

دراسة مُقدمة إلى
المؤتمر الدولي للنقل البحري واللوجستيات
(مارلوج 5) 13 – 15 مارس 2016
**Port of the Future:
A Sense of Wonder**

إعداد

لواء بحرى أ ح / حاتم القاضي
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ورئيس الاتحاد العربي لغرف الملاحة البحرية



البنود الرئيسية :

1- حجم التجارة العالمية وموقف التجارة العربية واتجاهاتها مع المناطق المختلفة

Intra and Inter-Regional Merchandise Trade – 2013/2014

2- تجارة البحر المتوسط و البحر الأحمر العابرة لقناة السويس و تأثير ذلك على رؤيتنا المستقبلية للمواني المصرية

Main Cargo Flows Southbound through the Suez Canal**Main Cargo Flows Northbound through the Suez Canal**

3- التنافسية في أداء الأعمال

Mediterranean Basin is Becoming a Central Item in the World Agenda

4- ما هو الشكل الأنسب للمواني المصرية

Ranking of Container Hub Ports in the Mediterranean Basin

5- أهمية تحديد الرؤية المستقبلية و الأهداف للمواني المصرية

Container Freight Markets Nowadays

6- رؤية حول الموقف العالمي والعربي للخدمات اللوجيستية في تيسير التبادل التجارى العربى دولياً و بينياً

(LOGISTICS PERFORMANCE INDICATORS)**(Doing Business Indicator)**

7- رفع مستوى الأداء مع تقليل التكلفة لزيادة التنافسية و الحل هو

Customs not to be barriers but to be GATEWAY**Solution Towards SMART PORTS****Port of the Future: A Sense of Wonder**

Intra and Inter-Regional Merchandise Trade – 2013

Source :World Trade Statistics – 2014 Report

USD Bn

Value	NORTH AMERICA	SOUTH AND CENTRAL AMERICA	EUROPE	CIS	AFRICA	MIDDLE EAST	ASIA	WORLD
World	3082	782	6669	566	618	760	5423	18301
North America	1189	216	368	19	40	78	501	2418
South and Central America	178	195	121	9	20	18	178	736
Europe	506	129	4560	253	222	220	667	6646
Commonwealth of Independent States (CIS)	33	9	407	149	13	19	139	779
Africa	54	30	216	2	97	18	160	602
Middle East	110	11	143	6	38	135	703	1347
Asia	1012	191	855	128	188	270	3076	5773
Share of regional trade flows in each region's total merchandise exports								
World	16.8	4.3	36.4	3.1	3.4	4.2	29.6	100.0
North America	49.2	8.9	15.2	0.8	1.7	3.2	20.7	100.0
South and Central America	24.2	26.6	16.4	1.2	2.7	2.5	24.1	100.0
Europe	7.6	1.9	68.6	3.8	3.3	3.3	10.0	100.0
Commonwealth of Independent States (CIS)	4.2	1.2	52.2	19.1	1.7	2.5	17.8	100.0
Africa	8.9	4.9	35.8	0.3	16.2	3.0	26.6	100.0
Middle East	8.2	0.8	10.6	0.5	2.8	10.1	52.2	100.0
Asia	17.5	3.3	14.8	2.2	3.3	4.7	53.3	100.0

TOWARDS SMART PORTS

13 - 15 MARCH 2016

طريق الحرير الصيني و أهمية تنمية الموانئ المصرية

The new silk routes: road, rail, sea and air



Source: FT research, Asian Development Bank, Global Insight, Nomura International (HK) Limited

Port of the Future: A Sense of Wonder

خريطة الخطوط الملاحية التي تمر خلال قناة السويس و أهمية تنمية الموانئ المصرية

تسمية محور قناة السويس (SCC) Development of Suez Canal Corridor



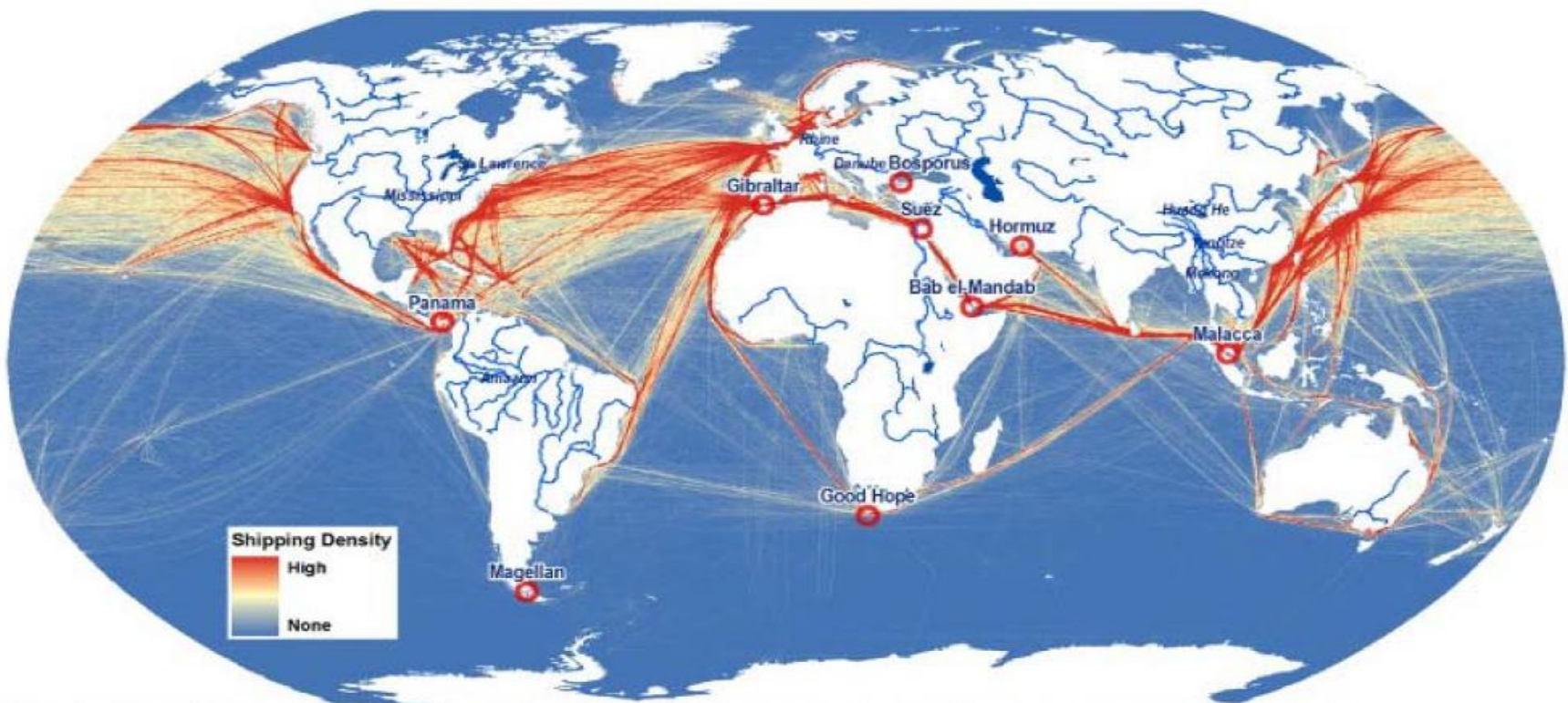
10 % of world trade
20 % of world container trade



Port of the Future: A Sense of Wonder

خريطة الخطوط الملاحية التي تمر خلال قناة السويس و أهمية تنمية الموانئ المصرية

4.7 World ports : density of maritime transport (2014)



Source: Shipping density data adapted from National Center for Ecological Analysis and Synthesis, A Global Map of Human Impacts to Marine Ecosystems.

Port of the Future: A Sense of Wonder

خريطة الخطوط الملاحية التي تمر خلال قناة السويس و أهمية تنمية الموانئ المصرية في البحر المتوسط

4.8 Economy development and maritime transport



University of Strathclyde
 National Technical University of Athens
 Universidad Politecnica de Madrid
 Oceanfinance
 UniGe



Circle
 CIMNE
 Regione Liguria
 Magellan
 Universidade Nova De Lisboa

Northbound Cargo Ton by Region - Jan. - Dec. (2015)

5- تقرير واحصائيات
هيئة قناة السويس لعام
2016

45.4 %

54.6 %

57.7 %

42.3 %

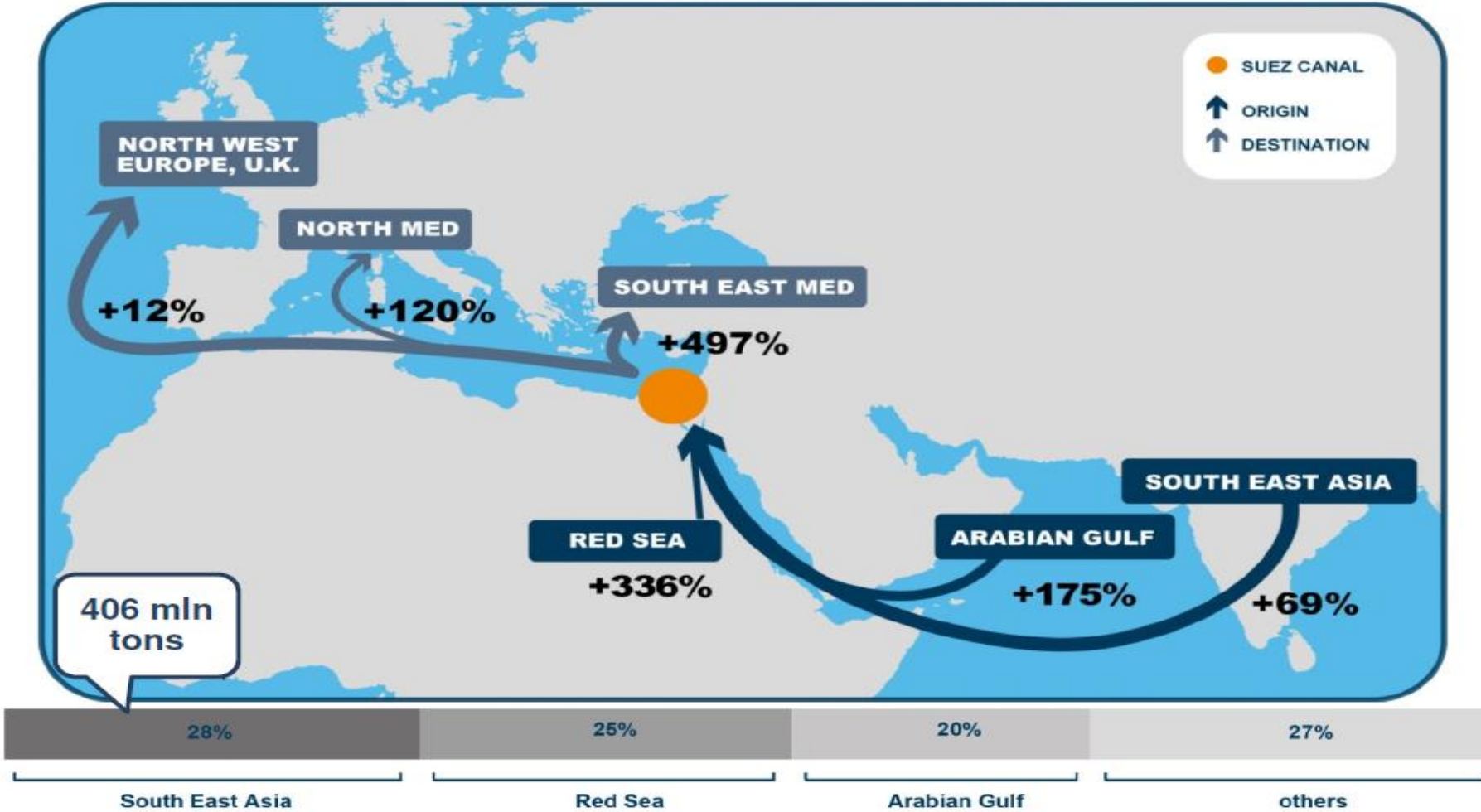


Region	Cargo Ton (1000)	Share in Total %
Origins		
Red Sea	49592	12.2
East Africa & Aden	574	0.1
Arabian Gulf	134190	33.1
South Asia	42356	10.4
South East Asia	167097	41.2
Far East	8761	2.2
Australia	2739	0.7
Others	395	0.1
Total	405704	100.0
Destinations :		
East, S.E. Med.	107356	26.5
North Med.	76035	18.7
West, S.W. Med.	45632	11.3
Black Sea	5042	1.2
North, West Euorpe & U.K.	118518	29.2
Baltic Sea	432	0.1
America	43337	10.7
Others	9352	2.3
Total	405704	100.0

Source : PhD. A. Haggag – Suez Canal Authority - 2016

Port of the Future: A Sense of Wonder

Main Cargo Flows Northbound through the Suez Canal. Var. % 2001-2014



Source : The New Suez Canal : SRM – Italy – November 2015

Port of the Future: A Sense of Wonder

تقرير واحصائيات هيئة قناة السويس لعام 2016

Southbound Cargo Ton by Region - Jan. - Dec. (2015)

Region	Cargo Ton (1000)	Share in Total %
Origins		
East, S.E. Med.	61147	14.7
North Med.	83917	20.1
West, S.W. Med.	43212	10.4
Black Sea	80926	19.4
North, West Euorpe & U.K.	102569	24.6
Baltic Sea	6698	1.6
America	28423	6.8
Others	10320	2.5
Total	417212	100.0
Destinations :		
Red Sea	107252	25.7
East Africa & Aden	4167	1.0
Arabian Gulf	87386	21.0
South Asia	35984	8.6
South East Asia	114234	27.4
Far East	66722	16.0
Australia	1448	0.4
Others	19	0.0
Total	417212	100.0

64.6 %

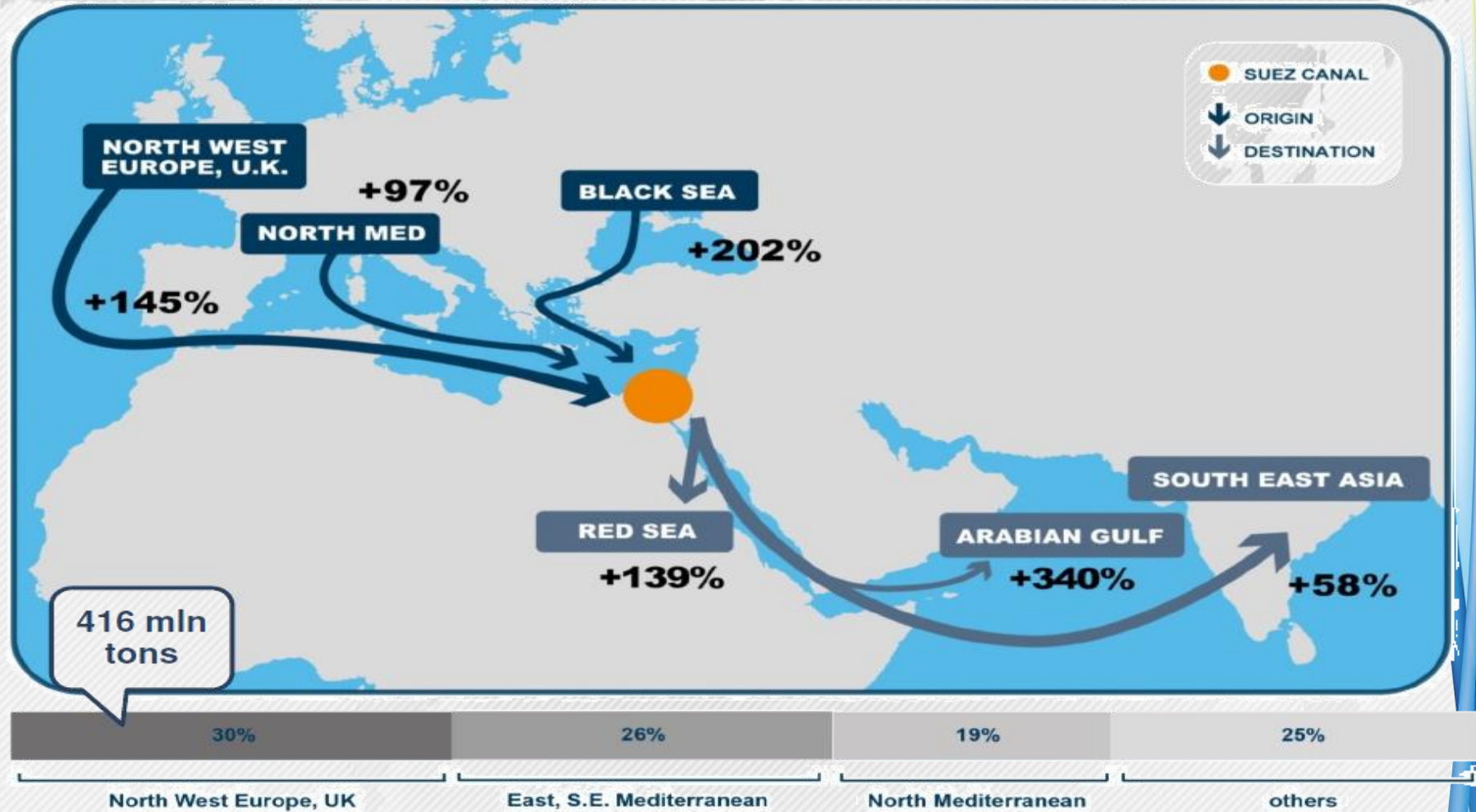
35.4 %

47.7 %

52.3 %



Main Cargo Flows Southbound through the Suez Canal. Var. % 2001-2014



Source : The New Suez Canal : SRM – Italy – November 2015

Port of the Future: A Sense of Wonder

Northbound

Region	Cargo Ton (1000)	Share in Total %
Origins		
Red Sea	49592	12.2
East Africa & Aden	574	0.1
Arabian Gulf	134190	33.1
South Asia	42356	10.4
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42.3 %

Southbound

Region	Cargo Ton (1000)	Share in Total %
Origins		
East, S.E. Med.	61147	14.7
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Others	19	0.0
Total	417212	100.0

64.6 %

35.4 %

47.7 %

52.3 %

Total Cargo Ton (From & To) by Region - Jan. - Dec. (2015)

Region	Cargo Ton (1000)	Share in Total %
North the Canal:		
East, S.E. Med.	168503	20.5
North Med.	159952	19.4
West, S.W. Med.	88844	10.8
Black Sea	85968	10.5
North, West Eurorpe & U.K.	221087	26.9
Baltic Sea	7130	0.9
America	71760	8.7
Others	19672	2.4
Total	822916	100.0
South the Canal :		
Red Sea	156844	19.1
East Africa & Aden	4741	0.6
Arabian Gulf	221576	26.9
South Asia	78340	9.5
South East Asia	281331	34.2
Far East	75483	9.2
Australia	4187	0.5
Others	414	0.1
Total	822916	100.0

61.2 %

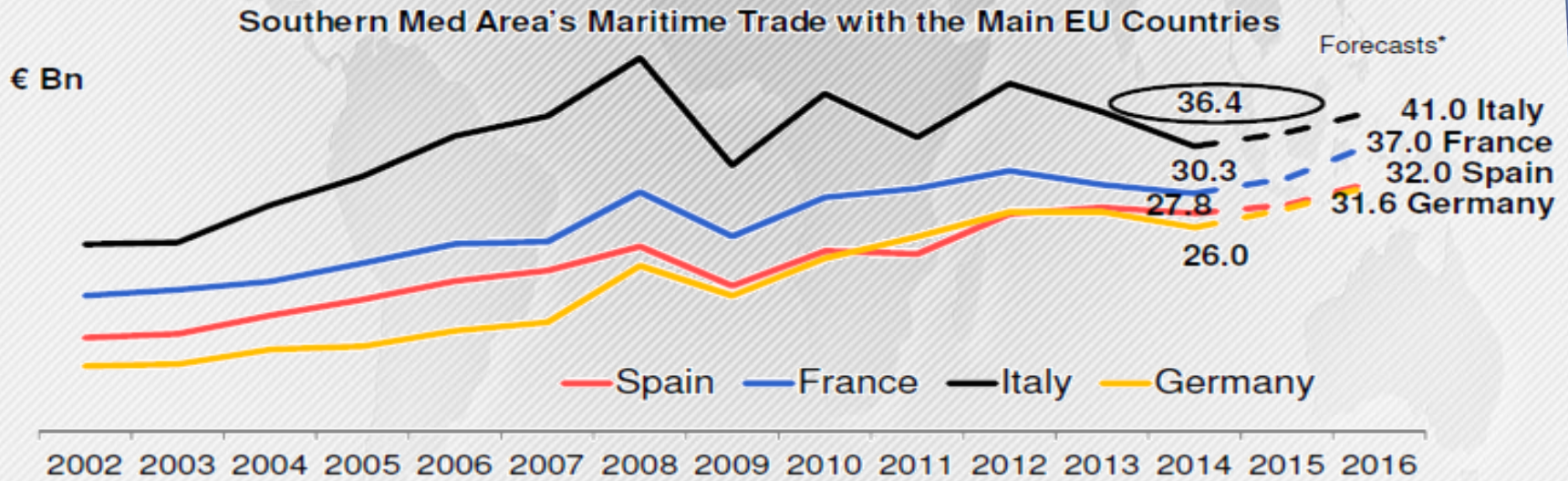
46.6 %

Source : PhD. A. Haggag – Suez Canal Authority - 2016

Port of the Future: A Sense of Wonder

The Mediterranean Basin is Becoming a Central Item in the World Agenda: Italy is 1st in Sea Trade

- The freight traffic in the Med basin increased by more than 120% in the 2000-2014 period.
- The Mediterranean catches around 19% of the global freight traffic; the percentage was 15% in 2005.
- With € 36.4 bn, Italy is the biggest sea trade partner of the South Med Area.
- 76% of trade between South Med Area's and Italy travels by sea.



Forecasts*

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

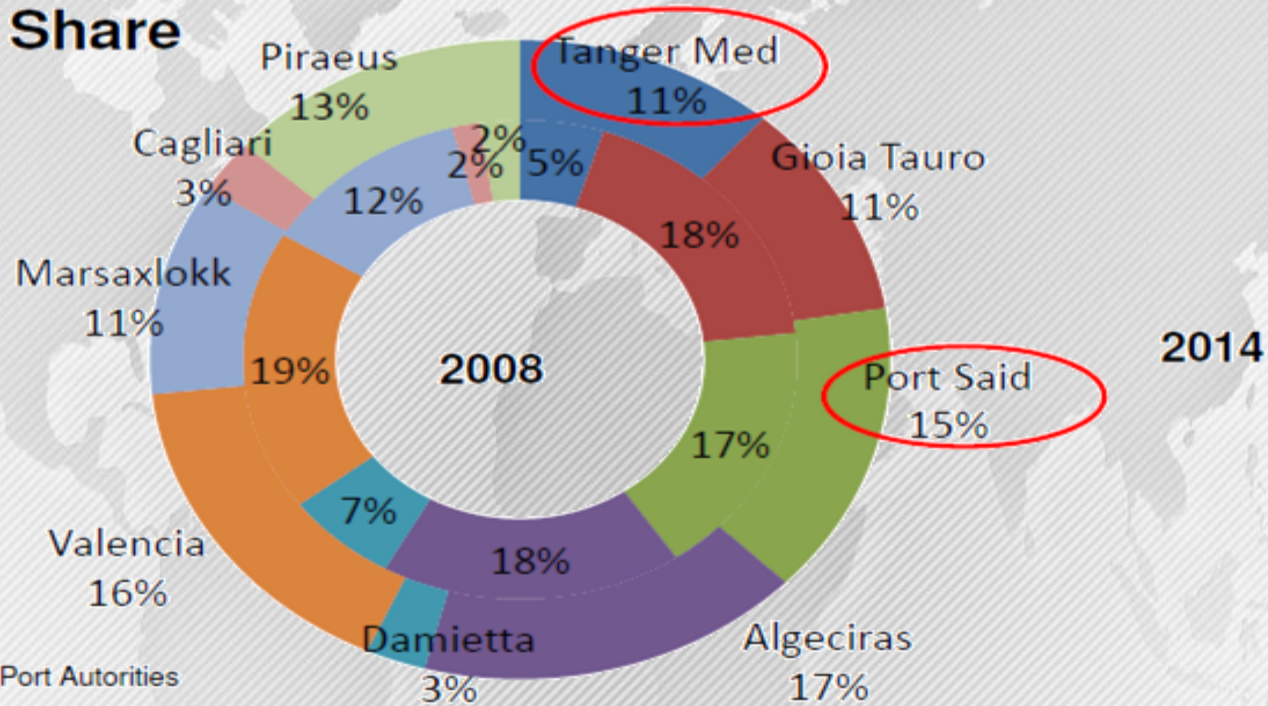
Fonte: Eurostat, 2015

* Forecasts SRM

Source : The New Suez Canal : SRM – Italy – November 2015

Port of the Future: A Sense of Wonder

Ranking of Container Hub Ports in the Mediterranean Basin: the Market Share



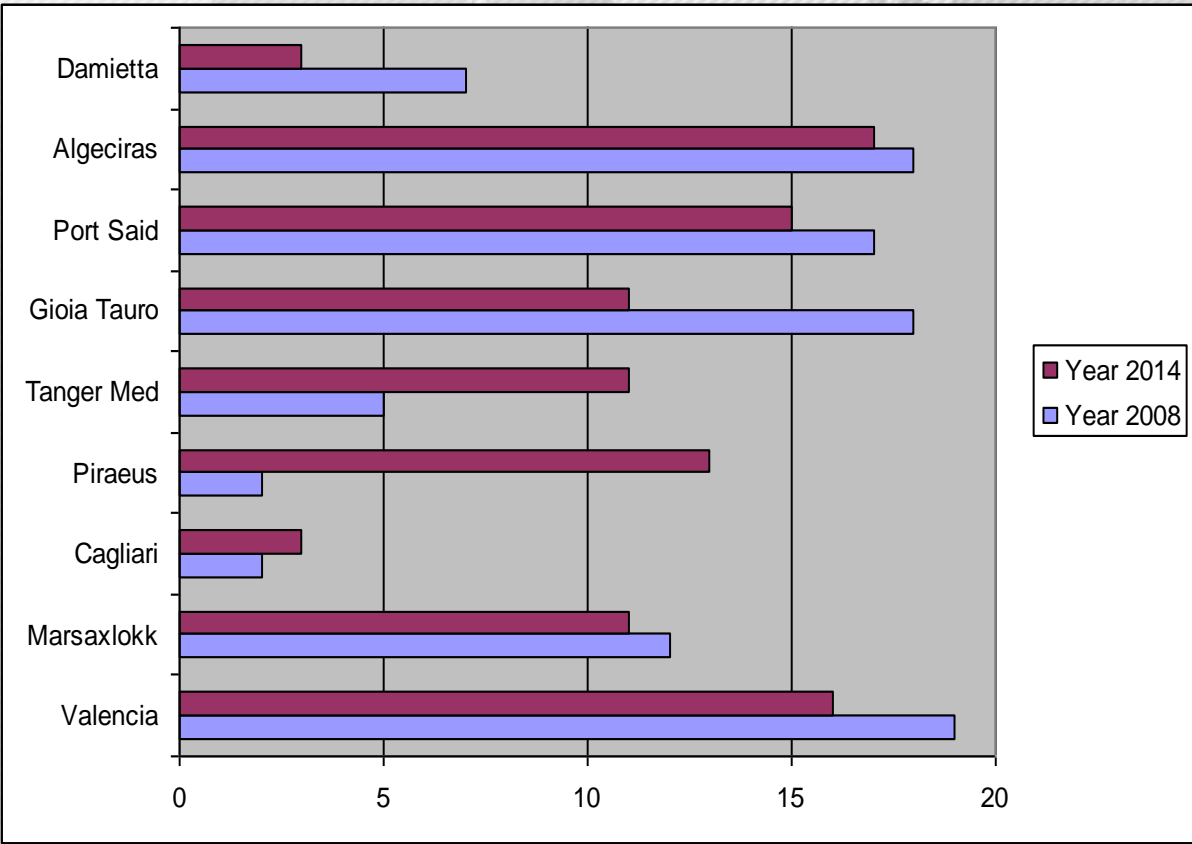
Source: SRM on Port Authorities

- 2009–2014: The Market Share of **Southern Hub Ports** (Tanger Med; Port Said; Damietta) is **stable at 30%**. **Algeciras ranks 1st**.
- **Tanger Med and Piraeus** have had a dramatic growth.
- **Egypt plans** completed a **side channel** in the East Port Said Port near the Suez canal in order to speed up shipping and **allow ships to enter the port** end of February 2016 this new side channel will increase traffic and save time

Port of the Future: A Sense of Wonder

Ranking of container hub ports in the Mediterranean Basin : The Market Share

	Year 2008	Year 2014
Valencia	19	16
Marsaxlokk	12	11
Cagliari	2	3
Piraeus	2	13
Tanger Med	5	11
Gioia Tauro	18	11
Port Said	17	15
Algeciras	18	17
Damietta	7	3



Market Share Percentage :%

Source : The New Suez Canal : SRM – Italy – November 2015

TOWARDS SMART PORTS

13 – 15 MARCH 2016

Main Northbound Cargo by Region

(1000 Ton)

Region	Oil & Products	L N G	Fabricated Metals	Vegetable Oil	Coal & Coke	Chemicals	Fertilizers	Others	Total
Origins :									
Red Sea	5743	226	2249	603	82	2577	755	40239	52474
East Africa	0	0	0	0	1954	20	0	94	2068
Arabian Gulf	81710	18723	1170	0	67	4964	5236	25329	137198
South Asia	11223	2	1618	900	176	631	32	24132	38714
South East Asia	3010	2	5198	9078	6045	1915	690	135318	161257
Far East	874	4	1413	71	335	102	246	9491	12536
Australia	0	0	0	0	1604	40	0	201	1845
Others	0	0	0	0	171	0	0	33	204
Total	102,560	18,958	11,647	10,651	10,434	10,248	6,960	234,838	406,296
Destinations :									
East & S.E. Mediterranean	20408	828	4884	1106	3021	1572	1573	70105	103497
North Mediterranean	20324	4046	2072	2498	4583	1277	241	43014	78055
West & S.W. Mediterranean	9901	2721	2402	2374	1010	3057	502	25293	47260
Black Sea	81	0	266	731	1276	41	389	855	3639
North , West Europe	30759	10365	1353	3788	521	2252	365	73319	122722
Baltic Sea	65	0	44	0	0	0	109	270	488
America	20186	998	625	155	22	523	3781	13139	39429
Others	836	0	0	0	0	1527	0	8843	11206
Total	102,560	18,958	11,647	10,651	10,434	10,248	6,960	234,838	406,296

%47

21 %

**WITHOUT
Petrol &
Gas**

%57

42 %

**WITHOUT
Petrol &
Gas**

تقرير واحصائيات هيئة قناة السويس لعام 2014

Port of the Future: A Sense of Wonder

TOWARDS SMART PORTS

13 – 15 MARCH 2016

Main Southbound Cargo by Region (2014)

(1000 Ton)

Region	Oil & Products	Cereals	Ores & Metals	Fertilizers	Fabricated Metals	Chemicals	L N G	Others	Total
Origins :									
East, S.E. Med.	17850	746	1,725	444	3,477	600	274	36,482	61,597
North Med.	9337	944	600	487	442	483	55	66,318	78,667
West, S.W. Med.	12061	1,296	331	1,261	231	2,214	3,761	21,343	42,497
Black Sea	18495	23,295	21,958	2,722	3,907	1,408	0	6,615	78,399
North, West Europe & U.K.	12639	5,551	5,368	797	1,344	1,171	1,198	75,506	103,574
Baltic Sea	2393	3,113	701	3,948	73	60	0	667	10,955
America	3244	3,865	1,117	542	1,418	429	658	16,704	27,977
Others	297	60	189	1,281	0	2,086	0	8,469	12,381
Total	76,316	38,870	31,989	11,481	10,892	8,451	5,946	232,104	416,048
Destinations :									
Red Sea	12956	16,879	1,818	583	4,488	1,190	127	64,250	102,291
East Africa & Aden	20	1,845	30	237	86	0	0	2,143	4,361
Arabian Gulf	4632	10,920	4,697	476	3,342	353	876	58,452	83,748
South Asia	6410	1,439	830	5,504	636	4,275	581	22,728	42,403
South East Asia	33091	1,996	4,039	2,903	1,970	1,479	915	70,990	117,383
Far East	18978	5,754	20,574	1,723	370	1,153	3,448	12,103	64,103
Australia	229	38	0	54	0	0	0	1,437	1,758
Others	0	0	0	0	0	0	0	0	0
Total	76,316	38,870	31,989	11,481	10,892	8,451	5,946	232,104	416,048

%62

42 %

WITHOUT

Petrol &

Gas

45 %

%34

WITHOUT

Petrol &

Gas

(CONTAINER FREIGHT MARKET)
رؤية حول الموقف العالمي للنوالين البحرية الحالية

Ex-Shanghai to :	2014 avg.	Apr-15 avg.	May-14 avg.	Jun-14 avg.	Q2 2015 avg.	Trend vs Q2 2014
Comprehensive Index	1,072	748	731	601	698	-36%
Europe \$/TEU	1,172	414	576	320	435	-64%
Med. \$/TEU	1,375	594	707	410	572	-62%
WC America \$/FEU	1,975	1,714	1,526	1,321	1,535	-17%
EC America \$/FEU	3,727	3,808	3,221	2,973	3,370	2%
PG & R.Sea \$/TEU	822	615	617	508	583	-43%
Aust/NZ \$/TEU	682	529	432	306	430	-26%
E/W Africa \$/TEU	1,838	1,518	1,437	1,295	1,424	-25%
S.Africa \$/TEU	758	673	630	607	640	-4%
S.America \$/TEU	1,111	566	599	359	513	-40%
W. Japan \$/TEU	259	87	84	81	84	-75%
E. Japan \$/TEU	273	91	103	111	101	-68%
SE Asia \$/TEU	233	213	198	180	198	-17%
Korea \$/TEU	186	203	190	152	183	-10%
Tawian \$/TEU	220	208	206	203	206	-6%
Hong Kong \$/TEU	65	56	57	57	57	-15%

Note : Full details of destination base ports and other information available from SSE.

Source : Shanghai Shipping Exchange.

المصدر : Clarksons Research Third Quarter 2015

حالياً انخفض النولون الى اوروبا / البحر المتوسط الى 205 دولار للحاوية النمطية في منتصف يونيو 2015 بنسبة انخفاض 81% وكذلك انخفضت النوالين الى كلاً من موانئ البحر الاحمر والخليج العربي

Port of the Future: A Sense of Wonder

رؤية حول الموقف العالمي للنوازل البحرية الحالية

Shanghai Containerized Freight Index



Port & Shipping News 01/16 (04 – 10 Jan 2016)

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Port of the Future: A Sense of Wonder

رؤية حول الموقف العالمي والعربي للخدمات اللوجيستية في تيسير التبادل التجاري العربي دولياً وبينياً
 (LOGISTICS PERFORMANCE INDICATORS)

LPI's (2014) AND DOING BUSINESS (2015) RANKINGS

Economy	LPIs Rank	DB RANK	Economy	LPIs Rank	DB RANK
Germany	1	14	Oman	59	66
Netherlands	2	27	Egypt	62	112
Singapore	5	1	Jordan	68	117
United Arab Emirates	27	22	Lebanon	85	104
Qatar	29	50	Tunisia	110	60
Turkey	30	55	Libya	118	188
Israel	41	40	Iraq	141	156
Saudi Arabia	49	49	Mauritania	148	176
Bahrain	52	53	Sudan	153	160
India	54	142	Syria	155	175
Kuwait	56	86	Somalia	160	***

Source : Connecting to Compete 2014 - Trade Logistics in the Global Economy -Doing business Report 2015

Port of the Future: A Sense of Wonder

تابع رؤية حول الموقف العالمى والعربى للخدمات اللوجيستية فى تيسير التبادل التجارى العربى دولياً وبينياً
(LOGISTICS PERFORMANCE INDICATORS)
(DOING BUSINESS INDICATORS)

LPI's

- Port infrastructure
- Airports infrastructure
- Road infrastructure
- Rail infrastructure
- Warehousing and transportation
- Telecommunications and IT services

Doing business (for Export/Import)

- Number of documents
- Time and Procedures
- Costs of services per container TEU...

- Customs not to be **barriers** but to be **GATEWAY**



يبدأ التخطيط بوضع الأهداف
وتبسيط الإجراءات و تأسيس
البنية التحتية و المعلوماتية
لإستيعاب النمو والتطوير
المطلوبان

وكمثال على ذلك :-

يمكن تطوير أحد الموانئ علي البحر المتوسط
ليصبح الميناء المُجهز لنقل البضائع للقاهرة وذلك
من خلال طرح الرصيف المخصص للحاويات
وخط سكة حديد ومحطة (او اكثر) لتداول
البضائع ليكونوا بالقرب من مناطق الاستهلاك
والانتاج بالقاهرة الكبرى .



وسوف تساعد هذه الخطة علي تحويل ما لا يقل عن 1500 سيارة نقل يوميا
من الطريق و البدء في تنظيم نقل البضائع.



Source : <https://pacifictycoon.wordpress.com/tag/rail-transport/>

The Mundra-Kishangahr rail corridor extends to the Mundara port

India's largest multi-port operator, released its fiscal year results on March 31st of 2015.

Total income for the year was up 36%. Net profit is up 41%.

The solution

Now

Let's Start for doing Business towards:

- **Smart Ports**
- **Smart Logistics**
- **Smart Area**
- **Smart Country**

مما سبق فإننا نرى ان الحل هو العمل على :

رفع مستوى الأداء في منظومة الموانئ المصرية مع تقليل التكلفة لزيادة التنافسية سواء في مؤشر الخدمات اللوجيستية و كذا مؤشر نجاح الأعمال و السبيل لتحقيق ذلك هو العمل على إنشاء منظومة الموانئ الذكية SMART PORTS

و تتركز الرؤية الخاصة بالموانئ الذكية SMART PORTS في ما يلي :





Internet of Terminals

تكامل في منظومة العمليات في محطات الحاويات و البضائع

Internet of Terminals (IoT)

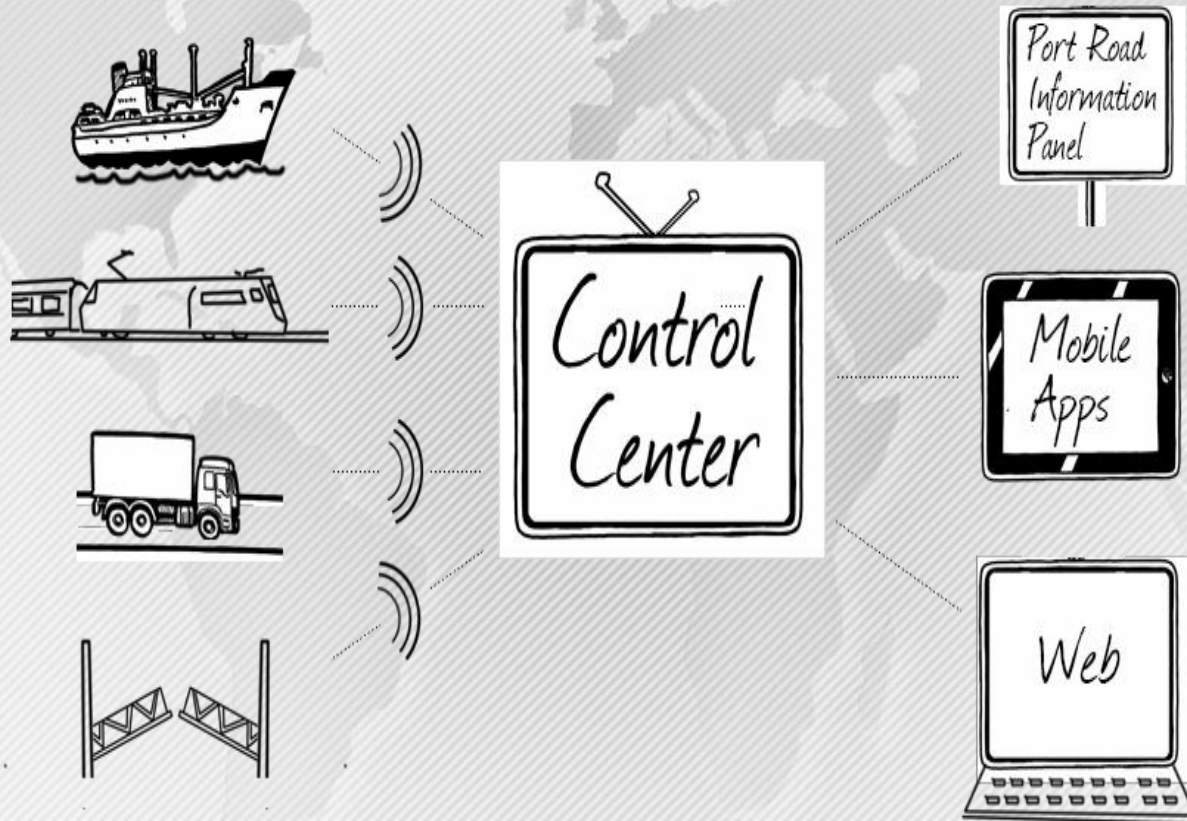


Internet of things – smart Port



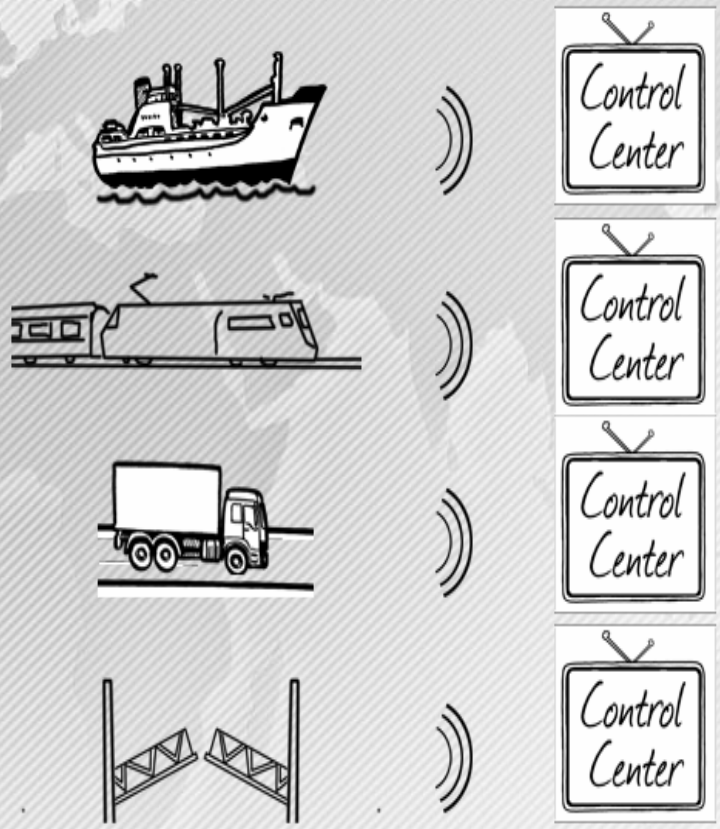
Port of the Future: A Sense of Wonder

4- تكامل منظومة المعلومات في وسائل النقل (سككي - نهري - بري - بحري)

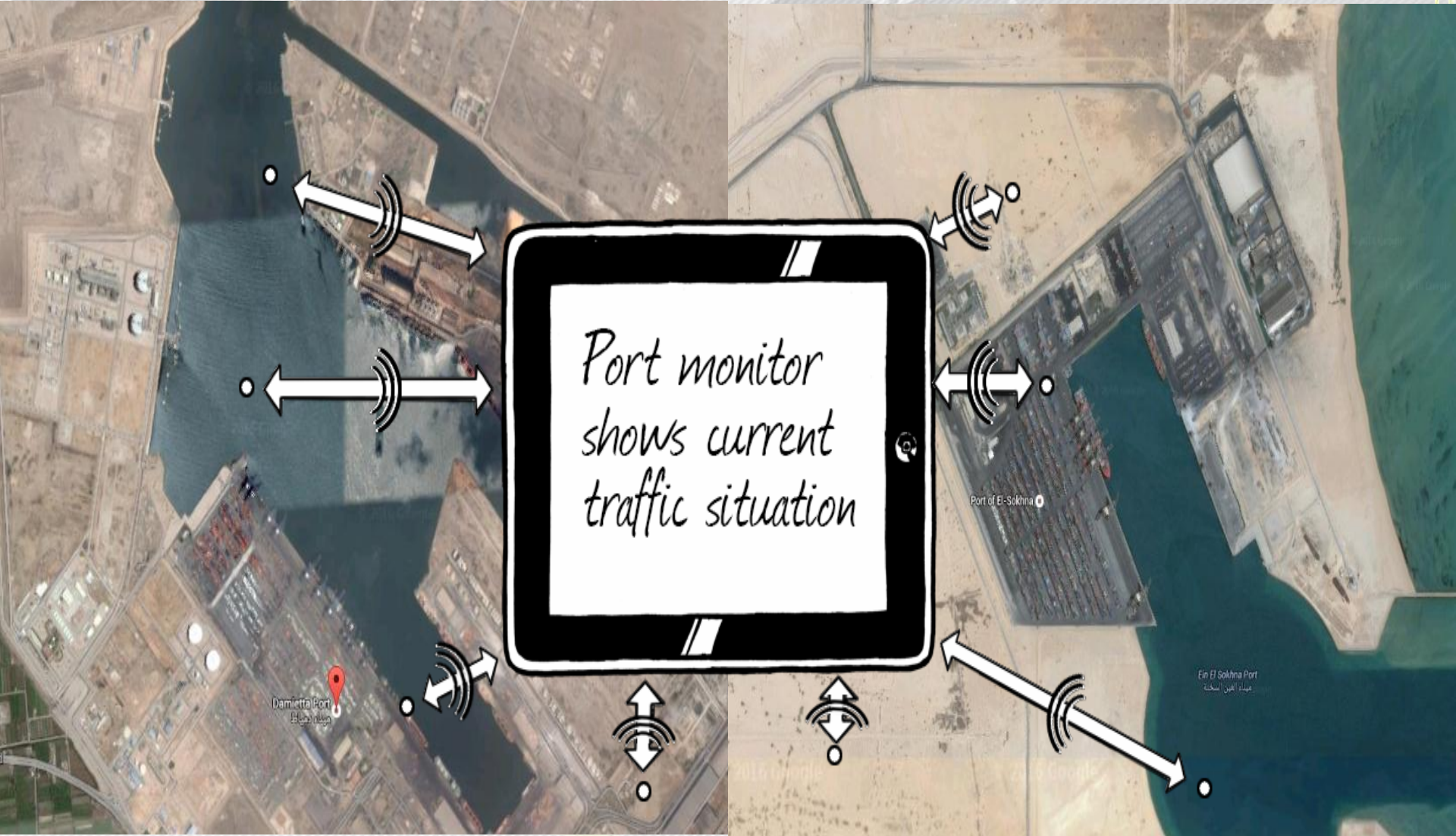


Internet Of Everything

- 4 isolated control centers for
 - River
 - Railways
 - Roads
 - movable infrastructure
- About several hundreds of traffic sensors
- About 300 Km fiber optics
- (Wi-Fi) – Smart Phones



تكامل منظومة شبكة المعلومات للحركة داخل الميناء



Port of the Future: A Sense of Wonder

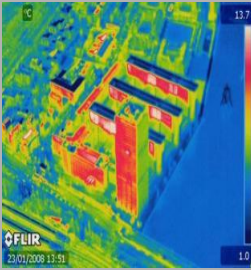
شركاء المنظومة الذكية في الميناء

Smart PORT energy

Renewable energy



Energy efficiency and smart energy



Mobility



Smart PORT logistics

Infrastructure



Traffic flows



Goods flows



Results

النتائج المُحققة

- Increasing the sustainability and quality requirements of our customers
- Increasing the quantities of goods
- Increasing the traffic volume
- Reducing the emissions



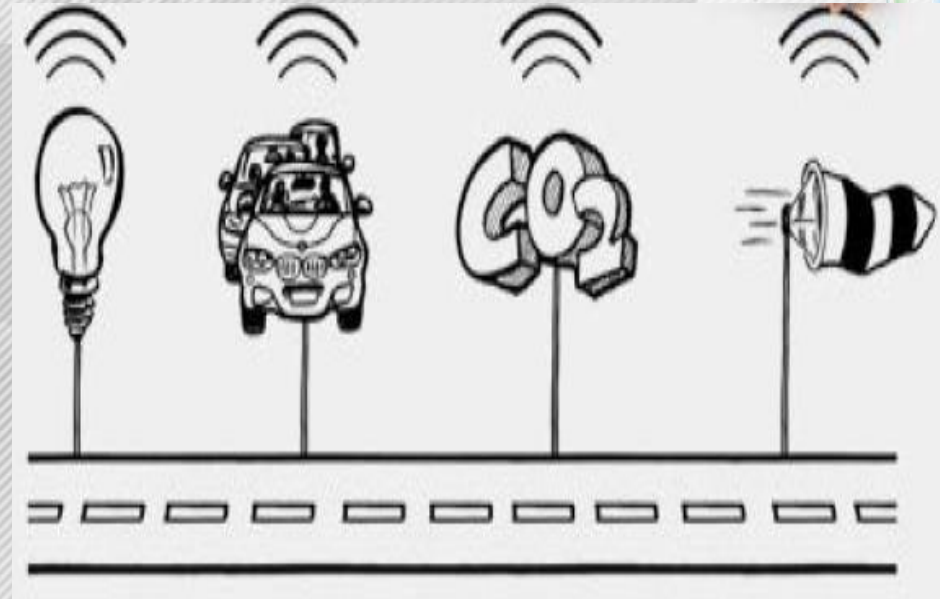
Integration: Traffic and Infrastructure Management



Smart Traffic

- A “more accurate” picture of the actual traffic situation will be determined per each direction of travel and each lane.
- Environmental pollution levels will be constantly measured, transmitted and analyzed.
- The wind direction and wind force will be constantly measured.
- A smart LIGHTING will be introduced. The lights will be controlled in line with the lighting conditions and depending on the objects in the area of the lighting.
- The data collected will be stored and analyzed.

تكامل منظومة المعلومات داخل الميناء



التحكم في الحركة لوسائل النقل داخل الميناء عن طريق إستخدام المنظومة الذكية لشبكة المعلومات يؤدي إلى الأستخدام الأمثل للمساحة المتاحة لتخزين السيارات (Parking Area) مما يتيح إلى استخدام السعة القصوى للمساحات

Smart PARKING

- Depending on geofences and position of trucks free parking space is allocated for truck drivers
- Depending on traffic situation, target and forecasts the parking space for each truck is calculated
- Trucks park „bumper to bumper“
- More trucks on same space



عند وصول سفينة سياحية إلى الميناء يمكن للسائح و أطقم السفن على تليفوناتهم المحمولة (و بتوافر منظومة ال WIFI في محطة الركاب) من معرفة جميع المقاصد السياحية في دولة و مدينة الميناء بجميع تفصيلاتها و مما يمكنهم أيضاً من الأتصال بذويهم بإستخدام نظام SKYPE بأسرهم بسهولة

Connecting Egyptian Ports with smart solution

Smart Tourism

- Interactive Apps
- Apps give information about the port depending on the location
- WIFI for Cruise Terminals
 - Tourists get information about Egyptian Port and possible tours (points of interest) depending on time and duration
 - Tourist, Seaman and crew (possibility to Skype with family etc.)

Other Port



Port of the Future: A Sense of Wonder

Responsibility of the Port Authority and Port Community

INFRASTRUCTURE



Super Structure





Software
NAVIGATOR
PORT
“ For Masters By Masters ”

SOFTWARE

NAVIGATOR PORT

“For Masters by Masters”

Navigator Port is the market-leading software that simplifies port clearance procedures and ensures that the crew have the right information at the right time.

Purpose

Navigator Port is often referred to as the “Captain’s best friend” and the amount of paperwork is reduced by as much as 90%. This enables the Master and his officers to focus on what should be their primary responsibility, safe and sound navigation.

We are proud that Navigator is in daily use on board 2,500 ships worldwide. In many ways, we owe this success to all our dedicated users and their constructive feedback enabling constant product innovation.

Features

- All world ports and terminals, including up-to-date nautical publications and data from UKHO, IHS Fairplay and others included
- More than 1,600 port clearance forms with ships information already pre-filled
- Tailor-made checklists for all major ports
- A comprehensive nautical library providing up-to-date maritime-specific information
- All relevant data logs for rapid forms reporting
- Easy creation of Master’s notes for sharing port-specific knowledge within the fleet

- Additional modules for compliance purposes - Work & Rest, Passage Planner, and the Shore portal for fleet performance monitoring
- Environmental documentation and reporting
- Detailed reference to relevant regulations - national, regional and international
- Comprehensive user manual and tutorial videos

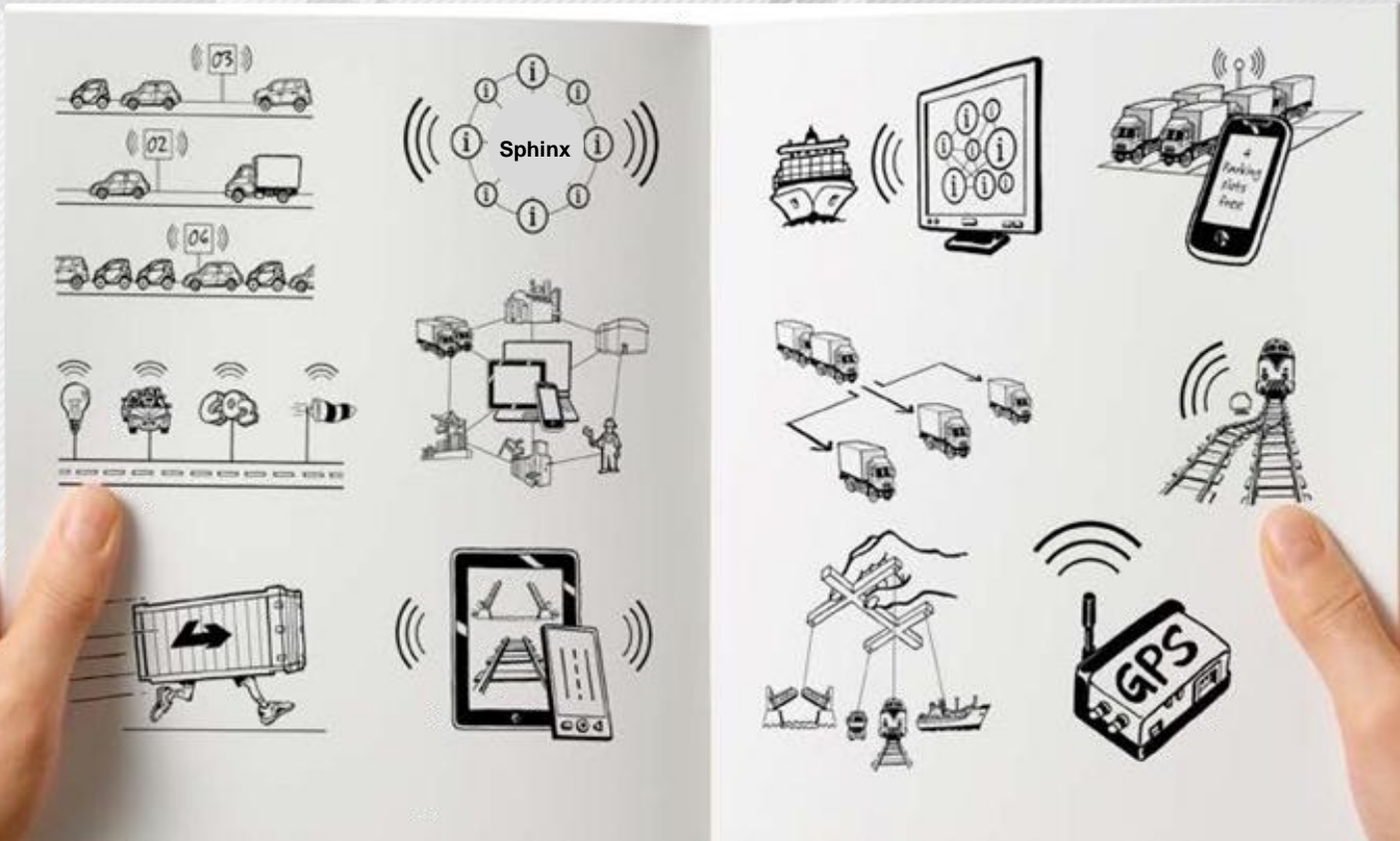
Benefits

- Save time and money - paperwork is reduced from hours to minutes
- Improve safety, quality and ease of compliance with regulations and demands from stakeholders such as charterers and PSC inspectors
- Enhance your brand and reputation
- Contribute to crew satisfaction by reducing workload and improving efficiency
- Have at your finger-tips regular updates of port clearance forms and other nautical information
- Share information easily with other systems like crew databases, gangway control systems and ECDIS

Source : DNV.GL 25-2-2016

Port of the Future: A Sense of Wonder

Towards Internet of Everything



Smart Outlook

Port of the Future: A Sense of Wonder

Please Act

**Develop towards smart ports
....for Egypt**

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