WATERWAYS ENGINEERS

A NEW GEOGRAPHY FOR MARITIME ROUTES

THREE INNOVATIVE PROJECTS THAT WILL CHANGE THE WORLD'S MARITIME ROUTES.

“THE TRANSPORT OF SHIPS SEA-LAND-SEA IS A STEP TOWARDS THE FUTURE."

"THE JOURNEY OF SHIPS,SEA-LAND-SEA,IS ONLY A MATTER OF TIME."

Under Water Station

In 2021,the value of world trade reached,$28 Trillion.
But 80-90% of it was transported by sea.

Under Water Station

- ❖ THE MESAPOTAMIAN MARITIME CANAL.
- ❖ REPLACEMENT OR BIPASS OF THE STRAIT OF HORMUZ.
- ❖ SHIP VOYAG SEA - LAND - SEA.
- ❖ Two Regional Projects...*Marmara Sea & Lake Victoria.

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"Water covers 70.68% of the terrestrial globe. They divide countries and peoples".

While the hydro-maritime, air,land infrastructure, unites economy,cultures, desires and human..

WATERWAYS ENGINEERS

- "In 2021, the value of world trade reached over 28 trillion dollars" .
- "80-90% of global goods transportation is conducted by maritime routes".
- "Global trade volume grows by approximately 250 million tons of goods annually".
- "Since the period between 1869 and 1914,no new maritime routes have been opened.".
- "Maritime routes represent the most underdeveloped infrastructure in the global economy".
- "Sea routes are still heavily dependent on the Suez Canal,a project conceived by the Pharaohs and Cleopatra centuries before Christ".
- "The Suez Canal tolls (approximately $2500/km) and security costs for the Persian Gulf surpass the shipping expenses to the Middle East".
- "The Middle East and Central Asia are centers of natural wealth and population density".
- "Direct connectivity between the Mediterranean, the Persian Gulf, and Central Asia is vital for global trade".
- "The Mesopotamian maritime route(1500 km),integrated with land infrastructure, has the potential to reduce global trade time and costs by half".

Three Innovative Projects.

- PROJEKCT*1*.....The Mesopotamian Maritime Canal.
- PROJEKCT*2*.....Replacing or Bypassing the Strait of Hormuz.
- PROJEKCT*3*.....Ship Travel via Highway and Railways .

"SHIP TRAVEL,SEA-LAND-SEA:A NEW SHIFT IN THE GLOBALTRANSPORTATION SYSTEM"

- Ships will travel like all road and rail vehicles, propelled by Electromechanical Forces. Another variant envisions Electro-Magnetic travel (Inductrack III), utilizing a combination of Maglev,Electromechanical and Hydromaritime Forces. But also nuclear engines."
- Ships will travel on land more smoothly and safely than on seas or oceans.

"The Waterways Engineers are dedicated to exploring new maritime routes."

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1. The benefits to human society from..... maritime waters are immeasurable.
2. Studies,designs,and financing for maritime road construction are insignificant.
3. For the first time,three projects are presented that will change the world's maritime routes.

Albania 2015.

“ Transporting goods to the Middle East is a torture.The risks of the Natural Bermuda and the Human Bermuda never end. Sailing from the Mediterranean to the Persian Gulf takes a route that is three times longer and less secure. To ensure navigation in the Strait of Hormuz, approximately ±410 million euros are spent daily” **.**

“Why are there no projects for new maritime routes?
Marine areas cover two-thirds of the Earth's surface,but humanity has no real control or ownership over them.Each state or company benefits according to its power and capability.The sea and oceans resemble state property under communism:they belong to everyone, yet no one protects them. 'UNCLOS' is not enough”.

“THREE INNOVATIVE PROJECTS THAT WILL CHANGE THE WORLD'S MARITIME ROUTES”.

- **“MESOPOTAMIAN MARITIME CANAL”..... An Emerging and Perpective Project”).**
- **“REPLACING OR BYPASSING THE STRAIT OF HORMUZ”..... An Emergent project”).**
- **"SHIP TRAVEL BY ROAD:…….Revolutionizing Global Transport.")**
- **"SHIP TRANSPORT VIA RAILWAY”…….An Innovative New Approach”).**
- **"SEA-TO-LAND-TO-SEA SHIP TRAVEL:……..A new shift in the transportation system”).**

“OUR VISION:
A New Geography for Global Trade and the Movement of Goods.”

“OUR MISSION:
To reduce the Cost and Time of Maritime Transport to Accelerate International Trade”.

“OUR CREDO:
Waters divide Countries and People,But Our Projects Unite and Connect Them on a Shared Path”.

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Two Regional Projects

- **MARMARA SEA. Environment and Cleanup Project.**
  -The Dardanelles Strait Exclusively for Tourist and Passegers Ships.
  - Natural commercial Megaport in Saros Bay .

- **AFRICA EQUATORIAL .Hydro-Urban and Hydro-Energetic System for the Waters of Lake Wictoria..(Without dam and reservoir construction).**
  - Equatorial Africa. Water and Hydro-Energy for Tanzania and Uganda

WATERWAYS ENGINEERS

The Study Presents 5 Projects"

"Three Projects for Maritime Routes and Two Regional Projects."

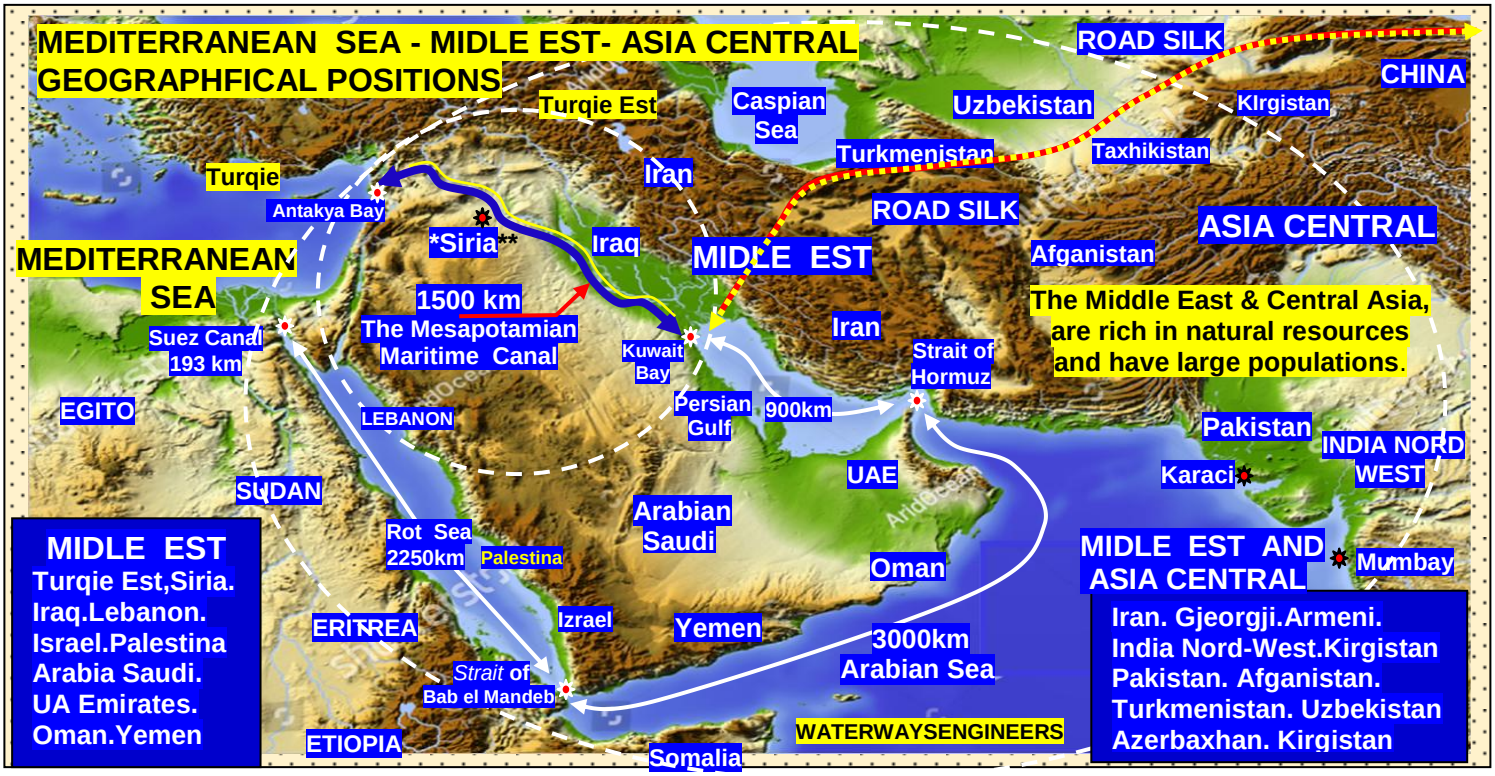
"The Maritime Route Projects are presented in both Brief Information and Expanded Information formats."

1. **PROJECT 1**: The Mesopotamian Maritime Canal.
2. **PROJECT 2**: The **Replacing or Bypassing the strait of hormuz**
3. **PROJECT 3**: Ship Travel on Highways and Railways.
4. **PROJECT 4**: Keeping the Sea of Marmara Clean.
5. **PROJECT 5**: Hydro-Urban and Hydro-Energy Systematization of Lake Victoria Waters.

MARITIME ROUTES: MEDITERRANEAN SEA – MIDDLE EAST - CENTRAL ASIA

Why Aren't New Maritime Routes Being Built?

- The **Suez Canal** was officially inaugurated on **17/11/1869**.
- The **Panama Canal** was officially inaugurated on **15/08/1914**.
- Since 1869–1914, no new maritime routes have been opened.
- The main maritime routes connecting Europe, the Persian Gulf, and Asia rely heavily on the **Suez Canal** (opened in 1869), as well as the **Bab el-Mandeb Strait** and the **Strait of Hormuz**.
- A study of maritime geography reveals that navigation from the **Mediterranean Sea to the Persian Gulf and Central Asia** is excessively long, with no alternative other than the Suez Canal and the two straits of the Arabian Peninsula. **Suez Canal – Arabian Sea – Kuwait Bay (L=6,250 km).**
- These waterways are essential for maintaining the global flow of goods, as natural resources and populations are concentrated in the Middle East and Asia.
- The **center of gravity** for maritime and land infrastructure in the Middle East and Central Asia is the **Persian Gulf**. Natural resources and populations are concentrated in these regions. Therefore, constructing the **Mesopotamian Maritime Canal (L = 1,500 km)** along with land infrastructure is **urgent and necessary**.
- The Mesopotamian Canal serves as an outlet for the Silk Road into the Mediterranean. Meanwhile, the India-Israel Maritime and Road Corridor projects (discussed at the G20 Summit in India on 10/8/2023) are neither cost-effective nor provide a direct alternative for connecting the Mediterranean Sea to the Persian Gulf. Maritime routes serve global trade,while summit projects primarily address the needs and interests of the host states.



WHY ARE THERE NO PROJECTS FOR NEW MARITIME ROUTES?

Academies, universities, research institutions, and civil engineering and navigation companies study disciplines such as politics, philosophy, history, geography, archaeology, hydrology, and more, on an international scale. However, no institution has dedicated studies or projects specifically focused on global maritime routes. The expenditures for maritime route projects are not proportional to the significant contribution that global trade provides to human life.

UNDERSTANDING CHOKEPOINTS: THE STRAIT OF HORMUZ

1. Chokepoints are narrow and strategically important passages that connect two large bodies of water or land. In maritime trade,these are typically straits or channels that experience high traffic due to their geostrategic positions. However, they also pose several risks.Due to their strategic importance and heavy traffic,chokepoints are vulnerable to blockages or disruptions during periods of political instability.
2. Dominance over the oceans is achieved through control of eight key points on the globe. These are the eight mandatory maritime passages, known as "choke points," that are monitored by the United States and enable the full functioning of global trade, which occurs 80-90% via the sea, thanks to about 100,000 large cargo ships.
3. Of these eight choke points, three are located on the sea route from the Suez Canal to the Persian Gulf.The type and level of risks vary depending on the location. Some of the most significant threats occur at critical points such as the Strait of Hormuz, Bab el-Mandeb Strait, the Red Sea, and the Suez Canal, among others.The Strait of Hormuz is widely recognized as the most important point for global oil transit.
4. There are many chokepoints in maritime routes, which are classified based on the intensity of ship traffic into primary, secondary, tertiary, etc. Obstacles and conflicts arise from the coastal states surrounding these chokepoints. The costs of maintaining maritime routes are very high. With the same cost, new maritime roads and chokepoints could be build.

Choke Points Primary

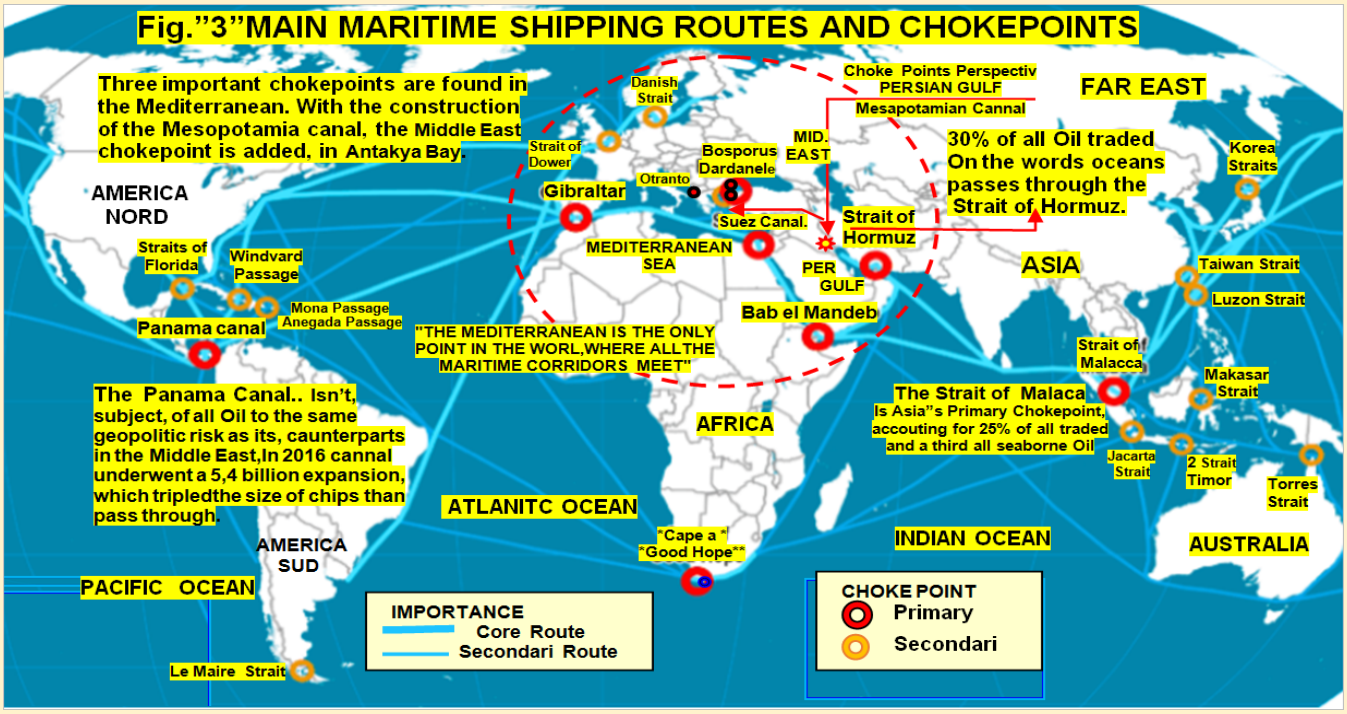
1. **The Suez Canal.**
2. **Strait Bab el Mandeb.**
3. **Strait of Hormuzit.**
4. **Strait of Melaca (Singapore.).**
5. **Strait of e Gjibraltarit**
6. **Strait of Dardanele.**
7. **Strait of Bosforus.**
8. **The Panama Canal**

Choke Points Secondari

1. **Cope a Goode Hope**
2. **Taiwan Strait**
3. **Luzon Strait**
4. **Korean Strait**
5. **Danish Strait**
6. **Strait of Sicilia**
7. **Strait of Dower**
8. **Strait of Tunis**

Choke Points Secondari

1. **Strait of Timor**
2. **Macasar Strait**
3. **Torras Strait**
4. **Jacarta Strait**
5. **Mona Passage**
6. **Strait of Florida**
7. **Windvard Passage**
8. **La Maire Strait**



THE MEDITERRANEAN SEA - SUEZ CANAL - MESOPOTAMIAN CANAL

(Before and after the construction of the Suez Canal. The Suez Canal is L=193.2 km)

Sea Route Suez Canal - Persian Gulf, Length = 6250 km

1. Maritime routes are the most underdeveloped infrastructure in the global economy. To reach the Middle East, the Far East, and Central Asia, ships navigate the path of the Suez Canal, built 156 years ago, but conceived and planned centuries before Christ.
2. The cost of transit through the Suez Canal accounts for more than 25% of the oil consumption cost of the ship until it reaches the Persian Gulf.
3. The Suez Canal was inaugurated in 1869. Before 1869, ships sailed around Africa (Cape of Good Hope), a distance of 19,800 km (London to Mumbai).After the construction of the Suez Canal (1869), ships now travel 8300 km less than when sailing around Africa.
4. After the construction of the Mesopotamian Canal, ships would travel 3000-4500 km less than the Suez Canal route.Under the current situation, the sea route through the Suez Canal, the Red Sea, Bab el-Mandeb Strait, the Arabian Sea, and the Strait of Hormuz remains the only short route for ships sailing from the Mediterranean Sea to the Persian Gulf, the Middle East, Central Asia, and the Far East. However, it is insecure .The blockage of the Suez Canal from March 23 to 29, 2021,by the container ship *Ever Given*, highlighted the geoeconomic importance of the Suez Canal. Losses amounted to 9.6 billion dollars per day.
5. The security costs for navigation in the Red Sea, the Arabian Sea, the Persian Gulf, and the two Straits are high. According to analysts, from 1976 to 2020, ensuring smooth or normal navigation of ships from the Mediterranean to the Persian Gulf cost $8 trillion or a minimum of $150 billion per year. This is a high cost, excluding accidents and loss of life of soldiers, sailors, or civilians.
6. From an economic standpoint, tolls for passing through the Suez Canal and the costs of ensuring safe navigation from Suez to the Persian Gulf are higher than the total costs of the ship's journey.

Before the construction of the Suez Canal (1869), ships sailed around Africa, passing the Cape of Good Hope.

To compare distances, English scholars refer to the city of Mumbai (formerly the capital of India).

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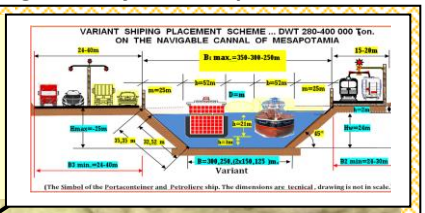
Mediterranean sea routes with the Persian Gulf and the Middle and Far East.

Project *1* " Brief Information"

THE MEDITERRANEAN SEA AND THE MESOPOTAMIA MARITIME CANAL*

1. The Mediterranean Sea,is a global strategic hub,closely connected to major international maritime routesIt serves as a center for the collection and distribution of goods,offering a key point for shipping routes.If we want to predict the development of future maritime routes, the Mediterranean is undoubtedly the center of gravity that will remain a key factor for international connectivity.This implies that it is the hinge connecting America with the Middle East,Asia,and the Far East.
2. The Middle East and Central Asia,or even South Asia,are rich in natural resources and have large populations.These regions are abundant in vast reserves of oil,natural gas, minerals,and other energy resources,making them key centers for global supply.Furthermore,the high population density offers a significant market potential, driving demand for goods and services.
3. The Suez Canal: The Only Maritime Route Between the Mediterranean, the Middle East, and the Persian GulfThe Suez Canal connects the Mediterranean Sea to the Middle East and the Persian Gulf,passing through the **Red Sea (2,250 km)**,the **Bab el-Mandeb Strait**,the **Arabian Sea (3,000 km)**, the **Strait of Hormuz**, and the **Persian Gulf (900 km)**. The total distance from the Suez Canal to the Persian Gulf is **6,250 km**.This maritime route is **very long and unsafe**.
4. Increasing Conflicts and Disruptions in Recent YearsConflicts and obstacles have increased significantly in recent years. The **blockage of the Suez Canal** from **March 23–29, 2021**, resulted in losses of **$400 million per hour** or **$9.6 billion per day** (according to Lloyd's List).

The construction of the Mesopotamian Maritime Canal is the only solution for the survival of the inhabitants of the Fertile Crescent.The abundant waters of theMediterranean will meet the vital,urban,communal,and agricultural needs of the population of Mesopotamia.



THE IRAQI MINISTRY OF WATER RESOURCES WARNS THA THE RIVER EUPHFRATES COULD DRY UP BY 2040. (CSIS).

Center for Strategic and International Studies (CSIS).

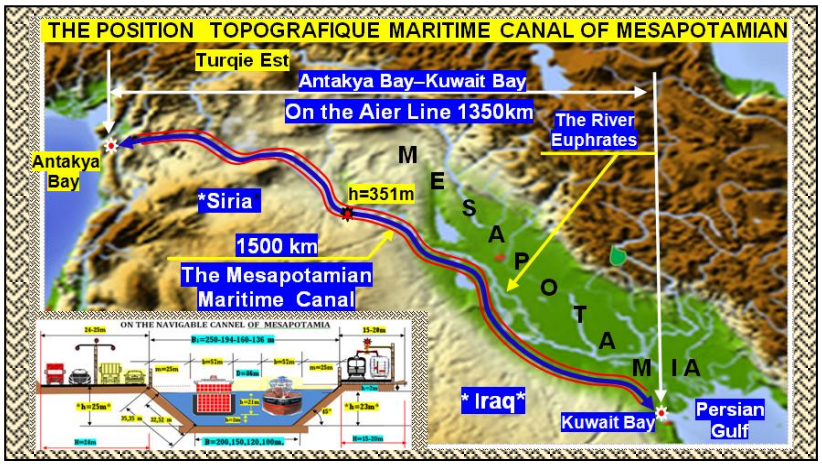
5. Geographical Study Highlights Proximity of the Mediterranean Sea, Persian Gulf, and Central AsiaA geographical study reveals that the **Mediterranean Sea**,the **Persian Gulf**,and **Central Asia** are located in close proximity.The **Mediterranean Sea** is separated from the **Persian Gulf** by the **Euphrates River basin** and the **Orontes River basin**,or by the **Mesopotamian valley (Fertile Crescent)** and the **Orontes River plain valley**.Both terrains are separated by a **hilly elevation of h=..... meters**

PROJECT*1*
" Brief Information"

TWO REASONS FOR THE CONSTRUCTION OF THE NEW MESOPOTAMIAN MARITIME CANAL.

The First Reason.

1. "Its geographical position makes the Mediterranean the gravitational center of maritime routes, creating opportunities for the economic and political integration of surrounding regions. As an intermediary between continents, the Mediterranean plays an invaluable role in the movement of goods and the development of the global economy."
2. **The Mesopotamian Sea Canal (L=1500 km)** connects the Mediterranean Sea to the Persian Gulf via the shortest possible route, from the Gulf of Antioch to the Gulf of Kuwait. It reduces the maritime route by 3,000 km compared to the Suez Canal.It is a cost-effective alternative to the Suez Canal for linking the Mediterr.Sea with the Persian Gulf,Central Asia and the Far East.
3. **The Gulf States,the Middle East,and Central Asia** are isolated.Their road and sea connections with European countries, America, or connections with consumers of natural resources, fuel, and market potential are long, insecure, costly, and plagued with political and administrative burdens. The Mesopotamian Sea Canal reaches the Gulf of Kuwait or the heart of the Middle East. By solving once and for all maritime and land transport with low costs between Central Asia and the Mediterranean via the Silk Road, it will create efficient connections



The Mesopotamian Canal or the Intercontinental Link:
It provides a direct corridor between Europe and Asia, reducing the time and cost of transporting goods.

Economic Transformation:
By becoming the main pillar of Euro-Asian economy and trade, the canal will stimulate the development of industrial, port, and urban areas along the corridor.

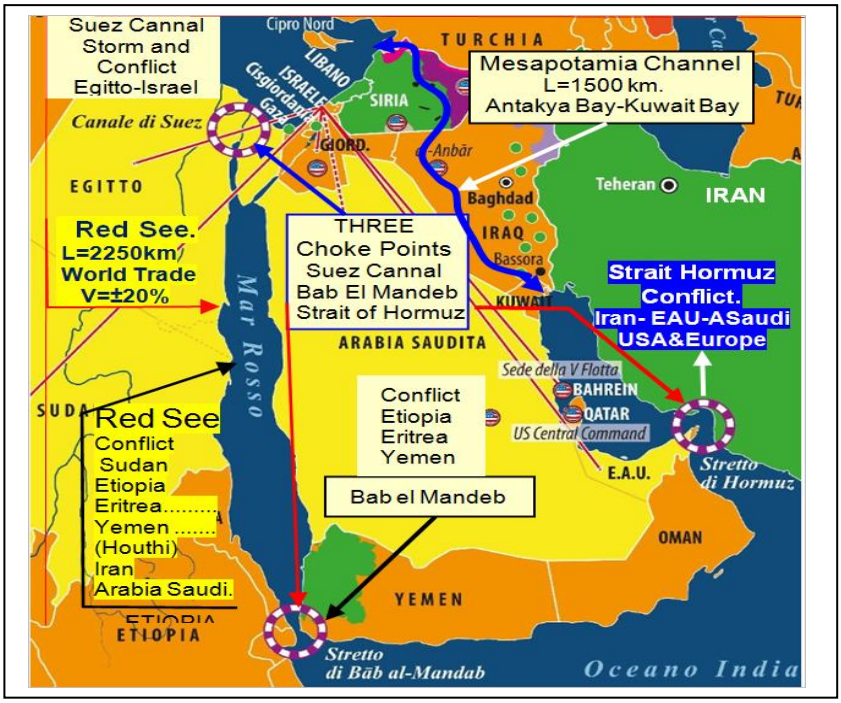
Second Reason:

4. **The Iraqi Ministry of Water Resources warns that the river could dry up by 2040.**The Euphrates River is drying up, and the land that was once the cradle of civilization is heading towards devastation,forcing people to abandon a place they have called home for thousands of years.Therefore,the construction of the Mesopo.Canal is an urgent,essential,and visionary project**.**
5. The desalinated salty waters of the Mesopotamian Canal will replace the waters of the Euphrates River, bringing the abundance of Mediterranean waters to the Mesopotamian cradle. These waters will supply potable, communal, industrial, agricultural, and environmental water to the residents of the Mesopotamian basin. This implies that the waters of the canal are vital for the survival of the residents of the Euphrates River basin. In the Mesopotamian field, the canal's trace could be built depending on urban, agricultural, maritime, and environmental interests.
6. The Mesopotamian Sea Canal has no construction obstacles.The project cost is increased by the large volume of excavation.The canal's trace runs 1000km,parallel to the dry bed of the Euphrates River. With excavation and transport technology, the large volume of excavation will not hinder the construction of this monumental work. The axis or the trace of the project passes through non-productive terrains, especially in the deserts of Syria, Iraq, etc

Project *2*" Brief Information ".

THE PROJECT TO REPLACE THE STRAIT OF HORMUZ IS URGENT

1. "The Strait of Hormuz is a mandatory passage, known in maritime terminology as a choke point. It connects the Persian Gulf with the Gulf of Oman and the Arabian Sea."
2. "Oil tankers transporting around 21 million barrels of oil per day (approximately one-third of all oil traded globally by sea) pass through the Strait of Hormuz."
3. "To ensure the safe navigation of ships in the Strait of Hormuz, approximately $410 million is spent daily. Therefore, the project to bypass the Strait of Hormuz is urgent."
4. "On average,50 oil and gas tankers pass through the Strait of Hormuz daily,carrying a total value of approximately $5 billion.Around 8% of this amount is spent to ensure accident-free passage of the ships.This is a very high cost.But the problem is not limited to the Strait of Hormuz alone."
5. "The entire maritime route from the Suez Canal to the Gulf of Kuwait, stretching 6,200 km, is insecure and consists of multiple choke points. Security risks have increased in the Suez Canal, the Red Sea, the Bab el-Mandeb Strait, the Arabian Sea, and the Strait of Hormuz. Replacing or bypassing the Strait of Hormuz is an urgent necessity for global trade,the economy,and international stability."



6. The project to bypass the Strait of Hormuz has no construction obstacles or high construction costs. It can be implemented on the Musandam Peninsula or the Isthmus of the United Arab Emirates (UAE).
7. The lack of new maritime route projects is linked to various theoretical and practical technical-scientific disciplines, such as hydrology, hydrotechnics, geology, maritime engineering, naval architecture, transportation, relief, and world topography.These disciplines must dedicate efforts to presenting new projects. Maritime route projects are multidimensional.
8. In the case of bypassing the Strait of Hormuz, Waterways Engineers has prepared five variants, three of which are designed to be implemented on the Musandam Peninsula, while two are within the territory of the UAE.The new maritime corridors are simple hydrotechnical solutions. Functionally, they are located 60 to 120 km away from the Strait of Hormuz.**

Project *3*" Brief Information".

A NEW MOVEMENT

"FOR THE TRAVEL OF POPLE AND THE TRASPORT OF GOODS."

THE JOURNEY OF SHIPS SEA-LAND-SEA IS A MATTER OF TIME".

Waterway Engineers present the New Ship Movement system, Sea-Land-Sea,without unloading the cargo.

The project is based on the combination of Electro-Mechanical Forces, Electromagnetic Maglev Forces, and Hydrotechnical Capabilities.

"The Journey of the Ship on Roadways or Highways and Railways is Achieved By:

1. **"Ship transport on highways and railways is carried out by a Mega Transport Wagon".**
2. **"Ship transport on highways and railways is achieved with a chassis and wheels mounted directly on the ship's structure or under carriage".**
3. The movement of ships on highways and railways, with speeds of V=25-36 km/h,is achieved by:*
   - **From Diesel engines.**
   - **From Electromechanical motors (Hybrid).**
   - **From Electric Motors.**
   - **From Electric Motors and Electromagnetic Maglev motors, Inductrack-III model.**
4. **The Maglev ElectromagneticSystem,Inductrack-III-model,enables the transport of heavyloads at low speeds.***
5. **The innovative project allows the movement of ships on highways and railways through two main structures:**
   - **The Underwater Station and**
   - **Ship's Transport Wagon**.
6. The smooth and safe lowering of the ship from sea level to the Transport Wagon platform or directly onto the road platform is completed within ±10-15 minutes, using:**
   - **With a simple hydrotechnical work.**
   - **The hydrotechnical lowering of the ship is performed at the Underwater Station**.
7. **The journey of the ship on highways and railways is smoother and safer than navigating at sea or ocean.***

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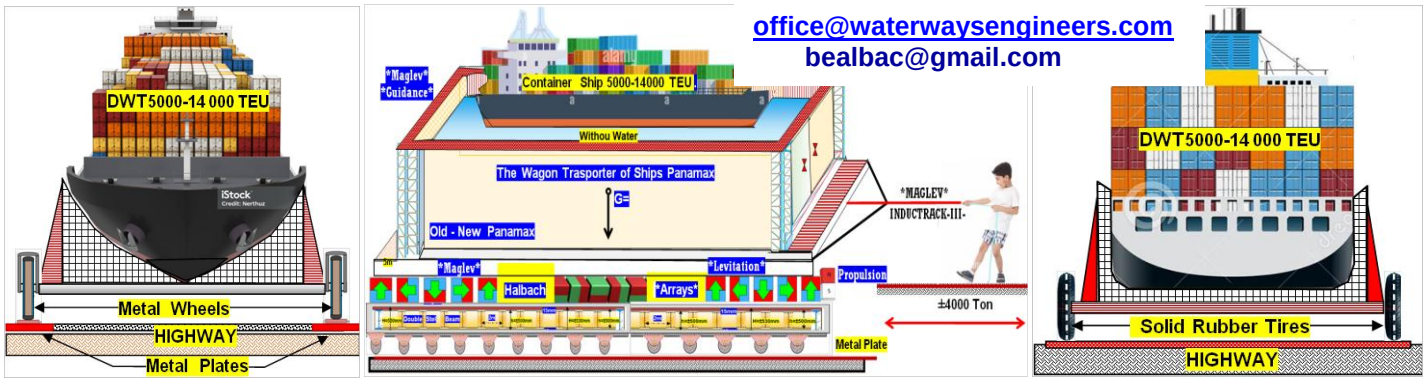

(Schematic design). Ship transport on roads with metal wheels, on metal plates Ship transport on roads)

Project *3*" Brief Information".

THE JOURNEY OF THE SHIP ON HIGHWAYS

1. **The ship's journey is carried out via the Transport Wagon.**
2. **The Transport Wagon is supported by solid rubber tires.**
3. **The Trans. Wagon is supported by steel wheels coated with rubber,traveling on the highway.**
4. **The Transport Wagon is supported by steel wheels traveling on highways where metal strips, 20-25 cm wide, are placed every b=±5 meters.**
5. On railway systems, metal rails are installed to eliminate friction and guide the locomotive and wagons on curves. The installation of metal strips on highways reduces friction, while curves are managed with simple mechanical devices.
6. **For ships weighing up to 50,000-100 000 tons,the chassis and wheels are mounted directly onto the ship's frame, eliminating the need for a transport trailer.**
7. **When the Transport Tug is eliminated, the ship's engines can also be used for its land journey**
8. **For ships weighing 50,000 - 100,000 tons, the chassis and wheels must be mounted directly onto the ship's frame, eliminating the need for a transport trailer.**
9. The ship's journey on highways allows other transport vehicles to travel on the same road.

THE JOURNEY OF THE SHIP ON RAILWAYS.

1. The ship's journey is carried out via the Transport Wagon.
2. The Transport Wagon is supported by steel wheels traveling on railway tracks.
3. Transporting the ship via a Transport Wagon on railway tracks involves high construction and maintenance costs, with frequent malfunctions leading to additional expenses.
4. **For ships with a capacity of P = 50,000 ... 100,000 tons, the railway chassis and wheels are mounted directly on the ship's hull, eliminating the need for a transport tug.**
5. **When the Transport Tug is eliminated, the ship's engines can also be used for its land journey.**

COST-EFFECTIVENESS OF SHIP TRANSPORT ON HIGHWAYS AND RAILWAYS

1. The Land-Sea-Land journey ensures direct transport of goods to their destination.
2. Ships are not required to process goods at seaports or inland ports.
3. The Land-Sea-Land journey will redefine the geography of global land,sea,and maritime trade routes.
4. Handling ships at land stations is simpler and faster than at seaports.
5. This will change the concept, function, dimensions, and high construction costs of ports.Transport time will be reduced by half,while the cost of transporting goods will decrease by afactor of three.
6. It will significantly reduce the technological and infrastructure costs of global trade.
7. The transport of ships weighing 10,000-50,000 tons with wheels and chassis mounted directly onto the ship's body should be implemented as soon as possible.

INFORMATION ABOUT SHIP TRANSPORT ON HIGHWAYS AND RAILWAYS.

1. Ships are large transport vehicles with significant dimensions and capacities for carrying goods. A ship with a capacity of 50,000-80,000 tons, carrying 3,000-5000 containers (14 tons/TEU, 6 meters each), requires a ±20 km long train to transport its containers.
2. **The lack of ship transport on railway tracks and highways forces them to process goods at ports, increasing time, transportation costs, and sales costs of goods.**
3. The large dimensions of ships create the misconception that it is impossible to travel on a tugboat or directly on the highway. However, lowering the ship onto the tugboat or directly onto the platform at the Underwater Station, without any difficulty, through Communicating Vessels, and traveling on the highway in complete comfort, through experimentation, will realize the new movement of ships.
4. To materialize the project, the Underwater Station project will be experimented with, including the lowering of the ship, placement on the tugboat, departure from the Underwater Station,and the ship's travel, at scale 1:10.