

20th INTERMODAL AFRICA 2018

ACCRA– 28th of November 2018

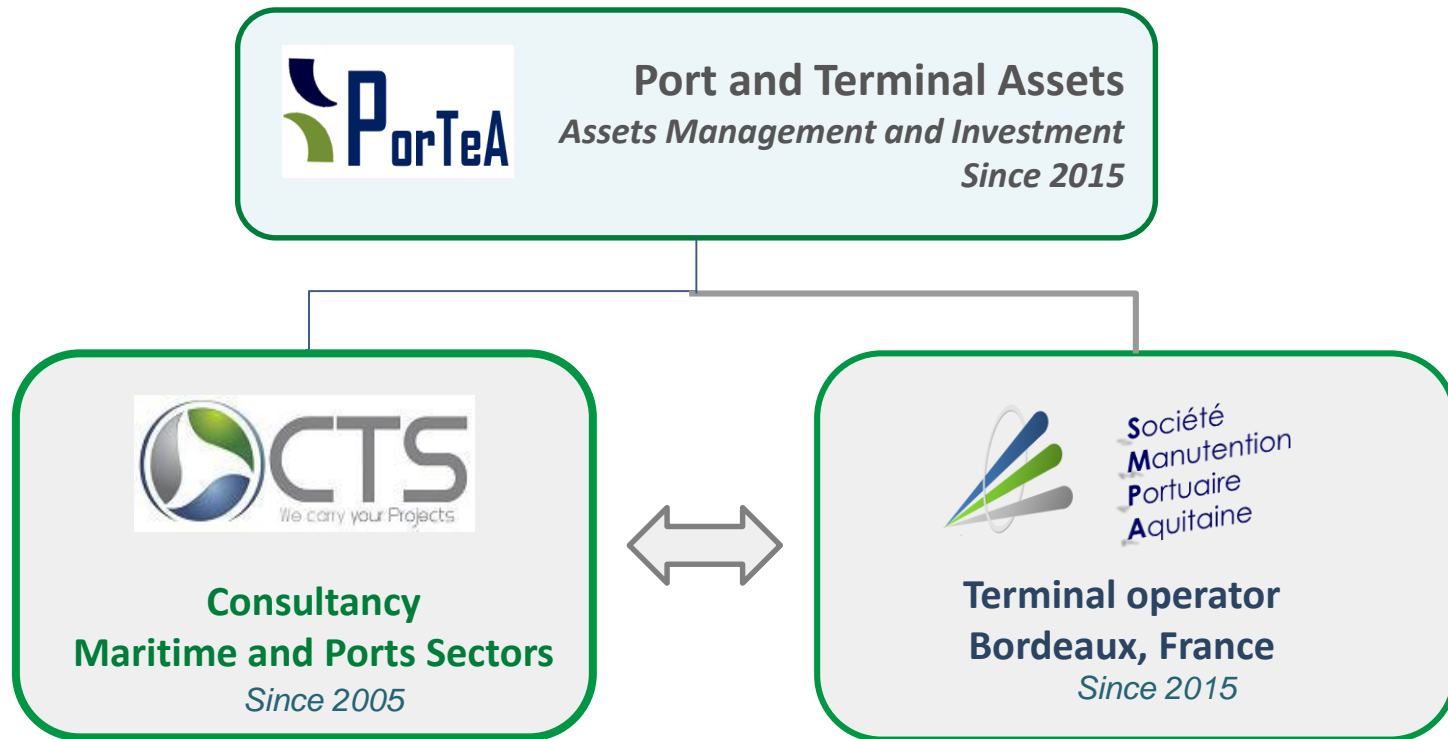
SMART PORT Next Generation Port Industry



CTS Consulting,
conseil en logistique portuaire et
multimodale

CTS

« An Advisory Firm belonging to a Group fully Dedicated to Port Industry »



CTS is an independent consultancy company dedicated to port development, shipping and freight industry. CTS assists institutional and private clients in port, shipping & multimodal projects. We successfully deliver pragmatic advice for maritime and inland projects

www.ctsconsulting.eu

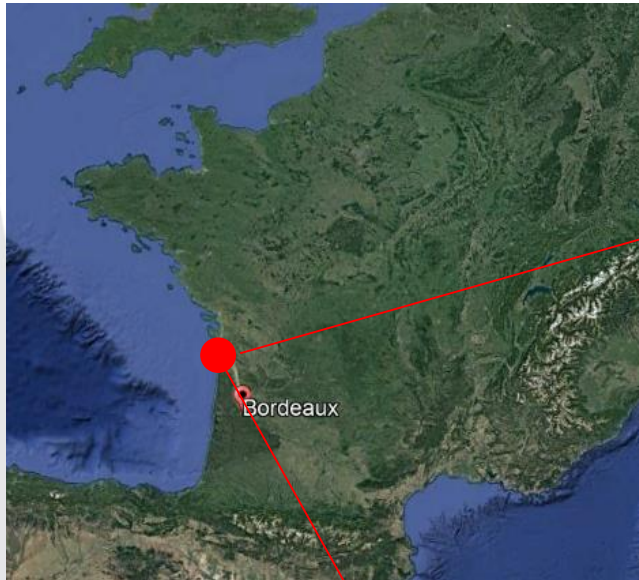
www.portea.lu

www.verdontc.com



CTS Case Study

TCSO Project in Bordeaux (France)



▶ A Deep Sea Gateway in Bordeaux



▶ BLAYE ▶ AMBES ▶ GRATTEQUINA ▶ BASSENS ▶ BORDEAUX

VERDON SUR MER

- ▶ Open Sea Terminal
 - ▶ 572 m @ 12,5 m
 - ▶ 2 STS Panamax 1 Mobile Crane
 - ▶ 9 Straddles, 3 Stackers
- ▶ Inland connexion : Rail, Trucks and Barge
- ▶ Stacking : 11 Hectares, 40 Reefer plugs, OOG, Dangerous Good
- ▶ Customs clearance,...

Rail shuttle

- ▶ 3 To 5 / 6 Days / Week
- ▶ Train de 60 Evps de capacité

Rail Terminal BRUGES

- ▶ 1 rail track 400 m
- ▶ Services: Truck Delivery
- ▶ Customs clearance, Stuffing/unstuffing, Empty Depot
- ▶ Stacking: 4,5 Hectares
- ▶ Documentation: Customs,...

CTS Case Study

TCSO Project in Bordeaux (France)



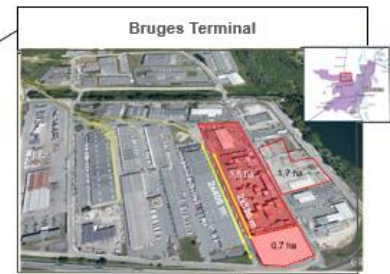
TASK	CTS	SMPA	PORTEA
➤ Project Feasibility Study (Market, technical, financial):	✓		
➤ PPP Structuring (25 years Lease Contract)	✓	✓	
➤ Debt Structuring and Financing: (95% Gearing)	✓		✓
➤ Funding			✓
➤ Equipment Purchase and Commissioning	✓	✓	
➤ Engineering and Operations process Design	✓	✓	
➤ Deep Sea Terminal Management	✓	✓	
➤ Dry Port Management	✓	✓	



Deep Sea Terminal



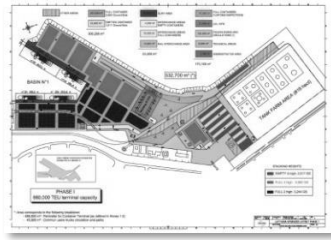
Shuttle (First Stage)
x 3 / Day



Dry Port Terminal

CTS fields of expertise

Infrastructure development



Port terminal



Multimodal platform



Logistics



- ⦿ Master plans
- ⦿ Infrastructure plans
- ⦿ Operational design
- ⦿ Equipment specialization
- ⦿ Environment
- ⦿ Financial analysis
- ⦿ Business plan
- ⦿ Market studies
- ⦿ Strategic analyses
- ⦿ Socio-economic impacts
- ⦿ PPP drafting and negotiation
- ⦿ Tender management
- ⦿ Partnerships

CTS Expertises

Over 200 Port Missions Track Record

Market and strategy analysis

- ▶ In-depth industry market studies by Branches
- ▶ Socio Economic development forecasts
- ▶ **Traffic analyses and projections**
- ▶ Interview campaigns of shippers , consignees, forwarders and others
- ▶ Benchmarks
- ▶ Strategic positioning
- ▶ SWOT analyses

~100 Studies

Technical and operational design

- ▶ **Operations Analysis** : audit, performance analysis, Key Performance Indicators (KPI)
- ▶ **Technical Design** : layouts, operational concepts, equipment specifications, maritime & hinterland interface
- ▶ **Master plans**: quay and yard design, definition and planning of infrastructure, equipment, manning, IT...

~50 Projects

Financial modelling

- ▶ Profit and Loss, Balance sheet
- ▶ OPEX, CAPEX, Financing
- ▶ ROI, ROE, NPV
- ▶ Risk Analysis
- ▶ Tariff policy: revenues, ticket and license fees...
- ▶ Full Business Plan
- ▶ Operator's vs Port Authorities return on investment

~40 Business Cases

PPP contract assistance

- ▶ PPP Structuring
- ▶ PPP process management public (landlord) or private (candidate)
- ▶ Preparation of EOI, RFQ, RFP
- ▶ Creation of decision-making tools
- ▶ Selection of candidates
- ▶ Assistance during negotiation of contract terms
- ▶ Partnership assistance *~30 PPP Projects Deals*

They Trust Us

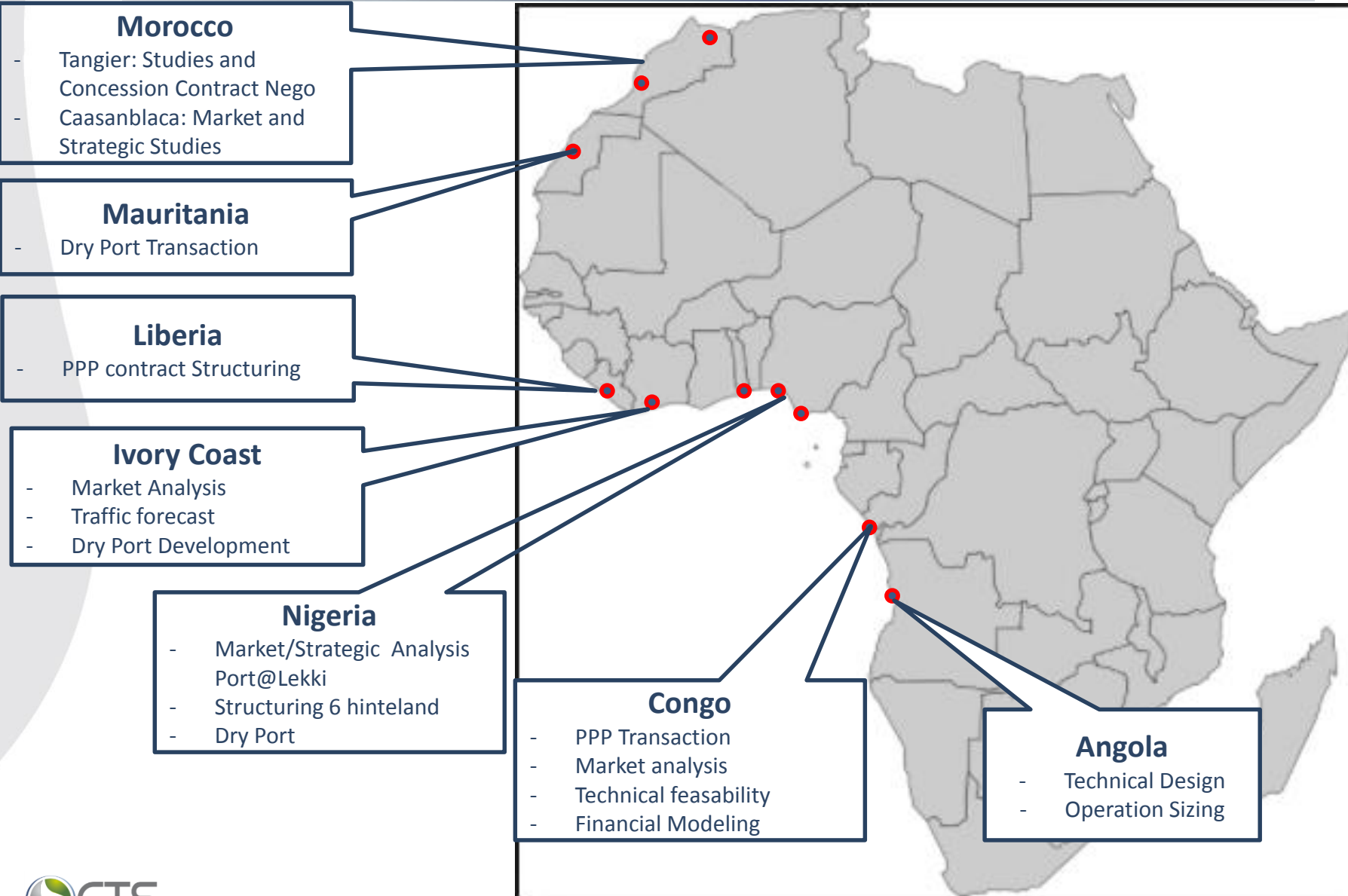
► Secteur public



► Secteur privé



CTS Reference in Africa



Agenda de la présentation

Concept of « SMART PORT »: Rational

Materials of « SMART PORT » concept

▶ SMART PORT : 4th Generation of Maritime Port?

“Smart ports are the only ports that will survive.”

prof. dr. Olaf Merk (University of Amsterdam)

SMART PORT: Backbone of the 4th Port Generation



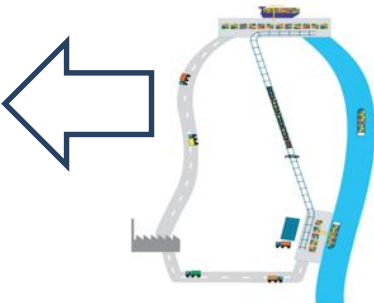
« SMART PORT »



« Logistic Integrator »



« Hinterland Focus »



**Intégrateur
Logistique**



Container Era



Industrial Port



**Loading-
Unloading**

1st Generation

< 1960

2nd Generation

< 1980

3rd Generation

From 1990

4th Generation

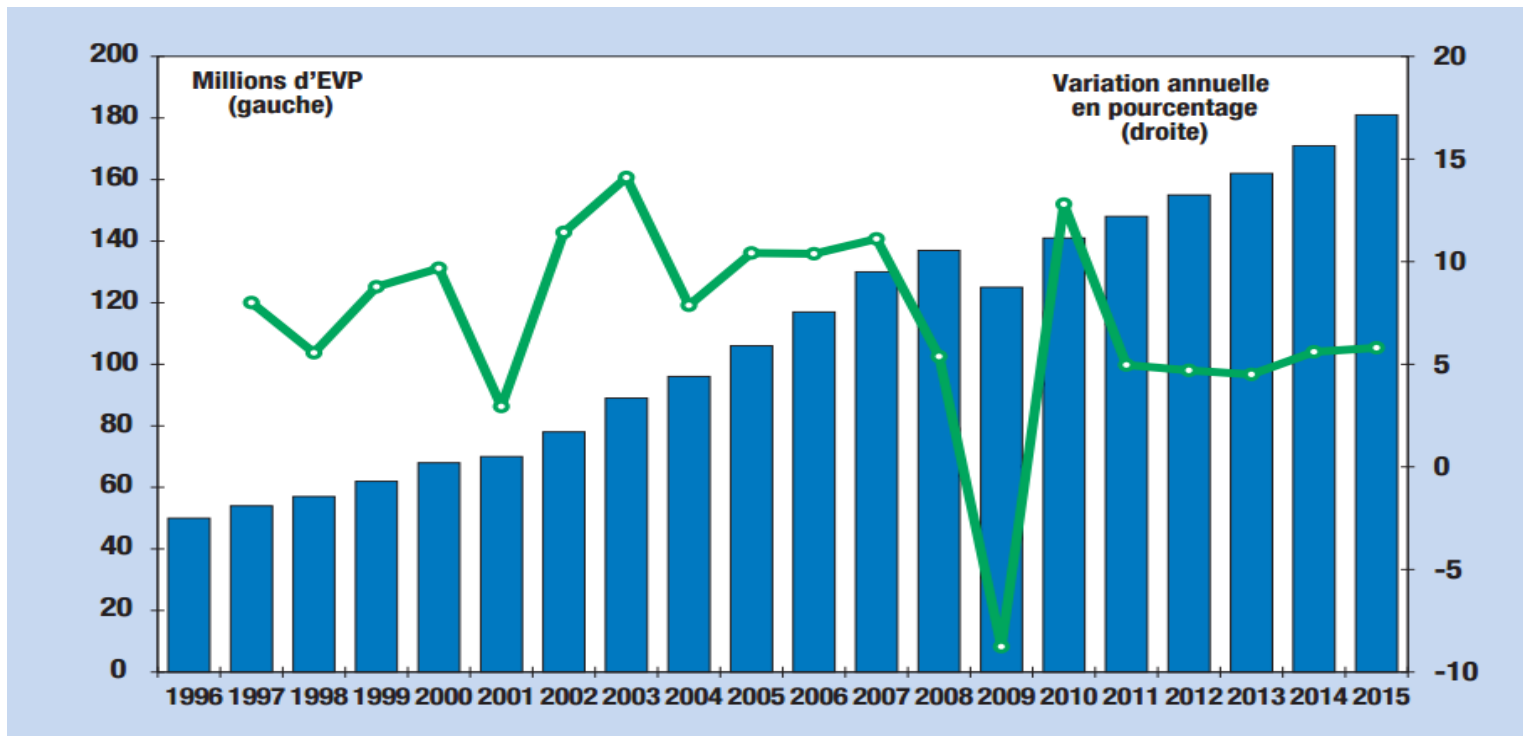
Since 2010

Emergence of SMART PORTS Concept

► Container Market Trend

Before 2009 Crisis: Market Trend 10%/an 

After 2009: Market Trend de ~5%/An 



Source : Graphique établi par le secrétariat de la CNUCED à partir de *Container Market Review and Forecast 2008/2009*, publié par Drewry Shipping Consultants, et de divers numéros de *Container Intelligence Monthly*, publié par Clarksons Research Services.

Before 2009: Sea Side Strategy

- ▶ Container Booming
- ▶ Port Infrastructure Congested
On North Ports Range : Demand + 5 M Teus Capacity/Year
- ▶ Shipping Lines : Full Capacity
- ▶ **Port's Concerns: How Handling Maritimes Volumes?**



Global Port Strategy: Look AT Sea Side !



Since 2010: Land Side Strategy

- ▶ Market Trend Slowing Down
- ▶ Port Infrastructure In Over Capacity
- ▶ Shipping Line in Over Capacity
- ▶ **Port's Concerns: How to Fill up Capacity ?**



Global Port Strategy: Look at Land Side !



INTERMODAL
LOGISTIQUE
SMART PORT



A Case Study: ECT in Rotterdam

- ▶ Since 2009: to sell its **Deep maritime Terminal Services (5 M Teus)**, ECT is marketing logistics services and introducing itself as: « **Synchromodal Service Provider** »



Strategy

- ▶ *Development of maritime traffic from land side*
- ▶ *Terminal Operator = Multimodal Operator*

A Case Study: TGO (Port of Nantes, France)

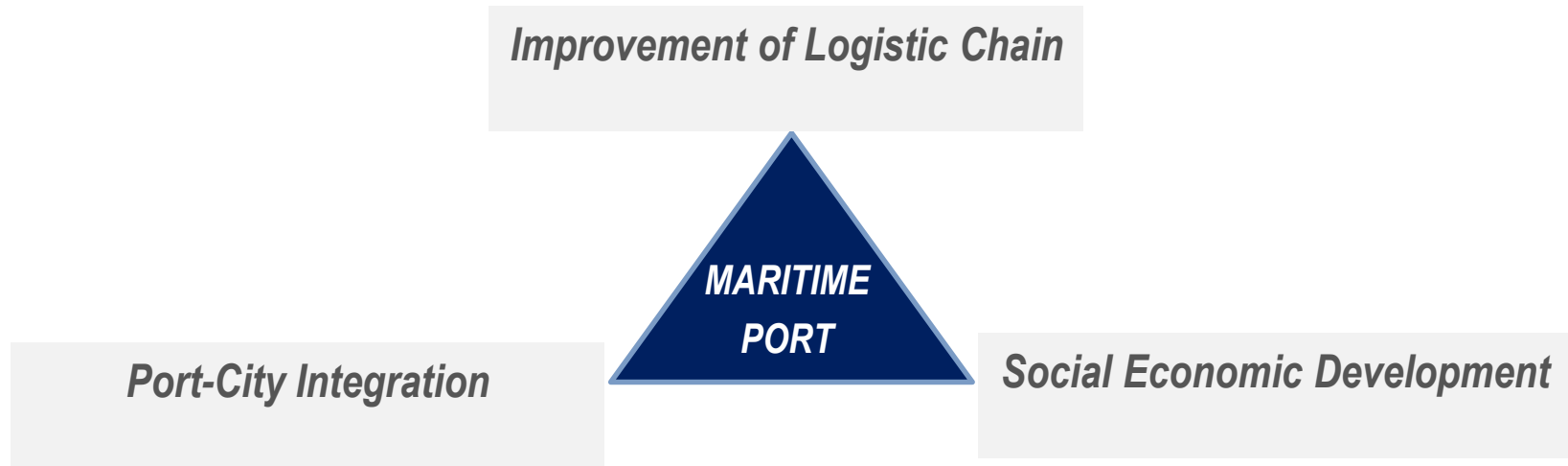
- ▶ Since 2017: to sell its Deep maritime Terminal Services (200 K teus), TGO is marketing the Shipper/Consignee and not only Shipping lines



Strategy

- ▶ *Development of maritime traffic by marketing land side*
- ▶ *Marketing directly to Shipper*

SMART PORT « Focus on Land Side Developpement & Integration»



Smart Port Targets :

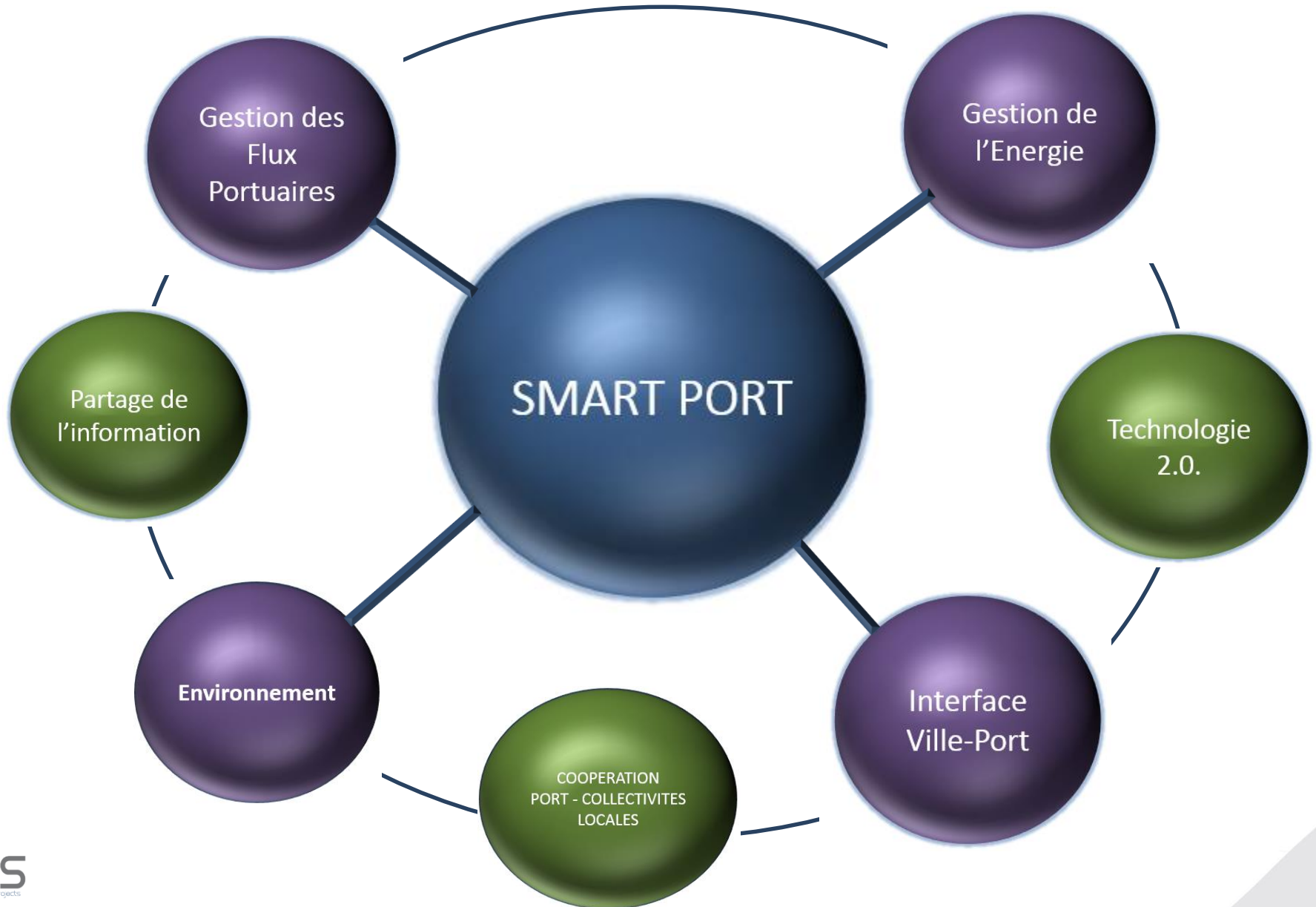
- **Improve global port performance** (reduce cost, increase productivity, reduce environmental impact...)
- **Sustain inland port development strategy** (cargo tracking, smooth Port/inland delivery, ...)
- **Contribute to social economics development** (City/Port interface, employment, Training, R&D Centers, Energy ressources management ..)

Agenda de la présentation

Apparition du concept de « SMART PORT »

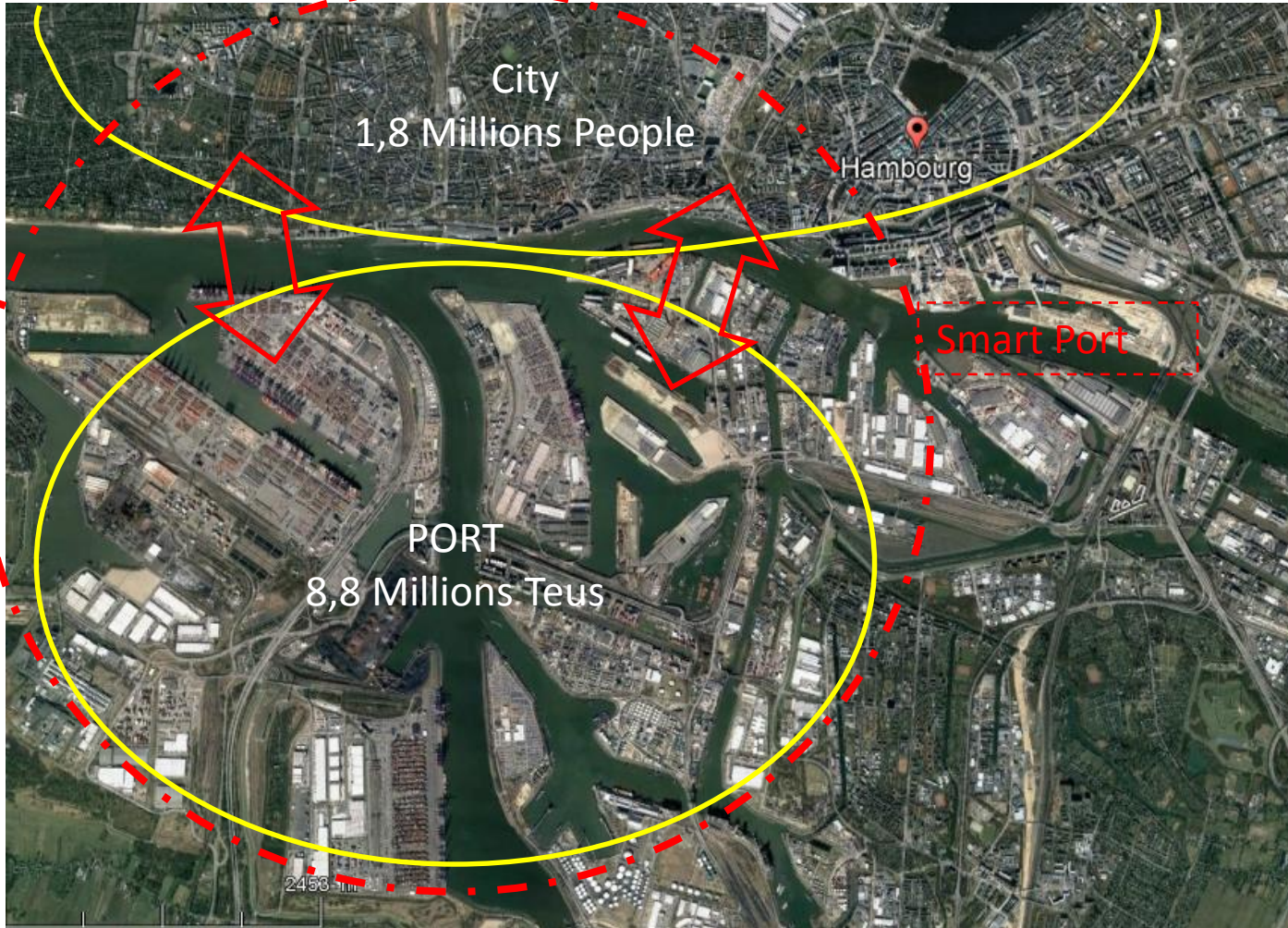
Materials of « SMART PORT » concept

SMART PORT: Scope of Applications



SMART PORT: « Improvement of Inland Supply Chain and Social Acceptability»

Benchmark: Port of Hambourg



Information to Tucker on Road congestion and Waiting time at the Terminal Gate

SMART PORT: « Improvement of Inland Supply Chain and Social Acceptability»

Benchmark: Port of Hambourg

Information to Tucker on Road congestion and Waiting time at the Terminal Gate



Port Road Management :



SMART PORT: « Improvement of Inland Supply Chain and Social Acceptability»

Benchmark: Port of Hambourg

► Improvement of inland transport services:

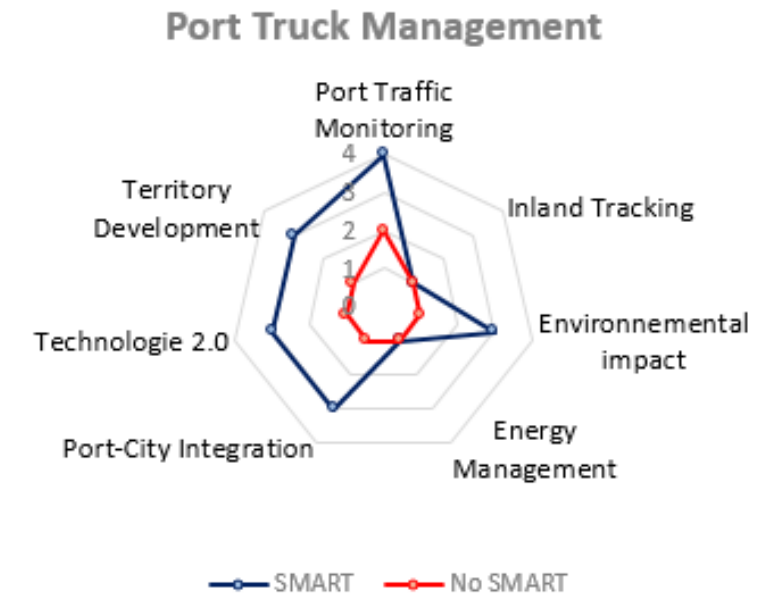
- Monitor « Truck rotation » in Real Time
- Reduce Congestion at the Gate (Waiting Time):
- Monitor Vessel calls vs Truck delivery

► Port-City Interface:

- Monitor Trucks Traffic versus Domestic traffic
- Social Acceptability

► Accessibility

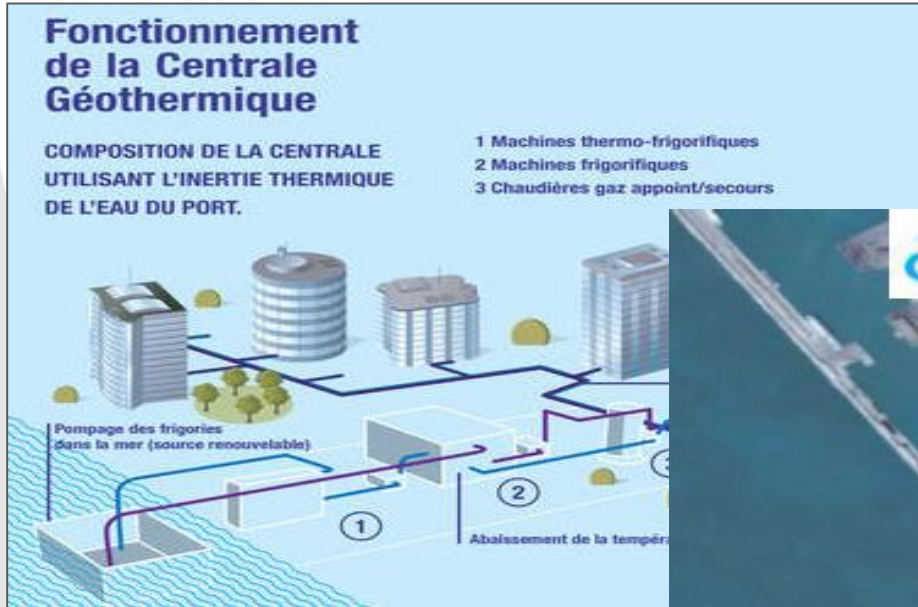
- Smart Phone, Web and Monitor on the road network



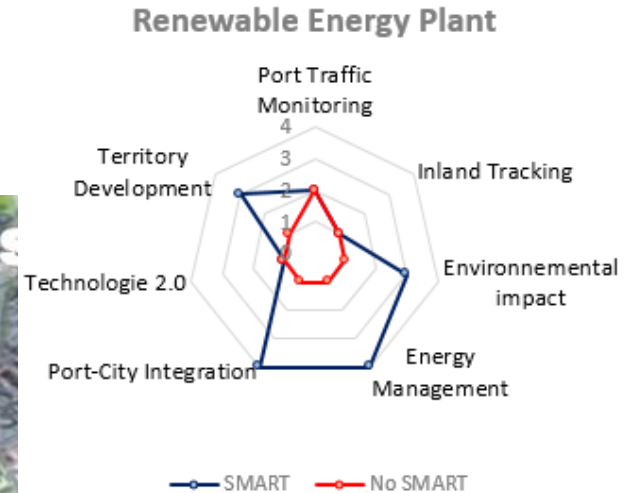
SMART PORT: «Contribution to Local Energy Management/Production »

Benchmark: Port of Marseille

- ▶ THASSALLIA : Marine Thermic Power Plant (Renewable Energy)

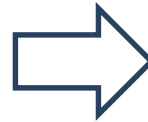


SMART PORT ENERGY



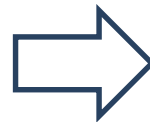
Other Materials of SMART PORT Concept

Logistic Chain Management

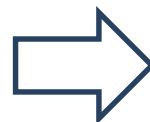


Cargo Tracking and Information sharing along the « Block Chain » : Rotterdam, Antwerp, Hamburg,..

Port Community System first block



Web/Smart Phone applications on vessels traffic, waiting time, ports statistics,Almost all ports



Barge Real Time management to Optimise Maritime Port Calls: Rotterdam, Antwerp

SMART PORT Concept in Ghana

- ▶ *With new Container Terminal in Tema, Ghana Ports have jumped into the 3th Generation Port,*
- ▶ *With on going SMART PORT concept they will enter into the 4th Generation. but Few to be done....*

Findings on few Smart Port Materials (To be confirmed with more insights)

Materials of SMART PORT Concept	Done	On Going	To Be Done
▶ Digitalization (Port Community System,....)	✓	✓	✓
▶ Social Economic Contribution (Hospital, Training Center, Port Industries R&D Centers...)	✓		✓
▶ Environmental Impact reduction (CO2, Shore Power, ..)			✓
▶ Territory Development (Power Plan, Data Center,...)			
▶ Port-City Interface		✓	✓
▶ Hinterland Structuring (Dry Port, Logistic Center, Rail Services,...)		✓	✓
▶ Inland Transport Chain Management			✓

« A Smart Port is an Efficient port that will secure its future by a socio economics development contribution »

Think Larger, Think Smarter !



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Nos prestations



Portuaire

Multimodal

Logistique

Accompagnement technique et opérationnel

- ▶ Audit et diagnostic
- ▶ Dimensionnement d'infrastructures et d'équipements
- ▶ Plans d'aménagement de terminaux et schémas directeurs
- ▶ Faisabilité technique et opérationnelle

Conseil en stratégie, analyse marketing et commerciale

- ▶ Stratégie : reconquête, repositionnement, développement, diversification
- ▶ Prospective marché : analyse filière, cartographie des flux et projections de trafic
- ▶ Analyse d'impacts socio-économiques
- ▶ Pré-commercialisation de plateformes multimodales et logistiques

Analyse et modélisation financière

- ▶ Audit et Due Diligence
- ▶ Modélisation financière opérateur et autorité portuaire
- ▶ Modélisation de services maritimes, fluviaux et ferroviaires
- ▶ Elaboration de politique tarifaire

Appui aux contrats PPP

- ▶ Accompagnement de processus d'appel d'offres pour les acteurs publics (landlord) et privés (candidats) : EOI, RFQ, RFP
- ▶ Elaboration et négociation de contrats PPP
- ▶ Stratégie d'offre et recherche de partenariats

Optimisation de la chaîne logistique

- ▶ Audit et diagnostic de schéma logistique
- ▶ Optimisation via les modes massifiés
- ▶ Simulation d'impacts économiques et opérationnels
- ▶ Appui au processus de contractualisation



Expertises :

- Etudes de faisabilité
- Master Plan portuaire
- Business Plan
- Analyses stratégiques, financières, marketing et techniques
- Structuration de PPP
- Audit et due diligence
- Pilotage de projets « Key Turn »
- Gestion Opérationnelle de terminaux portuaires
- Gestion de services maritimes et multimodaux

Formation :

- Ecole Nationale Supérieure des Techniques Avancées
- Master II en Mécanique des Fluides.

Années d'expérience :25

Pascal REYNE (1/3)

Pascal est fondateur et gérant de CTS créée fin 2005 après avoir évolué 10 ans au sein du plus grand armateur Français, la CMA-CGM, pour lequel il a créé puis dirigé la filiale Terminal Link, spécialisée dans la gestion et le développement de terminaux à conteneurs pour le compte du groupe.

Pascal dispose d'une expérience de 20 ans dans le shipping international et le développement portuaire, et cumule une expertise conseil et une expertise opérationnelle dans les métiers de l'exploitation portuaire ainsi qu'une expérience du développement de terminaux à conteneurs pour le compte d'acteurs privés et publics.

Pascal dirige ainsi les missions de conseil stratégique et technique pour la mise en œuvre de différents types de projets portuaires ou multimodaux (assistance à la mise en concession, assistance à la réponse à appel d'offres, audit, stratégie de développement, schéma portuaire, évaluation préalable/analyse de faisabilité : analyse économique, analyse des risques, revue des structures d'exploitation, analyse financière).

PRINCIPALES QUALIFICATIONS

- ▶ Expert sur l'industrie du transport conteneurisé : connaissance profonde des processus opérationnels, des acteurs et enjeux
- ▶ Expert dans le développement d'infrastructures et de services de transport multimodaux et maritimes
- ▶ Expert dans la mise en œuvre de contrat PPP portuaire (faisabilité, processus et contrats)
- ▶ Expert dans l'optimisation logistique de chaînes logistiques globales

Pascal Reyne a l'expérience du développement de plus de 40 terminaux maritimes dans le monde dont une vingtaine de projets de mise en concession de terminaux à conteneurs. Avec CTS consulting, il a élargi ses compétences sur l'hinterland routier et ferroviaire en liens avec les chargeurs.

Sur les 5 dernières années , on peut souligner les projets suivants :