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MARITIME ROUTE. LAND ROUTE. POLAR ROUTE? TRANSPORTATION STRATEGIES TO CONNECT ASIA TO EUROPE

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Abstract

'The New Silk Road', 'the Polar Route', 'the Eurasian Corridor', 'the String of Pearls', all of these concepts have in common the aim to serve as promising, alternative trade routes for Mainland China and Europe. Whatever solution may be chosen, opportunities and dilemmas have to be weighted by all the stakeholders involved in the process of importing and exporting goods. Related business topics to consider are: the making-up of extra cargo volume in Central Asia, the strategic stopover onto the domestic Russian market, cross-trading opportunities in the Indian Ocean transshipment hub, and gaining access to promising polar markets.

The paper considers these routes, focusing on the logistical and geopolitical challenges that have to be tackled in order to turn opportunities into real transportation success stories. Our analysis tests the robustness of the transportation chain, taking into consideration the "must-haves logistics" along with political and geopolitical matters sometimes undervalued by supply chain-focused actors. The paper concludes with a discussion proposing to enlarge the current international cooperation between Asia and Europe.

Keywords: alternative trade routes, import and export, polar markets, logistical and geopolitical challenges

Introduction

Global trade means but also requires effective and reliable transportation systems. Containerization and internet are the two revolutions which have reshaped totally our daily life by reducing the relationship between time, space and cost. Bearing in mind shipping, a flat screen TV from Shanghai to Rotterdam on a 20 dry-feet container cost three times less than transferring one passenger from Paris Airport to the Champs-Elysées by Uber, it explains why transportation routes are analyzed and screened in detail by all the stakeholders and shareholders included into the global value chain networks. Whatever they may be, either from the public or the private sector, shippers, carriers, freight forwarders, handling companies, public policy makers and strategic planning agencies are willing to be part of the most

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efficient supply chain solutions. They also claim to play a significant role for taking benefit over the best cost-effective transportation services.

Beijing is fully aware of those positive effects about transportation services and infrastructures. On the previous 9th, 10th, 11th and 12th Five years plan, Beijing has had already put a great emphasis on transport infrastructure and transportation services. Billion have been engaged over the last decades to constitute one the most powerful transportation system network which enable nowadays to establish Mainland China as what it is recognized as the Factory of the World and probably one of the strongest economies in competition with the United States of America and the European Union. Henceforth, Mainland China appears as the first point of origin and/or the last point of destination of billions of tons of cargo using maritime & river ports as well as domestic & international railways and, in a less extent, some tailor-made freight airport logistics infrastructure. The greatest challenge for Beijing is to keep the pace by securing strategic routes which must feed more than 1.3 billion of potential consumers and producers. To do so, President Xi Jinping announced in2013 the OBOR initiative: *One Road One Belt* with two main routes: *The Silk Road Economic Belt* and T*he 21st Century Maritime Silk Road* with a win-win strategy to connect 2/3 of the world population to Mainland China. 100 billion are confirmed to strengthen and secure economic and political links between China with more than 60 countries distributed over Eurasia and Africa.

The OBOR strategic move has already changed the global pattern network of trade thanks to bilateral and multilateral agreements signed between political leaders and encouraged by some dominant private firms who aim to benefit from better integrated transportation infrastructure opportunities. The Chinese foreign policy succeeds in bringing some huge funds without intervening into domestic affairs. The most relevant example on the pipe has been perceived after an official visit of the President of China to his counterpart in the Republic Islamic of Iran early in 2016. The Iranian railway connectivity, international airport revamping and Bandar Abbas maritime port modernization were amongst the top subjects which have been negotiated, engaging financial and political support from Beijing.

In that particular case of Iran, it is not useless to remind President Putin was few weeks ahead at Tehran after eight years of official no-show. Talks on the Syrian crisis, an official bilateral deal about the nuclear issue, oil and gas trade-off as well as military and technical cooperation were at the top of the list which looks quite a different posture compared with President Xi-Jingping. Nevertheless, Moscow has confirmed a 5 billion credit line to fund 25 strategic projects including a train line from

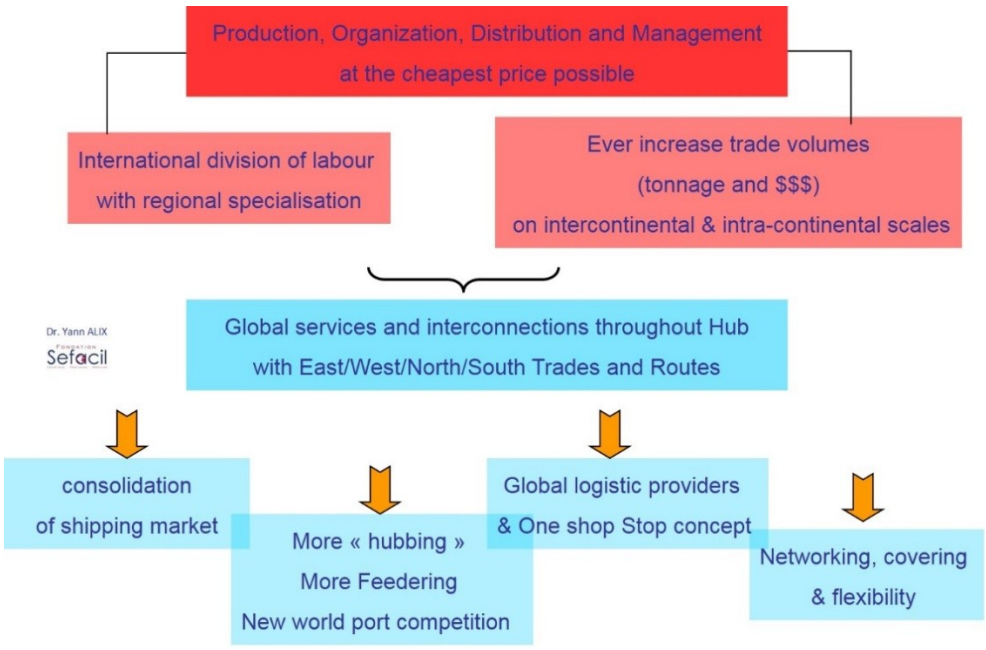
Central Iran up to the Northeastern border with Turkmenistan to connect afterwards the Russian territory and thus offers some opportunities to plug Iran market to the Tran Siberian East-West main route.

The aim of the present paper consists in sailing around to weight which strategic options have to be considered to achieve a better equilibrium between the all-water routes, the Eurasian railway solutions as well as some more foreseeable alternative to the Polar route to boost economic and political integration from Europe to China including Russia, Central Asia and Mid-East.

I- Global shipping connectivity and the Europe-Asia leg

Just a reminder to start: one container ship leaves the Chinese marine terminal each 20 minutes every day to serve Western Europe-Med markets, calling on its way some strategic ports like Singapore, Jebel Ali in Dubai, Suez Canal Ports or Tanger Med in Morocco. In 2015, 20 million Twenty Equivalent Units (TEUs) boxes have been traded between Western Europe and the Far East. Those track-records put into perspective how transportation by seas continues to link continent, market and people, adding some values and services to production, industrial, storage and distribution processes along the entire global supply chain. Consolidation, strategic alliances and M&A are amongst the tools used by shipping lines companies to control the market share and offer global services through strategic stopover on pure transshipment hub and spokes marine terminal located at the dominant routes crossroads.

Figure 1: Globalization of trade and global shipping strategies



Source: Yann Alix, Sefacil Foundation 2015

Shipping has outstandingly adapted to the global offer by escalading on gigantism with the biggest containerships overpassing 400 meters long, able to carry-on more than 20,000 TEU's on one single voyage from China to Europe. Each leg is worth at least one billion US$ of value including a 115/135 million US$ for the sole containership and its 20,000 boxes loaded on it!

Figure 2a: Sample of the biggest ships ever built to serve global trade: Maersk Line 20,000 TEUs capacity – Year 2015

Source: AP MOELLER

On the dry bulk league, the Chinamax series built in China by Vale Cie can load on one single trip 400,000 Dwt of iron ore from Brazil to China! Those Chinamax sister ships consolidate strategic bridges over the oceans to guarantee a 1 million tons of iron one shipment each week on some dedicated terminal especially built by the Chinese authority to accommodate those giants.

Figure 2b: Sample of the biggest ships ever built to serve global trade: Valemax 400,000 dwt – year 2014

Source: VALE

Only few global ports and inland infrastructures can follow the pace by investing tremendously into assets designed to accommodate those ships as well as the huge volume of cargo which must be loaded and unloaded on the fastest and most reliable way. From a Chinese perspective, ports have been first considered as a strategic priority for a fast and resilient modernization of the Mainland China economy. The booming growth encountered on the entire coastal fringe has been built on port and transport capacities with huge assets which have been assumed and financed by public funds.

Figure 3a: Dedicated Chinese marine terminal designed to accommodate biggest ships: Rizhou iron ore marine terminal – Bohai Rim – year 2009

Figure 3b: Dedicated Chinese marine terminal designed to accommodate the biggest ships: the Shanghai container terminal located 32 kilometers away from the coastline

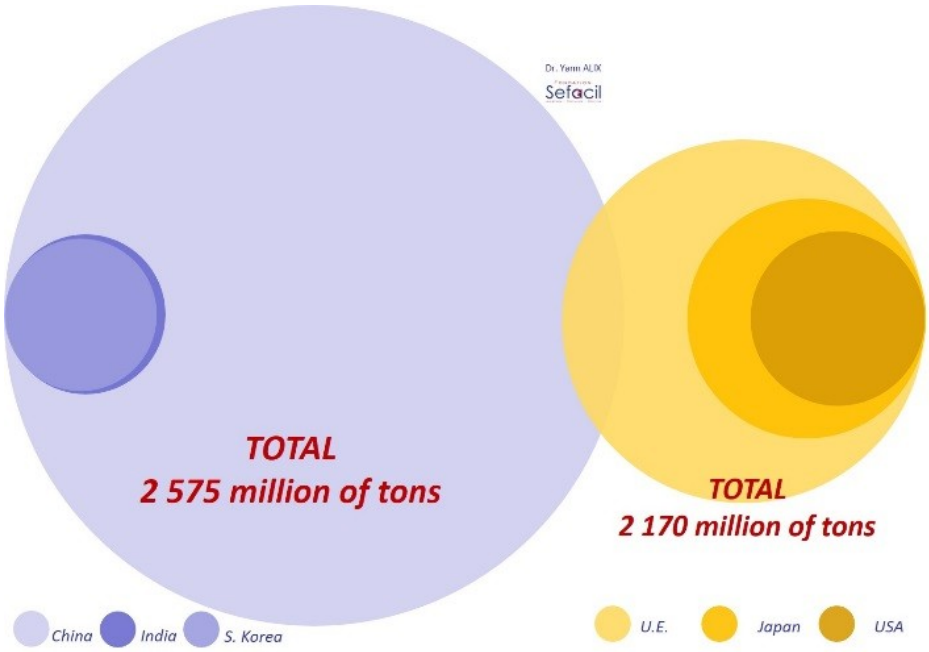
Source: internet

Consequently, transportation has appeared in the early 1980’ as a key strategic asset and one of the most prominent vehicles to spread-out some manufactured products to the entire World. It has paved the way for a full integration of mainland China into the global trade patterns. A unique Chinese domestic strategic planning hs been drawn over the past decade to link factories, logistics platforms, transportation inland corridors in order to disseminate flows from the shoreline to the hinterland and vice-versa. Global terminal operators have also played a

crucial role by investing billions into handling services. They engaged themselves into some concession processes to run and develop container activities. Supported by Beijing, some private terminal operators were invited to compete for signing some very attractive Public-Private-Partnership agreements.

The following two figures put into perspective the incredible volume of cargo handled nowadays on the maritime coastline of China. For the raw material only, China imports exceeded 2 billion of tons in 2014, almost the same tonnage for Europe, USA & Japan all together!

Figure 4: Imports of raw materials in 2014 – Comparison between Asia and other developed countries



Source: Yann Alix 2016 – Sefacil Foundation based on World Trade Organization Database

On the container side, five over the 10 first container ports in the world are now Chinese, compared with only two in the early 2000 and none in 1990! The pace of growth is breathtaking because Shanghai and Shenzhen together hit almost a 60 million TEUs in 2015, compared with 11,4 million only 15 years ago… and more or less “nothing” in 1990 except some feedering volumes served by mid-size ships coming from South Korea, Singapore and of course the port of Hong-Kong.

Figure 5: Top 10 container port – Situation in 1900, 2000 & 2015

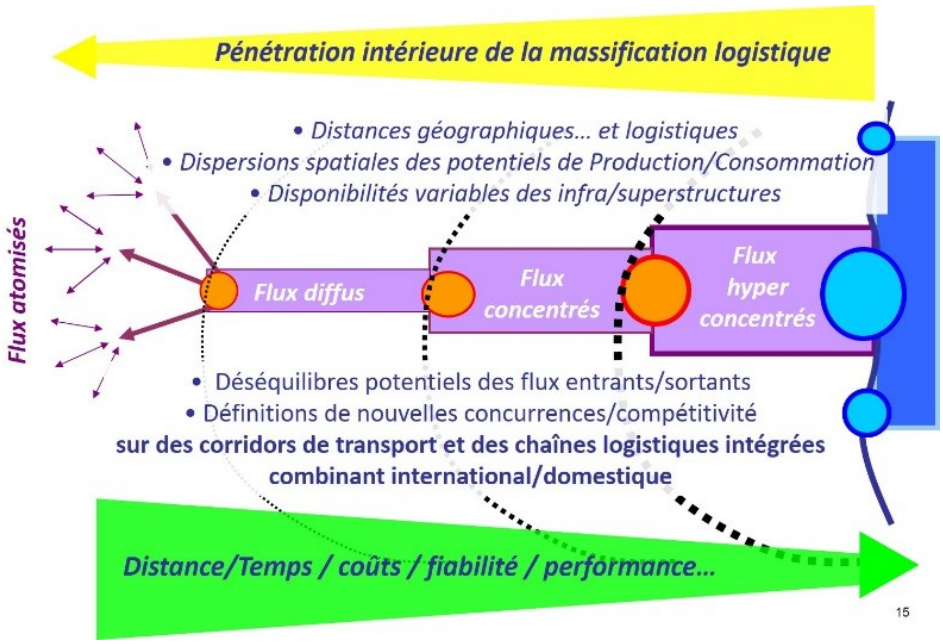
1990			*2000*			*2015*	
Singapour	5 223		Hong-Kong	17 862		Shanghai	29 070
Hong-Kong	5 101		Singapour	15 520		Singapour	28 431
Rotterdam	3 667		Busan	8 073		Hong-Kong	23 699
Kaoshiung	3 495		Kaoshiung	7 540		Shenzhen	22 510
Kobe	2 596		Shanghai	6 340		Busan	14 194
Los Angeles	2 587		Rotterdam	6 102		Ningbo	13 144
Busan	2 348		Los Angeles	5 183		Guangzhou	12 500
Hambourg	1 969		Shenzhen	5 076		Qingdao	12 012
NY-NJ	1 872		Hambourg	4 689		Dubai	11 600
Keelung	1 828		Long Beach	4 463		Rotterdam	11 148

Far-East Asia
Mainland China
Western Europe
United States of America
Middle-East

Source: Alix & Carluer, 2014

After clustering the Chinese booming economy on several chosen mega ports and mega-cities, Beijing moved forward at the end of 1990 and early 2000' to look deep inside the domestic opportunities. In order to do so, multimodal solutions and particularly some logistics integrated river-rail transportation services have been encouraged on premium corridors like Shanghai-Wuhan-Chongqing- Chengdu stretching along 3,000 kilometers as sketched on the figure hereafter.

Figure 6 – From the coastline to the countryside: the Chinese logistics challenge



Source: Yann Alix – Sefacil Foundation

II - Eurasian Railway Land bridges: logistics and politics

Far away from the Mainland market territories, Beijing has decided to go West by stretching close geopolitical relationships with almost all of the Central Asia. SCO and various other bilateral and multilateral agreements have been concluded to spread-out Chinese' influence onto those inland markets, badly connected to the global supply chain networks. Besides political and geopolitical arguments, Beijing has succeeded in deploying some of "all included transportation solutions" by bringing some very attractive financing tools. Papers and analysis of those initiatives has been extensively commented but the case of GT illustrates how inland Eurasian corridors are structured and deployed. Launched in 2008, GT is a Chinese joint-Venture encompassing the following public and private interests:

- The China National Silk Import & Export Corp.
- The Institute of Logistics & Transportation of CCTA (*China Communications & Transportation Association)*
- The Beijing Xingchang High-Tech Dvp. Co. Ltd
- And Century Top. Inc.

The Chinese exporters, some freight forwarders, a piece of academia and private investors are sharing this common official statement to explain why they are jointly committed into GT:

> "*Our logistics services consist of three sections: international block train transport, international road-rail-sea multimodal transport, international bulk and LCL cargos rail transport and logistics service. We also work as freight forwarder for door to door business and logistics services in both domestic and international areas. Apart from general cargo, GT is cooperating with its strong partners in both China and abroad to work together on hazardous and chemical cargos containers transport through Eurasia land bridge*".

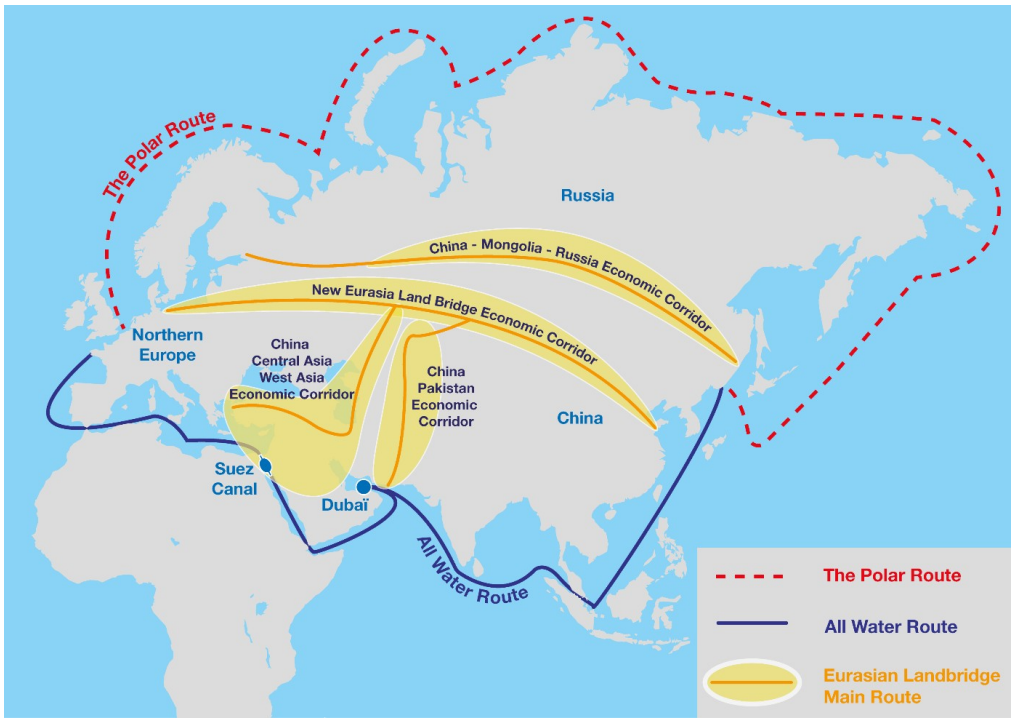
And one of the most relevant strategic and operational successes of GT has been to include the powerful *Deutsche Bahn* to plug Mainland China & Eurasian Markets to Central and Western Europe. The *MoU* signed in 2010 by the *Chinese Ministry of Railways* & *Deutsche Bahn* has brought some guarantees to future customers, shippers and logistics integrators to get an access to some serious and efficient railway services on a 10,000 kilometers long corridor.

Dr. Karl-Freidrich Rausch, member of the Board of DB Mobility Logistics AG summed-up the situation with his own words:

> "*The more Chinese production sites that move for the coast inland, the more interesting rail transport to Europe becomes for many manufacturers. We want to meet this demand".*

One role which has to be taken into account is the real business opportunities which might add values and volumes along the way. Collection, distribution and even transformation of goods have to be demonstrated and consolidated but in some countries like Kazakhstan, the Government has expressed their willingness to catch-up a larger piece of the Eurasian Supply Chain cake by encouraging some foreign direct investments on some strategic logistics hot spots like cross-borders station or inland logistics freight station nearby the largest cities. For instance, Druzhba on the southern route, crossing Ukraine and Kazakhstan without too many cross-borders checkpoints has turned over the past years as a crucial logistics center for transportation companies as well as for many stakeholders involved into Import/Export activities on the Central Asia market.

Figure 7 – Balancing strategic Eurasian inland supply routes to connect Mainland China to Europe



Source: Yann Alix, 2016

At the same time, the Kazakh Government is keen as well to set-up some logistics value-added services on local-regional products which might appear as very interesting extra-cargo to complete some services coming from or going to the Europe-China Markets. Those opportunities are included into some strategic planning processes driven mostly by public bodies but the main objective is to attract and consolidate FDI, whatever they come from China, Europe nor Russia or The Gulf States. Almost all the land locked countries have declared their readiness through attractive public policies, tax rebate programme as well as some direct public incentives for logistics investments onto their territories. Those inland territories are perceived by FDI as tremendous potential of growth with the progressive emergence of a middle-class, improving banking conditions, increase of domestic consumption and finally some better political condition. Consequently, inland transportation corridors are viewed as strategic assets for the regional trade facilitation. Economic liberalization goes with some symbols like inclusive cross-border management processes imposed by Kazakhstan and its neighboring countries.

Very ambitious railways programmes have already been revealed in Mongolia to play a pivotal role on the flows circulating between China, South Korea, Russia and far beyond toward the West. The historical route Ekaterinburg-Irkutsk-UlaanBaatar-Beijing must be revamped thanks to international loans, Chinese direct investment and Mongolian inputs. Since the beginning of the 2010, the Mongolian Government argued to target the very optimistic record of 100 millions of tons of goods for 2020, bearing in mind 2014 has registered only 20 million on the national railway network.

The Russian-Mongolian and Sino-Mongolian trade turnover are expected to exceed 10 billion US$, mostly thanks to transportation modernization and better inclusion of Mongolia into Russia-China-Korea business trade relationships.

Figure 8 – Side-effect: the biggest Mongolian popular market in Ulaan Baatar is made with old maritime containers

Source: Yann Alix, 2016

More or less the same logistics story can be enlightened concerning the future railway freight route which is supposed to connect the southern part of Mainland China (starting from the Shenzhen special economic zone) to Turkey. Some historical political antagonism has been polished and Bangladesh, India, Pakistan and the Republic of Iran have finally been politically approached on bilateral basis by Beijing to anchor the global project. Yunnan Province has played a crucial role to promote this third Eurasia land bridge. The main argument is based on the positive direct effects of such logistics shortcut for domestic markets. Shippers ‘strategies and nature of cargo are amongst the

decisive factors when it is time to legitimate such ground investments. With the opening of the Iranian market which weight 80 millions of potential consumers, Beijing has intensified its political and economic relationships with Tehran. Last February, 15th, 2016, 32 containers has been celebrated at the Central Station of Tehran after 9,500 kilometers from Zhejiang Province, crossing Kazakhstan and Turkmenistan territories thanks to the strong and symbolic support of their own national railway companies.

Figure 9 – The first container block train from Zhejiang, arriving at Tehran in collaboration with Kazakh and Turkmen national railways.

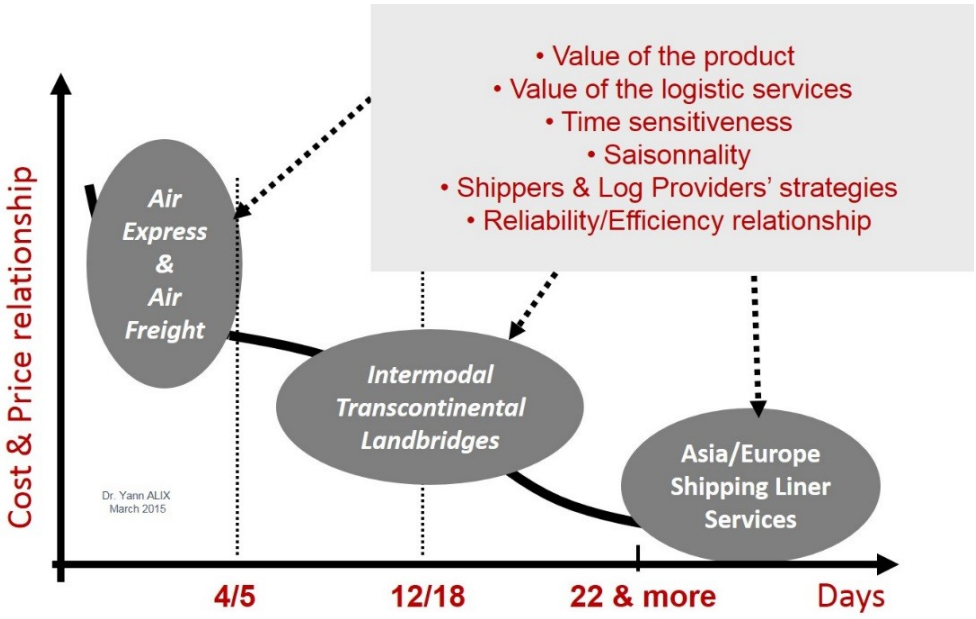
Source: The International Chamber of Commerce of the Republic of Iran

Dr. Abbas Akhoundi, Minister of transport, has reminded last January in Paris during the official France-Iran Business Forum, its targets to deploy 50,000 rolling stocks on the domestic railway freight network. He recalled the crucial role of the main port of Bandar Abbas to enhance Iran's connectivity to the global trade patterns. Actually, more or less 1,5 millions of TEUS are handled on the container terminal but it is 8 million which are expected for 2020! The Republic of Iran might probably be a real game changer in a foreseeable future into the global pattern of flows circulating between Europe, Mid-East, Central Asia as well as Mainland China and even Africa.

III - Polar Route: Chinese maritime shortcut or Russian Gateway?

One sketch to introduce the case of the Polar Route: we have to bear in mind the fact that a minimum of volume of cargo, weighing a minimum of value is absolutely needed in order to support the huge amount of investment required to deploy some alternative routes at the all water services across the Suez Canal. The cost and price relationships is a fundamental element to take into consideration and on such basis, the Polar Route appears unequivocally not suitable, even for the high value product in competition with air freight.

Figure 10 – Shippers 'strategies and nature of freight: from air to rail to sea transportation



Source: Yann Alix, Fondation Sefacil 2015

Despite some pioneered experience extensively reported all over the World by the media, there is no serious signal of a real shift of paradigm. Just consider the experimental voyage of the Yong Sheng from China Ocean Shipping Company (COSCO): it is the first time a Chinese merchant vessel completes the Northern Route to arrive at Rotterdam on Sept, 10th, 2013. The shortcut means from a shipping perspective a saving of 9 days. The conventional route transiting the Strait of Malacca and the Suez Canal is 2,800 nautical miles longer as well. The equation is quite simple: on one hand, time and bunker are obviously reduced; on the other hand, the Northern Route can't beat the economies of scale generated by an Ultra Large Container Ship over 18,000

TEUS'. Considering the balancing relationship between cost and risk, whatever are the arguments served by the Russian, the polar route is still the costly and risky segment for the transportation of goods between Northern Europe, Russia and Northern China. There is not enough places of refuge in case of emergency. There is not enough highly specialized assets to assist a vessel into the ice. There is not enough investment made by Russia to accommodate some infrastructures to serve international ships on transit.

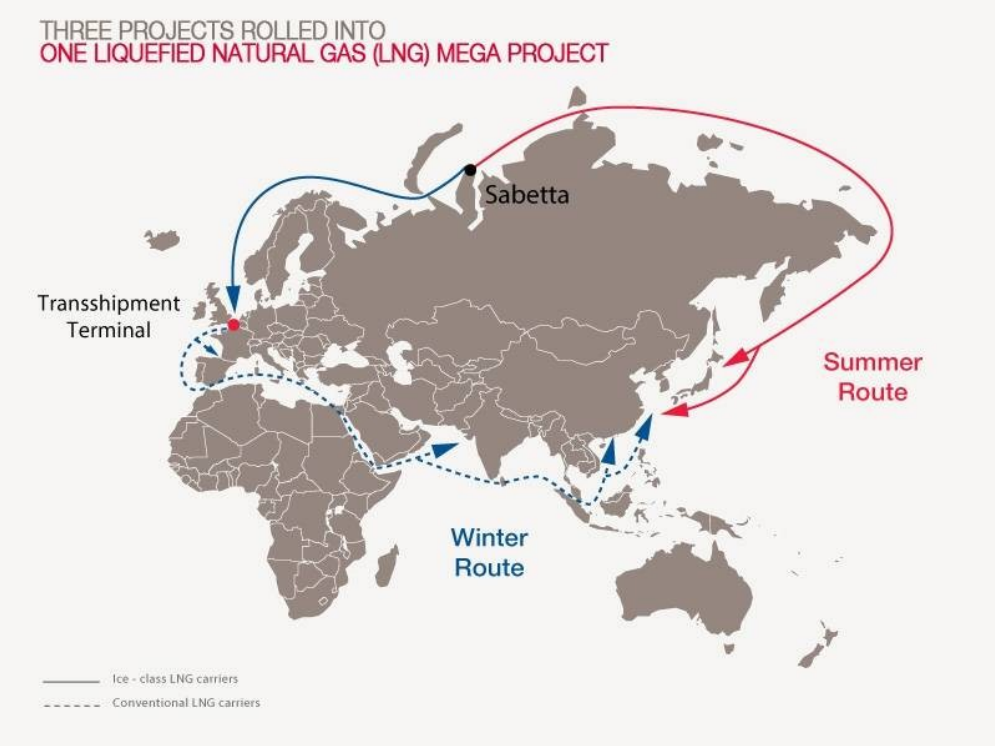
Figure 11 – Very small Chinese vessel are testing over the past year the technical and nautical feasibility of the Artic Polar Route

When some Chinese interests argue by 2020 as much as 15 percent of the country's international trade can be shipped through the Artic, it just appears as a nonsense. By saying that, it does not mean the Artic Route is not extensively used to trade… by and for some Russian interests. The Arctic represents a new frontier to be explored for energy as well as for mining. Thousands of kilometers of coastal opportunities are now open for Russia with the climate change effect. The case of the port of Yamal is reflecting what could be the future of the nautical activities in the Arctic. In fact, the port of Yamal is now an industrial reality thanks to the exploitation of LNG fields located on the Yamalo-Nenets district. Despite tremendous cost linked to the extreme natural condition, the identified volume turns this project into a very competitive one with some contracts already concluded to feed the European market.

The summertime is maximized for solving logistics issues with a maritime service connecting northern Far East to the port of Sabetta which has been designed to receive LNG supply. According to Total, the port should take a delivery of 150 modules representing 450,000 metric tons of cargo using 20 vessels on the sole Sabetta-Asia leg. On the other hand, the same port of Sabetta will serve to export the Russian Arctic LNG, essentially to Europe where a transshipment terminal will be activated to

accommodate a fleet of LNG icebreaker with a capacity of 170,000 cubic meters for the biggest ones.

Figure 12 – Arctic Route is already a reality to evacuate energy and mining cargo from Siberia



Source: Total Website

Figure 13– Winter view of the port and industrial complex of Yamal in Siberia

Source: Total Website

Yamal looks as the very first complex project to be supported by FDI and Russian interests. From a geostrategic point of view, the question now is how the climate change appears as a dramatic changing factor to seriously consider Siberia as the last frontier to be explored and developed. In other words, some huge amount of investments might be injected in the next decade to set up a strategic network of port-cities along the thousands kilometers of coastline. Consequently, those future extensive port infrastructures should be available in a foreseeable future and therefore being activated as well to assist and support commercial shipping services between Northern Asia and Northern Europe. Moreover, we easily can compare the opportunities carried out in Siberia as the ones supported in central Asia landlocked countries. For the Arctic shipping shortcut, those port-cities on the Russian coastline represent as many as opportunities of cargo to be loaded, unloaded or even transshipped. The Siberian market has to be added into the future business model promoted by shipping lines as well as by officials from Beijing, Moscow and various other places in Europe like Hamburg or Rotterdam.

Conclusion

The all-water would keep a noteworthy market share of the China-Europe trade despite an astonishing 800,000 US$ fee to cross the Canal of Suez for the biggest containerships. Over the past months, most of the shipping companies live very harsh times with an overwhelming overcapacity generating very poor revenues. Consequently, the freight rates are still very low which benefit to the shippers who are keen to fill boxes for just a couple of hundred dollars all included. The competitive advantage of the

all-water route is incomparable whatever we talk about container, energy, mining products, agro-business, etc.

For the Eurasian land bridge solution, despite the fact most of the inland landlocked countries of Central Asia are definitely engaged to facilitate trade and flows, it is useful to remind how dependent those routes are from the billions injected by Beijing. From a pure economic and logistics perspective, Eurasian land bridge can be seen as Trojan horse to penetrate those huge markets distributed from the borders of the Eastern fringes of Europe up to the western territories of Mainland China, encompassing newcomers like the Republic of Iran.

And finally, the Polar Route appears as a third option combining geostrategic considerations supported by Moscow and willingness from Beijing to connect the Northern part of Mainland China to Siberia and Northern Europe by using a shipping shortcut. Actually, and despite some considerable reserve of natural resources into the iced land of Siberia, the Polar Route is still a non-sense from a pure commercial perspective. The Ice-Class ship scheduled to be launched are not comparable at all with the big ones sailing on the tropical waters of the south. Nevertheless, if Moscow decides to encourage some people to settle in on the coastline with very attractive condition of living, thus those wild territories might become new Eldorado. Logistics stopover would be stimulated by the demand generated by new settlements and industrial activities. The Polar Route would not be assumed as just a pure shortcut to transit between Europe and Asia but with a combination of opportunities with cross-trade flows. And why not considering one day some transshipment hub connecting Siberian block trains and Europe-Asia cargo?