

A Quarterly magazine issued by the Special Economic Zone Authority at Duqm **21**st **Issue - July 2020**



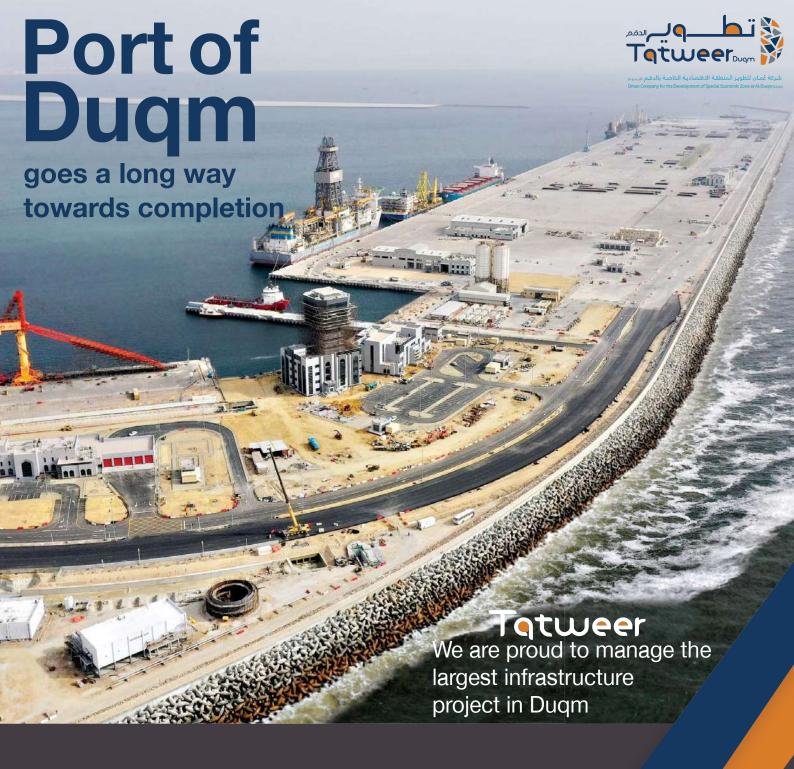
OMAN DRYDOCK COMPANY A WORLD-CLASS SHIP REPAIR YARD

Strategically located, facilitated with world-class expertise and committed to quality, Oman Drydock welcomes the world to the shores of Oman. As one of the biggest ship repair yards in the Middle East, Oman Drydock is specialized in vessel conversions and major structural On-shore fabrications, with a capacity to repair over 200 ships per year, including vessels as large as ULCCs.

- One-Stop Service Including Slop & Sludge Reception.
- Most Modern & High Quality Facilities.
- Specialized for LNGC repair.
- Ideal Climate For Painting.
- Strategic Location.

Dock No. 1	410 m x 95 m		600,000 DWT
Dock No. 2	410 m x 80 m		500,000 DWT
Quay 2800 m		Jib Crane 14 sets	





The company spared no effort to complete the Port of Duqm in a record time, thanks to SEZAD for the unlimited support accorded to the company and its plans



Oman Company for Development of Special Economic Zone at Duqm is 100% owned by the Special Economic Zone Authority at Duqm (SEZAD) and marks its executive arm.



CREATING THE HUB FOR THE FUTURE.

A STRATEGIC LOCATION IN A STRATEGIC ENVIRONMENT

Port of Duqm is the heart of the biggest Special Economic Zone development of the Middle East and situated on the south eastern seaboard of the Sultanate of Oman, overlooking the Arabian Sea and the Indian Ocean. It is strategically positioned outside of the Arabian Gulf serving key markets in Asia, East Africa and the wider MENA region, while taking benefit from its central location towards the oil and gas industry in the Sultanate. The Port is rapidly evolving into a maritime hub for the future and is endeavoring to be **"the most preferred multi-purpose port of the region"**.

Call: +968 24342800/1 or Email to: commercial@portduqm.com for more information



Oman's new commercial and industrial gateway

In this issue of Duqm Economist Magazine, we shed light on the Port of Duqm, one of the largest infrastructure projects in the Special Economic Zone at Duqm. We pride ourselves on completing the work in the Port to stand as an economic, commercial and industrial gateway from which the Sultanate overlooks other global ports in Asia, Africa, Europe, Australia and America.

Developing the Port of Duqm was not an easy matter, but the support accorded to the project from the Government of His Majesty the Sultan could help us overcome many challenges. As the Port of Duqm is no more a dream but a reality, it has significantly contributed in developing the Special Economic Zone at Duqm, though it has not yet commenced its fully integrated commercial operations. However, many goods and equipment are being imported to and exported from the Zone through the Port.

In view of that, the industrial and logistic areas nearby the Port have received a special attention. The high demand for the logistic area urged SEZAD to accelerate preparing and introducing it for companies, which are very much interested to utilise the storage facilities of the logistic area for their goods and equipment, which would be transported to another destination within the Sultanate or exported overseas afterward.

The investors' high demand for the industrial areas is growing with interest in not only medium and light industries, but extending to heavy and petrochemical industries. This urged SEZAD to speed up completion of the oil berth infrastructure at the Port of Duqm, though the plan focused on the needs of Duqm Refinery only due to the increased demand for the Port from international companies wishing to establish projects in the Zone.

As we talk about the Port of Duqm, we also highlight other various facilities in the Port such as the commercial berth, consisting of 4 stations that include containers, general and bulk cargos. The oil berth mark another key component that has been developed to meet the requirements of Duqm Refinery and future projects of petrochemical industries in Duqm. One more significant facility at the Port is the government berth that provides a quality service to the government bodies concerned with providing security to the Port and the Zone, as well as it serves tourism activities whenever the need arises.

In addition to all these facilities, the dry dock stands as an integral part of the Duqm Port and has proven successful and efficient in ship repair and maintenance services. Hence, it is anticipated, in the years to come, to further enhance its performance after attracting the attention of many ship owners from all around the world.

Having a large port such as the Port of Duqm would definitely serves a number of economic goals in the Sultanate. The geographical location of the Port on the international shipping lines, overlooking an open sea and close to the Asian and African markets attract local and international companies to use the Port and also benefit from the services provided by SEZAD for investors.

Therefore, SEZAD always strives to update its legislations to keep pace with the needs and aspirations of the local and international companies keen to invest in Duqm. Furthermore, SEZAD is constantly working to provide new services that lead to accelerating the settlement of projects in the Special Economic Zone at Duqm and achieving the goals of SEZAD to position the Zone as one of the most promising investment destinations in the Sultanate.



Yahya bin Said Al Jabri General Supervisor



Developing the Port of Duqm was not an easy matter, but the support accorded to the project from the Government of His Majesty the Sultan could help us overcome many challenges





Quarterly Magazine on Economic Affairs and Free Zones

Issued by: Special Economic Zone Authority at Duqm (SEZAD)

General Supervisor

Yahya bin Said bin Abdullah Al Jabri

Chairperson of the Supervisory Committee

Dr. Ismail bin Ahmed Al Balushi

Editor-in-Chief

Mohammed bin Ahmed Al Shezawi

Editors:

Saleh bin Nabhan Al Ma'amari Abdulaziz bin Ahmed Al Jahdhami

Correspondence and advertising to be sent to the Editor-in-Chief:

P.O. Box: 25
Postal Code: 103,
Bareeq Al-Shatti, Oman

Tel

0096824507572 /0096824507540

Fax

0096824587400

Email:

magazine@duqm.gov.om

Website:

www.duqm.gov.om

The views expressed in the magazine are those of the authors and do not necessarily reflect the opinion of the magazine.

The magazine welcomes specialised researches and academic studies



+ 968 71144433













In this issue:



The integrated water and power plant in Duqm is 71% complete

12



Duqm Quarries develops integrated technical studies to enhance the mining sector in the Sultanate

14



Duqm Refinery establishes a terminal for petroleum products storage and export via Port of Duqm

46



Dr. Ismail Al Balushi: Providing all capabilities for investors to conduct their business in a speedy and flexible manner



Abdulsalam Al Rawas: Maintaining safety and security of navigation is a top priority for the Naval Central Area Command

36



Haitham Al Taie: Moving towards stabilising our global leading position







Port of Duqm brings a new era for the national economy

17



Approving second phase of road signage in the Special Economic Zone at Dugm



Oil berth makes Duqm an international energy hub

44



Reggy Vermeulen: The Port is planning to become a major transshipment hub



Completion of service corridor between Duqm Refinery and liquid and bulk materials berth

53



Yousuf Al Jahdhami: Duqm Refinery stands at 63% completion

54







MINING INVESTMENT OPPORTUNITIES IN DUQM



Part of its plan in making Dugm an investment destination of choice with various business activities

SEZAD reduces processing period of investors' applications



Duqm - 유급기 :

The Special Economic Zone Authority at Duqm (SEZAD), announced reducing the processing period of investors' applications stated in SEZAD regulations and legislations. This step comes in an attempt to accelerate investment in the Special Economic Zone (SEZD) within the framework of SEZAD's vision 2030, gearing towards making Duqm an investment destination of choice with various economic activities, an integrated hub, & a modern city that offers the highest life standards.

Commenting on this decision, SEZAD Chief Executive Officer, D. Ismail bin Ahmed Al Balushi said that reducing the processing period of investors' applications is another positive step towards attracting investors by completing their applications speedily as well as reducing the periods, which had long been determined in SEZAD regulations, and approved by the Board of Directors. The CEO added that SEZAD will amend the existing regulations and legislations to keep pace with the new amendments. "The digital transformation plan being currently implemented by SEZAD has contributed on reducing the time required for completing investors' applications, leading to have this decision that serves investors and customers alike when processing their requests. In addition, investors can get their business license from SEZAD in just one day without approaching other entities once all required documents are submitted. This will ensure that projects can start their economic activities in a speedy and flexible manner" Dr. Ismail pointed out.

D. Ismail AI Balushi: Providing all capabilities for investors to conduct their business in a speedy and flexible manner

Services guide

"The Special Economic Zone Authority at Duqm (SEZAD) compiled all SEZAD services provided for investors and composed an integrated services guide, that describes investment requirements, applications processing periods, and prescribed fees of each service. The guide also provides an overview of SEZAD, the investment incentives of the Special Economic Zone at Duqm and investment steps. SEZAD will be printing the services guide in the coming few months and upload it on SEZAD website to facilitate investors access", Dr. Ismail commented. The guide, which is around 100 pages in Arabic & English, introduces around 60 different services to investors.

Reducing processing period of land usufruct

The CEO touched on SEZAD services for investors and the main amendments on services processing periods, pointing out that processing usufruct application requires 5 days instead of 30 days in the past as stated in existing regulations of SEZAD. In fact, processing usufruct applications takes several stages to be completed by the competent departments including Land Usufruct Department, Urban Planning and Survey Department and GIS Department. The first stage in Land Usufruct application starts with the investor choosing the required land and area. SEZAD

gives investors the right to choose the land depending on the project type and its feasibility; subsequently the One-Stop Shop contacts the investor within 5 working days and provide him with a sample of the usufruct agreement for his revision and comments before signing the agreement.

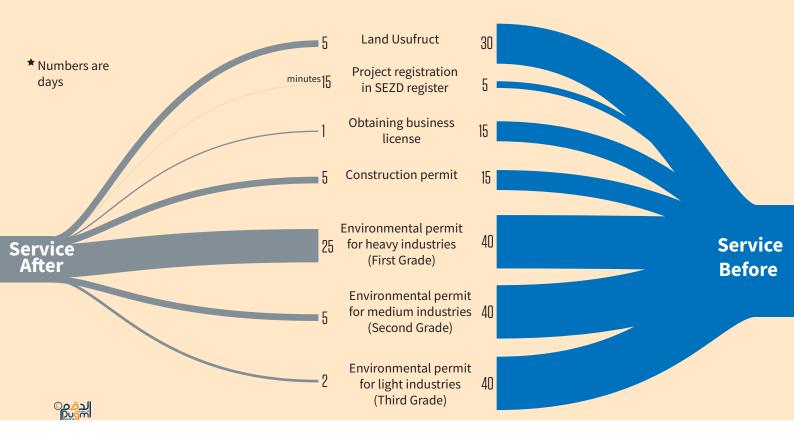
15 minutes for projects registration

The new procedures include reducing projects registration from 5 days to 15 minutes only. SEZAD offers investors' two options to register their companies, either by visiting the One-Stop Shop in Duqm or Muscat to register the company and pay the prescribed fees in15 minutes or by processing the registration through the services portal on SEZAD website and paying the fees online.

Dr. Ismail bin Ahmed AlBalushi stated that SEZAD welcomes various types of companies from different parts of the world. He pointed out that, investors can register their projects in the commercial register of SEZD in any legal form available in the Sultanate as per the new companies law issued in 2019. The new law came up with the sole company as a legal form to start their business, in addition to that, investors can register their companies as a branch of a local company whose main business headquarter is outside the Zone or register as a branch of an international company whose main business is a broad.



Comparison of the amendments made to the processing period of investors' applications





by One-Stop Shop without approaching other entities

Projects
registration
in 15 minutes
& online
registration
available
through
Services
Portal at
SEZAD

Website

Simple and easy steps

The guide summarises the investment steps in the Special Economic Zone at Duqm in five main steps. Investment starts with the investor filling the online land usufruct form. If the required data is complete, the investor will get an initial approval and SEZAD will allocate the appropriate land for the project according to the master plan of the Zone that includes a variety of available investment zones such as commercial, industrial, tourism, logistics and others. Once investors approve the allocated land and register the project in the commercial register of the Zone, s/he shall pay the prescribed fees and sign the usufruct agreement. SEZAD grants investors two years as a grace period of usufruct rental from the date of signing the agreement.

Projects commitments

According the new procedures of reducing the processing period of investors' applications, these steps will not take more than 5 days. Once the investor receives the usufruct agreement and cadastral drawing (Krooki), he registers the appointed consultancy office to design and execute project drawings and submit them to SEZAD through the Services Portal on the website. Subsequently, the investor obtains the necessary licenses and permits according to project type before starting the project construction on ground.

One day for business license

The guide specified the required time for obtaining business license with one day only instead of 15 days as stated in SEZAD Investment Environment Regulation issued in 2015. SEZAD has reduced the period for granting environmental permits from 40 to 25 days for heavy and petrochemical industries as it requires environmental studies, and 5 working days for medium industries and 2 days for light industries. The guide also specified the renewal period of environmental permits by 3 working days for heavy industries and 2 days for medium and light industries.

Six Chapters

The services guide comes in 6 Sections, the first: land usufruct, second: commercial registration, third: licenses, visas and customs, fourth: permits and building approvals, fifth: permits for public utilities, and sixth: environmental permits.

In addition, the new amendments include reducing the time required for issuing investors work permits, recruitment of foreign workers, workers transfer and secondment, custom exemption to one day instead of the previous five days stated in the applicable regulations and legislations of the Authority, while mortgage register is reduced to 30 minutes instead of 5 days.







SEZAD grants investors two years as a grace period of usufruct rental from the date of signing the agreement.

\$

Investors can sign the usufruct agreement in 5 days shall he provides all required documents and pays the prescribed fees.



30 services for building permits

SEZAD provides around 30 services in building permits and licenses field through the One-Stop Shop. According to the new amendments, plot demarcation would take 2 working days only and building permit is processed in 5 days instead of 15 days in the past. Moreover, the building permits renewal, addition and change now is completed in 2 days.

Improving SEZAD services

On his concluding note D. Ismail bin Ahmed Al Balushi, CEO of the Special Economic Zone, commented that SEZAD is keen to improve its services in line with the Sultanate efforts towards attracting foreign investments, creating promising environment for local investment to grow, contributing to economic diversity and providing jobs and businesses for Omani youth.

The CEO added that SEZAD didn't stop its services during Coronavirus pandemic, nevertheless SEZAD activated its online services and other platforms to support investors including WhatsApp account (71144433) to receive investors enquiries and transfer them to competent departments to contact investors and provide them the required services.

Investors' services compiled in one guide with the requirements, completion period, and prescribed fees of each service





Five days for processing land usufruct applications and one day for business licenses

Implemented in cooperation between "Marafiq" and the Gulf Pacific of Thailand





Testing to be carried out soon for initial operations of some production units



Establishing high voltage power transmission line to supply OTTCO with power requirements

Duqm - المنظان

Duqm Power Company is gearing up to carry out the relevant check-ups, testing and mechanical works for the initial operations of some production units at the integrated power and water plant located in the Special Economic Zone at Duqm. The plant is part of the Duqm Integrated Electricity and Water Project, which

is a joint venture between the Centralized Utility Company "Marafiq" and the Gulf Pacific Holding Company of Thailand.

Duqm Economist Magazine knew that in the first phase, two of the six production units will be operated to provide power to the refinery project that is being built near the plant. Also, It is expected that the electrical and mechanical works in the giant plant, which will produce 326 MW of power and 36,000 m3 of desalinated





The new plant provides 326 MW of power and 36,000 m3 of water per day

water will be completed during the third quarter of the current year or by beginning of the fourth quarter. Moreover, the project includes facilities for seawater intake with 1.5 million m3 capacity per day, and facilities for wastewater outfall to the sea at a capacity of 900000 m3 per day.

Progress rate

The sources estimated the progress rate of the project at 71%. According to the visit of Duqm Economist team to the project in the beginning of July 2020, marine works related the facilities of sea water intake and waste water

outfall are progressing and major equipment have already been erected at site.

Installing high voltage power transmission line

Duqm Power Company is also implementing another project related to the Integrated Power and Water Plant, that involves the development of 132 KV power transmission system that extends from the plant to Ras Markaz area to supply the Omani Tank Terminal Company (OTTCO) with its power requirements. The length of the line is about 75 km and progress rate in the project is more than 94%.



Work continues in seawater intake and wastewater outfall facilities

Marafiq obtains a license for potable water supply and increases production capacity to 8000 m3 per day

الدورة : Duqm

Marafiq has obtained a license from the Public Authority for Water, granting the company the rights to supply potable water in the Special Economic Zone at Duqm (SEZD) to meet the increasing demand for water. Marafiq is currently managing multiple projects for water supply in SEZD. It constructed mobile water desalination plant with 2000 m3 daily capacity within the premises of the dry dock. It has also constructed potable water plant for filling tankers next to the desalination plant, which allows tankers to supply water to the areas far from water network and the plant was operated in August 2018. Additionally, in 2019 Marafiq constructed water storage tank of 2000m3 capacity for storing the potable water produce. This tank will help sustaining the water supply during maintenance periods and emergency cases.

Maximising production

In December of the same year, Marafiq accomplished the first expansion of the project, which includes adding additional desalination unit with 1000 m3 water capacity per day, leading to an increase in production capacity to reach 3000 m3 per day. The company is working currently on expanding the capacity of the desalination plant of the dry dock from 4000 m3 to 8000 m3 per day.

In addition, it will construct water storage tank to keep potable water at 3000 m3 capacity and water pumping plant that will be connected to the network of the Public Authority for Water. It is expected that the project will be completed before the end of this year under the Potable Water License, and all potable water assets in Duqm that are being managed by the Public Authority for Water will be transferred to Marafig.



Ali Al Zadjali:

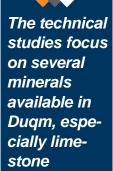
We encourage private sector to establish factories in the Special Economic Zone at Duqm

Dugm - ONA:

Duqm Quarries Company announced that it had completed five integrated technical studies to enhance the added value of minerals there are available in the Special Economic Zone at Duqm. Eng. Ali bin Abdullah Al Zadjali, CEO of Duqm Quarries said that the technical studies focus on several minerals available in Duqm, especially limestone.

He explained that the company will put these studies in front of the local and foreign private sector to enter joint investments in coordination with concerned authorities with the aim of establishing factories in the Special Economic Zone at Duqm that benefit from the minerals in the Zone and contribute to enhancing the added value of the sector in the Sultanate. Further relevant information will also be released on the «Invest in Oman» platform, which is managed by the Public Authority for Investment Promotion and Export Development «Ithraa».





He added in a statement to Oman News Agency that the technical studies that were completed include setting up factories in the following fields: production of Quick Lime, Calcium Carbonate, Cement clinker, Glass Sheets and the production of Sodium Carbonate (Soda Ash). He stated that a sixth technical study on paper production is also expected to be completed within the coming months.

Eng. Ali explained that these studies include many information about the needs of the referred factories of the minerals available in the Special Economic Zone at Duqm, cost of construction, expected production volume, target markets, return of investment and other information that investors need before proceeding to establish such factories.

Mining Map

He emphasised that the Special Economic Zone at Duqm abounds with many minerals that can build many factories, stressing that Duqm Quarries is ready to meet the needs of those factories with these products. Further explaining that the mining map of the Special Economic Zone was completed by the company in 2018, shows the locations of these materials, their types, and their concentration levels. The mining map is now available to all investors from within and outside the Sultanate on the company's website: www.duqmquarries.om.

Community Involvement

Duqm Quarries undertakes the management and operation of the quarry and mining sector along with the management of sand and gravel mines in the Special Economic Zone at Duqm, it also undertakes other activities re-

lated to the exploitation of quarries to extract stones, sand and earthwork materials.

The company is one of the leading government companies and was established by the Special Economic Zone Authority at Duqm through its subsidiary Oman Company for the Development of the Special Economic Zone at Duqm (Tatweer) which owns 70% of shares in Duqm Quarries while the remainder is distributed among a number of local companies. Notably, Duqm Quarries eligibility belongs to the people of the Wilayat of Duqm. This means engaging the local community in the company's gains.

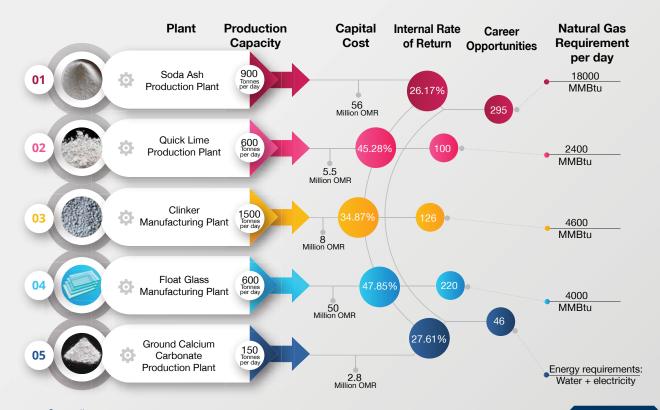
Continues Profit Growth

Engineer Ali bin Abdullah Al Zadjali, CEO of Duqm Quarries Company said that the establishment of the company came with the aim of regulating the quarry sector in the Special Economic Zone at Duqm and preserving this national wealth by strengthening the supervision of activities related to the sector and employing them to serve the national economy.

Since being founded in mid-2017, there are many significant achievements continue to grow in profits. Pointing out that Duqm Quarries, which has a capital of one million Omani riyals, managed at the end of last year to achieve consolidated profits amounting to more than 1.3 million Omani riyals and sales amounting to 6 million Omani riyals.

Product Diversification

The CEO of Duqm Quarries said that the company's ability to keep pace with the growth in projects that are being established in the Zone and future demand is due to its accomplishment which included installing an auto-



الدِدُو© Dugmi

matic crusher with a production capacity of 250 tonnes per hour, equipped with the latest dust control technologies that was implanted in the company's second phase of this year. The new crusher, which started operating in May, has contributed to providing new and varied products and is expected to meet the growing demand for the company's products and increase profits.

Partnerships with Small and Medium Enterprises

In his interview, Eng. Ali reviewed the gains made by Duqm Quarries in regards to small and medium enterprises (SMEs) and said that the company signed contracts with 30 companies to lease their equipment in order to enhance the performance of these SMEs and involve them in those gains that are achieved through the management of Duqm Quarries for the quarry sector in the Zone. He also stated that the company will work to increase this number permanently in parallel with the growth of its business in the Zone.

Competitive Pricing for Consumers

Eng. Ali bin Abdullah Al Zadjali, CEO of Duqm Quarries Company, expressed, at the end of his interview, his welcome for new and existing projects in Duqm, confirming the company's readiness to fulfil all their requests at competitive prices. He explained that the company is constantly working to open direct communication channels with companies, whether through direct contact with them or through meetings that are held continuously. He stated that the company has prepared an electronic form available on the website through which companies can send their requests to the Duqm Quarries and know the prices and determine delivery dates.

He ensures that the future plan of the company includes many goals that Duqm Quarries seek to implement in order to increase the company's profits and enhance its capabilities. He indicated that the company is currently studying the establishment of a unit for treating and washing the soil resulting from quarrying operations for various uses in infrastructure with a production capacity of 120 tonnes per hour.

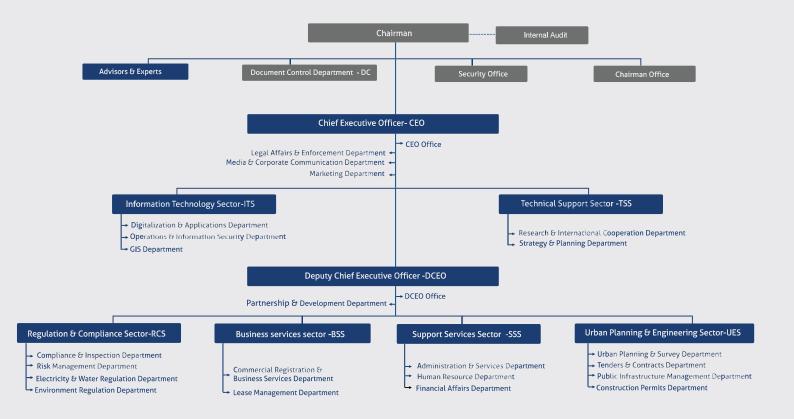
Achieved consolidated profits amounting to more than RO 1.3 million and sales reaching RO 6 million



We developed mining map and always ready to meet the needs of those factories with raw material



New organisational structure for SEZAD to include 6 new sectors





The new organisational structure reflects SEZAD vision and objectives of the current five-year plan



Creating new departments and merging others for more work flexibility

Muscat - ਨਿਹੰਕੀ:

A new organisational structure has been approved by the Board of Directors of the Special Economic Zone Authority at Duqm (SEZAD) in its first meeting of 2020. The newly formed structure includes the following six sectors: Technical Support Sector, Information Technology Sector, Engineering and Urban Planning Sector, Support Services Sector, Business Services Sector and Regulation and Compliance Sector, with each sector comprises several departments being supervised by a general manager.

SEZAD restructure reflects its vision and objectives of the Five-Year Development Plan (2020 – 2024), creating more work flexibility between sectors and departments.

During the meeting chaired by H.E Yahiya bin Said Al Jabri, Chairman of SEZAD, a number of new top management positions were approved. The position of Deputy CEO was assigned to Saleh bin Hamood Al Hasani. As per the new structure, the Directorate General of Investment Services has been replaced with the Business Services Sector and Sultan bin Odium Al Shuraiqi was appointed as Acting General Manager of the sector. The Technical Support Sector was introduced and Zahida Mohamed Al Balushi was appointed as a general manager of the Sector. Ahmed bin Saleh Al Farsi was appointed as General Manager of Information Technology Sector & Eng. Saleh bin Rashid Al Hashmi was appointed as General Manager of Engineering and Urban Planning Sector while Mahmood bin Hamood Al Rawahi was appointed as General Manager of Regulation and Compliance Sector. Finally, Abdulmajeed Al Ansari was appointed as General Manager of Support Services Sector in addition to his position as Head of Chairman's Office.

The new organisational structure amended the name of "Department" in Arabic, introduced new departments and merged others whereas changed reporting line of some departments based on the new sectors in order to ensure more work flexibility.

During the Renewed Renaissance of His Majesty Haitham bin Tarik

Port of brings a new era for the national economy

The Port of Duqm, during the reign of His Majesty Sultan Haitham bin Tarik, is witnessing a new era that thrives the national economy in line with Oman Vision 2040, aimed at shaping a bright future for the Sultanate.

This year has witnessed a remarkable progress in the Port, stretching over an area of 170 square kilometres, to complete the oil and commercial berth's post completing the government berth over a year ago along with many other projects too. The Port marks a new gateway to the national economy, distinguished with its ability to embrace various projects starting from heavy and petrochemical industries and extending to projects of Omani entrepreneurs and Small and Medium-sized enterprises (SMEs).

Here, we highlight the unique capabilities and various facilities of the Port, which is designed to meet the requirements of economic growth in the Sultanate for many years to come. The Port signifies a high economic importance for the current and future generations of Oman..

Prepared by:
Mohammed Al Shezawi





July 25

The issuance of the Royal Decree No. (85/2006) designating the development of Duqm City in AlWusta Region as a public utility project



The Omani Government signed

the agreement for consultancy services and preparation of the necessary engineering designs

for the establishment of the Drydock Port in the Wilayat of Duqm with the Korean Daewoo Shipbuilding & Marine Engineering Co., Ltd (DSME) at a total cost of

OMR (2.1) million

The Tender Board awarded the project for the construction of Dugm Port (marine works) at an estimated cost of (OMR 186.9) million

Sep. 22

Signing a loan agreement between the Omani Government and the Bank of Japan for International Cooperation on a loan provided to the Sultanate of (USD 660) million, equivalent to about (OMR 254) million to contribute to financing the Duqm Port and Drydock

Beginning of construction works of the Drydock in Dugm. The project was developed by a consortium of Korean Daewoo Shipbuilding & Marine Engineering Co., Ltd (DSME) and Oman's Galfar Company

The Sultanate signed a USD 87.5-million loan agreement with the Kuwait Fund for Arab Economic Development to contribute to financing the Duqm Port and Drydock project

2008

The Ministry of Transport and Communications signed the agreement for establishing the Drydock with Daewoo Engineering and Contracting Company and Galfar Engineering and Contracting Company at a cost

of (OMR 170.1) million

Nov. 10

Signing the agreement to construct Duqm Port (marine works) with a consortium of three companies, namely the Omani Consolidated Union Contractors Company, the Belgian Jean-de-Nol Company, and the Turkish Steva Company for (OMR 186.9) million

Key **Milestones**

June 27

2005 2006

Old masterplan of the port

approval for expansion

and drydock before getting the

The Omani Government signed a management and operation agreement for the Drydock for ship repair gineering Co., Ltd (DSME)

Sep. 24

and maintenance project in the Wilayat of Dugm with the Korean Daewoo Shipbuilding & Marine En-

Aug. 21

The Government decided to increase the scope of construction works for Duqm Port to increase its capacity to keep pace with industrial and commercial growth in Duqm. Accordingly, it decided to increase the length of the main breakwater from (2.7) to (4.1) km, and increase the length of the secondary breakwater from (2.6) to (4.6) km, deepen the port basin from (16) to (18) metres, and the entry channel from (17) to (19) metres

Floating the tender No. 129/2006 for the construction of Duqm Port (marine works)

Nov 23

The Tender Board invited companies registered in the excellent and international grades to compete for pre-qualification to participate in the tender for the construction project of Duqm Port, specifying the date of January 2, 2006 as the deadline for submitting bids



Signing the additional works agreement for Duqm Port project (marine works) to increase the port's capacity to keep pace with the industrial and commercial growth in Duqm for (OMR 335.4) million. The project was developed by the Consolidated Union Contractors Company in cooperation with the Turkish company Steva and the Belgian company Jean-de-Nol.



Jan. 26

The Tender Board awarded the project of designing, manufacturing, installing and inspecting lifting mechanisms for the Drydock in the Wilayat of Duqm in AlWusta Region for (OMR 24.2) million.



2009

2010

Oman Oil Company and the International Petroleum Investment Company (IPIC) from the United Arab Emirates signed a memorandum of understanding to conduct a feasibility study for the establishment of a refinery and a petrochemical complex in Duqm Port as part of the efforts made by the government to prepare the infrastructure for major industrial projects in Duqm.

Oct. 6



April 30

Oman Drydock Company celebrated its commissioning and received the first two ships owned by the Belgian company Jean-de-Nol for repair and maintenance.

March 28

The Sultanate and the Belgian Antwerp Port Authority signed the shareholders agreement to manage and operate Duqm Port.



Sep. 15

Duqm Port successfully received M/V Zhen Hua 27, the first commercial ship with equipment for the Drydock. M/V Zhen Hua 27is one of mega ships of about (235) metres and with a draft (8.4) metres. The ship carried on board (7) cranes for the drydock under construction at that time.

June 9

Organising the official celebration of the opening of the Drydock Complex in Duqm under the patronage of His Highness Sayyid Hamad bin Thuwaini Al Said.

Dec. 15

The Special Economic Zone Authority at Duqm, the Belgian Ports Association of Antwerp and the Duqm Port Company signed the preliminary agreement for the management and operation of Duqm Port.

Announcing that Oman Drydock Company has obtained a GTT license for repairing giant gas

June 10

014 2016

Aug. 30

The Special Economic Zone Authority at Duqm signed agreement to construct a liquid and bulk berth at Duqm Port at a cost of (OMR 199.1) million. Boskalis Westminster (Oman) Limited was awarded the project.



The Special Economic Zone Authority at Duqm signed the agreement to implement the second package of Duqm Port for preparing the commercial berth to accommodate containers. An alliance consisting of the Turkish company SERKA and the Portuguese company MSF won the project for (OMR 107.3) million.

Nov. 14

2017

April 6

The Special Economic Zone Authority signed the agreement to implement the third package of Duqm Port for the construction of the commercial terminal for the commercial berth at a cost of (OMR 77.1) million.

March 10

Inaugurating commercial operations to operate berth (1) at the commercial terminal in Duqm Port and signing contracts for accompanying services with a number of companies to handle their goods through the commercial terminal and provide some commercial services and facilities.



March 20

Laying the foundation stone for the first phase of the industrial zone of Duqm Port and the inauguration of the Port's logistics services complex under the patronage of Her Royal Highness Princess Astrid, representative of the King of Belgium who was visiting the Sultanate at that time.



Feb. 10

The Special Economic Zone Authority at Duqm signed an agreement with Consolidated Union Contractors Company to implement the fourth package of Duqm Port related to the infrastructure of the government berth at a cost of (OMR 55.4) million.





FACTS AND FIGURES

The total area of Duqm Port is 170 km² It includes:





Main breakwater length: 4.1 km.

Liquid material berth:



Width: 350 m

Fixed wall length: 1,000 m

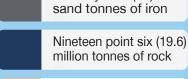


Dredging next to berth: 18 m. below sea level



Construction of two giant docks to receive huge oil tankers

The construction of Duqm Port (marine works) and Dry Dock used:



Drilling of (75) million m3

Filling materials amounted to (25) million m3

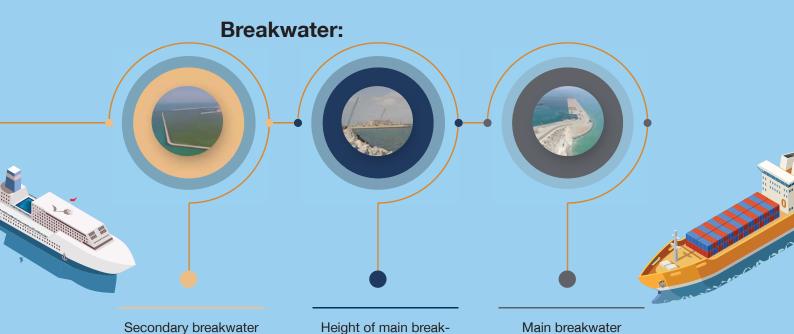
Seventy-one (71) thou-



Pumping nearly 10 million m3 of materials from sea soil to provide more lands for the berth







water reaches 11 m

from sea level and more

than 22 m on average

from seabed.

Government berth:

Length: 980 m.

• Width: 200 m.

Road lengths at the government berth: 2 km

length: 4.6 km.

It includes buildings and facilities for the following:

- The Royal Omani Yachts
- The Sultan's Special Force
- The Royal Navy of Oman
- Coast Guard, Royal Oman Police

It has (4) terminals:

- Two container terminals of about 1,600 m. long to handle approximately 3.5 million TEUs annually
- One dry bulk terminal of 300 m. long and a capacity of about 5 million metric tonnes annually
- One mixed-use terminal of 425 m. long and a capacity of 800,000 metric tonnes annually
- The Port can expand in the future to reach a capacity of more than (20) million containers annually

Dugm July 2020

Commercial berth:

protected by cement

blocks against erosion

due to marine fluctua-

tions.

• Length: 2,250 m

• Width: 350 m



Harbor basin: 18 m.

• Approach channel: 19 m.

D D A A et the total and the t

Dr. Ismail Al Balushi during a visit to Port of Dugm

: Duqm - المقاط

Dr. Ismail bin Ahmed Al Balushi, CEO of the Special Economic Zone Authority at Duqm (SEZAD), announced that all infrastructure projects related to the operation of Duqm Port would be completed by the end of this year. «SEZAD has handed over the commercial berth to the Port of Duqm Company to undertake its operations on the entire berth of 2.2 km,» stated Al Balushi.

In an interview with Duqm Economist Magazine, he asserted that Duqm Port is 100% ready for commercial operations, indicating that Duqm Port Company undertakes its operations through two mobile cranes, but SEZAD is reviewing bids for the tender of automatic cranes for containers to be fixed on the commercial berth. «The tender floated by SEZAD to international companies includes designing, manufacturing, supplying, installing, testing, and operating container cranes and rubber wheel cranes. We are keen to provide modern and high-speed cranes for handling container shipping,» added SEZAD's CEO.





Providing modern and high-speed cranes for container handling

Completion of the commercial and oil berths

The CEO commended the progress of work on infrastructure projects for the Port. «We have completed the commercial and oil berths in 2020 after the completion and handover of the government berth to the government entities concerned with the security and safety of the Port and SEZD in 2019. Some of them had already started work from their buildings on the berth. Some construction works in the second and third packages from Duqm Port will be completed by the end of this year.»

Road network

On the road network connecting the Duqm Port to investment projects in SEZD, the CEO said that the main roads linking the Port to the Duqm Refinery and the medium, heavy, and petrochemical industries zones are now complete, notably Roads No. 1 and 5 connecting the Port to many strategic projects in SEZD. «They also connect the Port to the Sultan Said bin Taimour Road, which connects SEZD to the other wilayats of the Sultanate. Sultan Qaboos Road linking the Duqm Port to the airport is important in supporting the logistic sector in SEZD,» added Al Balushi.

Multiple features

On the advantages of the Duqm Port, Dr. Ismail Al Balushi remarked that it is a multi-purpose port. «In container handling, the Port includes two container terminals of about 1600 metres, explaining that the Port is ready to handle about 3.5 million TEUs annually. The commercial berth also includes a terminal for dry bulk materials with a capacity of about 5 million metric tonnes annually, and a multi-use plant with a capacity of about 800 thousand metric tonnes annually.»

Completion of Port in-frastructure projects before the end of 2020



Handing
over the
commercial
berth to Port
of Duqm and
parts of oil
berth to the
Refinery

Modern road network connecting Port of Duqm Port with Airport, Refinery, and investment projects

Oil berth is ready to accommodate products of Duqm Refinery and other petrochemical companies

Success of Drydock is a gain for SEZD and contributes to attracting investments



Exporting petroleum products

Al Balushi said that the capabilities of the Port are not only limited to commercial services, but also include the export of petroleum products through the liquid and bulk materials berth accomplished during the current year. Currently, the implementation and construction of reservoirs, buildings, and services related to the export of oil derivatives

for the Duqm Refinery is underway. «The oil berth is ready to accommodate many activities of the petrochemical industries that will be established in SEZD in the coming years,» asserted Al Balushi.

Government berth

He pointed out that the Duqm Port is one of a kind in the Sultanate due to the governmental berth used by the governmental entities concerned with the security side in SEZD, such as the Royal Navy of Oman and the Coast Guard. It is also equipped to accommodate marine tourism activities.

Drydock for ship repair

The CEO of SEZAD turned to the Drydock, which is one of the components of the Duqm Port, praising the growth achieved by the Drydock in terms of its activities and international reputation. «The success achieved by the Drydock is a gain for SEZD and contributes to attracting investments to it,» commented Al Balushi.

Dr. Ismail bin Ahmed Al Balushi, CEO of SEZAD, expressed optimism about the ability of the Duqm Port to achieve its goals to be one of the prominent economic milestones in the modern renaissance marsh.



From the Port's Memory











Commercial Berth exceeds 95% completion





Construction of 4 terminals in the commercial berth, 37 buildings and port operations area over one million square metres

Two container terminals, a dry bulk ter-minal, Ro-Ro terminal and a mixed-use terminal

Duqm - हुन्ने :

The Commercial Berth package of Duqm Port is one of the most prominent projects at the Port and by early July, the pavement yards of the berth were completed and prepared for the integrated commercial operation stage. Also, construction of buildings on the berth as part of the second package exceeded 95% completion as of end of June 2020.

The second package is developed by the Turkish Serka company with a cost of OMR 107.3 million. Upon completion, the Port of Duqm will be ready to move from the initial operational stage to multi-purpose commercial operations.

4 terminals on Commercial Berth

The second package of the Port includes the construction of 4 terminals on the Commercial Berth; comprising of two for containers of about 1600 metres long to handle 3.5 million TEUs (the Twenty-Foot Equivalent Units) annually, a dry bulk terminal with a capacity of 5 million metric tonnes annually, and a multi-use terminal with a capacity of 800 thousand met-



ric tonnes annually. In addition, it will see the construction of 37 diversified buildings and the Port's operations area spreading over one million square metre.





Two phases

Alper GOKDEMIR, Project Manager, said that the works in the second package went well though the Port is witnessing continuous operations throughout the week. «Therefore, we divided operations into two phases so that the infrastructure works of the Commercial Berth do not affect the operations carried out by the Port of Duqm Company. The solidarity of all stakeholders helped to overcome this challenge; profound thanks to SEZAD, Port of Duqm and project's consultant for close cooperation to overcome the challenges faced while developing one of the most important projects in the Port,» stated GOKDEMIR.

In an interview with Duqm Economist Magazine, he expressed his happiness with the progress made in the project. «Serka delivered the first phase of the project earlier last year to SEZAD and the end user Port of Duqm transferred its operations to the parts received. We expect to hand over the project fully during the third quarter of 2020,» added Project Manager.

Commending contribution of Omani youth

Concerning the number of labour in the project, Alper GOKDEMIR said that it reached about 2000 at its peak, praising the contribution of Omani youth in the various stages of the project. He explained that the Serka contracted with several small and medium enterprises in the Sultanate during the implementation period even delightedly exceeding its legal liabilities. This has contributed to increasing the economic value of the project and helped thriving multi-cultural working environment.

dle
ally

High	nlights of the second package
1	Construction of 37 administrative buildings and warehouses in the operations area, the commercial terminal, the dry bulk terminal and the container terminal.
2	Construction of 3-km dual road for heavy equipment transportation
3	Construction of internal roads.
4	Supply and installation of traffic lights.
5	Allocating yards for Commercial Berth.
6	Developing parking lots to serve all activities.
7	Developing a helipad.
8	Building a railway for the cranes installed on the Commercial Berth.
9	Establishing drinking water, sewage, rain drainage and firefighting networks.
10	Establishing transformers substations and electricity networks.
11	Street lighting.
12	Installing safety systems.
13	Developing infrastructure for communication services.
14	Improving soil.
15	Supply and installation of two types of highly secure fences to separate the four terminals on the Commercial Berth.
16	Supply and installation of tracks for ground connectors of the crane rail to protect the cranes against lightning.





Port of Dugm CEO speaks to Real:

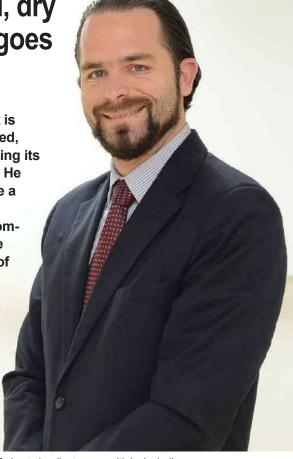
The Port is planning to become a major transshipment hub for containerised, dry bulk, liquid bulk and automotive cargoes

Duqm - Pugal :

Reggy Vermeulen, CEO of Duqm Port, pointed out that the Port is planning to become a major transshipment hub for containerised, dry bulk, liquid bulk and automotive cargoes as well as promoting its position towards feeder operators and main liners accordingly. He also affirmed that the plan includes marking the port to become a transit port connecting the East with the West.

Speaking to Duqm Economist Magazine, the CEO noted that completion of the commercial berth brings more advantages for the Port. The commercial berth's yard will reach to 70ha, and Port of Duqm will get full access to the 2.2km berth.

He touched on the advantages of the Port and what has been achieved of the past few years. Highlighting the significance of Port of Duqm, the CEO confirmed that the Port is standing as a key enabler of the entire Zone, unlocking its full potential of becoming the leading economic beating heart of the country. During the interview conducted in March 2020, Reggy Vermeulen, CEO of Duqm Port shed light on different concerns of investors, clients of the Port and Duqm community overall.



Promoting
Port's position
towards feeder
operators and
main liners
accordingly



Duqm Port is considered a multi-purpose port and one of the largest ports in the region as it is located in a special economic zone. We would like at the outset to know the facilities available at Duqm Port and the advantages provided by the Duqm Port Company for shipping lines and local and international companies?

Currently, Port of Duqm has a yard of approximately 40 ha and a berth length of 1200m available at its commercial berth for carrying out Port and Terminal services to multiple industries. At this moment, we are primarily focusing on project and break bulk cargo, dry bulk cargo and containerised cargoes, as well as the accommodation of various navies. We have multiple state-of-art equipment to our disposal, such as 2 heavy duty mobile harbor cranes, reach stackers, fork lift trucks, trailers etc.

By mid-2020 the yard at our commercial berth will increase to 70ha, and Port of Duqm will get full access to the 2.2km berth. The advantages Port of

Duqm is offering to its clients are multiple, including:

- 1) A prime location towards overseas markets offering potential huge take off and supply of raw materials.
- 2) A prime location towards inland oil and gas markets.
- 3) An integration into the special economic zone, which means the entire special economic zone beneficial package is applicable to clients of the port as well.
 - 4) No congestion
- 5) Ability to serve all industries, being a multipurpose port.
- 6) State of art equipment and infrastructure, which includes a deep 18m guaranteed draft.

Economic tributary

What is the company's plan to employ these advantages in making the Port a good economic tributary to the Sultanate?

The plan is to develop as the preferred multi-







purpose port of the region, which allows us to positively respond to any inquiry or opportunity that is presented. The Port is acting as a key enabler of the entire Special Economic zone and its hinterland, unlocking its full potential of becoming the leading economic beating heart of the country. The Port will facilitate the import of raw materials and re-export of finished goods after value addition in the Zone. The Port already is the centre of excellence serving the entire oil and gas industry in the Sultanate, offering substantial cost reductions for many oil and gas companies, contributing to an improved supply chain model.

Promoting capabilities and advantages of the Port

How does the company market the capabilities and advantages of the Port locally and abroad?

Port of Duqm current commercial team consists of 11 fully dedicated people representing the company locally and internationally. However, client focus is embedded in the entire organisation. This is leading to the fact that the Port has put a strong and reliable brand in the market already despite fact it is still operating in a pre-development phase. As such Port of Duqm is realising full customer appreciation, which at itself is the best possible marketing a company may do in the first years of operation.

Key achievements

What are the most prominent achievements of the Port of Dugm Company in this field so far?

Becoming the centre of excellence serving the oil and gas industry in the Sultanate.

Build up a strong expertise for out of gauge and heavy lift cargo handling.

Successfully starting container operations at Port of Duqm, being registered and recognised by all major container lines.

Successfully starting mineral export operations and gradually building up this market aiming one of the big dry bulk hubs of the region.

Port's performance in 2019 How was the port's performance during



the past year?

2019 was a record breaking year so far. The port handled about 1.3 Million MT of which 600,000 MT was exports and 700,000 MT imports. The port received 606 vessel calls, an increase of 45% against the previous year.

Shipping lines

What are the most prominent companies and shipping lines that are currently using the port?

Since the activity in the port is predominantly determined by project and break bulk cargoes and dry bulk cargoes, which are carried out on vessels calling the port on 'spot' basis, there are not particular shipping lines calling the port more than others. From a container perspective, main liners are not calling the port as of yet, but container operations are happening thanks to an express feeder service which is operated by Oman Shipping, calling Dugm on a weekly basis.

Shipping lines will increasingly being attracted to Duqm with volumes growing in each of the respective industries. Shipping lines have to stay tuned to the latest developments in order to capture all the opportunities offered. Port of Duqm's commercial team is reaching out to all shipping lines and its agents to remain fully informed about such developments accordingly.

Full commercial operation What is your plan after the full commercial operation of the port?

Port of Duqm plans to expand the level of services and more prominently act as the most preferred multipurpose port of the region. Other industries, like the container transshipment operations, food businesses, automotive cargoes and liquid bulk cargoes will be added to its current portfolio. The related volumes handled are expected to increase exponentially, since no major bottlenecks will exist any longer, and the port will be able to fully deploy its capabilities in line with the activities in the Special Economic Zone at Duqm.

Port is acting as a key enabler of the entire Zone, unlocking its full potential of becoming the leading economic beating heart of the country



The Port of
Duqm is able
to serve all
industries and
our clients are
entitled for the
full package
of benefits in
SEZD

Facilitating the import of raw materials and re-export of finished goods after value addition in the Zone



The Port is the centre of excellence serving the entire oil and gas industry, offering substantial cost reductions The Port has put a strong and reliable brand in the market already despite fact it is still operating in a predevelopment phase



2019 was a recordbreaking year. The port handled about 1.3 Million MT of exports and imports





A major transshipment hub for cargoes Can the port become a major transportation station in the region from where the feeding vessels depart from it to the other ports of the Sultanate and the countries close to it, and the world?

Taking full advantage of its strategic location towards local, regional and international markets, the Port is planning to become a major transshipment hub for containerized, dry bulk, liquid bulk and automotive cargoes. Movement of cargo will be supported by regular calls from both main liners as well as feeder operators. Connectivity to both international and regional destinations is key to meet such target, so Port of Duqm will promote itself towards feeder operators and main liners accordingly.

Transit port

Do you have a tendency for Duqm port to be one of the transit ports for goods between Asia, Europe and Africa?

It is definitely the target to become a transit port connecting the East with the West. While its beneficial location is already recognised in the market, still firm and formal contracts with relevant stakeholders, like traders, shipping lines and agents need to be concluded in order to confirm such ambition.

Advantages of logistical and industrial Duqm Port is characterised by the presence of logistical and industrial lands near the commercial berth. What is the importance of the existence of these lands? How large are they?

The Port's logistics land, covering a total area of about 1000ha, acts as an extension of the restricted yard capabilities at the Port itself. It offers a clear opportunity for logistics clients requiring proximity to the Port and its terminals and developing their various activities in this area, like warehouses, open yards, container freight stations, parking areas etc. Also, industrial clients may require such proximity to the Port, as the imports of raw materials and re-export of finished goods require optimal logistics in order to remain competitive in an international market. The Port has approximately 3000 ha of medium heavy, heavy and petrochemical industrial land under its custody, which it markets to its local and international clientele.

Different investments

What is your assessment of the level of demand for the Port's industrial and logistical areas?

The Port has developed its first 65ha in the

logistics area, which is already fully leased out to 24 clients. Further expansion is planned to accommodate the increasing appetite from logistics companies to establish their activities in this area. This includes prominent names such as Tristar, Rezayat, Al Madina Logistics and Mammout, but also local companies are seeing the opportunities offered, like Duqm Ahlia.

From an industrial perspective, most of the established companies are related to the development works in the Special Economic Zone, like concrete batching plants, steel fabrication shops, etc. A total of 16 companies have established themselves in the Port's industrial area already. Next target is to attract foreign direct investment from projects utilising Duqm as springboard towards international markets.

What are the company's efforts in the field of Omanisation, training and preparing Omani youth for the full commercial operation phase of the Port?

Port of Duqm Company seeks to refine and develop skills of national Human Resources skills in accordance with clear plans aiming at the advancement of their technical and practical capabilities in line with the development and expansion of the port. An integrated programme has been implemented aiming to qualify workers in the Port's handling work and know the basic foundations and principles by virtue that this sector is relatively new in the region, the programme has returned in a positive way in its outputs, which demonstrated the empowerment of Omanis in some professional and supervisory positions in the Port.

The percentage of Omanisation until the beginning of this year reached 84%, which reflects the vision for which the company sought since its establishment. On the other hand, the company has qualified some leaders in the middle management and supervisory positions through the programme that was prepared in accordance with the concession agreement with the Belgian partner (Port of Antwerp), which aims to transfer knowledge from the second largest port in Europe in the way of dealing in ports and the logistical sector, as was done through participation in the national programmes supervised by the Ministry of Manpower (Etimad Program), which comes as a complement to that, confirming that our continuous endeavor towards developing human resources and overcoming all the challenges that we face in order to create an integrated generation and aware of the latest and most effective methods in the logistics sector.





The Port of Duqm maintains supply chain activity during Coronavirus pandemic

Duqm - pugm :

The Port of Duqm has maintained its vitality despite the repercussions of the spread of Coronavirus pandemic worldwide. The supply and export chain has grown and the Port has received many cargo vessels and containers from different countries of the world. The Port also adhered to the professional standards in shipping and unloading operations, supporting the growth of large and strategic projects in the SEZD with a contribution to its continuous growth.

At the same time, the Port is steadily progressing towards expanding its operations in the container terminal with the addition of a new terminal building and installation of state-of-the-art equipment as per the plan. It is expected that the Port will expand container handling during the near future.

18000m tonnes of chemicals

The Port of Duqm has successfully completed a chemical Ship-to-Ship operation carried out at its commercial berth. The operation covered the transfer of 18000 million tonnes of Phosphoric Acid between mother vessel Stolt

Calluna and daughter vessel Stolt Vestland.

To ensure its delivery with high efficiency and quality, a number of experts and specialists were present on the site, supervising the transfer operation.

Importing large equipment

The Port of Duqm is increasing the volumes of containerised shipments substantially in 2020. This particular shipment covered a large parcel destined for the Duqm Refinery Project – EPC Package one, and was shipped for Agility – a major logistics contractor to the project.

In the same period, the Port received a number of large shipments for the Duqm Refinery project, consisting of Air coolers and accessories as part of the EPC 1 package whose lead contractor is the Spanish based Company Technicas Reunidas.

The Port also discharged of one single Heavy Lift piece weighing almost 800 metric tonnes and measuring 73m in length, a width of 12.6m and a height of 13m. This shipment was safely delivered to the Refinery project site.

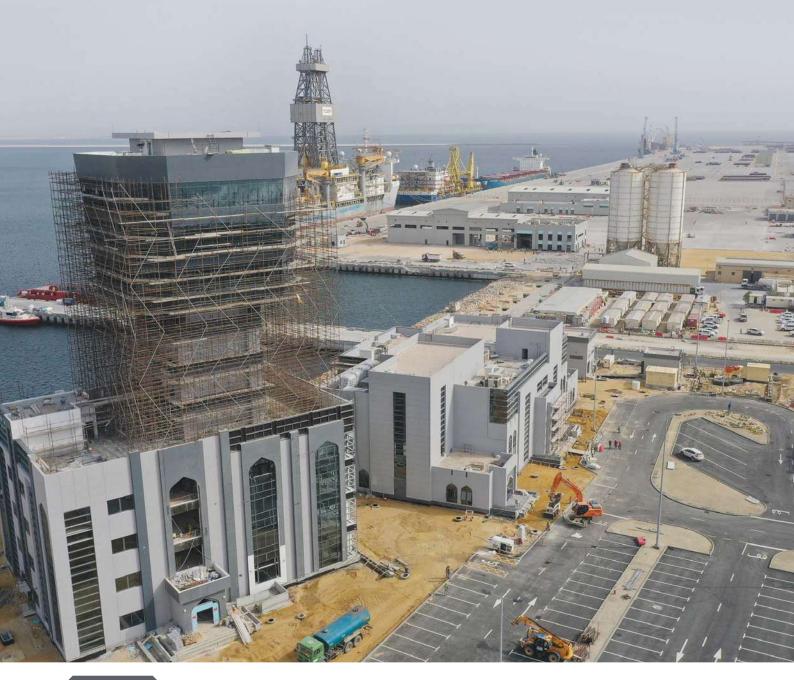
Also, the Port received 9 massive LPG storage tanks for the same project with each of them weighing around 780MT.







Tetweer, Proud to oversee the implementation of Duqm largest infrastructure projects



Tatweer
harnessed all
capabilities
to complete
infrastructure
projects at
Duqm Port in
record times

Duqm - 윤글게 :

Oman Company for the Development of the Special Economic Zone at Duqm (Tatweer), affirmed its pride in overseeing the implementation of the largest infrastructure projects in the Special Economic Zone at Duqm (SEZD), including the Port of Duqm infrastructure projects, which achieved high completion rates in various construction phases. The fourth phase related to the government berth was completed last year and the seventh phase related to

the liquid and bulk berth was completed in the first half of this year. Almost 95% of the work on the fourth phase related to the commercial berth is complete until June 2020, whereas the third phase related to the buildings and facilities of the pre-commercial berth area is 93 % complete. Moreover, Tatweer supervised the implementation of dozens of other projects in SEZD, including roads, channels, dams, lighting, water connection networks and many others.

Tatweer stated that the company has harnessed all capabilities since its inception to



complete the implementation of infrastructure projects at SEZD as planned. Despite the Company has come across many challenges, Tatweer was able to complete the projects in record times.

Close cooperation with SEZAD

Tatweer commended the existing cooperation and support of SEZAD, which contributed in overcoming challenges and obstacles facing implementation of infrastructure projects in the Special Economic Zone at Duqm. These projects include those related to the Port of Duqm, the largest project of its kind in the Sultanate.

Tattweer is implementing infrastructure works in the Zone on behalf of SEZAD as a

fully-owned subsidiary of SEZAD, standing as the executive arm in the field of infrastructure, projects and assets management, and investment development and management.

Building National Expertise

Tatweer pointed out that overseeing the implementation of Duqm Port projects has enabled the company gain broad expertise in projects management and helped employees acquire significant knowledge, stressing that most of the engineers supervising the implementation of Duqm Port projects are Omanis. Accordingly, the company is working on qualifying and preparing the Omani youth to acquire rich experience and hold higher positions in the Company.

SEZAD substantial support helped Tatweer overcome challenges



Building local expertise to oversee the implementation of giant projects Integrated facilities for importers and exporters through Dugm Port

Third package is expected to be completed before end of the year



Customs gates for incoming and outgoing trucks and carriers



Buildings of one-stop shop, truck registration. 8 km roads, and parking lots



Inspection buildings for Royal Oman Police, Ministry of Health, Ministry of **Agriculture** and Fisheries Duqm - Pull :

The construction works of the third package of Duqm Port are completed with 93% progress by the end of June.

The third package of Dugm Port provides integrated facilities for suppliers and exporters through the Port, as it includes the construction of many buildings and facilities in the commercial berth area before the main gates through which trucks enter the container terminal and other terminals at the commercial berth.

Port one-stop shop

The third package comprises of two zones: the gate and pre-gate area and the inspection area. The first zone includes the construction of the gate and the exit and entry compartments. The one-stop shop, completed during the past months, is one of the most prominent buildings in this zone through which importers and exporters will complete their transactions through the Port. The first zone also includes the construction of pass office building, truck registration

building and other electrical service and firefighting buildings.

Inspection area

The scope of work in the second zone, i.e. inspection area, includes the establishment of the inspection buildings for the Royal Oman Police Customs, the Ministry of Health, and the Ministry of Agriculture and Fisheries, in addition to initial inspection and x-ray areas, electrical service and firefighting buildings

Roads and other services

The works of Duqm Port's third package also includes the construction of 8 km long roads with various cross sections along with all internal roads to reach buildings and parking lots, paving parking lots to serve all activities. In addition to design, supply and installation of traffic lights.

The third package also includes the infrastructure works related to the construction of drinking potable water network, firefighting network, sewerage network, storm water drainage, pump stations, electrical works, telecommunications, street & yard lighting, fencing and secondary gates.



The first 980-m integrated government berth in Omani ports completed



Duqm - Pugh :

In 2019, the Special Economic Zone Authority at Duqm (SEZAD) completed the government berth in the Port of Duqm, which is strategically situated between the drydock and the oil berth and close to the commercial berth. The berth is one of the most important security facilities in the Port of Duqm, making it ready to manage the logistic operations of a number of government bodies that undertake the largest role in providing the security services for the Port and the entire Special Economic Zone at Duqm (SEZD).

The Combined Group Contracting Company K.S.C.C., a Kuwaiti public joint-stock company listed in the Kuwait Stock Exchange, implemented the government berth.

The government berth would serve a number of government bodies, including the Oman Royal Yacht Squadron, the Sultan's Special Force, the Royal Navy of Oman, and the Coast Guard of the Royal Oman Police. It can also handle tourist operations, as it is possible to construct a passenger terminal in the future

for travellers coming through Duqm Port. The Royal Navy of Oman was the first entity to start its operations at the government berth.

Available buildings and facilities

The fourth package of Duqm Port related to the government berth infrastructure included constructing the buildings of the Oman Royal Yacht Squadron, the Sultan's Special Force, the Royal Navy of Oman, and the Coast Guard of the Royal Oman Police. It also included accommodation for employees, administrative offices, maintenance workshops for boats and equipment of ships and yachts, in addition to areas for logistics services.

The project works also included laying of electricity, water, telecommunications, sewage and firefighting networks, construction of four pumps, channels of surface water drainage, water tanks, fencing the government berth, and establishing major and security gates.

The roads implemented on the government berth were 2 km long and 7 metres wide, including main roads, internal roads, road lighting, installing traffic lights and providing parking lots for vehicles of all kinds.

Berth makes
Port of
Duqm ready
to manage
security logistic opera-

tions



accommodate passenger terminal



Captain Abdulsalam Al Rawas in an exclusive interview with 22 :

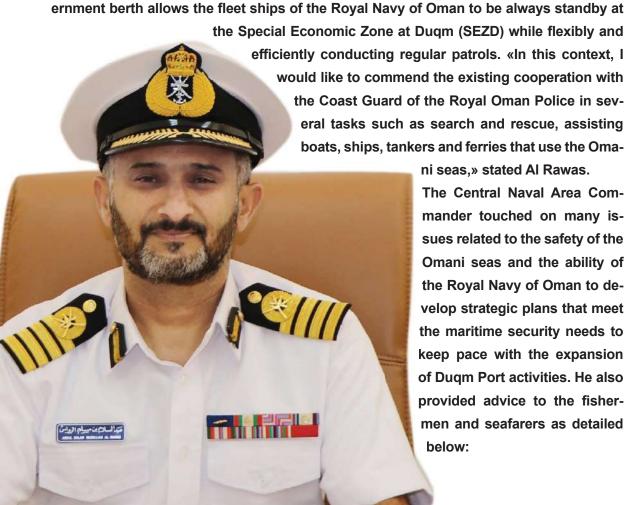
Maintaining safety and security of navigation is a top priority for the Naval Central Area Command of the Royal Navy of Oman, operating from its Unit in Duqm



Interviewed by: Mohammed Al Shezawi

Captain Abdulsalam Al Rawas, Central Naval Area Commander, Royal Navy of Oman, in Duqm, stressed that maintaining security and safety of maritime navigation is a top priority of the Naval Central Area Command of the Royal Navy of Oman, which operates from the government berth in Duqm

In a special interview with Duqm Economist Magazine, Al Rawas indicated that the government berth allows the fleet ships of the Royal Navy of Oman to be always standby at





Security and safety of maritime navigation The Government Berth in Duqm is the first of its kind in the Sultanate to serve government bodies. How can it contribute to strengthening the services provided by the Royal Navy of Oman Unit in Duqm?

There is no doubt that the government Berth with its facilities considered to be a major supporter of the Royal Navy of Oman Unit in Duqm in particular and the Royal Navy of Oman in general to operate alongside other government units on this Berth. The fleet ships of the Royal Navy of Oman are always present at this promising economic zone and cover it in a fast and flexible manner while carrying out regular patrols to maintain the security and safety of navigation in SEZD and ensure smooth logistic traffic. In this way, SEZD would be always secure and poised to achieve its primary goal to become a regional maritime transport and logistics hub, and a destination for investments in the petrochemical, manufacturing industries and fisheries sector. Then, SEZD can truly offer a broader scope for diversification and economic development in the Sultanate.

Providing assistance

What are the most prominent services provided by The Central Naval Area command / the Royal Navy of Oman Unit in Duqm in general and SEZD in particular? Does your presence on this increase the services you provide to ships near Dugm?

All services provided by government bodies are considered complementary to each other. The Unit patrols SEZD waters to ensure the security and safety of navigation therein, supports the Coast Guard Unit of the Royal Oman Police in search and rescue operations and assists boats, ships, tankers and ferries that use the Omani seas whenever the need arises. In addition, it cooperates and coordinates to address piracy operations, combat smuggling and illegal fishing, and other illegal matters that may occur in SEZD being a vital economic

Ensuring safety of Omani regional seas During the summer, the Arabian Sea open to the Indian Ocean witnesses high waves, which may necessitate the provision of urgent services for ships and stranded fishermen. Will the presence of the Unit in Duqm contribute to enhancing the services provided by the Royal Navy of Oman in the open sea?

Undoubtedly yes; the presence of the Royal Navy Unit in SEZD will contribute to providing support to all boats, ships, carriers and ferries in the open sea, whether Omani or otherwise

The Government Berth allows us to flexibly and efficiently conduct

regular patrols

Supporting ROP Coast Guard in several tasks such as search and rescue operations

Cooperation and coordination to tackle piracy and combat smuggling and illegal fishing in the SEZD

Unit is fully
prepared to
deal with all
conditions and
potential changes in the Port and
surrounding area









Preparing strategic plans to meet increasing maritime security needs



Fishermen should ensure having direct means of communication with security authorities



Providing integrated services with other government bodies to protect the Port and dry dock

due to any security or weather-related reason to ensure the safety of the Omani regional seas in the area adjacent to Duqm and its users.

Keeping pace with growth of traffic in **Dugm port**

After the full commercial operation of the Port, the traffic in SEZD will increase further. Can you brief us on your plan in this

The Unit is fully prepared to deal with all future conditions and developments in the Port of Dugm and the surrounding area in line with the increasing number of ships and cover the increased traffic in SEZD. Whenever the need arises for expansion, we will see to it by providing devices and ships that guarantee maritime safety in SEZD waters. The efforts are continuing to develop strategic plans that ensure meeting maritime security needs due to the expansion of the Port activities during the next period of operation and what SEZD generally requires.

Tips for fishermen

Wilayat of Duqm and other neighboring Wilayats have enormous fisheries. What are your messages and advices to fishermen there, especially during the summer and severe storms?

I wish all the sea goers in the area adjacent

to the Port of Duqm follow the news bulletins and climate warnings before they go to the sea. They also need to take the necessary precautions, such as making sure there are direct means of communication with the security authorities to report any risks they may encounter. Everyone should ensure their boats, ships, and equipment are seaworthy before sailing to avoid unforeseen breakdowns while at sea. Adherence to these procedures will reduce the burden on the ships of the Royal Navy of Oman and their crews because such emergency conditions force them to change their operational plans in most cases.

Securing port of Dugm port and drydock Can you give some examples of the services previously provided by the Royal Navy Unit in Duqm for ships, drydock, and Port of Dugm in general?

As I mentioned earlier, all services provided by government bodies are considered complementary to each other. They focused on securing the Port and the drydock against security threats, ensuring the safety of the anchored ships or those transiting the Omani seas as a part of SEZD security. We have also continuous coordination with all sectors operating in the Port and the Special Economic Zone Authority at Duqm (SEZAD) to ensure the smooth daily operation of SEZD.





Dr. Ayman Al Nahrawi

Lecturer and expert in transport economics, international trade and logistics,

dr.ayman.nahr@gmail.com

FOURTH INDUSTRIAL REVOLUTION (4IR) AND ITS IMPACTS ON PORTS WORLDWIDE

store and access their information from anywhere with internet access, at any time.

Virtual Reality (VR) offers immersive digital experiences that simulate the real world, while augmented reality merges the digital and physical worlds.

Biotechnology harnesses cellular and bimolecular processes to develop new technologies and products for a wider range of uses, including developing new pharmaceuticals and materials, more efficient industrial manufacturing processes, cleaner and more efficient energy sources.

Robotics refer to the design, manufacture, and use of robots for personal and commercial use; technological advances have made robots increasingly complex and sophisticated.

3D Printing allows manufacturing businesses to print their own parts, with less tooling, at a lower cost, and faster time, moreover, designs can be customised to ensure a perfect fit.

Innovative Materials including plastics, metal alloys, and biomaterials, promise to shake up sectors including manufacturing, renewable energy, construction, and healthcare.

Energy Capture, storage, and transmission represent a growing market sector, spurred by the falling cost of renewable energy technologies and improvements in battery storage capacity.⁵

Applications of the Fourth Industrial Revolution (4IR) in ports :

Smart technology is not technology itself, but technology that makes individuals and industries smarter. Smart technologies provides personalised products and services that can sensitively recognise situations occurring everywhere and respond quickly through analysis and forecasting can be classified into the following categories: Sensing, Intelligence, Mobility, Elasticity, and Integration.

Global Transportation through **fourth industrial revolution** would become more efficient, due to costs and time drop, as a result, this could 'open new markets and drive economic growth'. For a business that either works in logistics, or which relies on a smart supply chain, the impacts of this could be both rewarding and concerning.⁶

World shipping sector is experiencing a technological revolution as digital tools and solutions are delivering efficiencies, vital cost savings, lower emissions, increased visibility and tracing of cargo.⁷

After Maersk and IBM announced a collaboration to use block chain technology to transform global supply chains on March 5, 2017, tests around distributed ledger technology have been flourishing. PSA International, Pacific International Lines, and the Port of Antwerp have all carried out block chain experiments, by simple logic, smart ships would need smart ports for its full potential, from logistics management to improving cargo activities.⁸

Port Business through **fourth industrial revolution** is assumed to develop dramatically as ship agents, terminals, harbour control and coordination centre, vessel traffic managers, tug masters and pilots would join in a smart communication circle as soon as a ship is in reach. This way of circular communication speeds up the ship turnaround time as information flows circular instead of sequential.

Smart ports investments are capital intensive, but this can be justified by the long-term savings on operational costs, thanks to the increases in efficiency and productivity that tech and digital management solutions are able to facilitate.

1. Industrial Revolutions :

- First Industrial Revolution used steam power to mechanise production.
- Second Industrial Revolution used electric power to create mass production.
- Third Industrial Revolution used informatics to automate production.

Fourth Industrial Revolution (4IR): Economist Klaus Schwab argues that this revolution is characterised by a range of new technologies that are fusing the physical, digital and biological worlds, its developments are affecting all disciplines, economies, industries and governments, as it incurs velocity, scope, and systems impacts, which herald the transformation of entire systems of production, management, and governance.¹

The Fourth Industrial Revolution (4IR) refers to the current and developing environment in which disruptive technologies such as Internet of Things (IoT), robotics, virtual reality (VR) and artificial intelligence (AI) are changing the way of life and work.²

The Fourth Industrial Revolution is enabled by extraordinary technology advances. These advances are merging the physical, digital and biological worlds. The Fourth Industrial Revolution is an opportunity to look beyond technology, and find ways to give the greatest number of people the ability to positively impact their families, organisations and communities.³

It is expected that the Fourth Industrial Revolution has great impacts on global business and competition. The introduction of new technologies would disrupt existing industry value chains, from agile, innovative competitors who, thanks to access to global digital platforms for research, development, marketing, sales, and distribution, by improving the quality, speed, or price at which value is delivered.⁴

2. Technologies driving the Fourth Industrial Revolution

Artificial Intelligence (AI) describes computers that can "think" recognising complex patterns, processing information, drawing conclusions, and making recommendations.

Block Chain is a secure, decentralised, and transparent way of recording and sharing data, with no need to rely on third-party intermediaries. The digital currency Bitcoin is the best known block chain application.

Computational Technologies which make computers smarter so it can process vast amounts of data faster than ever before, while the advent of the "cloud" has allowed businesses to safely



¹ https://www.amazon.com/Fourth-Industrial-Revolution-Klaus-Schwab/dp/1524758868

² https://whatis.techtarget.com/definition/fourth-industrial-revolution

 $^{{\}tt 3} \ \underline{\tt https://www.weforum.org/focus/fourth-industrial-revolution}$

⁴_https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/

⁵ https://www.salesforce.com/blog/2018/12/what-is-the-fourth-industrial-revolution-4IR.html

⁶ https://ciltuk.org.uk/News/Latest-News/ArtMID/6887/ArticleID/13510/

How-might-the-%E2%80%98Fourth-Industrial-Revolution%E2%80%99-affect-supply-and-logistics

^{7 &}lt;a href="https://www.orange-business.com/en/blogs/smart-ships-need-smart-ports">https://www.orange-business.com/en/blogs/smart-ships-need-smart-ports

⁸ https://www.linkedin.com/pulse/turning-point-smart-ports-part-1-whats-stake-wolfgang-lehmacher

Table no. (1) Vessel Procedure and Port Work Flow	
Pre - Arrival to Port Waiting Area	Post - Arrival to Port Waiting Area
Shipping Agent sends e-data of vessel, voyage, and manifest to port community entities.	On time registration for vessel arrival to port waiting area.
Shipping Agent sends e- data of stevedoring company to port authority	IT systems provide automated berthing plan
Shipping Agent sends e- data of warehousing company to port authority	IT systems provide marine services plan
Shipping Agent sends e- data of cargo movement method to port authority	IT systems provide notifications to port community on vessel berthing info.
Shipping Agent sends e- data of cargo to GOEIC & Customs Authority	IT systems provide notifications to port community entities.
Vessel Stevedoring Port Work Flow	
Online registration of Cargo loading and discharging	Online registration for vessel operation start and finish
Online registration of storing location and warehousing	Port Authority approval for vessel departure
IT systems provide expected loading and discharging vessel time	IT System generates port authority vessel invoices
IT systems provide expected vessel departure time	IT System generates vessel voyage e- invoices for each port community party
Cargo Port Work Flow	
Cargo owner provides e-data/ documents, cargo declaration to customs & GOEIC	Land transport companies provide e- data of truck to concerned port entities
IT provides automated plan for joint cargo check	IT system provide approvals for truck entry and data on cargo location
IT system notifies joint cargo check information to concerned port entities	Online detecting for cargo weight from weigh Bridges
e-payment, cargo invoices for each concerned port community entity	IT system generates notification on cargo weigh to concerned parties
Customs & Port Community concerned entities register cargo clearance	Online registration for truck invoices payment
	Automatic final check for cargo on truck on the port exit gate for final approval
Source: The Table is prepared by the researcher (Dr. Ayman El Nahrawy)	

Smart ports can interact with external businesses with vastly increased accuracy, openness and transparency, improving relationships and efficiency. For example, ports can communicate with haulage companies via tech such as GPS and Google Maps to monitor progress of vehicles in real time.⁹

Sensors, cameras, drones and other technologies can automatically collect and share information such as weather, traffic and pollution data for port owners and customers. Optimising workflow could double capacity without having to additional space or having to invest in new infrastructure and equipment, while simultaneously reducing operation costs.¹⁰

Examples of smart ports applications:

Cyber Security: port stakeholders are generating and sharing a lot more data which come in a variety of formats. This requires standardising the various formats so the data can flow between different ports and platforms. Hence, the digitalisation processes will lead to more cyber security needs, as a global system incurring a series of interconnected networks.

Applications Based on Big Data: data analysis in conjunction with deep learning can lead us to create predictive, prescriptive systems that anticipate responses and incidents, which would particularly benefit ports, companies and institutions committed to digitalisation. Implementing this type of applications requires sharing data in a transparent, secure system.

Block chain: Block chain (associated with geographic information systems and the Internet of Things) could be applied for safe monitoring of cargo inside containers and would be particularly useful if that cargo is perishable or must be kept at specific conditions (for example, refrigerated containers).

Geographic Information Systems with Value-Added: developing systems based on geo-location could help speed up

processes and change the port dynamic: from detailed monitoring of cargo status to the option to oversee vehicles, allowing certain tasks to be automated.

Traffic Management Systems: The commitment to intermodal transport can have negative side effects for the port surroundings. Containers arriving to and leaving the terminals can increase traffic jams and, therefore, lead to less efficient transport and more pollution around the port. Gate Appointment Systems have been the response many port authorities have used to address this issue.¹¹

Ship Tracking System: when the device senses the ship moving (via accelerometer) or at certain set intervals, the device wakes up, gets a GPS fix, and then sends out its location via cellular or satellite constellation.

Container Terminal Technology: Linear Motor Conveyance System (LMCS), automated storage and retrieval systems (AR/RS), Overhead Grid Rail (GRAIL), Speed port, Super dock, Flow-Through Gate, Port net, container stack.

Container and Cargo tracking by GPS to GSM or Satellite:

Magnetic devices are fitted onto the side of the shipping container between the structural ribs. The container's location data is sent to the application provider, added to their backend system and provided to the customer.

Locking mechanisms that seal the container. These mechanisms include a tracking device, and are often added by the first party after the goods are loaded into the shipping container.

5. Examples of sea ports embracing concepts of fourth industrial revolution :

In Netherlands, Port of Rotterdam teamed up with IBM to incorporate cloud computing, artificial intelligence, (IoT) sensors and smart weather data, in an attempt to create "Smart Future Port" as the largest port in Europe. They are working on cen-

^{11 &}lt;a href="https://www.docksthefuture.eu/trends-2019-the-six-challenges-facing-smartports-according-to-cios-at-large-international-ports/">https://www.docksthefuture.eu/trends-2019-the-six-challenges-facing-smartports-according-to-cios-at-large-international-ports/



⁹ https://www.royalhaskoningdhv.com/en-gb/blog/transport/smart-ports-the-future-for-the-shipping-industry/8071

¹⁰_ «To Get Smart, Ports Go Digital». www.bcg.com. Retrieved 2019-04-29.

Port Competitiveness

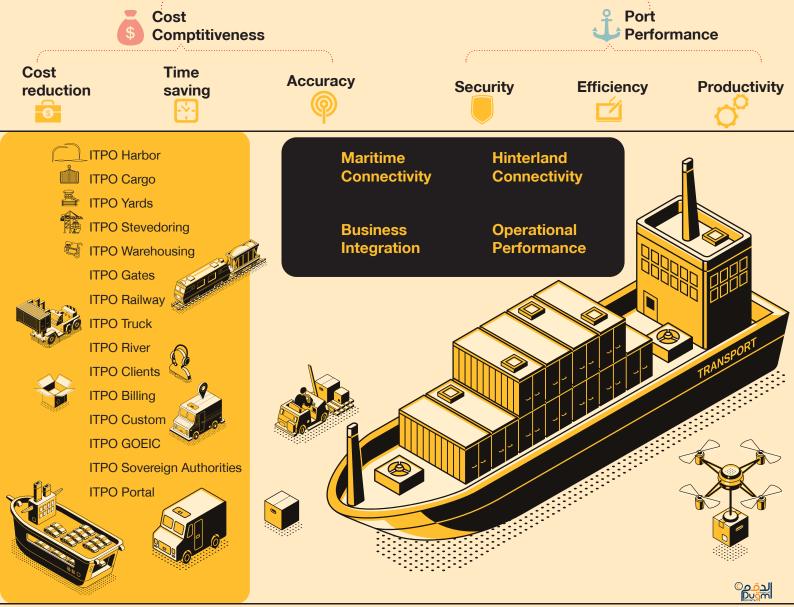


Figure no. (2): IT Impacts on Port Competitiveness

*Source : The Figure is prepared by the researcher (Dr. Ayman El Nahrawy)

tralised dashboard software to collect and process communications data and water weather sensor data, creating a safe and efficient traffic management system.¹²

In Germany, Hamburg Port Authority (HPA), their (IoT) projects involved major tech leaders SAP, producing smart port Logistics. Using SAP's HANA Cloud Platform, (HPA) can have a real-time connection with their various stakeholders including shippers; customs; terminals; trucking, rail, ocean carriers; among other port businesses. Smart Ports also boasts predictive and preventive maintenance, as well as a Port Monitor system used in vessel traffic services.¹³

In UK., DP World London Gateway is also embracing automation, as it employs 12 of the world's largest ship-to-shore cranes (STS), colossal 138m giants which can be controlled remotely as they unload four 20ft containers at a time,. This results in operational efficiency and enable the port to operate when high winds makes it dangerous for traditional cranes to operate. In addition,

the port has 60 automated stacking cranes. The cranes load and unload around 1,800 trucks a day using sensors and sophisticated cameras.¹⁴

In USA, Port of Virginia undertook the development of new container stacking technology, the Semi-Automated Rail Mounted Gantry Crane (RMG) container stacking system preplans the movement of containers, thereby minimising the number of moves required while optimising terminal space. The system increased storage density from three-high container stacks up to five containers high. This technology increased the container capacity at Norfolk International Terminals by 46% within the same footprint. 15

There are thousands of ports around the world, only 1 % of ports are currently fully automated, and only 2 % are semi-automated. One provider of automation technology expects the number of automated ports to grow to 100 by 2020.16



¹² https://www.boldbusiness.com/digital/fourth-industrial-revolution-impacting-ports-future/

^{13&}lt;u>Ibid.</u>

¹⁴ https://www.raconteur.net/finance/technology-digital-port

¹⁵ https://www.mhlnews.com/global-supply-chain/article/22055299/ocean-ports-lead-the-way-in-logistics-technology-advancements

⁶ https://www.itfglobal.org/en/focus/automation/technology-in-ports

Omani engineers prove their competency in Port of Duqm projects

We stay late and proud of what we do



Dugm - Mohammed Al Shezawi:

At the Port of Duqm, we met with three Omani engineers whose main task was to supervise the implementation of the Port projects. They follow up on work progress first-hand. They attend to their work locations at early morning, meet with contractors and consultants, discuss the steps to implement the project, and find ways to overcome the challenges or problems that hinder implementation. In the afternoon, they review the lists of materials and products needed by the projects they supervise to ensure the materials used in port of Duqm projects are of international standards. In the evening, they prepare reports on the progress of the projects and accomplishments of that day.

«These actions enable us to know everything about the project and to develop solutions to any problems or challenges,» they stated. «Although we do not leave the Port of Duqm until late night, we are proud of what we are doing and look to the future with great optimism priding in the fact that we are part of building Duqm story. We have made our mark on one of the most important infrastructure projects in Duqm, a project that may not recur,» added the Omani engineers.

Reducing costs

During the interview, the three engineers revealed their role in reducing the costs of the projects they supervised. «We can control the costs of all projects, whether in Duqm or elsewhere, by studying the materials used in them and canceling unnecessary works. Studying the materials used in the projects and searching for the best specifications in more than one country enable supervisors to get better prices, which we have sought. We have also been keen to prioritise local products.»



Daily follow-up of progress

Hussam Al Makdami, a Civil Engineer working for the Oman Company for the Development of the Special Economic Zone at Duqm (Tatweer Duqm) is assigned to follow up on the Port second package project. «Our primary task is to follow up the daily work on the project site with the contractor on one hand and with the consultant on the other hand, discuss any challenges facing the project, and then report to the officials of the Special Economic Zone Authority at Duqm (SEZAD) and Tatweer Duqm,» said Eng. Hussam.

professional experience



Mohammed Al Tamimi:
Working on projects of this size
gives us a rich experience

«During our work, we make sure that the contractor applies the design provided by the consultant in accordance with the Omani and international specifications stipulated in the project agreements,» added Al Makdami.

Hussam Al Makdami started his work at SEZAD in 2017. Before that, he held a number of engineering jobs in some contracting companies in the oil concession areas, and worked in one of the engineering consultancy companies. «During these years, I gained a good experience in the field of project supervision, but my work in the Port of Duqm is a new path in my career that adds a lot to my experience».

Gaining new experiences

In another location, the project of the seventh package for the oil berth, Mohammed Al Tamimi indicated that working on projects of this size provided them with a lot of experience. «For this, we are keen to know the various aspects related to it, study all the information mentioned in the agreements and specifications of the project and the materials used in it, exchange knowledge and experiences, and discuss together various aspects of work in the projects which we supervise.»

In his work, Muhammad Al Tamimi moves between the



Moayyed Al Amri: Omanis are competent to manage various projects

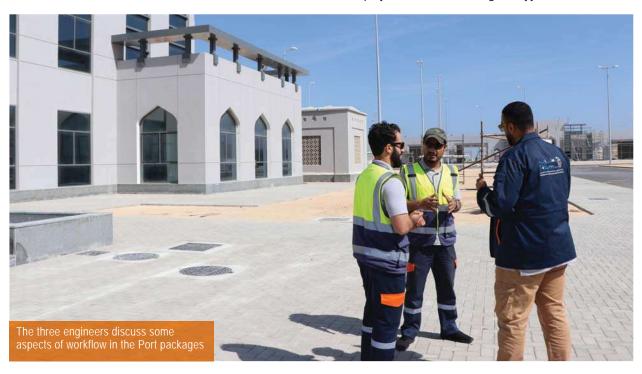
third and seventh packages to supervise them. «Along with my colleagues from the engineers working for SEZAD and Tatweer Duqm, I have made work visits to Sohar and Salalah Ports to take first-hand experiences and exchange knowledge,» added Al Tamimi

Omanis have proven their competency

In his evaluation of the scene, Moayyed bin Abdullah Al Amri, Project Manager for the third package, believes that the Omani engineers have proven their competency in managing the implementation of mega projects, such as

Port of Duqm and have gained good experience that qualifies them to manage larger projects in the future in the Sultanate or abroad. «We spare no effort to get the work done on time and tackle challenges quickly,» asserted Al Amri

Moayyed had previously worked as the manager of the Port's fourth package project, i.e. the government berth, completed last year. «Omani talents are able to manage various projects. I would like to thank and appreciate SEZAD and Tatweer Duqm for their confidence in the Omani youth and qualifying them to undertake greater roles in managing SEZD projects,» concluded Eng. Moayyed Al Amri.





Berth meets the needs of Duqm Refinery and future petrochemical projects

الحق : Dugm - الحقيم :

The oil berth at the Port of Duqm is regarded one of the mega projects that will change the Duqm investment map to be an export city for oil derivatives. The berth was developed in two phases; one was completed in 2019 and the second one in Q2 of 2020.

The preliminary plan was to create a part of the oil berth, or the so-called liquid and bulk materials berth, to be the export arm of the oil derivatives produced by the Duqm Refinery. However, the increased demand for Duqm by international oil companies pushed the Special Economic Zone Authority at Duqm (SEZAD) to develop the entire berth to accommodate the requests of a number of international oil companies preparing to come to Duqm to write a new success story that starts from this city, which the world is increasingly interested in.

Signing the construction agreement

The beginning was in 2017 when SEZAD signed with the Boskalis Westminster Company (Oman) Ltd. an agreement to construct a liquid and bulk berth at a cost of OMR 199.1 million. The agreement stipulated that Boskalis Westminster Company (Oman) Ltd. would

undertake detailed engineering design, construction of marine infrastructure, drilling and backfilling while Worley Parsons Engineering Company supervise the engineering and construction works for the project managed by a unified team that included specialists from SEZAD, Worley Parsons Company, Tatweer Company and the Duqm Refinery Company.

Under this agreement, which is the first stage of the oil berth, 79 hectares of area adjacent to the secondary breakwater of 4.6 km were developed to construct the liquid and bulk materials berth, and the double berth anchorage was constructed with attachments and marine navigation tools. Also, about 26 million cubic metres of materials were drilled for the work of deepening the basin to 18 metres and the Port channel that leads to the berth to reach 19 metres. About 5 million cubic metres of these materials were used to reclaim and fill the site designated for the berth. According to this agreement, a wall of the berth of one kilometer was installed along with the buoys and navigational aids.

Business Increase

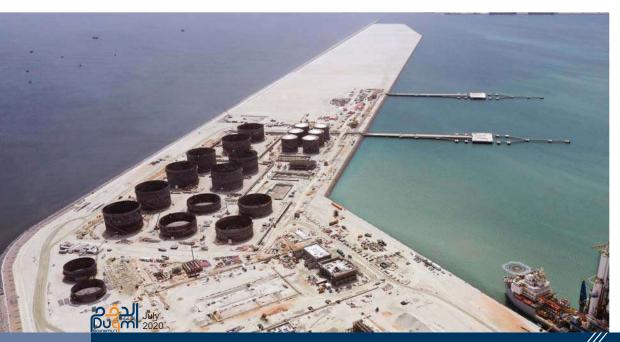
Prior to the completion of this project in 2019, and in light of the increasing number



of requests from international oil companies to invest in Duqm in the oil industry sector, SEZAD decided to implement a second phase to increase the berth reclamation operations to 55 hectares of area adjacent to the secondary breakwater. This would make the berth ready for the

business of the new companies.

During 2019, the first phase was delivered to Duqm Refinery Company, where tanks, buildings and services related to the export of oil derivatives are currently being implemented and constructed within the third package of the Duqm Refinery project.



Development and reclamation of 134 hectares of area adjacent to the secondary breakwater

Duqm Refinery establishes a terminal for petroleum products storage and export via Port of Duqm



\$529.3 million for terminal and \$249.9 million for storage facilities at Ras Markaz



Pipeline of 80.7 km to transport crude oil from Ras Markaz to the Refinery

Duqm - pugm :

The construction works in the oil berth at the Port of Duqm is witnessing a continuous development. In the same location, the Saipem International Company is establishing a terminal for the storage and export of liquid and bulk petroleum products within the third package of Duqm Refinery concerned with external facilities.

The third package of Duqm Refinery includes three sub-packages:

- Sub-package (A): construction of a liquid and bulk material export terminal on the oil berth
- Sub-package (B): placing of 80.7 km crude oil pipeline from Ras Markaz to Duqm Refinery
- Sub-package (C): construction of the Refinery's crude oil storage facilities in Ras Markaz

According to a report obtained by Duqm Economist, the percentage of achievement in sub-package (A) reached 64.33% as of end of May while in sub-package (B), it is 82.03% and the sub-package (C) achieved completion of 66.12%. The completion of Sub-package (A) is scheduled to be completed in the fourth quarter of 2021 and sub-package (C) in the second quarter of next year.

The report indicated that the total achievement rate in this mega project amounted to 68.68% until last June. The total cost of the third package of the Duqm Refinery is \$882.9 million, of which about \$529.3 million for sub-package (A), \$103.7 million for sub-package (B), and about \$249.9 million for sub-package (C).

Petroleum products storage and export terminal

According to the contract signed between the

Duqm Refinery and Petrochemicals Company and Saipem International Company, the latter would establish a terminal to store and export the final oil products. and Duqm Refinery will export the petroleum products through oil tankers. The terminal includes all the facilities and systems necessary to operate independently, i.e. without relying on the facilities and services of the Refinery, as the products will be transported from storage tanks to ships through automated marine loading arms with a maximum loading rate of 7500 cubic metres per hour. This would reduce the risk of human errors.

As for liquefied petroleum gas and high sulfur fuel oil, they will be loaded directly onto ships from the Refinery via a pipeline.

Dry bulk products, oil coke and sulfur will be transported from the Refinery to the terminal by trucks operating six days a week and eight hours a day and stored in a covered area inside the terminal.

Eighteen tanks in Port of Duqm

The plan is to erect 18 tanks on the oil berth in the Port of Duqm within the storage and export terminal for petroleum products, including 8 tanks for naphtha, one of the oil products produced by the Duqm Refinery and used in the production of gasoline and chemical industries, 6 tanks for diesel, and 4 tanks for jet fuel.

The construction works on the oil berth within this package also include the construction of

pumps for the products that will be stored in the tanks, namely naphtha, jet fuel and diesel, along with loading arms for these products and hose towers.

The construction works also include building firefighting water tanks and pumps, wastewater treatment system, flare system and package, oil and sulfur coke storage and handling system, and management and control buildings and sub-terminals.

Crude oil pipeline from Ras Markaz to Dugm

Sub-package (B) consists of a crude oil pipeline from Ras Markaz to the Refinery with a length of 80.7 km, the dispatch and reception terminal, and stop valves terminal.

Crude storage facilities at Ras Markaz

The crude oil storage facilities constructed at Ras Markaz consist of two groups of tanks served by a common set of pipelines. Each group of tanks contains four crude oil tanks connected to the ground pipelines by two sets of storage heads. Each group will also be provided with a number of export pumps to facilitate the pumping of crude oil from the terminal to the Duqm Refinery. The maximum total storage capacity will be 5 million barrels of crude oil. The design of the entire Ras Markaz facility enables it to handle the loading and unloading of crude oil.

Terminal has all facilities and systems to operate independently of Refinery



Terminal includes a covered area for storing dry bulk products, oil coke and

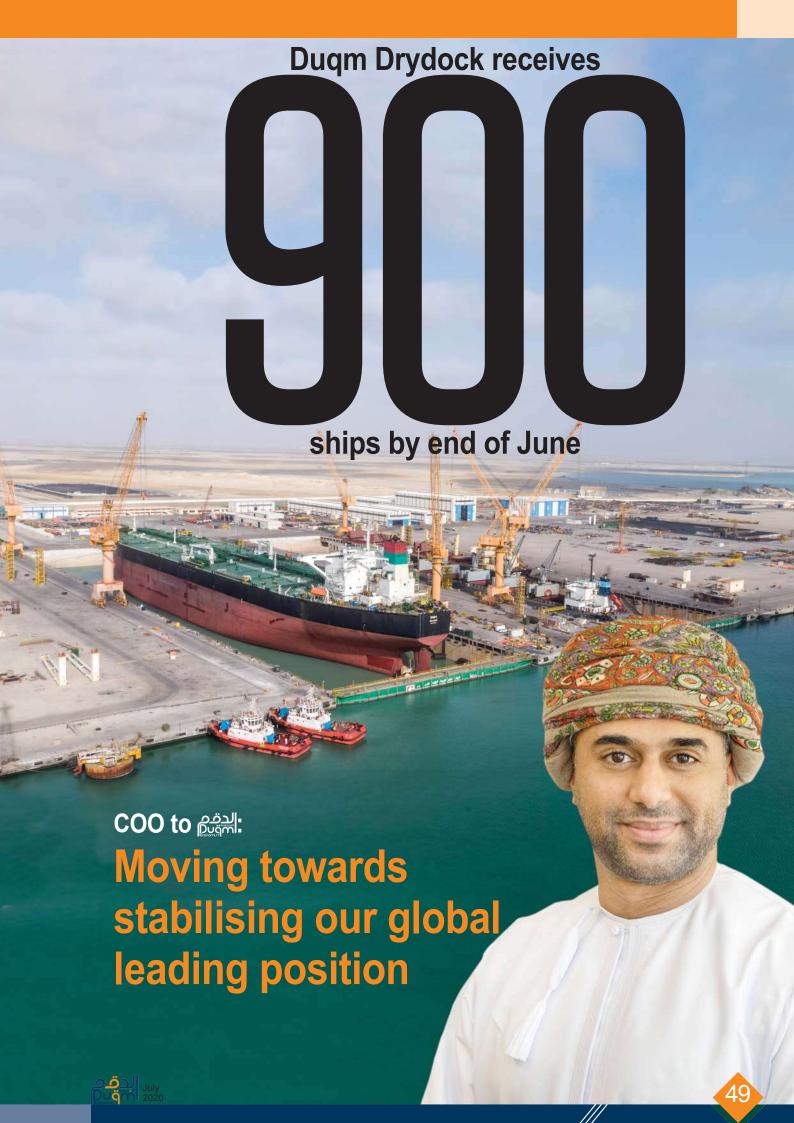


Completion of service corridor between Duqm Refinery and liquid and bulk materials berth











الحقوم - Duqm - الحقوم :

Customers' satisfaction rate is in-creasing

We deal with more than 35 countries around the world Haitham bin Nasser Al Taie, Chief Operating Officer (COO) of Oman Drydock Company (ODC), stressed that ODC is moving forward at an accelerated pace towards strengthening its global position as an international ship repair company. «The customers' satisfaction rate is increasing. This has boosted the company's position as more than 35 countries have utilised our services so far,» Al Taie stated.

In an exclusive interview with Duqm Economist, Al Taie continued that by end of the first half of this year, ODC has received 900 ships of different sizes and types since starting operations in 2011. Having received 130 ships in 2018 and 156 ships in 2019, ODC target is to receive 200 ships annually by 2021 and onwards as 50 ships were being received during the first half of this year. The company has recently received ships from Greece, India, and the Arabian Gulf. «This Success added to the efforts exerted by the Senior Management Team together with the Marketing Team to gain the trust and attract customers to boost the company's success records,» He affirmed.





Various successes

In his speech, Haitham Al Taie highlighted many successes of the company in the first half of this year, explaining that ODC has maintained more than six ships that broke down in the middle of the sea and steel parts ranging between 250 to 400 tonnes were being replaced. «We have also replaced the front part of three ships and installed unit scrubber and BWTS for reputed ship owners, such as Oman Shipping Company, MSC, Dynacom, Maersk and others, the COO of ODC elaborated.

Business diversification

Al Taie indicated that, the company is currently heading to diversify its business as it currently focuses on merchant ships repairs, steel structure works for offshore and onshore in the field of oil and gas, as well as maintenance of military ships. Since most of our customers are from European countries, the company's plan now is to attract more customers from the Middle East, especially the GCC region, Al Taie noted.

Supporting facilities

He pointed out that the company has many capabilities, which help achieving its goals. In addition to the two dry docks, it owns other supporting facilities and berths that enable anchoring of ships, which do not need anchoring on land. «Through these docks, the company can provide external repair and maintenance services to more than 20 ships at the same time of various types and sizes, including merchant and tourist ships, container ships, and oil tankers,» Al Taie added.

Procurement of spare parts

Regarding the company's capabilities in the field of procuring the spare parts required for the ship repair, Al Taie said: «The company has sufficient quantities of these parts available in its warehouses ready for use on demand. ODC also used to procure other parts from local and overseas companies on demand and as per the applicable procurement criteria.»

Omanisation and qualifying Omanis

The Chief Operating Officer highlighted the company's efforts in the field of Omanisation and qualifying Omani nationals. «The company continuously observe increasing of Omanisation percentage and qualifying Omanis at all administrative levels, especially in leadership, supervisory, and administrative levels, as well as technical jobs in Production Department. In April 2020, we launched distance e-learning via LinkedIn platform for 300 employees to enhance their skills and capabilities. The percentage of Omanisation in leadership and supervisory positions exceeds 70% while it is 55% and 12% in the technical and labour positions respectively.»

In-Country Value (ICV)

The Chief Operating Officer confirmed that the company is very keen to award several contracts to local companies. «More than 50 local companies have obtained contracts directly from ODC in 2019, and 8 companies obtained various contracts in the first quarter of this year in addition to announcing 30 business opportunities in 2020 to support Small and Medium Enterprises (SMEs),» Al Taie stated.

He urged SMEs to take advantage of the business opportunities announced by ODC from time to time. «SMEs have recently provided many services to ODC such as insurance services, supply of stationary, environmental services, supply of gases, safety equipment, security, and firefighting equipment, personal protective equipment (PPE), logistics and transportation, as well as IT services such as camera maintenance, printingetc.

Supporting SMEs contributes to developing these companies and their human resources, enhancing productivity, localising services, developing the capabilities of the local market, increasing local manufacturing opportunities, enhancing the purchasing power of the national product and associated services, and many other benefits,» Al Taie concluded.





Repairing vessels that broke down in the middle of the sea and replacement of steel parts amounting to 400 tonnes



Ability of our dry docks to receive more than 20 ships at the same time for repair services



Signing more than 50 contracts with local companies last year



Misbah Qutb An Egyptian writer specialised in economic affairs mesbahkotb@gmail.com



Right Redress ... Critical Juncture

It is time now to acknowledge the planners, implementers, and operators of Duqm Port, being the crown jewel in the Special Economic Zone at Duqm (SEZD). It is a favourable moment not because it is already close to commercial operation, or has started, or because the current conditions have provided it with an unforeseeable momentum.

Most writings on the Duqm Port for years have had two prominent features stemming from good faith in the majority of cases, and bad faith sometimes. The first is the persistent focus on the so-called «geographical coincidence» or «geographical luck» in terms of the unique location, which has imparted such a significance to the Port thus implying a subsidiary role of humans, aspirations, policies, and procedures. The second is the claim that the Port will pull the rug out from this or that location, as if its construction was for political purposes or that it has relied on them for its success, thus issuing the death certificate for the law of «letting a hundred flowers bloom» here and here only! In the meantime, the fair view of the intentional effort exerted to establish and sponsor this giant project to be successful and forward-looking to its finest detail and has the required resilience to face any fluctuations.

The first argument in the face of those who underestimate human achievement is that the Port is part of a general context that testifies to the Omani Government's ability to develop a sober, stimulating, and clear business and investment environment that has led the Sultanate to a distinguished position in this field. Add to this its high ranking in all international reports on transparency, integrity, innovation, and competitiveness. In other words, the Port is not a single plant that grew up in an empty land. Moreover, the smooth transition of power after the demise of the late His Majesty Sultan Qaboos has shown the complete match between the political and economic minds in the country, which have established the Renaissance over the past decades, belong to the same school. They have the same basic features: farsightedness, integration of visions, and the in-depth approach of state and community development.

The Port is also a translation of these two. However, the Coronavirus storm blew with all its negative repercussions on all economic and social activities in the whole world, especially the transportation, aviation, and tourism sec-

tors, as well as oil prices in their interactions with refinery and petrochemical investments, the critical sectors for the economic diversification plans and continued progress in the resource-constrained Oman. However, the work plans of the Port (and SEZD in general) have continued despite the double efforts required in terms of both health precautions and technical capabilities.

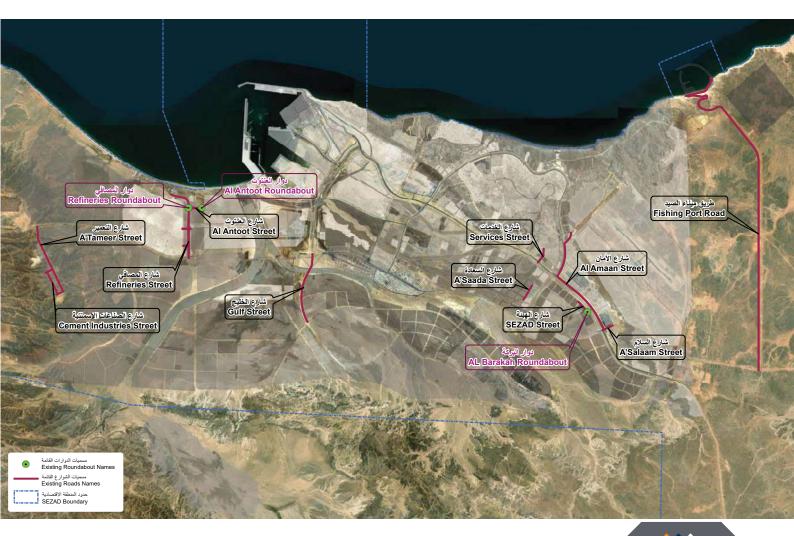
Since the beginning of the COVID-19 crisis, Gulf, Arab, and international reports have indicated various difficulties in the trade movement and the challenges facing ports, ship owners, shippers, exporters, importers, crews, and unloading labour, and reception, warehousing, and clearance areas, etc. The law firms that have outstanding experience in the field of enforcing contracts at a time of force majeure, such as COVID-19, have seen an unprecedented increase in their business. Amid all of that, there was no negative reference to Duqm Port despite its significant commissioning activity and the huge contracts concluded to implement all its requirements. It seems that the destiny of the Port was that its commissioning would coincide with the Coronavirus to test its resilience and complete its readiness taking advantage of its own evolvement and important lessons for the crisis free of charge.

Certainly, the Port, and all ports in the region and the world, is facing a rather foggy situation to come. No one can ever guess the spread map of the new post-Coronavirus supply chain after everyone, companies and countries, has discovered the high risks of concentration in the supply operations in the past three decades. Add to this the repercussions of the geopolitical and security risks during the disintegration and reconstruction of the international and regional systems on trade and other sectors. However, designing a mix of activities and alliances, a calculated focus of the business, and sophisticated interaction with the various axes of movement, both current and future, grant the Duqm Port opportunities and buffers many other ports lack.

Finally, I firmly believe that boosting coordination and exchange of experiences and deepening integration between the ports of the region, including Duqm of course, and the ports of the Arab world, through the Union of Arab Ports, and maritime transport academies and other means remain vital for achieving sustainable benefits for all and minimising risks.



Approving second phase of road signage in the Special Economic Zone at Duqm



Duqm - وينظما :

His Excellency Yahya bin Said bin Abdullah Al Jabri, Chairman of the Special Economic Zone Authority at Duqm, approved the second phase of road signage project in the Special Economic Zone at Duqm (SEZD), which included a list of names for roads and roundabouts. This second phase of signage introduced 11 new names for the roads and another 3 new names for the roundabouts.

Commenting on this project, Eng. Saleh bin Rashid AI Hashmi, General Manager of Engineering and Urban Planning Sector at SEZAD, said that selecting the names in SEZD was based on different criteria, most notably the old local and historical names. Other names were selected to keep pace with details of SEZD masterplan, taking into account the economic activities available in the Zone, influential historical celebrities and events, promoting Omani identity and connecting the past with the present.

"We are currently working on preparing a tender that will be floated before end of 2020 for installation and design of road signboards, which will be placed in different designated locations", remarked Al Hashmi.

Al Hashmi stated, "SEZAD formed a team representing the different departments that proposed the various options of names for the roads. Another team from the Geographic Information Systems (GIS) Department at SEZAD has been reviewing those options and other aspects of the project. The new names used in the signage will be even more in the future to meet the upcoming developments taking place in the Zone. Moreover, these names will be incorporated in the global mapping system and included in all marketing publications and brochures of SEZAD".

It is worth mentioning that the first phase of signage for the neighbourhoods, roads and roundabouts in the Special Economic Zone at Duqm brought 55 names covering 24 names for neighbourhoods, 18 names for roads, and 13 names for roundabouts.

New names are incorporated in the global mapping system



First phase included 55 names for neighbour-hoods, roads, and round-abouts



Dugm Refinery stands at 63% completion and opening by end of 2022

General Manager of Duqm Refinery Project:

Engineering works progressing well in all packages





the installation of LPG tanks and hydrogen reactors and diesel processing units

Duqm - كَيْكِمْ :

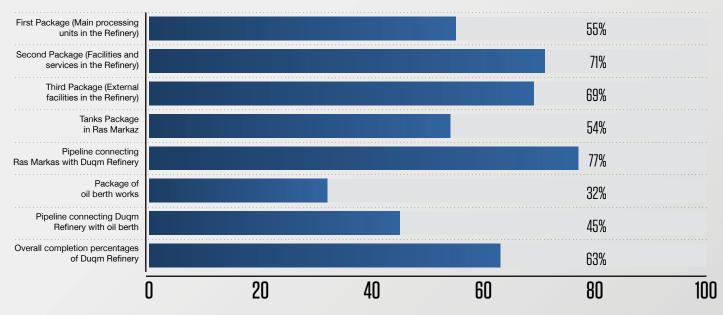
Duqm Refinery is one of the strategic projects of Oman Oil and Orpic Group (OQ) and comes as a partnership with Kuwait Petroleum International (KPI). The project aims to promote the refineries and petrochemicals sector in the Sultanate and Kuwait and support the

economy of both countries. Upon completion by end of 2022, Duqm Refinery will contribute to increasing the refining capacity in the Sultanate to half a million barrel per day.

Eng. Yousuf bin Mohammed Al Jahdhami, General Manager of Duqm Refinery Project, confirmed that the total completion percentage in the project reached 63% by end of June, explaining that the engineering works recorded

Works are completed on hydrocarbon crushing units and crude oil distillation columns





Overall completion percentages of Duqm Refinery development project

الدقو© Dugml

a remarkable progress with 97% completion, while the constructions on site achieved 44%.

Heavy equipment installation

During the interview with Duqm Economist Magazine, Eng. Yousuf Al Jahdhami pointed out: "This significant project is progressing at an accelerated pace as we have already completed the installation of heavy equipment such as the tanks of Liquefied Petroleum Gas (LPG), hydrogen reactors and diesel processing units, hydrocarbon crushing units, crude oil distillation columns and Coke tanks. In addition, other major works are continuing to include the installation of steel trusses, mechanical equipment and ready-mixed concrete".

Connecting Refinery with storage station

He emphasised that Ras Markaz, located about 80 km from the Duqm Refinery, marks an important component of the project where the crude oil will be stored in giant tanks that are currently being built and will be connected to the Refinery afterward. "The construction works in the tanks-building package at Ras Markaz is going well with 54% of works are completed, while the construction works for the pipeline connecting Ras Markaz with Duqm Refinery are 77% completed" Al Jahdhami explained.

Work progress in the export terminal

Eng. Al Jahdhami touched on the Refinery's export terminal project for exporting oil products, which is located in the oil berth at the Port of Duqm. He noted that this project will contribute to facilitating the export of the Refinery's final products to the regional and international markets. "Around 32% of the construction works in the project are complete, while the construction works of the pipelines connecting Duqm Refinery to the oil products export terminal reached 45%", he added.

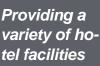
Duqm Refinery increases
Sultanate's
refining capacity to half
a million barel per day



Constructing giant tanks in Ras Markaz for pumping crude oil to the Refinery

Omran Group confirms interest to contribute in developing hospitality in Duqm





tel facilities and services for visitors and business people



Striving to make our customers visiting **Dugm for** business or tourism happy

Interviewed by: Saleh Al Mamari

Omran Group, Oman Tourism Development Company, confirmed its interest to join forces with the Special Economic Zone Authority at Dugm in developing the hospitality sector in the Zone. The Company has invested during the past years in developing the City Hotel, which was opened in 2012 and Crowne Plaza Hotel, which was opened in 2014 to provide a variety of hotel services that attract tourists and business people alike.

Hafidh bin Mahfoudh Al Hadrami, Asset Manager at Oman Tourism Development Company "Omran", said: "The tourism sector is one of the main sectors that support the economic diversification plans. In this regard, efforts are all aligned between the various concerned entities to achieve the objectives of Oman Vision 2040 and the national tourism strategy".

'Omran, the executive arm of the Sultanate for tourism development, has taken the responsibility of developing tourism sector reflecting in the line with the Government's efforts to attract investments to this promising destination. Hence, it developed a number of hospitality projects including Crowne Plaza and City Hotels, positively reflecting the plans for the Zone" he added.

He pointed out that the hospitality assets of Omran Group contributed to meeting the needs of the Zone by providing a variety of hotel facilities and services for visitors and business people such as restaurants, meeting and business facilities, as well as recreational facilities and other tourism services.

City Hotel

City Hotel in Dugm is one of the hotels that drew attention during the past two years for



Hafidh Al Hadrami: Developing City and Crowne Plaza Hotels keeps pace with the growth and increase of projects in SEZD

achieving high occupancy rates. Vijay HAN-DA, General Manager of the Hotel, said that the hospitality sector in Dugm is keeping pace with the rapid growth witnessed in the Zone, praising the facilities provided by the Special Economic Zone Authority at Dugm to promote the hospitality sector in the Zone.

"SEZAD has been keen to provide all the facilities, and since we started operations the hotel in Duqm, we have witnessed SEZAD's great efforts to overcome all the challenges and difficulties we face", commented Vijay.

Best hotel in occupancy rate

Vijay Handa confirmed that City Hotel in Dugm is the best in the Sultanate in terms of the occupancy rate achieved over the past three years. «Our company gets a wonderful



Increasing the green area and reforestation in the hotel's outdoor arenas and gardening in some corners

return from City Hotel in Duqm since opening its doors in 2012. Despite the circumstances that the world is going through, we have not raised prices though reservations are unavailable due to the great demand. We strive to make our customers visiting Duqm for business or tourism happy.»

He remarked that the hotel has qualitative advantages due to its location in Duqm and its proximity to the city centre in addition to the good services it provides to visitors and guests as well as the simple, comfortable, and traditional design. City Hotel in Duqm includes about 120 rooms in addition to the various service facilities.

Development of City Hotel

On business development plans, Vijay indicated, «We are developing some facilities in the hotel due to the increasing and continuous demand over the past 3 years. We are currently increasing the green area and reforestation in the hotel's outdoor arenas in addition to gardening in some corners, entrance and the garden. Earlier, we added a pool to mediate the hotel as a good option for the guests. We also reopened the tourist restaurant at the hotel entrance, and we will continue enhancing the hotels' facilities and services, striving to thrive the customers' experience".

SEZD'S touristic features

On the situation of the hospitality sector in the Sultanate through his experience, Vi-

Vijay Handa:
City Hotel best in Oman in occupancy-wise since 3 years

jay Handa indicated that Duqm is currently witnessing a remarkable growth due to the increase of projects. Likewise, the Zone has wonderful natural characteristics, especially the mild climate during the summer, the attractive marine life as well as the warm hospitality of Omani people. All these factors constitute a successful equation in favour of this growth, which will contribute to the continuous development in tourism sector and increase in the number of projects, hotels and service facilities in the Zone.

Climate, history, nature and heritage are unique characteristics of the Sultanate, competing other countries worldwide





Mohammed bin Ahmed Al Shezawi



Hence, from now on, Yagoub Al Junaibi will not travel to other markets to supply his small shop in Dugm; rather all the goods will come to him directly from the different ports around the world through a port next-door that has been built to make his dream and the ones of the coming generations come true

mohammed.alshezawi@duqm.gov.or

Port of Duqm, a story of challenge and success

First scene

I recall the old days in mid-2008 when the primary works started at the Port of Duqm. At that time, I was investigating the dreams of the locals in Duqm, who are witnessing the progress of the Port. Yaqoub Al Junaibi, a shopkeeper expressed his expectation of the facelift, which Duqm will witness post completing the Port of Duqm. He was having a major issue, which is lacking the supply of foodstuff to his shop from the concerned suppliers.

Thus, he would go to different markets in Muttrah, Seeb, Mawaleh and Sinaw to buy the supplies for his store in Duqm. In other meetings, the locals shared their dreams wishing to have hotels and branches of banks in Duqm as there was not a single bank at that time.

A second scene

In the same year, as I was standing opposite the main breakwater, the project manager told me that the Port of Duqm would not just be a normal port with services limited to the dry dock and simple business activities, but it will be a multi-purpose port. Thanks to the Royal Directives of the late Sultan Qaboos bin Said for expanding the Port, increasing the length of the breakwaters and the depth of the Port, establishing the commercial berth with an 18-metre depth, a berth for liquid materials and a government berth, in addition to the big storage yards.

A third scene

In the third quarter of 2010, the first ship «Zhen Hua» docked at the Port of Duqm, carrying the cranes for the dry dock. The ship took around three and a half hours to clear the cargo for the Port was not fully equipped for commercial operations at that time. However, part of the Port was prepared to receive the ship, where the government bodies, Port of Duqm and the contractors could manage to overcome all the challenges.

Fourth scene

Over the past years, from the first building blocks of the Port until this moment, there are many devoted people, who rolled over their sleeves to make this dream come true. Building the Port of Duqm, overlooking the oceanfront has never been an easy project; it came across different challenges, but the teams, who worked on establishing this giant project, have left no stone unturned to bring it up.

The Port of Duqm stands today as a huge economic landmark attracting the attention of the whole world. Likewise, it is anticipated that the Port will dramatically change the scenario of trade in the Indian Ocean. Hence, from now on, Yaqoub Al Junaibi will not travel to other markets to supply his small shop in Duqm; rather all the goods will come to him directly from the different ports around the world through a port next-door that has been built to make his dream and the ones of the coming generations come true.

