

BRI in Oman as an example:

The Synergy of Infrastructure, Digitisation and SEZs

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I. Overview

While many analysts, observers, agencies and governments seem focused on plotting "Belt and Road Initiative" (BRI) projects as dots on a map, this paper will not only demonstrate the various components in the title, but also explore the inter-connectivity of each, both within a country (Oman) and extending into a region(the Middle East). There are now over 130 countries which have signed the BRI MoU with China, Oman's case shows that it has implemented and utilized all 3 components of infrastructure, digital and SEZs, and now all 3 components are becoming fully functional, which may represent the path and characteristics in BRI's future development.

Oman is located in the transportation hub of South Asia, West Asia, and East Africa along the Arabian Sea and the Red Sea, an important place for economic and trade shipping between Europe and Asia. It also stands at the intersection of the Silk Road on land and Maritime Silk Road. After China's "Belt and Road Initiative" was put forward, the Omani government and many sectors of the business community responded positively. Over the past 40 years since the establishment of diplomatic relations between China and Oman, The two sides have achieved fruitful results in the political, economic and cultural fields, laying a solid foundation for BRI cooperation. On May 25, 2018, China and Oman celebrated the 40th anniversary of the establishment of diplomatic relations. The cooperation between China and Oman is the contemporary embodiment of the historical inheritance of the ancient Maritime Silk Road.

The "Belt and Road Initiative" meets the fundamental needs of Oman's economic development. Oman's economy used to be heavily dependent on resource-based industries such as oil. In order to achieve the goal of economic diversification, the Government of Oman formulated plans such as *Oman Vision 2040* in 2016, aimed at enhancing the contribution of agriculture, modern industry, tourism, fisheries and mining to GDP and promoting the construction of airports, seaports and industrial parks. China has technical advantage in all these industrial sectors, and China can provide important technical support, labour training and management experience for Oman.

Economic development is conducive to promoting regional cooperation and harmonious coexistence among the ethnic groups. The geopolitical situation and tension affects investment. Oman is neighboring with Saudi Arabia and Iran, the competing rivals in the Gulf region. Oman shares with Iran the Strait of Hormuz, one of the oil transportation routes. Oman is in an important strategic location and faces more geopolitical risks at the same time. U.S. sanctions against Iran, internal conflicts between Saudi Arabia and Iran, and the domestic conflicts in its neighbour Yemen have created a lot of instability for Oman since 2015. Focusing on economic development will be conducive to get rid of the lasting conflicts. The cooperation between China and Oman has just provided important reference value for the promotion of China's "Belt and Road Initiative" in the Middle East.

II. Chinese Involvement in Oman Infrastructure Construction

Boosting Omani National Infrastructure

In 2011, Oman announced that it was planning to spend some US\$14.8 billion on infrastructure in the coming years (World Highways). The figure, roughly 50% of the 8th Five-Year Development Plan for 2011-2015, was earmarked for roads, ports and airports with the objective to link the three modes of transport to improve connectivity. In the last few years, the logistics sector has become a key driver of the Omani economy by making a critical contribution to the GDP and creating more employment opportunities. In 2017, the logistics sector introduced 16 initiatives and projects. Oman's logistics sector is being positioned to be the biggest contributor to GDP after petrochemical industries. According to the government, by 2020, the logistics sector is expected to increase its contribution to the country's GDP to OMR 2 billion, the number of jobs will also increase from 67,469 in 2016 to 100,000, and investment will increase by at least OMR 1 billion.

The following sets out the components and developments to date (from 2011) on Oman's major infrastructure projects in ports, railway and water desalination to date and the components in which China has played a role either directly or through an indirect investment (IT will be addressed in section III).

Sohar Port- Container Terminal/1st Company to Enter

March 2013

CHEC (China Harbour Engineering Company Ltd.) won the bid for Oman International Container Terminal "C" Project, with a contract amount of over \$ 30 million and a construction period of 15 months. The main work content of this project is to build quay wall of about 1000m-long and 29-hectare port facilities, including clearance of site, earthwork and foundation treatment, transtainer track beam, track and accessories, pavement, refrigerated container rack, high-voltage and low-voltage electricity and lighting, gate sentry, customs inspection and other subsidiary facilities, such as fire-fighting facilities, water supply facilities, drainage facilities, communication facilities and rails.

May 2013

A groundbreaking ceremony took place at the Port of Sohar on 19th May to mark the start of construction of a new \$130m container terminal. The port, which is operated by Oman International Container Terminals, is planned to increase capacity by 87.5% to 1.5m TEUs (twenty-foot equivalent units) from its current level of 800,000 TEUs when work completes towards the end of the year. The work is being carried out by China Harbour Construction Co. The new terminal will give a total quay length of 1km and a 68-hectare container yard. It will also be fitted with three new post-Panamax quay cranes, alongside the port's existing four quay cranes. The work is the first of a multi-phase project which will include the development of a further terminal by 2018, growing capacity to 2.5 TEUs.

National Railway Projects

May 2016

The Ministry of Transport and Communications announced that it has suspended but not cancelled the project as other Gulf countries have decided to stop work on the project. Oman Rail had previously prequalified more than a dozen groups from Spain, Italy, China, Turkey, Korea, Germany and France for construction contracts for several- phases of the network which cover more than 1200km (including China State Construction Engineering (CSCE) and China Railways).

December 2016

AIIB (Asian Infrastructure Investment Bank) extended a \$36 million loan to help finance 60% of the cost of the 'Railway System Preparation Project', estimated at \$60 million. The objective of the project is to achieve full readiness for the construction of a new (first) railway system that will support the Sultanate of Oman with the diversification of its economy and to develop the Sultanate of Oman's position as a transport hub and as an exporter of minerals. Oman Rail will ultimately link Oman to the UAE by rail as well as to the SEZs and Sohar Port, and Oman minerals, oil and gas sites with southern port cities Duqm and Salalah.

December 2018

Nabil Al Bimani, Group Chief, Ports and Free Zones at Asyad Groups, announced that "The (National Rail) project should be completed four years after awarding the tender to an investor and signing the agreement". The railway (207 km) project for the mining line to link the metal production fields with manufacturers and export sites is being undertaken as a PPP project.

Maritime Infrastructure at the Duqm Port

January 2017

Oman's Special Economic Zone Authority in Duqm (SEZAD) and AIIB signed a \$265 million loan agreement for funding the second phase of Duqm Port. The package is related to implementing the commercial terminal within the port.

September 2018

Construction work on the Port of Duqm's Commercial Terminal and Operational Zone project was well under-way and slated for completion before the end of 2020, Serka Taahhut Insaat, the engineering construction subsidiary of Turkish conglomerate Abdali Holding, is implementing the project which includes the construction of dedicated terminals for multipurpose, container and dry bulk cargoes, along with a terminal building and operational zone. Also envisaged are 3 km of 2-lane dual carriageway as well as internal roads connecting the terminal buildings and parking areas. The contract also calls for the construction of potable water network to serve the commercial berth buildings and ships; a firefighting network; storm-water and sewerage network; administration building, training and amenities centres, workshop and maintenance building, and gate-house. Also part of the package, the main contractor is developing the Port Operations Area to serve as the nerve centre of the entire maritime hub. A traffic control tower and port emergency services, among other operations-related facilities, will be housed within this area.

Water Desalination and Power

The lack of water resources not only affects the life of local residents, but also limits investment, development of industrial sectors, and construction of SEZs. Therefore, water desalination is also an important infrastructure construction in Oman.

February 2013

Cadagua, a subsidiary of Ferrovial Agroman (Spain), specialising in building water treatment plants, is part of the consortium that won the contract to design, build, operate, maintain and finance a reverse osmosis desalination plant in Al Ghubrah, a suburb of Muscat, in Oman. The project is worth around \$300 million. Cadagua will head the engineering and construction of the plant and will be responsible for its operation and maintenance for a 20-year period. The new facility will be operational in two years and will have the capacity to produce 191,000 m³ of drinking water per day, equivalent to serving a population of 800,000. Economic development and population growth in Muscat have increased the demand for water to 700,000 m³/day.

March 2016

ChinaPower and ACWA power (Saudi Arabia) signed the EPC contract for Ibri and Sohar projects in Oman. This power plant project with a total investment of about US \$1.95 billion is jointly invested and constructed by ACWA power (Saudi Arabia), Mitsui (Japan) and DIDIC (Oman). The Ibri project is located in the northwest of Ibri, Oman, with the designed installed capacity of 1516.5mw. The whole plant is planned to be handed over on April 1, 2019. Sohar project is located in Sohar industrial port of Oman. The designed installed capacity of the power station is 1714.9mw. The whole plant is planned to be handed over on January 1, 2019.

April 2018

Oman Power and Water Procurement Company (OPWPC) signed an agreement with a consortium led by ACWA Power, Veolia and Dohfar International Development and Investment Holding Company (Saudi Arabia) to develop the Salalah Independent Water Project (SIWP).

April 2019

ACWA Power and SEPCO III, signed an EPC contract which grants SEPCO III Electric Power Construction Corporation, a subsidiary of PowerChina, to serve as the EPC contractor of Al Taweelah desalination plant. Located in Abu Dhabi, Al Taweelah is considered the world's largest desalination facility capable of supplying 200 million gallons per day. The collaboration is dedicated to improving people's access to water and promoting social development via construction and investment.

June 2019

China's Silk Road Fund agreed to acquire a 49% stake in ACWA Renewables, a focus growth business focus of ACWA Power.

As readers will note, several of the planned infrastructure projects were agreed during 2013-2015, but put on hold during 2016-2018 due to lack of funding related to the oil price crash. As shown, many

were restarted or launched during 2018 – such as the new passenger terminal and 4 km runway at the new Muscat International Airport – which did not involve Chinese partners.

China led financing was important to Oman, both in funding selected infrastructure projects as well as bridging financing needs of the Omani Government.

As noted previously in this section, AIIB approved two loans totaling \$301 million for two separate infrastructure projects, \$36 million to fund a component of the National Railway Project and \$265 million to fund the second phase of the Duqm port container terminal. These represented AIIB's first loans to the Arabian Peninsula.

The \$265 million loan represented 75% of the total project cost of \$353.33 million, with the remaining 25% (\$88.33 million) contributed by the Special Economic Zone Authority Duqm (SEZAD) . As per the agreement, SEZAD's loan of \$265 million is to be repaid in instalments for over 25 years, including a five-year grace period.

In August 2017, Oman signed a five- year unsecured bank loan totaling \$3.55 billion involving Chinese Banks (which we believe include) China Development Bank, ICBC and Bank of China) which was required to fill a 2017 budget deficit. The loan was the largest ever for a regional borrower in the Chinese market and was increased from an initial target of \$2 billion due to strong investor interest. In March 2017, Oman issued a \$5 billion multi-tranche bond and a \$2 billion sukuk, or Islamic bond.

In December 2017, AIIB committed \$239.2 million in funding for the development of Oman's national fibre optical broadband network , vital component in Oman's digitalisation.

It is worth noting that all of the Chinese loans were multi-lateral facilities, well in advance of President Xi's request to do so at the Second Belt and Road Forum(2019).

III. High Technology and Digitisation

Unlike many countries along the BRI, Oman tech investments have begun in parallel, or shortly after, announcements of the major infrastructure investments. This is in part due to the Omani delays in construction due to the oil price declines and relating financial strains as set out previously.

That said, Oman has made considerable progress developing its Tech Hub(s) since 2013, with China playing an increasingly important role over the past two years.

Key developments as they relate to China include:

In April 2016, the Bay of Bengal Gateway (BBG), a submarine cable system built to link Malaysia and Singapore to Oman and the UAE, became operational and ready to handle high bandwidth/gigabit demands. The 8,100 km submarine cable links Malaysia and Singapore to Oman and the UAE, with branches to India and Sri Lanka as well as diversity to Southeast Asia- India-Middle East-Europe routes - and ultimately to the USA.

In December 2017, AIIB approved a loan of US \$239 million to Oman for the construction of its national fiber optic broadband network. The loan will permit Oman Broadband to oversee the laying of more than 4,000 km of cabling, in addition of drop cables of around 9,500 km, besides installing fibre distribution hubs and other support infrastructure (completing the 1st phase commenced in 2014)

In July 2019, the recent launch of 5G networks in Qatar, Saudi Arabia and the UAE constitutes the leading edge of the next stage in the region's mobile revolution. Mobile network operators in these and the other GCC states including Oman have just seen Huawei officially launch its first 5G commercial smartphone – the Huawei Mate 20 X- known as the King of Smartphones.

These tech advances should also be viewed in the context of Oman's interest in becoming a major regional logistics hub- set out in Oman's National Infrastructure Plan- one that is most likely designed to be fully digitised domestically as well as linked to the UAE and then into Asia/SCO-European trade. As the readers know, Alibaba and JD.com are leaders in E-commerce/logistics while CIC (China Investment Corporation) is also a major investor in Logistics.

The progress from 5G both in Oman and throughout the Middle East over the couple of years will also continue to drive local fintech and eCommerce as well to help build China's growing cloud computing business positioning China to continue to close the big data gap with the USA relative to the data required for autonomous AI.

IV. Special Economic Zone (SEZs)

In the process of promoting the "Belt and Road Initiative", the most representative result of cooperation between China and Oman is the China-Oman Industrial Park project in the Duqm Special Economic Zone (Duqm SEZ). Duqm is located on the coast of southeast Oman, on the trade routes between the Arabian Peninsula and Europe, East Africa, South Asia and East Asia, and is also an important connecting point on the Maritime Silk Road. The SEZAD, which manages the Duqm SEZ, the largest SEZ in the Middle East and North Africa, plans to attract investment via the establishment of a large number of industrial enterprises in its industrial parks by 2020. Such investments are also expected to include projects such as tourist resorts, central business districts, residential living areas, leisure and entertainment areas, major roads, etc., totaling an estimated \$15 billion in investment, creating 20, 000 direct or indirect jobs. As the leading partner of the industrial park, the government of Ningxia Autonomous Region of China, together with other provinces, will invest 19.36 billion yuan in the construction of related projects.

In fact, since the reform and opening up, the construction of economic industrial parks is regarded as one of the main experiences of China's economic take-off. The 2016 Chinese Government work report pointed out that overseas economic and trade cooperation zones should become an important starting point for promoting the "Belt and Road Initiative". To this end, China's Ministry of Commerce and the National Development and Reform Commission have listed the Duqm Economic Zone and the Sino-Oman Industrial Park as key demonstration zones for international capacity cooperation. The Oman government also regards it as a key national construction project related to the long-term

transformation of economic diversification, and has high hopes for the Sino-Oman industrial park. On May 23, 2016, Sino-Oman Wanfang Investment Management Co., Ltd. and the Management Committee of the Duqm Special Economic Zone of Oman signed an investment agreement for the Sino-Oman Industrial Park, which is expected to exceed US \$10 billion by 2022. The Sino-Oman Industrial Park covers a total area of 12.72 square kilometers and is divided into three functional areas: heavy industrial area, light industrial comprehensive area and tourism service area. The Sino-Oman Industrial Park plans to invest in 35 projects, including 12 heavy industry projects such as concrete production and building materials manufacturing, 12 light industry projects, such as solar power generation, bicycle assembly, garment processing, toy production, etc. Eight mixed service projects, such as staff training centres, schools, hospitals, sports centres, five-star hotels, and three energy projects, such as oil refining. On April 19, 2017, the foundation laying ceremony and the signing ceremony for enterprises were held in the Sino-Oman Industrial Park, and 10 Chinese enterprises have already settled in the industrial park in advance, with an investment of 22 billion yuan.

V. Recent Non-Chinese Investments in Oman (2018-2019)

China's basic investment has further improved Oman's investment environment and promoted follow-up investment in Oman by other countries. In addition to the Chinese investments into Oman and the Duqm SEZ, over the past two years Oman has been able to attract substantial inbound investment from numerous other countries, some of which we list below:

2018

Al Shomookh Mining Industries signed a MOU with Anil Budar Group (India) relating to the construction (\$247 million cost) of a calcium hydroxide factory in Duqm.

Arab Petroleum Investments Corporation (Apicorp), the multilateral lender owned by OAPEC (Kuwait), agreed to invest \$100 million in construction financing to the Duqm Oil Refinery, a JV between Oman and Kuwait.

A multi-source project financing of US\$4.6 billion was signed for the 230,000 barrels per day (bpd) Duqm Refinery Project. This is a 50/50 JV between Kuwait Petroleum International and the Oman Oil Company and is located in the Duqm SEZ (the Duqm Refinery Project is expected to be the cornerstone of the Duqm SEZ).

SEZAD signed two usufruct (land lease) and development agreements ; one to develop a commercial, tourism, educational, and recreational complex in three phases with Bin Zayed International Investment Group (UAE). SEZAD allocated 500,000 sqm for the Duqm Commercial Tourist Gate project in the tourism zone; the 2nd with Al Shomookh Mining Industries Company (UAE), which plans to implement seven industrial projects in the heavy industries zone within the Duqm SEZ, which has allocated 250,000 sqm of land.

Oman and the Republic of Korea (ROK) signed a MoU on cooperation between the two sides to establish smart cities. There is coordination between the Duqm SEZ and the Korean side to prepare a draft to conduct some studies on the vision of smart cities

Saudi Arabia agreed to provide \$201 million grant to Oman for two development projects at the Port of Duqm. The funding, to be provided by the Saudi Development Fund, will help develop the Duqm SEZ and finance a RO61-million (\$158 million) expansion of the capacity of the fishing harbour and a road project worth RO20 million linking it to Duqm city.

Little India LLC (India) signed a usufruct agreement with the SEZAD covering the lease of a 600,000 m² waterfront land overlooking the Arabian Sea. Conceived as an Integrated Tourism Complex (ITC), the development will feature a 5-star hotel, multiple resorts, marina, mixed-use commercial and residential blocks, beach-front villas and other luxury elements.

2019 (to date)

Shell (Netherlands/UK) Oman won a three-year contract to be the primary bunker supplier at Oman's port of Mina Al Sultan Qaboos. The deal will also see Shell manage and maintain the bunker storage tanks as well as supply marine lubricants.

In early 2019, a plant producing Sebacic acid (Sebacic Oman Refinery) entered commercial production. The refinery is the first industrial project in the heavy industries zone to operate in the Duqm SEZ. Pradeepkumar Nair (an Indian national), partnered with Omani investor Shaikh Hilal bin Khalid al Maawali in the establishment of a first-ever sebacic acid production plant at the Duqm SEZ.

Duqm Power Company, a JV between the Central Utilities Company (Marafiq), which forms part of the Energy Infrastructure pillar of Oman Oil Company, and Gulf Pacific Holding Company, signed five agreements linked to the implementation of an integrated power and water project in Duqm. As part of this, a long-term service agreement was signed with Siemens (Germany) for the maintenance of industrial turbines for a period of 25 years. Several EPC contracts were also signed with a consortium of companies composed of Al-Ghanim International (Kuwait), Cobra Group (Spain), Tadagua (Spain) and Sojitz (Japan).

SEZAD received a French delegation comprising 21 representatives from the public and private sectors headed by the French Ambassador to Oman. The two-day French delegation's visit to SEZAD aimed at establishing an alliance of French companies, which included four major French investors and technology - CMA CGM, EDF Renewables, FIVES and SUEZ - to assess the investment opportunities.

One of the key takeaways from the Second Belt and Road Forum (2019) is that the BRI is a multilateral initiative, which while led by China, involves global participation to implement and to adequately fund. As shown above in this section, there are numerous examples of 2018/2019 investments into Oman, and its Duqm SEZ by several other countries other than China.

VI. Conclusions

There are several interesting observations we can draw from our research on China's cooperation with Oman.

As stated at the outset of this paper, the authors believe that Oman represents one of the first, if not the first, of the BRI countries to be operational across the BRI's three initial components of infrastructure, digital and SEZs.

China has played an important role in developing Oman's 2011 National Infrastructure Plan, with a focus on ports, rail, IT and desalination. While some of these projects (rail) were delayed due to oil price declines and financial strains, they are once again progressing. While AIIB led most of these financings, the 2017 \$3.55 billion China-led loan was vital to Oman. It is important to note that all of these loans were multilateral well in advance of the Second Belt and Road Forum (2019).

In the digital component, there have been substantial improvements since 2016, including 8,100 km undersea fibre optic cable becoming active, construction of the national fibre optic broadband network, culminating with the 2019 launch of 5G. The combination of all of these factors will assist Oman in becoming a regional, digitised logistics centre in the Gulf, with links to Africa and the SCO.

As shown above, the China-Oman SEZ, agreed only in 2016, has seen a number of Chinese investments and pledges to date, with plans to grow to \$10 billion by 2022. As importantly, Oman has also been able to attract considerable international investment into its SEZAD across many Middle East, Asian and European countries to accelerate its transition to an economy much less dependent on energy. It is also important to point out that SEZs in these regions have also begun to cooperate amongst each other. For example, the UAE has two of the world's leading SEZs, each of which has a Chinese component.

We therefore believe that the above analysis reflects the interdependence of the BRI components (infrastructure, digital and SEZs)– and how they can function, in effect as a unified package in propelling BRI countries' economic growth. In the experience of China's regional economic development, "infrastructure connectivity" and "construction of special economic zones" play an important role. It took nearly 30 years for China to develop step by step from infrastructure construction, special economic zone construction to digitisation. Through the case study on Sino-Oman cooperation in the framework of BRI, we can see that the development has the characteristics of being *connected by infrastructure, led by SEZs, and upgraded by digitisation*. The digitisation and infrastructure construction and SEZs support and promote each other.

It needs to be pointed out that China's investment has also paved the way for attracting additional non-Chinese investment. Similar to Cambodia, it appears that later stage industrial investments include investors from outside of China, including the UAE, Saudi Arabia, India, Kuwait, ROK, Japan, France, Spain, Netherlands, the United Kingdom to name just a few. This is not a surprise in that a number of these countries have collaborated with China. The concept of 3rd party cooperation among the BRI was a key highlight of the past 2 years of the BRI. The 3rd party cooperation between Japan and China is a

great example of this with their agreement signed during the 4th Quarter of 2018.

The Middle East today is facing tremendous challenges, many of the problems that ignited the fire of “Arab Spring” almost a decade ago still exist. Similar to Oman, most countries in the region are eager to develop themselves and have developed their national vision strategies. Therefore, the cooperation between China and Oman will have broader regional repercussions. It will not only set an example for others to follow, but more importantly, if the expectation for Oman as the regional hub can be realized, it will benefit the whole region by releasing new dynamics to the regional economy. BRI in Oman as an example is of universal significance not only to China-Arab cooperation, but also to China's cooperation with other countries along the "Belt and Road" .