Dispute

Malaysian Boustead Heavy Industries Corporation Berhad's (BHIC) subsidiary Boustead Penang Shipyard (BPS) and its compatriot shipowner Sealink International Berhad have settled a four-year dispute over a shipbuilding contract, with Sealink accepting a sum of USD 1.5 million.

The arbitration, which started in December 2012, was related to the violation of the shipbuilding contract signed between BPS and Sealink International Berhad's subsidiary Sealink Sdn Bhd on April 3, 2008, for the construction and sale of two 7,000 dwt oil carriers/chemical carriers.

In accordance to the settlement, BPS said it proposed and Sealink accepted a settlement sum of USD 1.5 million as full and final settlement of all claims and counterclaims in this reference.

BPS and Sealink have also agreed that the property in and ownership of all and any goods and materials bought or supplied by either party for the construction of the vessels, presently located at BPS' premises, shall if not already so vested, vest in BPS.

According to BHIC, the settlement is not expected to have any material impact on the earnings of BHIC Group for the financial year ending December 31, 2016.

In addition, Sealink said that the settlement will be positive to the earnings and net assets of Sealink International Berhad for the financial year ending December 31, 2016, also improving the cash flow position of Sealink Sdn Bhd.

ICTSI Opens First Phase of Basra Gateway Terminal Expansion

Manila-based container terminal owner and operator International Container Terminal Services, Inc. (ICTSI) has formally opened the first phase of the new greenfield terminal development at its Basra Gateway Terminal in the North Port, Umm Qasr, Iraq.

According to ICTSI, total investment for the first phase development, the first foreign financed development of new port infrastructure in Iraq, was USD 130 million.

"Today represents a milestone in the development of Iraq's shipping infrastructure. ICTSI's commitment to Iraq is evidenced in major investments in the upgrade of existing berths 19, 20 and the construction of the new terminal incorporating Berth 27," Enrique K. Razon Jr, ICTSI Chairman and President, said.

He added that the new infrastructure, "equipped with state-of-the-art quayside and landside handling systems is critical for sustainable economic growth."

"We are confident the new terminal area will boost efficiency and speed the movement of import and export cargo supporting the rapid growth in Iraq's economy," Razon said.

When fully developed, the new terminal area will comprise 600 meters of quay and 50 hectares of yard area.

In April 2014, Basra Gateway Terminal (BGT) was awarded the concession to take over the Government of Iraq's container terminal in Umm Qasr as well as construct the new berth

Maersk Shipping Line Eyeing Return to Iran

Danish Maersk International Maritime Transportation Company voiced readiness to resume transportation of goods to Iran.

Maersk that had cut its trade relations with Iran five years ago due to the sanctions imposed by the West on Iran announced that it will resume its activities in Iran soon.

Maersk announced that its customers can send their cargo to Iran via sea by Maersk cargo ships.

A major portion of imports, including foodstuff and consumer goods such as cars, to Iran takes place via sea.

In early January, the world's second biggest container shipping line, MSC, had become the latest firm to resume direct services to Iran.

The deal reached over Tehran's nuclear program in exchange for sanctions annulment came into effect in January.

Iran had depended on foreign ships for much of its imports, but has relied more on land routes and its own commercial fleet, particularly since 2012, as layers of sanctions led to an exodus of Western shipping firms.

Following the nuclear agreement last year between Tehran and the world powers, foreign container lines restarted to trade with Iran, although companies fear they may still fall foul of sanctions, which include restrictions on banking, Hellenic shipping news reported.

Privately owned Swiss-based MSC said its first ship arrived at Iran's major container port Bandar Abbas on Dec. 31 as part of weekly calls, "paving the way" for deeper business ties.

MSC had suspended services between 2012 to April 2014 and after that only provided shipments using smaller feeder ships via third parties that shipped containers to Iran from Jebel Ali in the United Arab Emirates

The company said it offers nine mainline services with weekly departures on all major trade lanes to/from Jebel Ali, with a direct feeder to Bandar Abbas.

According to worldmaritimenews, For imports from Iran, there are three weekly services connecting the Middle East and Europe which include ME1, ME2 and ME3, the Horn of Africa service linking the Middle East and the Horn of Africa and the Masika Express service between the Middle East and East Africa. In addition, the company offers the Mesawa service connecting the Middle East and West Africa/South Africa as well as the Horn of Africa service that links the Middle East and the Far East.

For exports to Iran, Maersk Line offers three additional services, AE1, AE11 and AE15, that link the Middle East and the Far East.

The latest country included in the Maersk Line organization is part of the UAE cluster comprising of UAE, Oman, Qatar and Iran.

"After a period of relative isolation, access to this new market will present significant growth opportunities for Maersk Line in a market that today represents approximately 700,000 FFE but is expected to grow significantly in the coming years." Marcus Connolly, Head of Sales, UAE Cluster, Maersk Line, said.

On September 27,2016 "Port affairs and special zones" deputy of PMO announced that fourteen international shipping lines have returned to Iranian ports following the implementation of the Joint Comprehensive Plan of Action (the formal name of the nuclear deal signed by Iran with the West).

Jalil Eslami declared that eight more shipping lines have signaled their readiness to resume their activities here.

"Mediterranean Shipping Company, the world's second-largest shipping line in terms of container vessel capacity, and Evergreen Line are among the top shipping lines engaged in economic interactions with Iranian ports.

New Cruise Ships on order

There's nothing we love more than snagging a peek at those first facts and figures about cruise ships that are on order. We just love learning about new cruise ships. The process, from design to keel laying to launch, generally takes two to three years. We keep track of the cruise ships under construction -- large, small and offbeat -- in our chart below.
Want to learn more about what it takes to make an older ship feel like new? Peruse our comprehensive list of cruise ship refurbishments for information about upcoming overhauls

New Ship	Tonnage/ Berths	Launch Date	New Ship Details
Seabourn Encore	40,350/ 604	December 2016	Seabourn will build two ships new all-suite ships that will be the largest in the fleet. All 302 suites will include private balconies. Both ships will be constructed at the Fincantieri shipyard in Italy. Seabourn has partnered with chef Thomas Keller, and the ship will feature a new chophouse restaurant, called The Gril
Viking Sky	48,000/ 930	February 2017	Viking Sky will be the third of six ships in the Viking Ocean Cruises fleet. The ship will include several of the company's popular riverboat features such as the Aquavit Terrace, an alfresco dining venue, and plenty of outdoor space on the sundeck and beyond. The vessel also will feature a promenade that fully encircles the ship. Cruises on Viking's ocean ships are inclusive of wine, beer and soft drinks at lunch and dinner, shore excursions and unlimited use of the thermal suite.
Norwegian Joy	163,000/ 4,200	Spring 2017	The second ship in NCL's Breakaway-Plus Class will be the same size as the first-in-class Escape, coming in at 163,000 tons and carrying 4,200 passengers. Norwegian Joy will be custom-built for the Chinese market, and it will be deployed full time to Asia, catering to Chinese passengers
Silver Muse	40,000/ 596	Spring 2017	The 40,000-ton Silver Muse will be the largest ship in the Silversea fleet and the first vessel in a new three-ship class. Silversea describes the intimate 596-passenger ship as a step toward "ultra-luxury ocean cruising." It will feature all-suite accommodations and a supper club-style specialty restaurant.
MSC Meraviglia	167,600/ 4,500	May 2017	Along with a yet-unnamed fleetmate that will launch in 2019, MSC Meraviglia will by passenger capacity become the largest ship in the world (beating Oasis, Allure and Harmony of the Seas), holding 4,500 passengers at double occupancy, and a maximum capacity of 5,700 passengers and 1,536 crew members

New Ship	Tonnage/ Berths	Launch Date	New Ship Details
National Geographic Quest	NA/ 100	June 2017	Lindblad Expeditions-National Geographic will welcome Quest in late June 2017, the first of two new builds for the company. About a third larger than existing Lindblad ships, with an additional fourth deck, these 100-passenger coastal vessels will have 50 cabins; 22 will have balconies. Families will be accommodated with eight rooms that can be configured into four adjoining cabins. Quest will sail in Alaska and the Pacific Northwest before relocating to Costa Rica and Panama, then Belize and Guatemala in early 2018.
MSC Seaside	154,000/ 4,140	November 2017	MSC Seaside will launch in November 2017 and will herald a new class of MSC ship -- Seaside Class. The ship will homeport in Miami year-round, and, according to MSC, it will be a game changer, along with MSC Seaside that will launch in June 2018. The company also has an option on a third ship. Each of the ships will have a promenade with shops, restaurants and bars. The 154,400 gross ton ships will have 2,070 cabins holding 4,140 passengers in double occupancy and 1,413 crewmembers. The ships will be 1,060 feet long and 135 feet wide, and have more than 468,000 square feet of public areas, including a theater, a terraced balcony and panoramic lifts with sea views. MSC Seaside will sail year-round from Miami
Star Clippers (Unnamed)	8,770/ 300	Late 2017	The new-build from Star Clippers will be the largest of its kind afloat. The five-masted, square-rigged vessel will feature three pools, including one that funnels sunlight through the ship's atrium into the dining room below and a glass-sided dive-training pool, a watersports platform, an atrium restaurant with open-seating dining and a variety of cabin upgrades, including 34 suites with balconies and four Owner's Suites
Majestic Princess	143,000/ 3,560	2017	With the success of fleetmates Royal Princess and Regal Princess, Princess Cruises is building a third ship in its Royal Class. After its summer 2017 debut, Majestic Princess will be based in China year-round. Little has been announced about the new ship, except that it will be built by Fincantieri shipyard in Italy and will cost about 600 million euros. It will include features catered to the Chinese market as well as those on other ships, such as a central atrium, adults-only Sanctuary, SeaWalk, Princess Live! studio and Movies Under the Stars. The ship will include balconies on all outside cabins.
National Geographic (Unnamed)	NA/ 100	Spring 2018	A sister ship to Quest will launch in spring 2018 with 50 cabins. The ships will be built by U.S.-based company Nichols Brothers Boat Builders shipyard in Washington and are expected to ply itineraries in the Americas. Unique technology outfitted onboard will include remotely operated vehicles, a video microscope, and a hydrophone and bow-cam designed to hear and film humpback whale vocalizations and see bow-riding dolphins.
MSC Cruises MSC Seaview	154,000/ 4,140	June 2018	MSC Seaview will launch in June 2018, and, according to MSC, will be a game changer, along with MSC Seaside, which launches in November 2017. Each of the two ships will have a promenade with shops, restaurants and bars. The 154,400 gross ton ships will have 2,070 cabins holding 4,140 passengers in double occupancy and 1,413 crewmembers. The ships will be 1,060 feet long and 135 feet wide, and have over 468,000 square feet of public areas, including a theater, a terraced balcony and panoramic elevators with sea views. MSC Seaview will homeport in Genoa, Marseille and Barcelona, offering Western Mediterranean cruises.
Norwegian Bliss	163,000/ 4,200	Spring 2018	The third ship in NCL's Breakaway-Plus Class will be the same size as fleetmate Escape, coming in at 167,800 tons and carrying 4,000 passengers.
Seabourn Ovation	40,350/ 604	Spring 2018	Seabourn will build two ships new all-suite ships that will be the largest in the fleet. All 302 suites will include private balconies. Both ships will be constructed at the Fincantieri shipyard in Italy.
Viking Ocean Cruises'Viking Spirit	48,000/ 930	June 2018	Viking Spirit will be the fifth of six ships in the Viking Ocean Cruises fleet. The ship will include several of the company's popular riverboat features, such as the Aquavit Terrace, an alfresco dining venue, and plenty of outdoor space on the sundeck and beyond. The vessel also will feature a promenade that fully encircles the ship. Cruises on Viking's ocean ships are inclusive of wine, beer and soft drinks at lunch and dinner, shore excursions and unlimited use of the thermal suite
Royal Caribbean's Oasis IV	225,282/ 5,400	Mid-2018	Royal Caribbean's fourth Oasis-class vessel will be built and ready to sail by 2018. Along with third-in-class ship, Harmony of the Seas, which launched in April 2016, these ships are the largest passenger vessels afloat.
Scenic Eclipse	16,500/228	August 2018	Long-time river veteran Scenic is making the leap to the luxury ocean market in a big way. The company will launch its all-suite super yacht with some seriously impressive features, including a fleet of zodiacs, two helicopters and a seven-person submarine. The ship will also boast a 1:1 passenger-to-staff ratio as well as cabins that start at an impressive 344 square feet. But the most exciting feature might actually be the ship's itineraries, which include the deep Arctic and Antarctica, thanks to the vessel's ice-class rating and stabilizer. During polar expeditions, Scenic Eclipse will make several landings a day.

New Ship	Tonnage/ Berths	Launch Date	New Ship Details
Celebrity Cruises (Unnamed)	117,000/ 2,900	Fall 2018	Celebrity Cruises, a line that touts "modern luxury," will build two ships under the name "Project Edge." This yet-unnamed vessel, as well as an identical fleetmate that will debut in 2020, will be built at STX France.
Holland America Line (Unnamed)	100,000+/ 2,660	November 2018	The Holland America cruise ship will mark the second in the Pinnacle Class, which also includes Koningsdam. It will be built at Italy's Fincantieri shipyard.
Crystal Cruises (Unnamed)	99,000/ 1,000	Late 2018	The first of Crystal Cruises' "Crystal Executive Class" ships will debut in late 2018 -- the line's first new builds for 12 years. The all-suite, all-balcony vessel will have the highest passenger to space ratio of any ship afloat. It will be built at Lloyd Werft in Germany and will be a polar ice class vessel.
Ponant (Unnamed)	NA/ 184	2018	The first of four 429-foot-long ships will have 92 cabins, an ethnic chic look utilizing earthy materials and be Ice Class rated for polar expeditions. Onboard naturalists will introduce passengers to the cultures and native species of destinations such as Oceania, South America, the Amazon's Orinoco River, Costa Rica, Papua New Guinea and the Indian Ocean.
Royal Caribbean (Unnamed)	167,800/ 4,180	April 2019	Royal Caribbean's fourth Quantum Class vessel will debut in 2019. Like its sister ships -- Quantum of the Seas, Anthem of the Seas and Ovation of the Seas -- this third ship will feature activities such as onboard bumper cars and a skydiving simulator. It also will feature the North Star, a pod that extends up and over the ship for 360-degree views. Inside cabins will feature "virtual balconies" -- essentially floor-to-ceiling LCD TV screens linked to a camera mounted on the outside of the ship. It also will feature the innovative entertainment space, Two70, which integrates HD-digital technology with singing, dancing and acrobatics.
Costa Cruises (Unnamed)	180,000/ 5,200	Spring 2019	The first of two 5,200-passenger vessels to be built for Costa Cruises, which will be able to accommodate 6,600 passengers at maximum capacity. The ships will be largest in the world by passenger capacity and will feature the brand's "Italy's finest" experience, an overarching design geared toward celebrating the line's Italian heritage through style, hospitality, dining and entertainment. The vessels will also employ engines that run on liquefied natural gas.
P&O Cruises Australia (Unnamed)	133,500/ 4,200	2019	The first cruise ship ever to be newly built specifically for the Australian market will also be the biggest ever based in Australia. At 323 meters in length and with 2,100 cabins, it will have double the capacity of the largest ship currently homeporting year-round in Sydney. The P&O Cruises ship will be built by Italian shipbuilder Fincantieri.
Saga Cruises (Unnamed)	55,900/ 1,000	Summer 2019	The long-awaited new-build from Saga Cruises will retain the small ship cruise experience the line is known for, with just 540 cabins and capacity for less than 1,000 passengers. There will be single sitting dining throughout a range of restaurants as well as a variety of bars, specialty restaurants and al fresco dining options. There will also be outdoor and indoor swimming pools, a spa, saunas, treatment rooms and beauty salon.
MSC Cruises MSC Meraviglia Plus 1	177,100 6,300	October 2019	At 331 meters long with 2,444 cabins, MSC Cruises' Meraviglia Plus carries nearly 6,300 passengers and combines unique facilities and onboard entertainment. Facilities include a fine art museum and onboard Cirque du Soleil show. Meraviglia Plus also features a 111-meter-long indoor promenade with a range of restaurants, bars and shops. The promenade is covered by a "digital sky" LED screen showing events and vistas around-the-clock. Additional facilities include family group "cluster cabins," a double-deck indoor amusement park, double-deck entertainment space and aft lounge, and an outdoor water park.
MSC Cruises (Unnamed)	167,600/ 4,500	2019	Along with fleetmate MSC Meraviglia, which will launch in 2018, this yet-unnamed ship will by passenger capacity become the second-largest ship in the world (after Oasis and Allure of the Seas). The 167,600 gross ton ships will have 2,250 cabins holding 4,500 passengers in double occupancy, and a maximum capacity of 5,700 passengers and 1,536 crew members.
Norwegian Cruise Line (Unnamed)	163,000/ 4,200	Winter 2019	The fourth ship in NCL's Breakaway-Plus Class will be the same size as fleetmates Escape, Joy and Bliss, coming in at 163,000 tons and carrying 4,200 passengers.
Crystal Cruises (Unnamed)	99,000/ 1,000	2019	The second of Crystal Cruises' "Crystal Executive Class" ships will debut in 2019. The all-suite, all-balcony vessel will have the highest passenger to space ratio of any ship afloat
Princess Cruises (Unnamed)	143,700-ton/ 3,560	2019	Princess' fourth Royal-class ship will debut in 2019. It will include staples like the three-deck-high Piazza atrium, Movies Under the Stars and balconies in 80 percent of the cabins, as well as a number of "new to the line" features.
MSC Cruises MSC Meraviglia Plus 2	177,100 6,300	October 2019	At 331 meters long with 2,444 cabins, MSC Cruises' second Meraviglia Plus ship will carry nearly 6,300 passengers and combine\ unique facilities and onboard entertainment including a fine art museum and onboard Cirque du Soleil show. Meraviglia Plus will also have a 111-meter-long indoor promenade with numerous restaurants, bars and shops. The promenade is covered by a "digital sky" LED screen showing events and vistas around-the-clock. Additional facilities include family group "cluster cabins," a double-deck indoor amusement park, double-deck entertainment space and aft lounge, and an outdoor water park.

New Ship	Tonnage/ Berths	Launch Date	New Ship Details
Celebrity Cruises (Unnamed)	117,000/ 2,900	Early 2020	Celebrity Cruises, a line that touts "modern luxury," will build two ships under the name "Project Edge." This yet-unnamed vessel, as well as an identical fleetmate that will debut in 2018, will be built at STX France
Virgin Cruises (Unnamed)	110,000/ 2,860	Early 2020	The first of three identical ships to debut for the Virgin Cruises brand. Using public input, the yet-unnamed mid-size ship will be built "around the needs and desires of the customer," with a heavy focus on millennial interests and activities. The first ship will offer seven-day Caribbean itineraries out of Miami, with a Sunday sail date
P&O Cruises (Unnamed)	180,000/ 5,200	2020	The biggest-ever ship built specifically for the U.K. market will also be the first powered entirely by Liquefied Natural Gas (LNG), making it the greenest ship in P&O Cruises' history. Scant details have been released in terms of features, but don't expect bumper cars and roller discos -- this is P&O Cruises, after all -- the ship will be "evolution, not revolution" and will likely build on the most popular aspects of the brand, i.e. food, dance, bars and decor.
Costa Cruises (Unnamed)	180,000/ 5,200	Spring 2020	The second of two 5,200-passenger vessels to be built for Costa Cruises, which will be able to accommodate 6,600 passengers at maximum capacity. The ships will be largest in the world by passenger capacity and will feature the brand's "Italy's finest" experience, an overarching design geared toward celebrating the line's Italian heritage through style, hospitality, dining and entertainment. The vessels will also employ engines that run on liquefied natural gas
Crystal Cruises (Unnamed)	99,000/ 1,000	2020	The third of Crystal Cruises' "Crystal Executive Class" ships will debut in 2020. The all-suite, all-balcony vessel will have the highest passenger to space ratio of any ship afloat.
Princess Cruises (Unnamed)	143,700-ton/ 3,560	2020	Princess' fifth Royal-class ship will debut in 2020. It will include staples like the three-deck-high Piazza atrium, Movies Under the Stars and balconies in 80 percent of the cabins, as well as a number of "new to the line" features
Regent Seven Seas Cruises (Unnamed)	54,000/ 738	2020	Regent has announced a sister ship to Seven Seas Explorer, with many of the same upscale amenities, such as spacious accommodations (including the ultra-luxurious Regent Suite) and gourmet restaurants.
Viking Ocean Cruises'Viking Song	48,000/ 930	September 2020	Viking Song will be the final of six ships in the Viking Ocean Cruises brand. The ship will include several of the company's popular riverboat features, such as the Aquavit Terrace, an alfresco dining venue, and plenty of outdoor space on the sundeck and beyond. The vessel also will feature a promenade that fully encircles the ship. Cruises on Viking's ocean ships are inclusive of wine, beer and soft drinks at lunch and dinner, shore excursions and unlimited use of the thermal suite.
Disney Cruises (Unnamed)	135,000/ 2,500	2021	The yet-unnamed ship will be the first newbuild from Disney since 2012. Details are still scant, but expect family friendly features such as waterslides, cabins with dual bathrooms and expansive kids clubs
Virgin Cruises (Unnamed)	110,000/ 2,860	2021	The second of three identical ships to debut for the Virgin Cruises brand. Using public input, the yet-unnamed mid-size ship will be built "around the needs and desires of the customer," with a heavy focus on millennial interests and activities.
Royal Caribbean Oasis V	NA/ NA	2021	Royal Caribbean's fifth Oasis-class ship is scheduled for delivery in 2021. It will be built at Saint Nazaire's STX shipyard, shortly after the delivery of the line's fourth Oasis-class ship.
Celebrity Cruises Unnamed	NA/ NA	2021	Celebrity Cruises' third Edge-class ship is anticipated for 2021. It will be based on the line's new "Project Edge" initiative, which offers "small-ship itineraries with large-ship amenities."
Virgin Cruises (Unnamed)	110,000/ 2,860	Early 2022	The last of three identical ships to debut for the Virgin Cruises brand. Using public input, the yet-unnamed mid-size ship will be built "around the needs and desires of the customer," with a heavy focus on millennial interests and activities
MSC Cruises World Class	200,000+/ 5,400	2022	The first of up to four LNG-powered ships to launch for MSC Cruises. The ships will have a cutting-edge design that will maximize the space for passengers, a host of features for families and the latest smart technology and advanced environmentally friendly technology available
Celebrity Cruises Unnamed	NA/ NA	2022	Celebrity Cruises' fourth Edge-class ship is expected to debut 2022. As part of the line's new "Project Edge" initiative, the ship will offer "small-ship itineraries with large-ship amenities.
Royal Caribbean (Unnamed)	NA/ 5,000	2022	The first ship in Royal Caribbean's next class of cruise ship, the so-called "Icon" class. It will be powered by liquefied natural gas (LNG) and use fuel cell technology to reduce greenhouse gas emissions.
Disney Cruises (Unnamed)	135,000/ 2,500	2023	The yet-unnamed ship will be the sister ship to the 2021 vessel. Details are still scant, but expect family-friendly features such as waterslides, cabins with dual bathrooms and expansive kids clubs
MSC Cruises World Class	200,000+/ 5,400	2024	The second of up to four LNG-powered ships to launch for MSC Cruises. The ships will have a cutting-edge design that will maximize the space for passengers, a host of features for families and the latest smart technology and advanced environmentally friendly technology available
Royal Caribbean (Unnamed)	NA/ 5,000	2024	The second ship in Royal Caribbean's next class of cruise ship, the so-called "Icon" class. It will be powered by liquefied natural gas (LNG) and use fuel cell technology to reduce greenhouse gas emissions.

Maqta Gateway launches digital vessel operations in the ports of Abu Dhabi

IN LINE WITH THE DIGITAL TRANSFORMATION MANDATE OF ABU DHABI'S GOVERNMENT SERVICES

Abu Dhabi Ports announced today the launch of its digital Vessel Management System which offers customers and stakeholders complete automation of all vessel management processes and services through its Port Community System, Maqta Gateway.

Through the new, demand-driven Vessel Management System, all vessels arriving at any of Abu Dhabi's commercial ports will be able to process the needed formalities and exchange unified digital information with the Port Community. Services covered by the system include vessel registration, voyage declaration, vessel call requests, as well as requesting port clearance, marine services, berth shifting and more.

Captain Mohamed Juma Al Shamisi commented: "Abu Dhabi Ports has reached yet another milestone in its continuous commitment to offering innovative and competitive solutions to its customers and stakeholders. We are delighted to share the news of launching the Vessel Management System with our partners today which was made possible through our Port Community System, Maqta Gateway."

"The Vessel Management System was built around the needs of local industries and will play an integral role in streamlining and facilitating the import and export activities at our commercial ports, further boosting Abu Dhabi's position as a leading maritime trade hub in the region. This is closely connected to our support of the digital transformation mandate of Abu Dhabi's government services as we constantly strive to introduce new ways that ease the process of doing business in the Emirate," added Al Shamisi.

Dr. Noura Al Dhaheri, General Manager of Maqta Gateway, added: "Maqta Gateway's Port Community System is transforming the logistics supply chain and is enhancing the competitiveness of Abu Dhabi's maritime and trade industry. The Vessel Management System provides community stakeholders with an efficient tool that will improve and facilitate the way they conduct their business by integrating all vessel management operations and services through the Port Community System."

"Our team has conducted extensive research and studies to improve the traditional vessel management operations through utilising best-in-class practices which were then adjusted to the local industry needs before being implemented to all of our commercial ports. We look forward to celebrating more milestones in the future."

Shipping agents representing vessels operating in Khalifa Port, Musaffah Port, Zayed Port and the Free Ports have concluded the vessel management training module conducted by the Maqta Gateway team in September ahead of its full implementation this month.

Air pollution at our nation's ports can be reduced now

Ports are the main gateway for global trade and are critical to the U.S. economy. Thousands of diesel-powered vessels, trucks, cranes, and other equipment help transport goods to market. But as they do, they also emit greenhouse gases, smog- and soot-causing nitrogen oxides (NOx), particulate matter, and other harmful pollutants. These emissions contribute to climate change and can cause asthma attacks, emergency room visits, heart attacks, and premature death. People living near ports bear the brunt of this pollution, and they often live in minority or low income communities.

In 2014, I was privileged to stand beside Bob Perciasepe, then Deputy Administrator of EPA and other key port stakeholders to launch our Ports Initiative, which aims to reduce air pollution and greenhouse gases from ports to improve the quality of life for all Americans working in and living near them.

Yesterday, in support of the Ports Initiative, we released a report titled the National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports. This report assessed a wide variety of strategies and technologies available to ports and port operators to reduce emissions. The assessment shows that there are many effective, proven opportunities available right now to reduce harmful pollution at ports. This is great news for the roughly 39 million Americans who live and breathe near these centers of commerce. Port stakeholders including state and local governments, ports and port operators, tribes, and neighboring communities can use this information to help inform priorities and decisions about investments being planned now for their port area.

This information comes at a critical time. With the Panama Canal expansion, U.S. seaports, private-sector partners, and the federal government are primed to spend billions of dollars on port freight and passenger infrastructure over the next five years. Decisions about port investments will have a lasting impact on the health of our citizens and our planet. It is more important than ever to make sure that port planning includes projects to reduce emissions and protect the environment.

Every type and size of port, whether they are seaports or Great Lakes and river ports, can use the information in the assessment to better understand how to reduce emissions now and into the future. The assessment found that replacing and repowering older, dirtier vehicles and engines with ones that meet our cleaner diesel standards achieves large emission reductions in NOx, particulate matter, and other pollutants that affect air quality. For example, replacing older drayage trucks could reduce NOx emissions by almost half, and particulate matter emissions by up to 62 percent in 2020 as compared to continuing with no changes. With regard to greenhouse gases, the report highlights that electrification of port vehicles and equipment can effectively reduce the magnitude of greenhouse gas emissions growth below what would happen in the absence of this replacement.

Certainly, there are things that are already having a positive impact on pollution from ports. For one, our emissions standards for new trucks, locomotives, cargo handling equipment, and ships are reducing diesel emissions from the vehicles and engines that are so critical to many port operations. In addition, our Diesel Emissions Reduction Act grant program has accelerated turnover of older diesel equipment at ports and goods movement hubs resulting in additional reductions. And finally, some port areas are taking proactive steps to reduce emissions.

Despite these gains, more work is needed to fully address the ongoing public health and climate impacts of the projected growth at U.S. ports. I look forward to continuing our efforts to provide data and information to inform decisions that effectively reduce pollution and result in more sustainable ports for the 21st century. This report is another important step in that direction.

Written by Chris Grundler, Director of the Office of Transportation and Air Quality (OTAQ), U.S. Environmental Protection Agency (EPA).

(Photo: Ashtead Technology)

What Lies Beneath?
Subsea Industry to Delve Deeper with Underwater Robotics

By Ross MacLeod

Autonomous Underwater Vehicles (AUVs) and buoyancy-driven gliders have revolutionized the way the subsea industry gathers oceanographic data and despite the volatility of oil prices, it is predicted that the demand for this technology will continue to grow over the next five years and beyond. Although the sustained low oil prices have reduced budgets and put a cap on the development of new technology, operators are quickly beginning to realize the cost saving benefits of underwater gliders forcing them to rethink their approach to subsea exploration.

Saving Time is Saving Money

Gliders are the latest step in the development of autono-

(Photo: Ashtead Technology)

mous float technology. Unlike conventional propeller driven AUVs, they don't require a vessel on-site and can be deployed for up to six months without having to resurface. They are also much smaller and lighter, making them easier and quicker to transport and mobilize for international operations.

Historically, remote operated vehicles (ROVs) or divers have been used for underwater research activities, however these methods are far more complex and can take many weeks to plan and deploy, often requiring large numbers of personnel and big budgets.

In the current market where this is no longer a viable option for many companies, gliders ability to operate without human intervention, eliminating the safety risks attached to operating ROV vessels, makes them an increasingly attractive alternative to the subsea industry.

The first subsea gliders were highly specialized and were limited in scope to the specific task that they were designed to complete. Since then, technology has progressed allowing them to become dynamic platforms for a variety of imaging, chemical, biological, acoustic and oceanic sensors that can be adapted to meet the needs of a specific project.

During the 1990s, AUV technology entered an intense research and development phase which was largely funded by national defense agencies, with commercial vehicles not widely available until around 2000.

Today, with advances in technology, gliders operate with little or no need for powered systems and are typically used offshore to investigate environmental, metocean or water-mass structures.

Ashtead Technology, a leader in marine technology and subsea services, has been an exclusive distributor of Blue Ocean's fleet of Teledyne Webb Research Slocum gliders since striking a global asset management agreement last year with the provider of ocean data solutions.

Blue Ocean's Slocum gliders can be equipped with a diverse range of different sensors and can be deployed in the water for up to a six months at a time. With two-way satellite communications the gliders can be deployed and controlled anywhere in the world, are highly weather resilient and have no environmental impact.

Conceived by Douglas C. Webb and supported by Henry Stommel, Slocum gliders were named after Joshua Slocum, the first man to single-handedly sail around the world.

The long-range and duration capabilities of Slocum gliders make them ideally suited for subsurface sampling, they can be programmed to transmit their data to shore while downloading new instructions at regular intervals.

The small relative cost and the ability to operate multiple vehicles with minimal personnel and infrastructure enables small fleets of gliders to study and map the world's most dynamic seas.

Slocum gliders operate using buoyancy as a propulsion

Case Study

Blue Ocean Monitoring recently completed a contract in Indonesia working for PT Newmont Nusa Tenggara (PTNNT), which is a subsidiary of Newmont Mining Corporation, one of the world's largest gold producers with assets and operations across five continents. The task was to utilize the Slocum glider for monitoring in support of PTNNT's Tailings Placement Program at its Batu Hijau copper-gold mine in Sumbawa, Indonesia. The program involved tailings from the mine being piped (3.2 km) offshore and deposited off the continental shelf, where the depth reaches in excess of 4,000m. The glider equipped with a suite of water quality sensors was deployed to monitor the tailings which were not being disbursed into the coastal environment of Sumbawa. The monitoring program took just three weeks to complete and satisfied the full objectives of the survey scope.

mechanism, which allows for longer deployment periods and the collection of large datasets continuously over these extended time scales.

They are capable of transmitting data in real-time and can be deployed and recovered easily, at a fraction of the cost of traditional vessel-based or fixed-mooring monitoring approaches, lowering both project costs as well as health, safety and environmental risks.

Initially gliders were used extensively for academic and military applications but over the past few years, they have been increasingly adopted for a wide variety of oil and gas applications including pipeline leak detection, oil spill response, decommissioning studies, dredge/construction plume monitoring, environmental monitoring and metocean studies.

Over time gliders have become more and more autonomous with less human interaction required as artificial intelligence has advanced.

To meet the long-term needs of the subsea industry, current developments are focused on increasing battery life, improving autonomous functions and enhancing sensor capabilities so they can perform increasingly challenging intervention tasks.

This will see gliders play an important part in the dismantling of offshore structures as decommissioning activity steadily increases over the next decade.

They will also allow decommissioning work to be carried out as cost-effectively and safely as possible, either replacing or supporting ROVs and diving operations in monitoring and mapping the environmental impact.

It's believed that gliders will develop faster than the 30 years it took ROVs to become everyday tools, and with software and sensor improvements, they could truly transform the way the industry conducts underwater installation, inspection, repair and maintenance work.

The current generation of gliders are capable of exploring water depths of 1,000m, travelling at approximately 1-2 nautical miles per hour.

Future developments in glider technology could see them operate with long endurance, extreme depth, or rapid response capabilities, while development of new sensors will further expand the parameters that can be measured.

It is clear that gliders will continue to play an increasingly important role in the exploration and monitoring of the world's oceans.

Their capabilities have already surpassed what was once believed as possible, travelling across complex terrain to collect high resolution metocean data to satisfy monitoring requirements for a number of industries including subsea, offshore renewables, mining, engineering and environmental.

The continued development of gliders and sensors will increase the range of marine applications, while advances in artificial intelligence will increase reliability and flexibility.

source: MTR magazine oct2016

OPINION: SEA LEVEL RISE

An Update & Analysis of

Climate Change & Rising Seas

DUNCAN MELLOR

The maritime Industry offers by far the most efficient means of transport, yet does get more than its share of attention for contributing to "climate change." The reality is that the Maritime Industry faces a disproportionally high risk of damages if the projections for accelerating sea level rise associated with climate change are real. Here, we are bypassing the politically charged topic of climate change, to take a closer look at observed sea level rise relative to the projections, or forecasts, that have been made by climate change scientists.

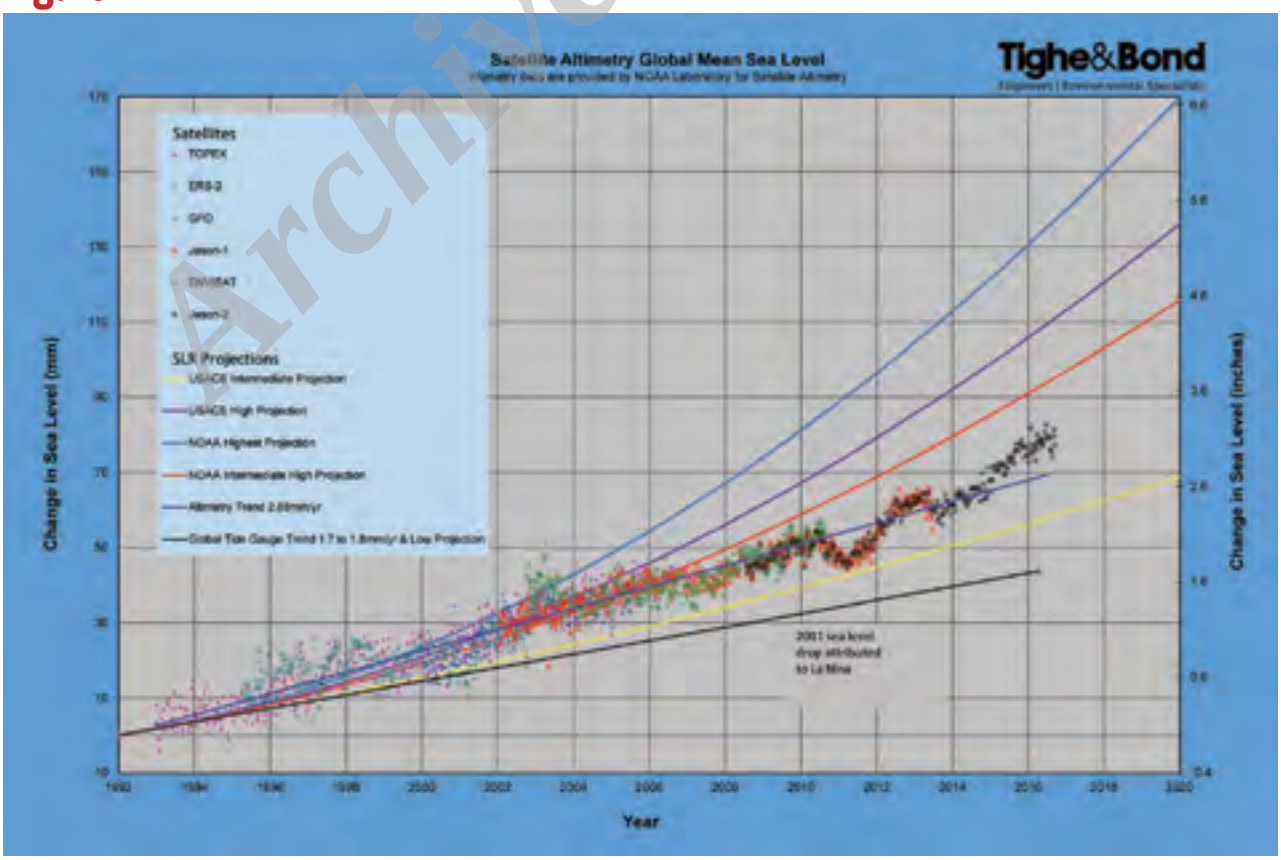
As an engineer, I work with materials and design concepts that have evolved over hundreds or thousands of years. These engineering concepts are well understood and provide predictable behavior when transformed into real world structures.

In contrast, man-made climate change science is a new field, academic in nature, most closely linked to the Intergovernmental Panel on Climate Change (IPCC) formed in 1988. At the center of this study of global climate is an extremely complex system, not well understood, with many data gaps and large degrees of uncertainty, especially when dealing with the deep oceans and polar regions.

So where do we stand on sea level rise, and its projected acceleration?

The trends in observations of global sea level vary, but in comparing the observations to the forecast sea level rise acceleration projections, the observa-

Figure 1



tions show sea level rise is still quite linear and at rise rates less than forecast.

There are two types of ocean observation data available to help track sea levels. The traditional data is tide gauge observations from ports around the world, with records going back hundreds of years. These long duration data sets provide accurate long-term trends. However, this data includes changes in land elevation, so it is really measuring sea levels relative to the local land. Some land, such as in Canada and Alaska, is rising due to crustal rebound (where the weight of ice sheets during the last ice age previously depressed the land and now the ice sheet weight is gone). The crustal rebound areas are actually seeing relative sea level drop. Other areas have land elevations subsiding due to crustal movement, oil or water extraction or soil consolidation effects that are combining with global sea level rise to show higher local relative sea level rise.

The tide gauge data does have some disadvantages including uneven distribution around the globe and they are only located along coastlines. Tide gauges record the tide rising and falling every day. This includes storm surges, effects of atmospheric pressure changes and wind direction. The moon strongly influences the tides, with orbital effects that take 18.6 years to repeat a cycle. This leads to the establishment of a “tidal epoch” defined as 19 years, and it is the minimum length of time needed to record the tides and average out the variations due to the moon’s orbit cycle. Therefore, any tide gauge data needs to be averaged over at least 19 years, with two or more tidal epochs preferred. It is not accurate to look at shorter ranges of tidal data to establish rates of sea level change1.

The other type of ocean elevation data more recently available to examine sea level trends is sea height measured by satellite altimetry. These measurements began in 1992 and several satellites have recorded global sea levels using altimetry. The satellite data has the advantage of crossing most of the ocean areas within days (typically to 66 deg N & S), thus offering a global perspective apart from the Arctic Ocean. However, altimetry has significant amounts of error and uncertainty with many corrections applied to the data and the data record length is still quite short.

Figure 1 presents a summary chart showing the corrected satellite global sea height observations, the long-term tide gauge observation trend, and a number of the sea level rise acceleration projections by the National Oceanic and Atmospheric Administration (NOAA) and the US Army Corps of Engineers (USACE). A key point of this chart is the linear rise trend in sea level rise observations for both tide gauge data and satellite altimetry data. The early observation data did somewhat match the initially flat acceleration projection curves; however, after about 2006 the higher acceleration projections have been diverging from the observations. Since the projections of sea level rise acceleration are exponential, these divergences will increase over time as long as the observed sea

level rise trends remain linear.

A key point in reviewing the Figure 1 data is noting the satellite observations of sea level rise typically don't match the tide gauge data. How can they be different? The two types of observations use differing measurement methods and cover somewhat different areas of the oceans. The tide gauge data often has been collected over a long time and is averaged over at least a 19 year tidal epoch to remove much of the Moon effects and mid term variation. In contrast, the satellite altimetry is recorded every 10 days to get global coverage, and then has corrections applied. In looking at the European satellite ENVISAT, which was collecting observations from 2002 to 2011, its observations showed a lower rate linear sea level rise trend of about 2.1 mm/yr (0.8 inches per decade), which agrees well with global tide gauge sea level rise trends (about 1.7 to 1.8 mm/yr (0.7 inches per decade)). The other satellite altimetry data suggests a higher linear rate of sea level rise with the combined data indicating a linear sea level rise trend of about 2.88 mm/yr (1.1 inches per decade).

So, what is really happening, and how much sea level rise will we be seeing?

As shown in Figure 1, the globally averaged tide gauge observations and the global satellite corrected observations are indicating a linear rising trend, currently tracking below the higher carbon emission sea level rise acceleration projections. The projections for sea level rise acceleration, which climate scientists made 24 years ago, need revising.

Global climate - including deep ocean temperatures, precipitation and snowfall are complex and not well modeled. An example is the sea level drop that occurred in 2011. One theory is the 2011 La Nina event in the Pacific Ocean resulted in increased precipitation onto

Another potential risk for the Maritime community from inaccurate sea level rise forecasts may be loss of government funded channel dredging. Actual sea level rise will be reflected in a rise of Mean Lower Low Water datum with each new tidal epoch based on tide gauge data and non-shoaling areas will gradually get deeper. **There is a risk that sea level rise projections will be used by dredging opponents to argue that channel dredging is not needed because sea levels are rapidly rising.**

(Photo: Public Service of NH)

land, causing a temporary drop in global sea level. Until the climate and sea level rise models are refined and start matching the observations, we will need to continue to update the sea level rise projections on an empirical basis. Long-range extrapolation of accelerating sea level rise is inaccurate when not supported by observations.

In a recent journal paper2 we are now seeing the climate change scientists acknowledge the lack of sea level rise acceleration.

The paper suggests the anticipated acceleration in sea level rise is being masked in satellite altimetry data due to ocean cooling and contraction caused by the 1991 eruption of Mount Pinatubo which occurred at the start of the satellite altimetry observations.

What does climate change and sea rise mean for the Maritime community?

Since sea level is rising, though not at such a rapid rate as forecast, pre-planning now for coastal resiliency should be considered and that planning may need to be revisited periodically to see if sea level rise observations are matching the rise projections. Currently many local, state and federal government agencies are moving forward with policies and codes to restrict and discourage waterfront development due to anticipated sea level rise. This will put an especially heavy burden on water dependent property owners who do not have the option to relocate inland and due to the high cost and value of maritime facilities. There is an additional burden being applied by local and state agencies as they start posting detailed mapping showing properties they expect to be flooded as sea levels rise. Many of these inundation maps are illustrating conditions in the future, but these agencies have not yet recognized the nearer term potential adverse impacts of their mapping, such as when banks refuse mortgages on inundation mapped properties. One city on Boston Harbor in Massachusetts has published inundation maps as early as year 2030 showing many maritime facilities being flooded by sea level rise. Any bank doing their due diligence on a 30-year mortgage request for those inundation mapped properties might well question the potential risk and refuse the mortgage, which can make it more difficult to invest in or sell those properties, leading to reduced property values.

Another potential risk for the Maritime community from inaccurate sea level rise forecasts may be loss of government funded channel dredging. Actual sea level rise will be reflected in a rise of Mean Lower Low Water datum with each new tidal epoch based on tide gauge data and non-shoaling areas will gradually get deeper. There is a risk that sea level rise projections will be used by dredging opponents to argue that channel dredging is not needed because sea levels are rapidly rising.

These examples do help illustrate the potential adverse impacts that can be caused by inaccurate sea level rise projections. Over estimating sea level rise might be considered a conservative planning approach, but it will have adverse financial impacts for those living and working on the waterfront. As illustrated in Figure 1, the higher carbon emission sea level rise acceleration projection curves are not supported by ocean observations to date and it is time reevaluate the outdated forecasts.

The Author

Duncan Mellor, PE Bio is a coastal and waterfront engineer with a background in civil and ocean engineering, including wave mechanics, corrosion and marine structure deterioration, design, permitting for shorelines, waterways, ports and harbors.

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Source: Maritime Reporter & Engineering News Oct 2016

Ohmsett: Advancing Spill Response

The National Oil Spill Response Research and Renewable Energy Test Facility has been an integral part of the spill response community for more than three and a half decades.

By Jane-Ellen Delgado

Tucked away on the shores of the Sandy Hook Bay in central New Jersey resides Ohmsett – The National Oil Spill Response Research and Renewable Energy Test Facility. It has been an integral part of the spill response community for more than three and a half decades. Government agencies, private industry, and oil spill response organizations from around the world have visited the facility for testing, research and training.

From booms, skimmers and dispersants, to cold water testing and Remotely Operated Vehicle evaluations, Ohmsett has assisted researchers and manufacturers in evaluating cutting edge technologies that are helping remove spilled oil from the worlds' oceans.

Managed by the U.S. Department of Interior's Bureau of Safety and Environmental Enforcement (BSEE) and operated through a contract with MAR (MD) LLC, Ohmsett is part of the Bureau's oil spill research program. Ohmsett directly supports BSEE's mission to ensure the best and safest oil spill detection, containment and removal technologies are available to protect the U.S. coastal and ocean environments.

*All images courtesy of OHMSETT

Every Day

A skimmer is tested in oil slick thicknesses ranging from 2-inches to 1/8-inch

Realistic Testing in World Class Facilities

At the heart of the facility is one of the largest outdoor saltwater wave/tow tank facilities in North America. It is the only facility where full-scale oil spill response equipment testing, research, and training can be conducted in a marine environment with oil under controlled environmental conditions.

The tank measures 203 meters long by 20 meters wide by 2.4 meters deep and is filled with 10 million liters of crystal clear saltwater. The three movable bridges are capable of towing equipment up to six knots to simulate towing at sea. A crow's nest mounted on the movable main bridge above the water provides a vantage point for mounting test equipment, such as sensors to remotely detect oil spills, as well as for video documentation of a test.

The facility is also equipped with a computerized wave generator capable of producing wave characteristics of 59 cm height (H1/3 at 7 meter wavelengths), 83 cm height (H1/3 irregular waves), and wavelengths up to 30 meters.

Ohmsett plays a critical role in providing full-scale evaluations of equipment and remediation techniques that enable rapid and efficient response to an actual spill. "We are the intermediate step between small-scale bench testing and open water testing," says Paul Meyer, BSEE's Ohmsett Manager. "With the ability to control the testing environment, we are able to provide repeatable test conditions. This way, any equipment modifications can be measured and compared with each test performed, giving our customers the opportunity to optimize equipment performance."

With a wide range of testing and research capabilities, the oil spill response community relies on Ohmsett for independent and objective testing. "Our staff of engineers and technicians assists customers with test protocol development, product evaluations, and provides improvement recommendations," says John Delia, MAR program manager for Ohmsett.

The Nuts & Bolts of Research & Testing

Over the years BSEE has funded multiple research projects at Ohmsett. Most recently, two highly successful projects conducted by BSEE were the Diminishing Slick Thickness test and the ICEHORSE Submersible Skimmer. Earlier this year, Ohmsett personnel conducted performance testing of two oleophilic skimming systems to better understand the relationship between Oil Recovery Rates and Recovery Efficiencies in varying oil slick thicknesses or diminishing slick thicknesses.

At Ohmsett, skimming systems are tested to the ASTM F2709, the standard for testing the performance of stationary skimmers in calm water conditions. However, the ASTM F2709 standard calls for testing in 3-2 inches of oil in order to create the ideal conditions necessary to measure a skimming system's maximum performance. But, in an actual oil spill it is likely that a skimmer will operate in a thinner range of oil thicknesses. In this test series, a drum and disc skimmer were tested to ASTM F2709, as well as in various other oil slick thicknesses ranging from 2-inches to 1/8-inch using standard refined test oil.

"This series of experiments was the first of its kind and represents a continuation of basic research data associated with quantifying skimmer performance with varying test parameters," stated Kristi McKinney, a BSEE project manager.

A significant oil spill response challenge is recovering oil in ice. While response equipment and techniques to contain and recover oil spills in the offshore Arctic re-

gions already exist, there remains a testing and evaluation requirement to determine how well they perform, and to help improve them for use in cold water and ice environments. As such, BSEE has dedicated resources to advance the knowledge of oil spill response capabilities in cold water and ice-infested environments.

"During the winter months, we can replicate cold climate conditions at Ohmsett by using a chilling system to regulate the water temperature in the test basin," stated Mr. Delia. "In addition, we place manufactured sea ice in the test tank to simulate an ice field in which response equipment will be operating."

The sea ice is sourced from the U.S. Army's Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL) where it is manufactured or "grown" to support multiple Army research programs for extreme climates. Recently, however, Ohmsett staff engineers designed and developed a system for producing the ice blocks on-site. Frames were constructed at the facility, and chiller boxes maintained at 0º F were used for freezing and storage.

Using this new on-site capability for testing in a simulated Arctic environment, the staff created ice for a BSEE funded project to develop a new approach to how oil skimmer technologies are deployed in ice-infested waters. It is anticipated that the technology could potentially improve the response industry's ability to remove oil from otherwise inaccessible locations.

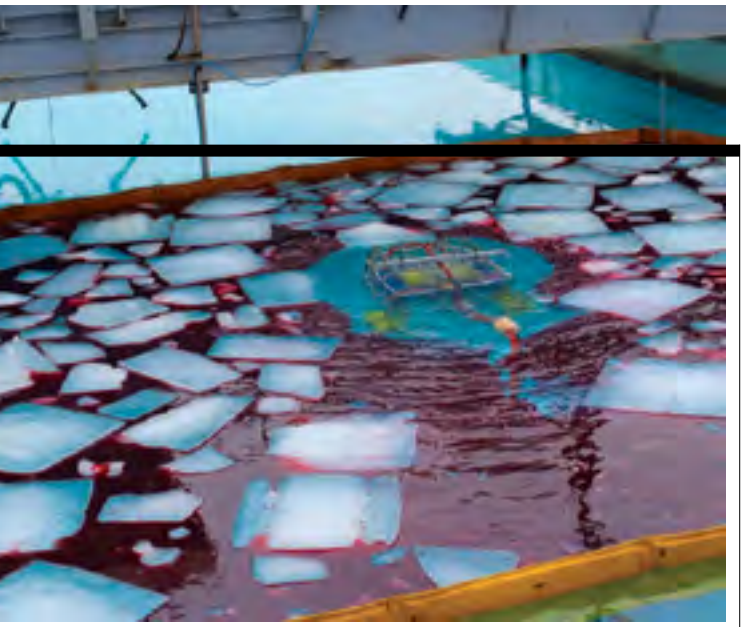
In 2014, Alion Science and Technologies of New London, Connecticut was tasked with developing a submersible skimming system that can be deployed from a vessel and maneuvered underwater to the location of the oil. In February 2016, the prototype system was tested in an oil and ice field at Ohmsett. The prototype, called the ICEHORSE, consists of a small smoothed drum skimmer and three ROVs mounted to an aluminum frame, with an ice cage to prevent ice from interfering with the oil recovery process.

The ICEHORSE was assessed on its ability to maneuver, travel speed, thrust, turning radius, and submerging and surfacing characteristics. After those initial tests, ice and diesel fuel oil (dyed red for visibility) were placed in a boomed test area to create a spill within broken ice. The skimmer system, initially located outside the test area, submerged, traveled underwater, and surfaced among the oil and ice to recover the oil.

"The submersible skimmer test successfully demonstrated the concept of operation. The prototype was able to successfully submerge, maneuver under the ice, surface within the field and recover diesel oil," commented Ms.

Ohmsett Testing Capabilities: at a glance ...

Oil spill skimmer systems	Dispersed, weathered & emulsified oil behavior	Containment booms
Remote sensing equipment	Cold weather & broken ice conditions	Dispersant testing
Test protocol development	Sorbents	Viscous oil pumping
Temporary storage devices	Surface & sunken oil, & neutrally buoyant plumes	Oil/water separators



The ICEHORSE surfaced among the oil and ice to recover the oil

McKinney. "Next steps will be to review test results with an eye towards future development of this concept."

BSEE Invests so that Industry can Succeed

For 35 years, Ohmsett has moved the ball forward in all aspects of spill response testing and research

With the new advances in technology for responding in ice conditions, BSEE has invested in the facility with newly developed equipment to measure oil slick thickness and ice coverage during testing. An acoustic tool adapted to operate from a ROV, detects oil in and under ice, tracks location, and measures thickness. The sensors provide real-time measurements of the slick thickness and include cameras for real-time viewing and recording.

To accurately and rapidly assess cold water and ice testing parameters such as total surface oil versus ice area coverage and oil layer thickness, a thermal imaging camera with processing software was developed specifically for use at Ohmsett. The Tactical Rapid Airborne Classification System (TRACS) creates images that separate ice, water and oil of several thicknesses based on differences in the thermal emittance.

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ARCTIC RESPONSE TECHNOLOGY

Incentivizing Spill Response Innovation:

Researchers tackle the tough problems despite a lack of funding and official incentives to move forward. Progress, in particular for Arctic spill response equipment and techniques, is being made.

By Joseph Keefe

Even in the messy but now seemingly distant wake of such environmental disasters such as the Exxon Valdez grounding and the Deepwater Horizon accident, domestic oil spill response requirements still provide little or no incentive for responders in the U.S. to develop and deploy new equipment. Elsewhere, other countries (especially Norway) have better options for testing and approving systems using an intentional spill. Here at home, this approach has been recommended especially for the Arctic by many stakeholders, to no apparent avail.

Similarly, the BSEE issued a Request For Proposal (RFP) a few years ago but received none to investigate a 'research spill' and then perform one. That possibility, according to Kurt A. Hansen, a professional engineer at the U.S. Coast Guard Acquisition Directorate Research & Development Center in New London, CT, has nevertheless been a frequent topic of discussion for several years at the Interagency Coordinating Committee for Oil Pollution Research (ICCOPR).

That's not to say that industry stakeholders haven't tried to pitch in. They have. A very large project also directly addressing the Arctic response issue, funded to the tune of $25 million – money that Hansen says the federal government simply doesn't have) – has been launched by the Arctic Oil Spill Response Technology Joint Industry Program (JIP). In a nutshell, the project hopes to further build on existing research and improve the technologies and methodologies for Arctic oil spill response. With nine oil and gas companies participating, the stated goal of the JIP is to advance Arctic oil spill response strategies and equipment as well as to increase understanding of potential impacts of oil on the Arctic marine environment.

Last but certainly not least, Hansen says that the Research and Development Center (RDC), located in New London, CT, is the U.S. Coast Guard's sole facility performing research, development, and test and evaluation in support of the service's major missions. It has been in existence since 1972 having moved into its current home in New London in 2009. There are 18 military and 76 civilians at this location plus a staff of 7 (2 military) at Coast Guard Headquarters in Washington, DC. The RDC is responsible for evaluating the feasibility and affordability of mission execution solutions and providing operational and risk-management analysis at all stages of the acquisition process. Those evaluations sometimes involve spill response equipment.

One particular issue that troubles spill responders is that in 30% concentration, ice is not a significant impediment for most skimmers. Conversely, however, in 70% concentration, ice is a significant impediment, with most skimmers experiencing dramatically poorer efficiencies in the dense ice. In real practice, recovery rates for 70% ice conditions were found to be about half of the 30% runs and in some cases, that recovery rate dipped to less than 10 percent of 70% ice condition runs. Accordingly, RDC and its partners recently looked into the matter.

RDC & Partners in Action

Proving that there are people actively at work to improve domestic spill response capabilities and technology, the Coast Guard recently demonstrated some advances in cold weather oil response technology. Specifically, the RDC demonstrated conceptual systems that could improve recovery of oil in cold climates including New England, the Great Lakes and Alaska.

RDC, in cooperation with the Bureau of Safety and Environmental Enforcement (BSEE), evaluated an ice cage designed to keep ice pieces from impacting skimmer performance. The design was based on the results of BSEE's "Ice Month" testing at the National Oil Spill Response Research & Renewable Energy Test Facility (Ohmsett) in 2013. According to a report on the matter, "The results showed that most skimmers could not pick up oil in pack ice of over 70 percent coverage because pieces of ice interfered at the weir, brush or belt interface with the water that kept the oil from reaching the collection point. A system was tested at Ohmsett in March 2014 and for the Coast Guard's Helix skimmer it appears to improve the collection capability."

In this case, RDC collaborated with Marine Pollution Control (MPC) of Detroit to develop an ice cage system which permits oil to flow into the skimmer and keeps

"Ice Management System designed by MPC is in patent pending status. The company is considering the potential to offer a version for commercial users based on its evaluation of market opportunities."

– William E. (Bill) Hazel III,
Director of Marine Services at Michigan-based
Marine Pollution Control (MPC)

ARCTIC RESPONSE TECHNOLOGY

"Contracts were awarded to Marine Pollution Control (MPC) for the ice cage and Elastec American Marine (Winner of the Wendy Schmidt Oil Spill X-Prize) for the temporary storage device. Both of these contractors set up and operated the equipment during the evaluation. The Coast Guard provided the ship, CGC JUNIPER, and lifting capability using the CGC JUNIPER's crane."

– Kurt A. Hansen, U.S. Coast Guard Acquisition Directorate Research & Development Center in New London, CT

ice away from that critical area near the skimmer opening. The system was tested in ice in 2015 and the data showed an increase in recovery rates (from about 4 gallons per minute (GPM) to about 18 pgm at ice coverages of 50-63 %) for the Coast Guard's existing Helix skimmer.

Kurt Hansen explains further, "RDC had a contract with Science Applications International Corporation (SAIC), one of our delivery order contractors, to assess the current decontamination procedures and provide recommendations that RDC could evaluate during the Newport test. Contracts were awarded to Marine Pollution Control (MPC) for the ice cage and Elastec American Marine (Winner of the Wendy Schmidt Oil Spill X-Prize) for the temporary storage device. Both of these contractors set up and operated the equipment during the evaluation. The Coast Guard provided the ship, CGC JUNIPER, and lifting capability using the CGC JUNIPER's crane."

Crewmembers from Coast Guard Cutter Juniper conducted a test of a prototype ice cage, which is designed to keep ice away from the skimmer but permit oil to still be recovered. The system is designed for use in broken ice when oil pools between pieces of ice. The ship would maneuver and dip the ice cage/skimmer into each pool successively, picking up and moving carefully, trying not to push the ice so that the oil does not go over or under it.

Tested with two existing devices – a brush skimmer and a drum skimmer – the device could possibly be made available for commercial response cooperatives to purchase, but, says Hansen, "This is still being determined." Indeed, the prototype system that still needs refinement. Also according to Hansen, RDC is gathering recommendations from the evaluation to make setup and use easier and better; which will be written into a report available later this year.

The Coast Guard owns the equipment; which will be temporarily stored in a warehouse in Newport News, VA where Coast Guard personnel are available to handle storage and maintenance issues. Policy and decision makers at the CG Headquarters level will be provided the report and make decisions about future use. Separately, William E.

(Bill) Hazel III, Director of Marine Services at Michigan-based Marine Pollution Control (MPC), told ***MarineNews*** last month that "Ice Management System designed by MPC is in patent pending status. The company is considering the potential to offer a version for commercial users based on its evaluation of market opportunities." MPC, according to Hazel, is a spill response provider, but also has robust manufacturing capabilities.

Attention was given to determining how and what the minimum size of workboat or 'vessel of opportunity' could handle the equipment, if deployed. Together, the ice cage, skimmer, and hoses weigh about 2,000 pounds, so a crane would be needed with a reasonable lift distance of 30-40 feet at that weight. The amount of deck space needed would depend upon what is being used for temporary storage. The largest temporary storage tank for this demonstration was 6 feet wide by 30 feet long with straps reaching 3-5 feet out for supports.

As a general statement, the ice cage has been found to improve recovery efficiency for skimmers as long as the operator has the time, patience and the skill to both move the cage around and effectively manage the ice.

Encouraging Innovation

Fueled by the kind of success achieved at RDC, both industry and the federal government continue to promote avenues for innovation. BSEE, for example, has also developed software that could possibly be used to foster a more systems-based approach, which would in theory result in a better selection of equipment and encourage innovation. At the same time, BSEE has also sponsored multiple projects to address simulants and how to get innovation into the field.

And, not to be left out of the process, the Oil Spill Recovery Institute (OSRI) of Alaska, funded by the Oil Spill Liability Trust fund (OSLTF) set up after the Exxon Valdez spill, recently sponsored a workshop about how to introduce innovation. Issues range from funding to the lack of incentives for commercial stakeholders to move forward.

As the Arctic becomes more and more accessible to commercial traffic – in more places and in volumes that grow – the need for viable spill response capabilities, equipment and techniques is only going to become more critical. Despite impediments to that effort, both government and commercial stakeholders are making progress. Clearly, we need more.

source MN magazine oct 2016

Five Technologies That Are Helping Save the Oceans

A Vacuum Cleaner for Ocean Plastic

When 17-year-old Boyan Slat went diving in Greece in 2011, he was frustrated to come across more plastic than fish. Last year, he founded The Ocean Cleanup, which has developed a technology to extract plastic pollution from the oceans. Here's how it works: Ocean currents force plastics to accumulate in front of an array of solid floating barriers and platforms anchored to the seabed. That allows the trash to be retrieved for recycling while fish and other marine animals swim unimpeded under the barriers. Small-scale testing has been completed and the array is being ramped up for pilot testing, with full-scale deployment planned for 2019.

Oceangoing Robots

Dispatching ships to remote seas to investigate climate change and conduct other scientific research can cost tens of thousands of dollars a day and put crew members' lives at risk. Better to send in the robots. Silicon Valley start-up Liquid Robotics makes the Wave Glider, an autonomous wave- and solar-powered robot that can traverse the world's oceans, collecting and transmitting gigabytes of data on weather conditions and water temperature, chemistry, and quality. A fleet of the 250-pound, surfboard-size 'bots is roaming the seven seas, going where no robot has gone before.
(Photo: Liquid Robotics

Safety Nets for Sea Life

Every year, billions of pounds of marine animals are inadvertently caught in fishing nets pulled by trawlers. Commercial fishing operators also throw out tons of good fish when their haul exceeds quotas. To help reduce all that loss of marine life, a British designer has invented the SafetyNet. The net is studded with blinking LED rings that guide juvenile fish to the openings so they can escape when they accidentally get caught. A larger mesh panel allows unwanted bottom-dwelling species to escape through bigger holes. Existing fishing nets can also be retrofitted with the LED rings.
(Photo: SafetyNet Technologies)

Deep Ocean Explorers

We've moved on from the days of manned submersibles to explore the mysteries of the ocean to remotely operated vehicles that are highly maneuverable and can be controlled by crews on board a vessel. Equipped with robotic arms, lights, cameras, sensors, and sampling devices, ROVs can go where it's too remote, expensive, or dangerous for scientists to venture to discover new marine life and investigate the impact of humans.
(Photo: NOAA)

Tuna Tagging

Sushi lovers have made bluefin tuna so valuable that it isn't just overfished; it has experienced a 95 percent drop in population in the last few decades. In an effort to track bluefin tuna movements and understand their behavior to better guide conservation efforts, scientists have developed tagging technology that the Monterey Bay Aquarium humorously calls "fish and chips." Biologists implant electronic tags into the bellies of the tuna that collect data on the fishes' movements, body temperature, and other details. Anglers who catch the fish can return the tag for a $1,000 reward. Satellite tags are attached to tuna with dart guns and are programmed to detach from the fish. Beachgoers and fishers who find and return the tag are given a $500 reward.
(Photo: Tag-a-Giant)

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کنفرانس بین المللی ناوبری

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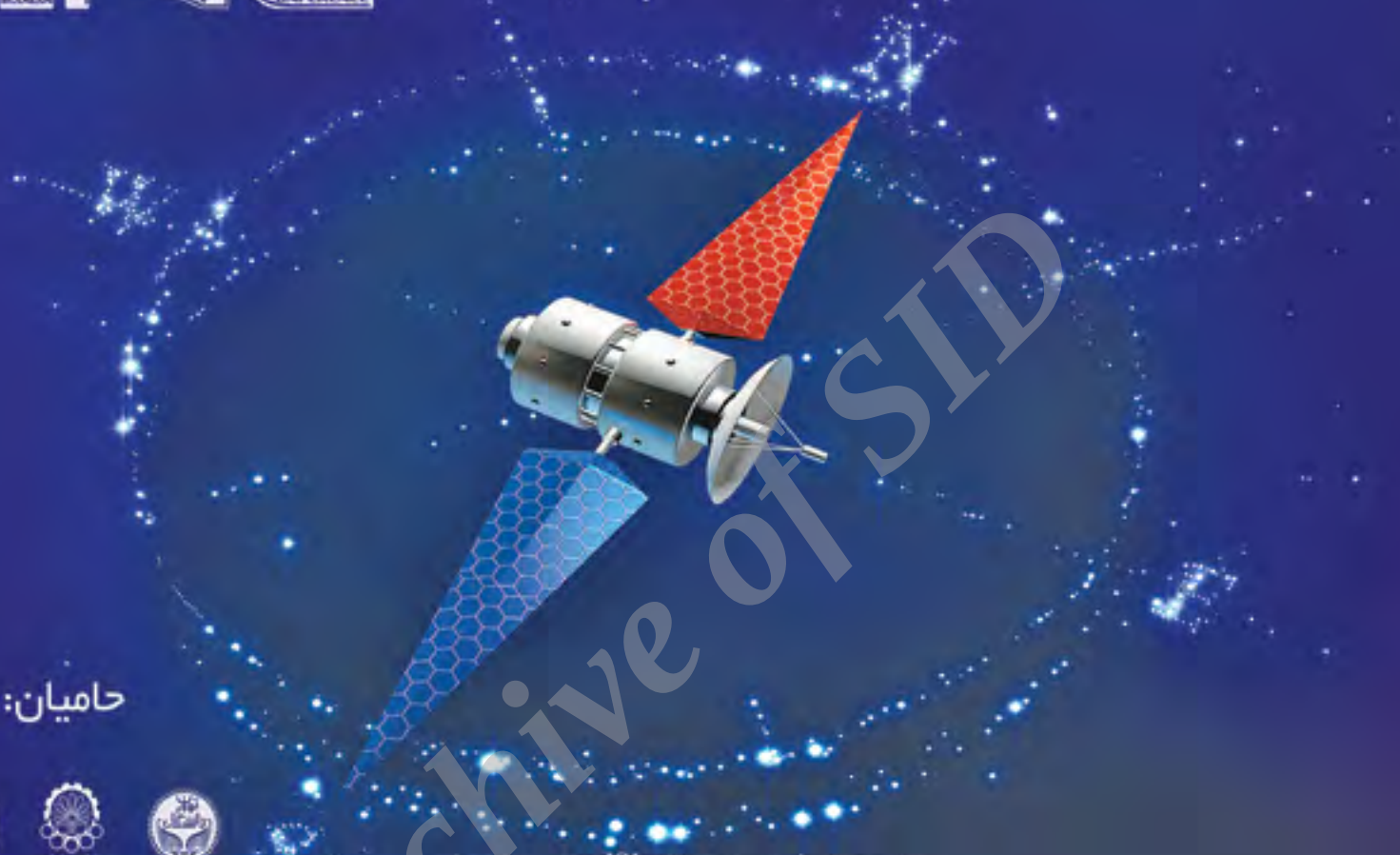

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دوران جدید، رویکردهای جدید

یکی از نعمت‌هایی که خداوند تبارک و تعالی در اختیار بشر قرارداده است دریا است همچنانکه در آیه شریفه قرآن نیز ذکر شده بشر توسط دریا می تواند علاوه بر بهره‌برداری از منابع زنده و غیر زنده نهفته در این مخزن عظیم، از طریق حمل‌ونقل دریایی به تجارت پرداخته و به دورترین جهای دنیا سفر کند. جمهوری اسلامی ایران با ارتباط با سه پهنه آبی در شمال و جنوب کشور شامل دریای خزر، خلیج همیشه فارس و دریای عمان که متصل به اقیانوس است و با داشتن حدود ۵۸۰۰ کیلومتر خط ساحلی و جزایر متعدد از موقعیت ممتازی در منطقه و جهان برخوردار است. متاسفانه در طول سده های گذشته به مرور از این نعمت عظیم خدادادی دور نگه داشته شده و بیشتر به سرزمین محصور خشکی تبدیل شده است.

سازمان بنادرو دریانوردی به عنوان مرجع دریایی کشور دریافت که یکی از راه‌های جبران این عقب‌افتادگی ایجاد زمینه و شور و همچنین ترغیب متخصصین و دانش‌پژوهان و همچنین دستگاه‌های اجرایی کشور در توجه به مناطق ساحلی و توسعه و رشد و تعالی این مناطق ایجاد زمینه تبادل تجارب و دستاوردها و آرا و اندیشه‌ها در بین متخصصین این حوزه در داخل و خارج کشور گردد. بنابراین از سال ۱۳۶۹ و با شروع دوران سازندگی در کشور آهنگ توسعه و توجه ویژه به دانش سواحل، بنادر و سازه‌های دریایی نیز به صدا درآمد.

با یاری خدا، در طول برگزاری این همایش دستاوردهای ارزشمندی در عرصه‌های ملی و بین‌المللی حاصل شده است. علاوه بر امکان تبادل تجربیات و دستاوردهای بین متخصصین شرکت کننده در همایش و همچنین عرضه توان داخلی در عرصه بین‌الملل در این زمینه که از نتایج ذاتی هر همایش بین‌المللی محسوب می‌شود از مهم‌ترین دستاوردهای حاصله در این زمینه می‌توان به ارتقاء دانش فنی و تخصصی متخصصین و دانش‌پژوهان و مهندسین مشاور و پیمانکار اشاره نمود به‌طوری که با یاری خدا در حال حاضر جمهوری اسلامی ایران از موقعیت بسیار ممتازی در زمینه مهندسی و مدیریت سواحل در منطقه برخوردار بوده و دانش فنی و مهندسی قابلیت عرضه در فضای بین‌الملل را با افتخار دارد.

رونمایی از چندین طرح ملی، حمایت از مراجع دانشگاهی توسط بخش صنعت در پیشبرد اهداف کشور، تهیه دستورالعمل طراحی سازه‌های ساحلی به عنوان اولین دستورالعمل جامع لازم اجرا برای مهندسین مشاور طراح در کشور، تهیه نرم افزار ایرانی شبیه سازریاضی پارامترهای دریایی و عرضه به بین‌الملل، تاسیس انجمن مردم‌نهاد علمی سواحل و سازه‌های دریایی در کشور، حمایت تمام و کمال سازمان‌ها، اتحادیه و انجمن‌های بین‌المللی مطرح در دنیا از این همایش، عضویت جمهوری اسلامی ایران در قدیمی‌ترین انجمن بین‌المللی و تاثیر گذار دنیا یعنی انجمن جهانی زیرساخت‌های حمل‌ونقل آبی (پیانک) به عنوان تنها کشور خاورمیانه تنها بخشی از دستاوردهایی است که می توان از آن نام برد.

مهم‌ترین برنامه‌ریزی‌های انجام‌شده در این دوره شامل :

- به‌روزرسانی پایگاه اینترنتی همایش به چهار زبان
- تشکیل هیات رئیسه و کمیته علمی همایش
- برنامه‌ریزی دریافت مقالات، ارزیابی آن‌ها توسط اساتید داخلی و خارجی از طریق پایگاه اینترنتی همایش
- هماهنگی با اساتید بنام بین‌المللی جهت ارائه سخنرانی کلیدی
- انتخاب محل مناسب برگزاری و همچنین تجهیز نمایشگاه جانبی همایش
- برنامه‌ریزی پخش همزمان تمامی سخنرانی‌ها از طریق پایگاه اینترنتی همایش
- برنامه‌ریزی حضور شخصیت‌های لشکری و کشور در مراسم افتتاحیه و اختتامیه همایش

وجه تمایز این همایش با دوره‌های اخیر برگزاری آن در فضای پسا برجام بوده که از بیش از ۳۰ کشور اعلام آمادگی حضور در همایش صورت پذیرفته و استقبال ارائه مقالات توسط دانش‌پژوهان خارجی و ایرانیان مقیم خارج از کشور نیز رشد قابل توجهی داشته است.

محمدرضا اللهیار
مدیرکل سواحل و بنادر و دبیر همایش

Icopmas، عامل ارتقای سیستم‌های مدیریت بنادر

در طول ۲۴ سالی که از اجرای این همایش می گذرد تبادل تجربیات و دانش به روز در حوزه فعالیتهای بندری، توسعه و رشد یافته و انواع مدل های سرمایه گذاری با مزایا و معایب در مناطق ویژه بندری، باعث تاثیر گذاری در محاسبه تعرفه‌ها به شکل بهینه‌تر و متناسب با نیازهای مشتریان بنادر و همچنین افزایش جذابیت در بنادر ایران شده است. همچنین با به کارگیری راهکارها و رویکردهای جدید نقش قابل توجهی در ارتقای سیستم‌های مدیریت بنادر داشته است.

این همایش، حرکت‌های بنیادینی را در عملیات بندری ایجاد کرده و نقش غیرقابل انکاری در پویایی جریان تجاری داشته است. از دید توسعه فناوری های بندری و با هدف ارتقای سطح علمی و پژوهشی کشور در حوزه دریا موفق عمل کرده است. و نقش موثری برای تقویت انگیزه در توسعه سرمایه گذاری طی دهه‌های اخیر در بنادر ایفا کرده است.

این همایش می تواند نقش آفرینی بنادر را در دوره پسابرجام بر جامعه جهانی بیشتر و شفاف‌تر نماید. همچنین در جهت شناخت شاخص های بندری دارای اهمیت و جدید و به روز و معرفی آن‌ها در دنیا موثر باشد.

انتظار از دبیرخانه و جامعه مهندسین و متخصصین در زمینه بندری آن است که نسبت به ارایه مدل ها و فرآیندهایی که شاخص‌های بندری بین المللی را می تواند ارتقاء دهد کوشا و موثر عمل نمایند. همچنین در جهت پیشرفت تکنولوژی‌های به روز مانند E-port و توسعه فعالیت‌ها در بنادر و پیشنهاد نقشه‌های خوشه‌بندی فعالیت‌های بنادر در راستای افزایش جذابیت بنادر اقدام قابل توجه‌ای صورت دهد.

جلیل اسلامی

معاون بندری و امور اقتصادی سازمان بنادر و دریانوردی

ICOPMAS، محل تبلور ایده‌های خلاقانه

جمهوری اسلامی ایران دارای سواحلی گسترده با طول بیش از پنج هزار و ۷۰۰ کیلومتر و کاربری های متنوع و متفاوتی است. متناسب با کاربری سواحل، سازه‌های دریایی با مشخصات و مختصات متنوعی احداث شده یا در آینده احداث خواهد شد. طرح مدیریت یکپارچه سواحل کشور موسوم به ICZM، به‌عنوان طرح جامع سواحل کشور با تاکید بر کاربری های سواحل طی سال های اخیر با تولیت سازمان بنادر و دریانوردی و همکاری برخی از ارگان های دولتی و مراکز علمی و دانشگاهی تکمیل، تصویب و توسط شورای عالی معماری و شهرسازی کشور ابلاغ شد. این طرح نیز ناظر بر اهمیت بسیار بالای مدیریت ساخت‌وسازهای ساحلی با رویکردهای متفاوت از جمله وضعیت رسوب گذاری و زیست محیطی است. بنابراین توجه علمی به ساخت‌وسازهای ساحلی و ارتقاء دانش در این حوزه، بسیار با اهمیت بوده و تبادل دانش و تجربیات بین المللی مرتبط، از جمله راهکاری دستیابی به شرایط ایده آل خواهد بود.

در این راستا، خوشبختانه همایش بین المللی سواحل، بنادر و سازه‌های دریایی توانسته است طی یازده مرحله از برگزاری خود، دست‌آوردهای بسیار خوب و بزرگی را برای کشور به ارمغان آورد. در مرحله نخست، توان علمی متخصصان ایرانی در حوزه مهندسی سواحل به جامعه بین المللی معرفی شده و در کنار آن بستر مناسبی برای حضور پررنگ و با کیفیت اساتید بین المللی و استفاده از تجربیات و نتایج پژوهش های آن‌ها را تامین نماید. از جمله این موارد می توان به ایده‌های بسیار بدیع و خلاقانه در حوزه مدیریت لایروبی و تامین عمق مناسب و ایمن بنادر اشاره کرد. روش هایی در همایش های قبلی مطرح و معرفی شده و زمینه‌هایی برای پیاده‌سازی آن‌ها در بنادر کشور فراهم شده است. در قالب این روش ها امکان تعدیل قابل توجه هزینه لایروبی نگهداری کانال های دسترسی دریایی و حوضچه‌های بنادر فراهم خواهد شد.

درمجموع می توان گفت که همایش سواحل، بنادر و سازه‌های دریایی توانسته است به خوبی و در حد بسیار بالایی رسالت خود را در حوزه تخصصی مهندسی سواحل و بنادر به نتیجه مطلوب رسانده و جایگاه کشور را در عرصه بین المللی تثبیت کند. این همایش می تواند الگوی مناسبی برای توسعه حضور و فعالیت کشور در مباحث تخصصی دریایی و بندری در عرصه جهانی باشد. بنابراین به سهم خود از تمامی عزیزانی که طی سال های اخیر و سال جاری این همایش را به بهترین شکل ممکن برگزار کرده و خواهند کرد، تشکر و تقدیر می نمایم.

محمد راستاد

معاون امور دریایی سازمان بنادر و دریانوردی

اتصال دانشگاه و صنعت؛ هدف اصلی همایش ICOPMAS

اکنـون درفضایی قرارداریم کـه بیش از گذشـته نیازمند پیوند میان دانشـگاه و صنعت هستیم و برگزاری دوازدهمین همایش سواحل، بنادر و سازه‌های دریایی ICOPMAS، با هدف ارتقای سـطح علمی حوزه‌های دریایی می‌تواند به عنوان جایگاهی برای تجلی اتصال دانشگاه و صنعت باشد که علم و صنعت ایران را نیز به سطح علم دنیا به‌ویژه کشورهای دست اول پیوند دهد. این نکته از آن نظر، حایز اهمیت است که این همایش بزرگ‌ترین همایش علمی-دریایی در منطقه به شمار می‌رود و شرکت کنندگان در این همایش می‌توانند به آخرین دستاوردهای علمی در بندرسازی، اسکله‌سازی و ایجاد موج‌شکن و همین‌طور برنامه‌های حمل و نقلی و لجستیکی دست پیدا کنند و با اطلاعات جهانی این حوزه آشنا شوند. دانشجویان نیز می‌توانند بخشی از توان خودشان را در این همایش مهم ارایه کنند، از اطلاعات روز دنیا هم استفاده کنند که این یکی از اهداف کلان این همایش دوره‌ای است.

همایش سواحل، بنادر و سازه‌های دریایی هر دوره می‌تواند در غنای علمی، فکری و سازمانیِ سازمان بنادر و دریانوردی موثر باشد. چرا که دریا منبع زیادی از قدرت و اقتصاد است و بحث علم و صنعت در این حوزه بسیار خطیر است. تمامی دانشجویان و استادان باید به این حوزه دقت داشته باشند و در آن وارد شوند.

حضور و تعامل قدرت‌های دریانوردی جهان از نکات برجسته همایش سواحل، بنادر و دریانوردی است. استادان برجسته چند کشور مطرح دریایی دنیا از جمله آمریکا انگلیس و هلند در این همایش حضور دارند؛ بنابراین یکی از مهمترین فرصت‌های علمی-اقتصادی کشور به شمار می‌رود.

اگر فضایی ایجاد کنیم که شرکت کنندگان ایرانی بتوانند از آخرین تحولات علمی جهان، برای مثال در بخش بندرسازی و رسوب و رسوب گذاری آگاه شوند، دست‌آورد مهمی است.

سازمان بنادر و دریانوردی نقطه اتصال ایران به حمل و نقل جهانی است. حمل و نقل جاده‌ای و ریلی بخش کوچکی از حمل و نقل بین المللی را تحت شعاع قرار می‌دهد و بیشتر داخل کشور را پوشش می‌دهد؛ اما سازمان بنادر تقریبا دروازه طلایی حمل و نقل بین المللی در کشور است.

حجم سرمایه گذاری در کشورهای حاشـیه خلیج فارس به عنوان رقیب ما، حجم عظیمی است به‌خصوص این ایام چندساله تحریم زمان طلایی برای آنها بوده که از غفلت ما استفاده کنند و سرمایه گذاری‌های بزرگی انجام دهند و اکنون در آن بنادر سرمایه گذاری‌های چند میلیارد دلاری در حال اجراست. همایش های اینچنینی راهی است برای دستیابی به منابع و بازارهای جهانی و باقی ماندن در فضای رقابت و Icopmasپلی است برای تبادل علم و راهیابی به اقتصاد جهانی.

نورالدین علی‌آبادی
معاون مهندسی و توسعه امور زیربنایی سازمان بنادر و دریانوردی

ICOPMAS کانونی برای تبادل دانش و تجربیات دریایی

انتقال و جذب تکنولوژی در کشـورهای در حال توسعه، مقوله پیچیده‌ای است که هم از نظر علمی و هم از جنبه ابعاد فرهنگی، سیاسـی و اقتصادی سال‌هاسـت نه فقط کشورهای درحال توسعه، بلکه بسیاری از مجامع پژوهشی غرب و سازمان‌های بین المللی را به خود مشغول داشته است. سطح تکنولوژیهای کشورهای پیشرفته و جهان سوم فاصله محسوسی دارد. برای کاستن فاصله تکنولوژی کشورهای پیشرفته و کمتر توسعه‌یافته، انتقال تکنولوژی یک لازمه انکارناپذیر است. انتقال تکنولوژی و بومی‌سازی با روش‌های مختلف وسایل مختلف امکان‌پذیر است.

با مطالعه سابقه توسعه کشورهای درحال توسعه، خصوصا کشورهای شرق آسیا ملاحظه می‌شود که آن‌ها در مسیر توسعه خود برای تسریع در حل مشکلات بخش صنعت، بنیان تکنولوژی کشور خود را از طریق انتقال آن از سایر کشورهای توسعه‌یافته تقویت کردند و سپس با ایجاد زیربنای اقتصادی مناسب درصدد تقویت مراکز دانشگاهی و پژوهش خود برآمده‌اند.

یکی از روش‌هـای مهم انتقال تجربیـات اجرایی و علمی، برگـزاری همایش‌های بین المللی است که سازمان بنادر و دریانوردی با توجه به مرجعیت علمی دریایی کشور اقدام کرده اسـت که تأثیر یازده دوره برگزاری همایش در ارتقا سطح علمی کارکنان سازمان‌های مرتبط دریایی با توجه به مقالات ارایه شده توسط مدیران و کارشناسان، حضور در عرصه‌های بین المللی و استفاده از نتایج همایش‌ها در پروژه‌های سازمان مشهود است.

با توجه به برگزاری ۱۱ دوره همایش بین المللی دوسالانه سواحل، بنادر و سازه‌های دریایی، سطح این همایش به لحاظ سرزمینی، در دو بعد ملی و بین المللی مطرح است و از این روی، مباحث تبیین شده در این همایش که از سوی چهره‌های علمی-پژوهشی، اساتید دانشگاهی، دانش‌پژوهان و متخصصان کشور جمهوری اسلامی ایران و سایر کشورهای عضو هم اندیش ارایه می‌شود، از یک برد فراگیر جهانی برخوردار است.

از سوی دیگر جایگاه فراملی این همایش است که به دلیل توجه به بنیادی‌ترین مسایل جوامع بشری که به مواردی مانند مدیریت سواحل و بنادر و مهندسی دریا، سواحل و بنادر، مهندسی فراسـاحل و خطوط لوله، محیط‌زیست، ایمنی و امنیت دریایی، زیستگاه‌های ساحلی و دریایی و آمایش جمعیتی-سرزمینی می‌پردازد و مشخصه‌ی بین المللی و تعاملات پایدار فراملی آن برای هر سرزمینی با قابلیت‌های دریایی قابل استفاده است.

بنابراین از جامعه مهندسان و متخصصان دریایی کشور انتظار می‌رود در راستای انتقال تجارب و تکنولوژی و ارتقا سطح علمی مدیران و کارشناسان خود حضوری گسترده در همایش داشته باشند و همکاری لازم را جهت برگزاری هر چه بهتر همایش در سال‌های آتی انجام دهند. ضمن این که حضور اسـاتید و شرکت‌های خارجی می‌تواند نقش به سزایی در انتقال دانش و تکنولوژی و افزایش همکاری‌های بین المللی کشور در شرایط پسابرجام ایفا نماید.

منصور آرامی
معاون برنامه ریزی و توسعه منابع

ICOPMAS رخدادی برای بهره‌مندی از آخرین تحولات مهندسی بنادر، سواحل و سازه‌های دریایی

برگزاری دوره‌های موفق و مستمر همایش بین‌المللی سواحل، بنادر و سازه‌هایی دریایی ((ICOPMAS در کشور ما که در واقع پیوند دانش مهندسی بنادر و سواحل ایران با پیشگامان علمی جهان در این زمینه به شمار می‌آورد، گویای عزم و تحول جدی سازمان بنادر و دریانوردی در ارتقاء علوم و فنون مهندسی بندری و سازه‌های دریایی کشور از یک‌سو و ایفای نقش حرفهای و ملی این سازمان در توسعه سواحل و بنادر کشور از سوی دیگر است.

همایشICOPMAS که بستری برای ارایه آخرین یافته‌ها و دست‌آوردهای علمی، تجربی و فنی جامعه مهندسان دریایی در زمینه سواحل و بنادر و سازه‌های دریایی در سطح بین‌المللی است، تلاش مجدانه سازمان بنادر و دریانوردی در ارایه نقش حاکمیتی این سازمان در میان تمامی ارگان‌های دریایی کشور و مسئولیت اجتماعی آن در برابر کلیه شهروندان از جمله ساحل‌نشینان به شمار می‌رود، تا پاسخی برای پرسش‌ها، نیازها و ضرورت‌های توسعه دریایی فراهم سازد.

خوشبختانه این همایش با گذشت بیش از دو دهه از عمر خود توانسته است به‌عنوان یک رخداد پایدار و انکارناپذیر در ایجاد ارتباط مستحکم بین‌المللی و تبادل علم و دانش و تجربه میان دانشمندان، اندیشمندان، صاحب‌نظران و پژوهشگران کشورهای مختلف، در موضوعات مرتبط با سواحل بنادر و سازه‌های دریایی باشد و حتی در دوران سخت تحریم‌های ناعادلانه بین‌المللی علیه کشورمان نقش‌آفرینی نماید.

بیتردید به دلیل رویکرد توسعه‌گرایانه همایشICOPMAS در ۲۴ سال گذشته، امروزه این فرصت گران‌بهایی را پیش روی جامعه دریایی کشور نهاده است. این امکان فراهم آمده تا کلیه متخصصان، اندیشمندان و ارگان‌های مختلف دریایی بتوانند همپای اساتید برجسته این رشته و نهادهای بین‌المللی ذیربط مباحث و موضوعات مختلف تخصصی را در این کانون مهم علم و تجربه از دانش فنی و تخصصی دریایی مطرح و رهیافت‌های موثر و مفیدی را در جهت توسعه و بسط یافتههای این علوم در پاسخ به نیازهای کنونی و آتی جوامع بشری و توسعه پایدار ملی و منطقه‌ای ترسیم نمایند.

در خاتمه آن‌چه که بیش از هر دوره‌ای دیگر از این همایش انتظار می‌رود، انتقال این دانش صریح و ضمنی به کسب‌وکارهای ارزشآفرین بندری و دریایی و تبدیل علم و تجربه موجود به مرکزی برای نوآوری ها و خلاقیت‌های فنی و مهندسی به‌منظور ایجاد و توسعه شرکت‌های دانش‌بنیان دریایی در سطح ملی و بین‌المللی است.

در این ارتباط ظرفیت‌های قانونی مناسبی در ایران فراهم بوده و حمایت‌های قابل‌توجهی توسط سازمان‌ها و نهادهای دولتی مربوطه صورت می‌پذیرد تا انتقال سریع یافته‌های علمی و نوآوری ها به مرحله تولید و عملیات صورت پذیرفته و رقابت‌پذیری و پایداری این صنعت تسهیل شود.

توفیق روزافزون همگان را از درگاه خداوند متعال آرزومندم.

محمدسعیدنژاد
معاون وزیر راه و شهرسازی
و مدیرعامل سازمان بنادر و دریانوردی

ICOPMAS 2016

فرصتی بی‌نظیر برای معرفی توانایی‌ها

همایش‌های بین‌المللی عمدتاً با دو نگاه عمده برگزار می‌شوند؛ نخست ظرفیت‌های علمی و فنی کشور برای متخصصان و صاحبان کسب و کارها تشریح می‌شوند، سپس استراتژی‌های کشور برای مخاطبان و مدعوین خارجی در حوزه‌های مورد نظر تبیین می‌شوند و اما در حاشیه‌ی چنین همایش‌هایی است که صاحبان کسب و کارها با توانمندی‌ها و نیازهای یکدیگر آشنا شده و موجبات عقد قراردادهای تجاری فراهم می‌شود. در فرایند همایش مذاکرات مدعوین بستر ساز توافقات همکاری‌های مشترک در بلندمدت خواهد بود که این می‌تواند یکی از اهداف مهم هر همایشی با چنین ابعادی باشد. با توجه به شرایط پسابرجام، مدیران باید با معرفی موقعیت جغرافیایی بی‌نظیر و تبیین ظرفیت‌های عملیاتی و مدیریتی در بخش دریایی فرصت‌های جدیدی را که کشور در اختیار جهان قرار می‌دهد، به مدعوین بین‌المللی خود معرفی کنند. به عنوان مثال، هم‌اکنون آسمان ایران امن‌ترین مسیرهای ترددهوایی را در اختیار خطوط هوایی بین‌المللی قرار داده است. برای حصول به چنین نتیجه‌ای، نخست تدوین و طراحی بسته‌های فنی، حقوقی و اقتصادی لازم به گونه‌ای که منافع طرفین را لحاظ کرده و موجبات رونق ترانزیت و تجارت از مسیرهای ایران-گذر را فراهم آورد، یک الزام است. در گذشته عدم شناخت کافی از این مقوله و ضعف قوانین برای حضور کریرها و فورواردرهای خارجی در کشور باعث شده که چنین فرصت‌های طلایی یکی یکی از دست برود.

اکنون که دوازدهمین همایش ICOPMAS در راه است، توجه به مقولات مربوط به توسعه تجارت می‌تواند فرصت‌های کشور را بالفعل نموده و مذاکرات اولیه درخصوص حضور شرکت‌های حمل و نقل بین‌المللی در امن‌ترین کشور خاورمیانه را شکل دهد. باید توجه داشت که امنیت عالی‌ترین ظرفیتی است که تجارت بدان نیاز دارد و ایران کشوری است که می‌تواند در درازمدت این محصول را ارایه کند.

در کشورهای توسعه‌یافته همواره این سیاست و الزامات مربوط به آن بوده است که در خدمت رشد و فعالیت‌های اقتصادی قرار گرفته است و همچنین هزینه‌های پرداختی برای ایجاد امنیت نیز در نهایت برای جلوگیری از منافع اقتصادی بهره برده است. این‌ها هزینه‌هایی است که ایران قبلاً آن‌ها را پرداخته و اکنون ثبات ایران در منطقه بیان‌گر اثبات ادعای مذکور است. در این شرایط حضور میهمانان خارجی در همایش دوازدهم آیکوپمس (ICOPMAS) فرصت بی‌نظیری برای معرفی و به کارگیری ظرفیت‌های فنی، علمی و اقتصادی است. آن‌چه در یک دهه گذشته علیه ایران انجام شده صرفاً ایران‌هراسی سیاسی نبوده است، بلکه باعث شده که ظرفیت‌های بی‌نظیر ایران نیز بدون استفاده بماند. استفاده از سواحل خزر در شمال کشور و سواحل خلیج فارس و دریای عمان در جنوب کشور صرفاً نفع ایران را به دنبال ندارد، بلکه منافع کشورهای پیرامونی و شرکت‌های بین‌المللی را نیز تضمین می‌کند. به عنوان مثال توسعه سواحل مکران می‌تواند هاب منطقه‌ای را از درون خلیج فارس به سواحل دریای عمان منتقل کرده و ضرورت تردد کشتی‌های اقیانوس‌پیما را به داخل تنگه هرمز برطرف نماید و مزیت‌های کشور در زمینه حمل و نقل دریایی را شکوفا کند. این اقدام می‌تواند خاطره‌ی خوش دوران پررونق دریایی مکران در ایران باستان و دوران اسلامی را بار دیگر در اذهان مردم منطقه و جهانیان زنده نماید. قطعا امروزه سواحل مکران توانایی ترانشیپ بیش از ۳۰ میلیون کانتینر (TEU) ورودی فعلی توسط لاینرهای ورودی به خلیج فارس به مقصدی غیر از کشورهای حاشیه خلیج فارس را داراست. امید است دوازدهمین همایش ICOPMAS بتواند ظرفیت‌های واقعی ایران را بهتر از گذشته به میهمانان به‌خصوص صاحب‌نظران خارجی معرفی نماید.

دکتر هادی حق‌شناس

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